



9.3 Township of Andover

This section presents the jurisdictional annex for the Township of Andover.

9.3.1 Hazard Mitigation Plan Point of Contact

The following individuals have been identified as the hazard mitigation plan’s primary and alternate points of contact.

Primary Point of Contact	Alternate Point of Contact
Lt. Eric Danielson, Emergency Management Coordinator 134 Newton-Sparta Road, Newton, NJ 07860 Phone: (973) 383-5544; (973) 383-4280 Email: edanielson@atpd.org	Ptl. Georgios Laoudis, Deputy Coordinator 134 Newton-Sparta Road, Newton, NJ 07860 Phone: (973) 383-5544; (973) 383-4280 Email: gloudis@atpd.org

9.3.2 Municipal Profile

Andover Township is located in southern Sussex County and bordered to the north by the Townships of Hampton and Lafayette, to the south by the Townships of Green and Byram, to the east by the Township of Sparta and to the west by the Town of Newton and Fredon Township. Brighton, Clearwater, Pinkeyville, Springdale, Whitehall and Wawayanda are unincorporated communities in the Township. It has a total area of 20.7 square miles. Paulins Kill, Kymer Brook, Tar Hill Brook, Pequest River, and Andover Junction Brook are the bodies of water that flow through Andover Township. According to the U.S. Census, the 2010 population for the Township of Andover was 6,319.

Growth/Development Trends

The Township of Andover did not note any recent residential/commercial development since 2010 or any major residential or commercial development, or major infrastructure development planned for the next five years in the municipality.

9.3.3 Natural Hazard Event History Specific to the Municipality

Sussex County has a history of natural and non-natural hazard events as detailed in Volume I, Section 5.0 of this plan. A summary of historical events is provided in each of the hazard profiles and includes a chronology of events that have affected the County and its municipalities. For the purpose of this plan update, events that have occurred in the County from 2008 to present were summarized to indicate the range and impact of hazard events in the community. Information regarding specific damages is included, if available, based on reference material or local sources. This information is presented in the table below. For details of these and additional events, refer to Volume I, Section 5.0 of this plan.

Table 9.3-1. Hazard Event History

Date(s) of Event	Event Type	FEMA Declaration # (If Applicable)	County Designated?	Summary of Damages/Losses
August 26 – September 5, 2011	Hurricane Irene	DR-4021	Yes	Hurricane Irene led to flooding of homes and road closures in the Township. The Township provided basement pump outs and the fire department responded to mutual aid with their boat to surrounding municipalities. Limecrest Road and Route 206 were closed. Springdale Gardens Road was damaged due to drainage under the roadway. The Township requested





Date(s) of Event	Event Type	FEMA Declaration # (If Applicable)	County Designated?	Summary of Damages/Losses
				public assistance. The DPW conducted basin clean outs, road closures, and debris removal.
September 28 – October 6, 2011	Remnants of Tropical Storm Lee	DR-4039	Yes	In the Township, Limecrest Road and Route 206 were both closed. There were flooded basements which required pump outs. The drainage from the culver on Hemlock Avenue eroded the roadway. The Goodale Road ball fields flooded. The DPW cleaned basins, road closures, and removed debris. Public Assistance was requested.
October 26 – November 8, 2012	Hurricane Sandy	DR-4086	Yes	The entire Township was without power as a result of Hurricane Sandy. Once power was restored, a shelter was established (shelter does not have a backup generator). In addition to power loss, there was no phone service (Century Link) due to their backup power running out. Several roads were closed due to downed trees and utility lines. The fire house, DPW building and Town Hall were all without power. Fire, police, EMS, and DPW were all assigned various tasks that included basin clean outs, road closures, debris removal, and security measures. The Township requested Public Assistance.

9.3.4 Hazard Vulnerabilities and Ranking

The hazard profiles in Section 5.0 of this plan have detailed information regarding each plan participant’s vulnerability to the identified hazards. The risk ranking methodology is presented in Section 5.3. However, each municipality had the opportunity to adjust the final ranking based on municipal feedback. The following summarizes the hazard vulnerabilities and their ranking in the Township of Andover. For additional vulnerability information relevant to this jurisdiction, refer to Section 5.0.

Hazard Risk/Vulnerability Risk Ranking

The table below summarizes the hazard risk/vulnerability rankings of potential hazards for the Township of Andover.

Table 9.3-1. Hazard Risk/Vulnerability Risk Ranking

Hazard type	Estimate of Potential Dollar Losses to Structures Vulnerable to the Hazard ^{a, c}	Probability of Occurrence	Risk Ranking Score (Probability x Impact)	Hazard Ranking ^b
Dam Failure	Damage estimate not available	Occasional	24	High*
Drought	Damage estimate not available	Frequent	30	Medium
Earthquake	100-Year GBS: \$0 500-Year GBS: \$679,675 2,500-Year GBS: \$10,838,367	Occasional	28	Medium
Flood	1% Annual Chance: \$4,689,338	Frequent	18	Medium
Geologic	RCV Exposed to Carbonate Rock Areas: \$389,977,595	Occasional	36	Medium**
Hurricane	100-year MRP: \$288,961	Frequent	48	High



Hazard type	Estimate of Potential Dollar Losses to Structures Vulnerable to the Hazard ^{a, c}	Probability of Occurrence	Risk Ranking Score (Probability x Impact)	Hazard Ranking ^b
	500-year MRP: \$2,282,736 Annualized: \$16,846			
Nor'Easter	Damage estimate not available	Frequent	48	High
Severe Weather	100-Year MRP: \$288,961 500-year MRP: \$2,282,736 Annualized: \$16,846	Frequent	48	High
Severe Winter Weather	1% GBS: \$7,974,329 5% GBS: \$39,871,647	Frequent	51	High
Wildfire	Estimated Value in the Extreme, Very High, and High Hazard Areas: \$85,352,230	Frequent	24	Medium
Hazardous Materials	Damage estimate not available	Frequent	36	High

Notes:

- * The hazard ranking was changed due to the location of high hazard dams in the municipality
 - ** The hazard ranking was changed for this hazard based on input from the municipality, population exposed, and/or event history.
- GBS = General building stock; MRP = Mean return period.
- a. The general building stock valuation is based on the custom inventory generated for the municipality and based on improved value.
 - b. High = Total hazard priority risk ranking score of 31 and above
Medium = Total hazard priority risk ranking of 15-30+
Low = Total hazard risk ranking below 15
 - c. Loss estimates for the severe storm and severe winter storm hazards are structural values only and do not include the estimated value of contents. Loss estimates for the flood and earthquake hazards represent both structure and contents. Potential flood loss estimates were generated using Hazus-MH 3.0 and the 2011 FEMA DFIRM for the 1-percent annual chance event. For the geologic and wildfire hazards, the improved value and estimated contents of buildings located within the identified hazard zones is provided.

National Flood Insurance Program (NFIP) Summary

The following table summarizes the NFIP statistics for the Township of Andover.

Table 9.3-3. NFIP Summary

Municipality	# Policies (1)	# Claims (Losses) (1)	Total Loss Payments (2)	# Rep. Loss Prop. (1)	# Severe Rep. Loss Prop. (1)	# Policies in 1% Flood Boundary (3)
Township of Andover	7	1	\$304	0	0	0

Source: FEMA, 2014

- Note (1) Policies, claims, repetitive loss and severe repetitive loss statistics provided by FEMA and are current as of November 31, 2014 and are summarized by Community Name. Please note the total number of repetitive loss properties excludes the severe repetitive loss properties. The number of claims represents claims closed by 11/31/2014.
- Note (2) Total building and content losses from the claims file provided by FEMA Region 2.
- Note (3) The policies inside and outside of the flood zones is based on the latitude and longitude provided by FEMA Region 2 in the policy file.
- Note (4) FEMA noted that where there is more than one entry for a property, there may be more than one policy in force or more than one GIS possibility.

Critical Facilities

There are no critical facilities located in the FEMA 1% or 0.2% annual chance flood boundaries.





Other Vulnerabilities Identified by Municipality

The hazard profiles in Section 5.0 have detailed information regarding each plan participant’s vulnerability to the identified hazards. Further, mitigation projects have been identified that may more specifically detail vulnerabilities in the community. There are no additional vulnerabilities identified at this time.

9.3.5 Capability Assessment

This section identifies the following capabilities of the local jurisdiction:

- Planning and regulatory capability
- Administrative and technical capability
- Fiscal capability
- Education/Outreach and Community classification
- Self-Assessment of Capability
- National Flood Insurance Program
- Community Rating System
- Integration of Mitigation Planning into Existing and Future Planning Mechanisms

Planning and Regulatory Capability

The table below summarizes the regulatory tools that are available to the Township of Andover.

Table 9.3-4. Planning and Regulatory Tools

Tool/Program (code, ordinance, plan)	Do you have this? (Yes/No) If Yes, date of adoption or update	Authority (local, county, state, federal)	Dept./Agency Responsible	Code Citation and Comments (Code Chapter, name of plan, explanation of authority, etc.)
Planning Capability				
Master Plan	Yes	Local	Andover Twp	Resolution
Capital Improvements Plan	Yes	Local	Andover Twp	Resolution
Floodplain Management/Basin Plan	Yes	Local	Andover Twp DPW	Ch 148 Storm Sewer Management
Stormwater Management Plan	Yes	Local	Andover Twp DPW	Ch 150 Stormwater Management
Open Space Plan	Yes	Local	Andover Twp	Resolution
Stream Corridor Management Plan	No	State	DEP	
Watershed Management or Protection Plan	No	State	DEP	
Economic Development Plan	Yes	Local	Andover Twp	Ch 3-70
Comprehensive Emergency Management Plan	Yes	Local	OEM	
Emergency Response Plan	Yes	Local	OEM	
Post-Disaster Recovery Plan	No			
Transportation Plan	No			
Strategic Recovery Planning Report	No			
Other Plans:	No			
Regulatory Capability				



Table 9.3-4. Planning and Regulatory Tools

Tool/Program (code, ordinance, plan)	Do you have this? (Yes/No) If Yes, date of adoption or update	Authority (local, county, state, federal)	Dept./Agency Responsible	Code Citation and Comments (Code Chapter, name of plan, explanation of authority, etc.)
Building Code	Yes	State, Local		State Uniform Construction Code Act (N.J.S. 52:27D-119 et seq.)
Zoning Ordinance	Yes	Local	Land Use Bd	Ch 190
Subdivision Ordinance	Yes	Local	Land Use Bd	Ch 159
NFIP Flood Damage Prevention Ordinance	Yes	Federal, State, Local		Chapter 55 – Flood Damage Prevention
NFIP: Cumulative Substantial Damages	No			
NFIP: Freeboard	Yes	State, Local		
Growth Management Ordinances	Yes	Local	Andover Twp	Part of master plan
Site Plan Review Requirements	Yes	Local	Land Use Bd	Ch 131
Stormwater Management Ordinance	Yes	Local	DPW	Ch 150
Municipal Separate Storm Sewer System (MS4)	N/A			
Natural Hazard Ordinance	N/A			
Post-Disaster Recovery Ordinance	N/A			
Real Estate Disclosure Requirement	No	State	Division of Consumer Affairs	N.J.A.C. 13:45A-29.1
Other [Special Purpose Ordinances (i.e., sensitive areas, steep slope)]	Yes	Local	Land Use Bd	Ch 150-11

Administrative and Technical Capability

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

Table 9.3-5. Administrative and Technical Capabilities

Resources	Is this in place? (Yes or No)	Department/Agency/Position
Administrative Capability		
Planning Board	Yes	Land use board
Mitigation Planning Committee	No	
Environmental Board/Commission	Yes	Environmental commission
Open Space Board/Committee	Yes	Open space committee
Economic Development Commission/Committee	Yes	Economic advisory committee
Maintenance Programs to Reduce Risk	Yes	AT DPW
Mutual Aid Agreements	Yes	Police/Fire/EMS/DPW
Technical/Staffing Capability		





Table 9.3-5. Administrative and Technical Capabilities

Resources	Is this in place? (Yes or No)	Department/Agency/Position
Planner(s) or Engineer(s) with knowledge of land development and land management practices	Yes	Both Twp planner and Twp engineer
Engineer(s) or Professional(s) trained in construction practices related to buildings and/or infrastructure	Yes	DCA is Twp construction officials
Planners or engineers with an understanding of natural hazards	Yes	DCA
NFIP Floodplain Administrator	Yes	Construction Official (as per Township Code)
Surveyor(s)	No	Subcontracted as necessary by engineer
Personnel skilled or trained in GIS and/or Hazus-MH applications	No	Refer to Sussex County GIS Dept
Scientist familiar with natural hazards	No	
Emergency Manager	Yes	AT OEM
Grant Writer(s)	No	
Staff with expertise or training in benefit/cost analysis	No	
Professionals trained in conducting damage assessments	No	

Fiscal Capability

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

Table 9.3-6. Fiscal Capabilities

Financial Resources	Accessible or Eligible to Use (Yes/No/Don't Know)
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
Impact Fees for homebuyers or developers of new development/homes	Yes
Stormwater Utility Fee	No
Incur debt through general obligation bonds	Yes
Incur debt through special tax bonds	Yes
Incur debt through private activity bonds	No
Withhold public expenditures in hazard-prone areas	No
Other Federal or State Funding Programs	Yes
Open Space Acquisition Funding Programs	Yes
Other	

Education/Outreach and Community Classifications

The table below summarizes education/outreach programs the community participates in and the classifications for community program available to the Township of Andover.



Table 9.3-7. Education/Outreach and Community Classifications

Program	Do you have/participate in this? (Yes/No)	Classification (if applicable)	Date Classified (if applicable)
Community Rating System (CRS)	No	N/A	N/A
Building Code Effectiveness Grading Schedule (BCEGS)	Yes	Zoning/code enforcement	
Public Protection (ISO Fire Protection Classes 1 to 10)	Yes	5	2014
Storm Ready	No	N/A	N/A
Firewise	No	N/A	N/A
Disaster/Safety Programs in/for Schools	Yes		
Organizations with Mitigation Focus (advocacy group, non-government)	Yes	DPW/OEM	
Public Education Program/Outreach (through website, social media)	Yes		
Public-Private Partnerships	Yes		

The classifications listed above relate to the community’s ability to provide effective services to lessen its vulnerability to the hazards identified. These classifications can be viewed as a gauge of the community’s capabilities in all phases of emergency management (preparedness, response, recovery, and mitigation) and are used as an underwriting parameter for determining the costs of various forms of insurance. The Community Rating System (CRS) class applies to flood insurance while the Building Code Effectiveness Grading Schedule (BCEGS) and Public Protection classifications apply to standard property insurance. CRS classifications range on a scale of 1 to 10 with class 1 being the best possible classification, and class 10 representing no classification benefit. Firewise classifications include a higher classification when the subject property is located beyond 1,000 feet of a creditable fire hydrant and is within five road miles of a recognized fire station.

Criteria for classification credits are outlined in the following documents:

- The Community Rating System Coordinators Manual
- The Building Code Effectiveness Grading Schedule
- The ISO Mitigation online ISO’s Public Protection website at <http://www.isomitigation.com/ppc/0000/ppc0001.html>
- The National Weather Service Storm Ready website at <http://www.weather.gov/stormready/howto.htm>
- The National Firewise Communities website at <http://firewise.org/>

Self-Assessment of Capability

The table below provides an approximate measure of the Township of Andover’s capability to work in a hazard-mitigation capacity and/or effectively implement hazard mitigation strategies to reduce hazard vulnerabilities.

Table 9.3-8. Self-Assessment of Capability

Area	Degree of Hazard Mitigation Capability		
	Limited (If limited, what are your obstacles?)	Moderate	High
Planning and Regulatory Capability	X budget restrictions		





Table 9.3-8. Self-Assessment of Capability

Area	Degree of Hazard Mitigation Capability		
	Limited (If limited, what are your obstacles?)	Moderate	High
Administrative and Technical Capability	X budget restrictions		
Fiscal Capability	X (money)		
Community Political Capability	X budget restrictions		
Community Resiliency Capability	X budget restrictions		
Capability to Integrate Mitigation into Municipal Processes and Activities.	X budget restrictions		

National Flood Insurance Program

NFIP Floodplain Administrator (FPA)

Corey Stoner, Township Engineer

Flood Vulnerability Summary

Lists/inventories of properties that have been damaged by floods are maintained through the Township fire department responses and CAD entries. The Township was recently involved in litigation for a floodprone residence and private residences were removed from current lists. During Irene and Lee, there was a basement collapse of a private residence. Other damages during these events included basement pump outs, which were performed by the fire department, where mitigation was possible. Additionally, during Irene and Lee, damage assessments were performed by FEMA representatives who accompanied the Township after the events. During Sandy, damage was mostly caused by wind and there was no flooding in the Township. There is currently no interest in mitigation. The one home that had the basement collapse during Irene and Lee was self-mitigated by the homeowner who received assistance from FEMA.

Resources

As the Andover Township Engineer, the municipal FPA is responsible for reviewing applications for construction that will require zoning permit approval. In coordination with the Township Zoning Officer, reviews are made to determine if the construction will impact floodways in any manner. Education regarding flood risk is done on a one on one basis with homeowners who are planning to perform any work activities in close proximity to flood risk areas. The FPA indicated that there are currently no barriers to running an effective floodplain administration program and that he feels adequately supported and trained to fulfill his responsibilities as the municipal FPA. The FPA also stated that he would consider attending continuing education and/or certification training on floodplain management if it were offered in the County.

Compliance History

The Township is currently in good standing with the NFIP; however, it is unknown as to when the last compliance audit was conducted.

Regulatory

The Township's floodplain ordinances meet the FEMA and State minimum requirements. Additionally, the Planning Board considers efforts to reduce risk when an applicant is proposing to disturb land on a property and/or increases the impervious surface on a property.





Community Rating System

The Township of Andover does not participate in the Community Rating System (CRS) program. Joining CRS has not been considered by the Township.

Integration of Hazard Mitigation into Existing and Future Planning Mechanisms

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, each community was surveyed to obtain a better understanding of their community's progress in plan integration. A summary is provided below. In addition, the community identified specific integration activities that will be incorporated into municipal procedures.

Planning

Andover Township has been quite active in looking at opportunities to proactively plan for development that suits the character of the community while protecting environmental sensitive/hazard prone properties. As such, the Township has prepared a number of Master Plan Reexaminations and Master plan Amendments to coordinate the Townships land use polies with changes in zoning while ensuring the protection of the health, safety and welfare of citizens in the Township. Most recently the Township underwent a Master Plan Reexamination process in 2011 to support a determination of need for an underutilized and vacant property. In 2010 the Township completed a Master Plan Reexamination to evaluate the existing zoning for opportunities for the rezoning of properties to "Public Use" or "Conservation" enhancing the opportunity for the creation of greenways and reducing risk to natural hazards like flooding. The 2008 Open Space and Recreation Plan included a number of mitigation related policy guiding goals:

- Expand trail systems linking neighborhoods, schools, parks, and natural areas to promote community connectivity
- Work with the State of New Jersey to preserve land adjacent to publicly owned parkland
- Protect water resources including aquifer recharge areas, surface waters, and groundwater
- Protect wildlife corridors and wildlife habitat to preserve the diversity of flora and fauna

The plan also identified numerous open space acquisition and preservation funding opportunities as well as preservation tools. The 2007 Master Plan Amendment enacted a number of policy guiding objectives and recommendations applicable to mitigation including the following:

- To provide a future land use pattern that serves the needs of the community for housing, community services and a safe and healthful environment.
- To retain to the greatest extent practicable attractive vistas from public rights-of- way, including views of hills, valleys, ridgelines, woodlands, farmlands, hedgerows, stream corridors, flood plains and other natural areas.
- To protect sensitive environmental resources from destruction or degradation, including but not limited to steep slopes, ridgelines, trout streams, wetlands, stream corridors, potable water supplies, watersheds, aquifers, rivers, view sheds, forests and other vegetation, soils, habitats of threatened and endangered species and unique natural systems.
- To preserve and maintain the interrelationships between land and water resources which contribute to their functioning as an ecological system.
- To relate the intensity of development, in areas relying on groundwater supplies and on-site sewage disposal, to conservative estimates of available water resources and the ability of the soil and ground water to sustain on-lot disposal systems without degrading or impairing the water quality.



- To identify and manage stream corridor buffer areas by maintaining undisturbed vegetation in order to protect and improve water quality, and provide wildlife corridors and opportunities for passive and active recreation.
- To plan for the expansion of necessary public services, including but not limited to utilities, community, emergency service, and recreation facilities, consistent with the future vision plan for Andover Township.

Regulatory and Enforcement (Ordinances)

The Township has multiple chapters pertaining to the mitigation of hazards. These ordinances include the Flood Damage Prevention Chapter, Stormwater Management Chapter, and an Environmental Impact Statement requirement included in the Site Plan Review Chapter.

Chapter 55: Flood Damage Prevention <http://www.ecode360.com/7154384>

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:

- 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 and bridges located in areas of special flood hazard;
- F. To help maintain a stable tax base by providing for the alternate use and development of areas of special flood hazard so as to minimize future flood blight areas;
- G. To ensure that potential buyers are notified that property is in an area of special flood hazard; and
- H. To ensure that those who occupy the areas of special flood hazard assume responsibility for their actions.

Chapter 150: Stormwater Management <http://www.ecode360.com/7156337>

The purpose of the Stormwater Management chapter is to implement best management practices for stormwater management designed to promote the public health, safety and general welfare of its citizenry.

Chapter 131-11 Article IV Environmental Impact Statement <http://www.ecode360.com/7155777>

The purpose of this section of the Chapter is to allow the Township to assess the impact of a proposed development upon the natural environment, particularly with respect to potable water, pollution of all kinds, flooding and waste disposal.

Operational and Administration

The Township has established a Land Use Board, Environmental Commission, and an Open Space Committee, that aid in planning decisions to support the conservation and preservation of the Township's critical environmental features. Beyond that the Township employs a Land Use Administrator and contracts out for professional legal, planning, and engineering services for development review. The Township also employs several part time employees for the enforcement of zoning, construction, and fire codes.



Funding

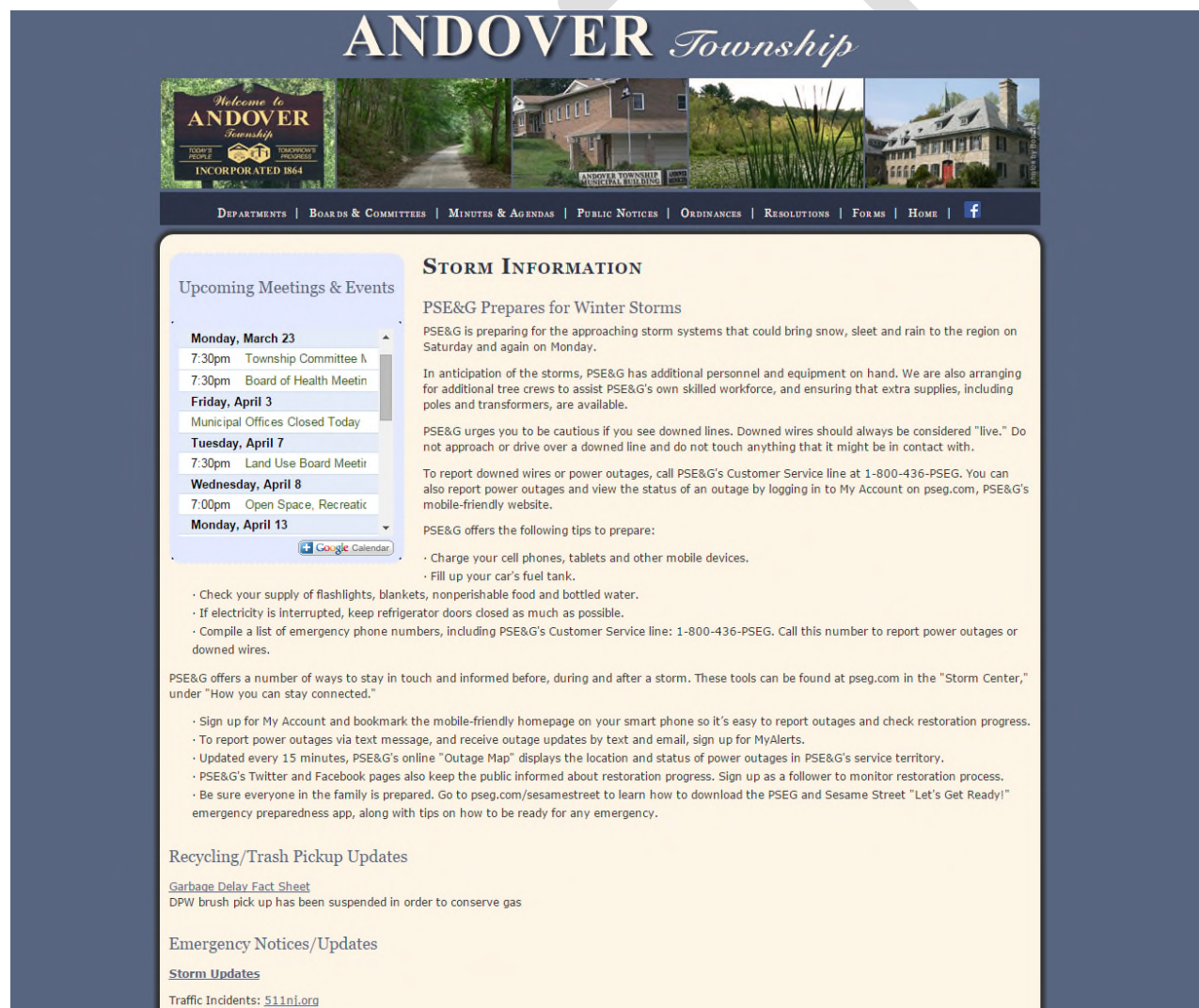
The Township has received funding from the NJDOT, Sustainable Jersey, The Garden State Preservation Trust Fund, and Clean Communities grant programs for the completion of mitigation and emergency response related projects including roadway and drainage improvements.

The Township identified a new mitigation initiative to include in their budget for future mitigation projects in both the Township budget and Capital Improvement Budget. Refer to Table 9.3-10 for further information.

Education and Outreach

The Township’s website posts information regarding upcoming community events and important municipal decisions. The website also has a ‘Storm Information’ web page that provides a great deal of information on emergency information, mitigation project assistance, grant funding, and storm preparedness information. Residents can link to disaster assistance resources and emergency response contact information.

Figure 9.3-1. Screenshot of Township Website with Examples of their Posted Mitigation/Emergency Information





9.3.6 Mitigation Strategy and Prioritization

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

Past Mitigation Initiative Status

The following table indicates progress on the community's mitigation strategy identified in the 2011 Plan. 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 may also be found under 'Capability Assessment' presented previously in this annex.

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Table 9.3-9. Past Mitigation Initiative Status

Initiative Number	2011 Mitigation Action	Responsible Party	Status (In progress, No progress, Complete)	Describe Status 1. Please describe what was accomplished and indicate % complete. 2. If there was no progress, indicate what obstacles/delays encountered? 3. If there was progress, how is/was the action being funded (e.g., FEMA HMGP grant, local budget)?	Next Step (Include in 2016 HMP? or Discontinue)	Describe Next Step 1. If including action in the 2016 HMP, revise/reword to be more specific (as appropriate). 2. If discontinue, explain why.
Andover Township 1	Elevation of flood prone property located on Stickle Pond Road.	OEM Coordinator	No Progress	1. House to be destroyed by new owner 2. Will have to comply with new zoning regulations	Discontinue	This property is going to be demolished by the new owner; new construction will comply with new zoning regulations. This action will not be included in the 2016 HMP.
Andover Township 2	Elevation of flood prone property located on Limecrest Road.	OEM Coordinator	Complete	House was moved to higher elevation by owner following basement collapse 9/8/2011	Discontinue	After a basement collapse of home, the structure was moved to a higher elevation in 2011. This action will not be included in the 2016 HMP.
Andover Township 3	Implementation of Fire Wise community program.	OEM Coordinator	No Progress	Fire Prevention program handled by County; therefore, there has been no progress on this action.	Include in 2016 HMP	The Township will included this action in the 2015 HMP.
Andover Township 4	Upgrade of roof to current snow load and high wind standards of Long Pond School located on Limecrest Road.	School Board Administrator	No Progress	This project has not been completed due to lack of grants/funding	Include in 2016 HMP	The Township will included this action in the 2016 HMP.
Andover Township 5	Upgrade of roof to current snow load and high wind standards of Florence Burd School located on Newton-Sparta Road.	School Board Administrator	No Progress	This project has not been completed due to lack of grants/funding	Include in the 2016 HMP	The Township will included this action in the 2016 HMP.
Andover Township 6	Inundation study for Hidden Valley Lake Dam located on Bonnie Glen Court.	Township Engineer	No Progress	This project has not been completed due to lack of grants/funding	Include in the 2016 HMP	The Township will included this action in the 2016 HMP.
Andover Township 7	Inundation study for Lake Lenape Dam located on Old Creamery Road.	Township Engineer	No Progress	This project has not been completed due to lack of grants/funding	Include in the 2016 HMP	The Township will included this action in the 2016 HMP.
Andover Township 8	Stormwater water retention basin addition to Hemlock Avenue and Old Creamery Road.	Township Engineer	No Progress	1. Mitigation by DPW to lessen impact 2. Funding for project is obstacle	Include in 2016 HMP	The Township will included this action in the 2016 HMP.
Andover Township 9	Conduct all-hazards public education and outreach program for hazard mitigation and preparedness.	OEM Coordinator, in coordination with SCDEM	In Progress	This is an ongoing action	Include in 2016 HMP	The Township will included this action in the 2016 HMP.



Completed Mitigation Initiatives not Identified in the Previous Mitigation Strategy

The Township has not identified any additional mitigation projects/activities that have been completed since approval of the 2011 Plan.

Proposed Hazard Mitigation Initiatives for the Plan Update

The Township participated in a mitigation action workshop in April 2015 and was provided 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). In May 2015, the Township participated in a second workshop led by FEMA Region 2 and NJOEM and was provided the results to the risk assessment to further assist with the identification of mitigation actions.

Table 9.3-10 summarizes the comprehensive-range of specific mitigation initiatives the Township would like to pursue in the future to reduce the effects of hazards. Some of these initiatives may be previous actions carried forward for this plan update. These initiatives are dependent upon available funding (grants and local match availability) and may be modified or omitted at any time based on the occurrence of new hazard events and changes in 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, 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 your actions as ‘High’, ‘Medium’, or ‘Low.’ The table below summarizes the evaluation of each mitigation initiative, listed by Action Number.

Table 9.3-11 provides a summary of the prioritization of all proposed mitigation initiatives for the Plan update.



Table 9.3-10. Proposed Hazard Mitigation Initiatives

Initiative	Mitigation Initiative	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Goals Met	Lead and Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category	CRS Category
Andover Twp-1 (LOI)	Install backup generator for critical infrastructure that includes the Township firehouse (shelter), town hall and DPW.	Existing	All	1, 2, 6	Township and OEM	High	High	Grant Funding with local cost share	Short Term / DOF	High	SIP	PP
Andover Twp-2	Pierce Road – stormwater retention basin	Existing	Flood	1, 2, 6	Township and Engineer	Avoid loss of life and damage to infrastructure	High	Grant funding with local cost share	Short Term / DOF	High	SIP	PP
Andover Twp-3	Pinkeyville Road – stormwater retention basin	Existing	Flood	1, 2, 6	Township and Engineer	Avoid loss of life and damage to infrastructure	High	Grant funding with local cost share	Short Term / DOF	High	SIP	PP
Andover Twp-4	Budget for future mitigation projects in both the Township budget and Capital Improvement Budget.	N/A	All	All	OEM Director and Township Administrator	Medium	Low	Municipal Budget	Short Term / DOF	Medium	LPR	PR
Andover Twp-5	Identify critical and essential Township facilities for location in hazard areas; identify mitigation actions to protect these structures from future damage.	N/A	All	All	OEM Director and Township Administrator	Medium	Low	Municipal Budget	Short Term / DOF	Medium	LPR	PR
Andover Twp-6	The Township will establish a community resilience committee and advisor.	N/A	All	All	OEM Director and Township Administrator	Medium	Low	Municipal Budget	Short Term / DOF	Medium	LPR	PR
Andover Twp-7	Improve outreach to local schools, colleges and universities; establish relationships; assist with community service and hazard mitigation activities.	N/A	All	All	OEM Director and Township Administrator	Medium	Low	Municipal Budget	Short Term / DOF	Medium	EAP	PR
Andover Twp-8	The Township will develop a COOP and it will integrate mitigation.	N/A	All	All	OEM Director and Township Administrator	Medium	Low	Municipal Budget	Short Term / DOF	Medium	LPR	PR
Andover Twp-9 (old)	Implementation of Fire Wise community program	N/A	Wildfire	1, 2, 3	Township Fire and OEM	Medium	Low	Municipal Budget	Short Term / DOF	Low	LPR	PR





Table 9.3-10. Proposed Hazard Mitigation Initiatives

Initiative	Mitigation Initiative	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Goals Met	Lead and Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category	CRS Category
Andover Twp-10 (old)	Upgrade roof of Long Pond School to current snow load and high wind standards	Existing	Severe Winter Weather, Severe Weather	1, 2, 6	Andover Regional Board of Education / OEM	High	High	Grant Funding with local school board cost share	Short Term / DOF	Medium	SIP	PP
Andover Twp-11 (old)	Upgrade roof of FMB School to current snow load and high wind standards	Existing	Severe Winter Weather, Severe Weather	1, 2, 6	Andover Regional Board of Education / OEM	High	High	Grant Funding with local school board cost share	Short Term / DOF	Medium	SIP	PP
Andover Twp-12 (old)	Inundation study for Hidden Valley Lake Dam / Bonnie Glen Court	N/A	Dam Failure	1, 2, 6	Hidden Valley Lake Association	Avoid loss of life and damage to infrastructure	Medium	Grant funding / local community specific cost share	Short Term / DOF	Low	LPR	PR
Andover Twp-13 (old)	Inundation study for Lake Lenape Dam / Old Creamery Road	N/A	Dam Failure	1, 2, 6	Hidden Valley Lake Association	Avoid loss of life and damage to infrastructure	Medium	Grant funding / local community specific cost share	Short Term / DOF	Low	LPR	PR
Andover Twp-14 (old)	Stormwater retention basin – Old Creamery Rd & Hemlock Ave	Existing	Flood	1, 2, 6	Township and Engineer	Avoid loss of life and damage to infrastructure	High	Grant funding / local community specific cost share	Short Term / DOF	High	SIP	PP
Andover Twp-15 (old)	Expand mitigation education and outreach efforts through handouts, newsletters, social media, and Township website.	N/A	All	All	OEM	High	Low	Municipal Budget	Ongoing	Medium	EAP	PI

Notes:

Not all acronyms and abbreviations defined below are included in the table.

*Does this mitigation initiative reduce the effects of hazards on new and/or existing buildings and/or infrastructure? Not applicable (N/A) is inserted if this does not apply.

Acronyms and Abbreviations:

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
 NJDEP New Jersey Department of Environmental Protection
 NJOEM New Jersey Office of Emergency Management
 OEM Office of Emergency Management

PDM Pre-Disaster Mitigation Grant Program
 HMA Hazard Mitigation Assistance Program

Potential FEMA HMA Funding Sources:

FMA Flood Mitigation Assistance Grant Program
 HMGP Hazard Mitigation Grant Program

Timeline:

Short 1 to 5 years
 Long Term 5 years or greater
 OG On-going program
 DOF Depending on funding

Costs:

Where actual project costs have been reasonably estimated:

Low < \$10,000
 Medium \$10,000 to \$100,000
 High > \$100,000

Where actual project costs cannot reasonably be established at this time:

Low Possible to fund under existing budget. Project is part of, or can be part of an existing on-going program.
 Medium Could budget for under existing work plan, but would require a reappropriation of the budget or a budget amendment, or the cost of the project would have to be spread over multiple years.
 High Would require an increase in revenue via an alternative source (i.e., bonds, grants, fee increases) to implement. Existing funding levels are not adequate to cover the costs of the proposed project.

Benefits:

Where possible, an estimate of project benefits (per FEMA's benefit calculation methodology) has been evaluated against the project costs, and is presented as:

Low= < \$10,000
 Medium \$10,000 to \$100,000
 High > \$100,000

Where numerical project benefits cannot reasonably be established at this time:

Low Long-term benefits of the project are difficult to quantify in the short term.
 Medium Project will have a long-term impact on the reduction of risk exposure to life and property, or project will provide an immediate reduction in the risk exposure to property.
 High Project will have an immediate impact on the reduction of risk exposure to life and property.

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 also 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. Such actions include outreach projects, real estate disclosure, hazard information centers, and educational programs for school-age children and adults.
- Natural Resource Protection (NR)-Actions that minimize hazard loss and also preserve or restore the functions of natural systems. These actions include sediment and erosion control, stream corridor restoration, watershed management, forest and vegetation management, and wetland restoration and preservation.
- Structural Flood Control Projects (SP)-Actions that involve the construction of structures to reduce the impact of a hazard. Such structures include dams, setback levees, floodwalls, retaining walls, and safe rooms.
- Emergency Services (ES)-Actions that protect people and property during and immediately following a disaster or hazard event. Services include warning systems, emergency response services, and the protection of essential facilities





Table 9.3-11. Summary of Prioritization of Actions

Mitigation Action / Project Number	Mitigation Action/Initiative	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
Andover Twp-1 (LOI)	Install backup generator for critical infrastructure that includes the Township firehouse (shelter), town hall and DPW to ensure continuity of operations	1	1	1	1	1	1	-1	1	0	1	1	1	1	1	11	High
Andover Twp-2	Pierce Road – stormwater retention basin	1	1	1	1	1	1	-1	1	1	1	1	0	1	1	11	High
Andover Twp-3	Pinkeyville Road – stormwater retention basin	1	1	1	1	1	1	-1	1	1	1	1	0	1	1	11	High
Andover Twp-4	Budget for future mitigation projects in both the Township budget and Capital Improvement Budget.	1	1	1	1	1	1	0	0	0	1	1	0	0	0	8	Medium
Andover Twp-5	Identify critical and essential Township facilities for location in hazard areas; identify mitigation actions to protect these structures from future damage.	1	1	1	1	1	1	0	0	0	1	1	0	0	0	8	Medium
Andover Twp-6	The Township will establish a community resilience committee and advisor.	1	1	1	1	1	1	0	0	0	1	1	0	0	0	8	Medium
Andover Twp-7	Improve outreach to local schools, colleges and universities; establish relationships; assist with community service and hazard mitigation activities.	1	1	1	1	1	1	0	0	0	1	1	0	0	0	8	Medium
Andover Twp-8	The Township will develop a COOP and it will integrate mitigation.	1	1	1	1	1	1	0	0	0	1	1	0	0	0	8	Medium
Andover Twp-9 (old)	Implementation of Fire Wise community program	1	1	0	0	0	0	0	1	0	0	1	1	0	0	5	Low
Andover Twp-10 (old)	Upgrade roof of Long Pond School to current snow load and high wind standards	1	1	1	1	0	1	-1	0	0	0	1	0	1	1	7	Medium





Table 9.3-11. Summary of Prioritization of Actions

Mitigation Action / Project Number	Mitigation Action/Initiative	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
Andover Twp-11 (old)	Upgrade roof of FMB School to current snow load and high wind standards	1	1	1	1	0	1	-1	0	0	0	1	0	1	1	7	Medium
Andover Twp-12 (old)	Inundation study for Hidden Valley Lake Dam / Bonnie Glen Court	1	1	1	1	0	1	-1	0	1	0	1	0	1	1	8	Low
Andover Twp-13 (old)	Inundation study for Lake Lenape Dam / Old Creamery Road	1	1	1	1	0	1	-1	0	1	0	1	0	1	1	8	Low
Andover Twp-14 (old)	Stormwater retention basin – Old Creamery Rd & Hemlock Ave	1	1	1	1	1	1	-1	1	1	1	1	0	1	1	11	High
Andover Twp-15 (old)	Conduct all hazards public education and outreach program / preparedness	1	1	0	0	0	0	0	1	0	0	1	1	0	0	5	Medium

Note: Refer to Section 6 which contains the guidance on conducting the prioritization of mitigation actions.





9.3.7 Future Needs To Better Understand Risk/Vulnerability

None at this time.

9.3.8 Hazard Area Extent and Location

Hazard area extent and location maps have been generated for the Township of Andover 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 considered to be adequate for planning purposes. Maps have only been generated for those hazards that can be clearly identified using mapping techniques and technologies, and for which the Township of Andover has significant exposure. These maps are illustrated in the hazard profiles within Section 5.4, Volume I of this Plan.

9.3.9 Additional Comments

None at this time.

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Figure 9.3-2. Township of Andover Hazard Area Extent and Location Map 1

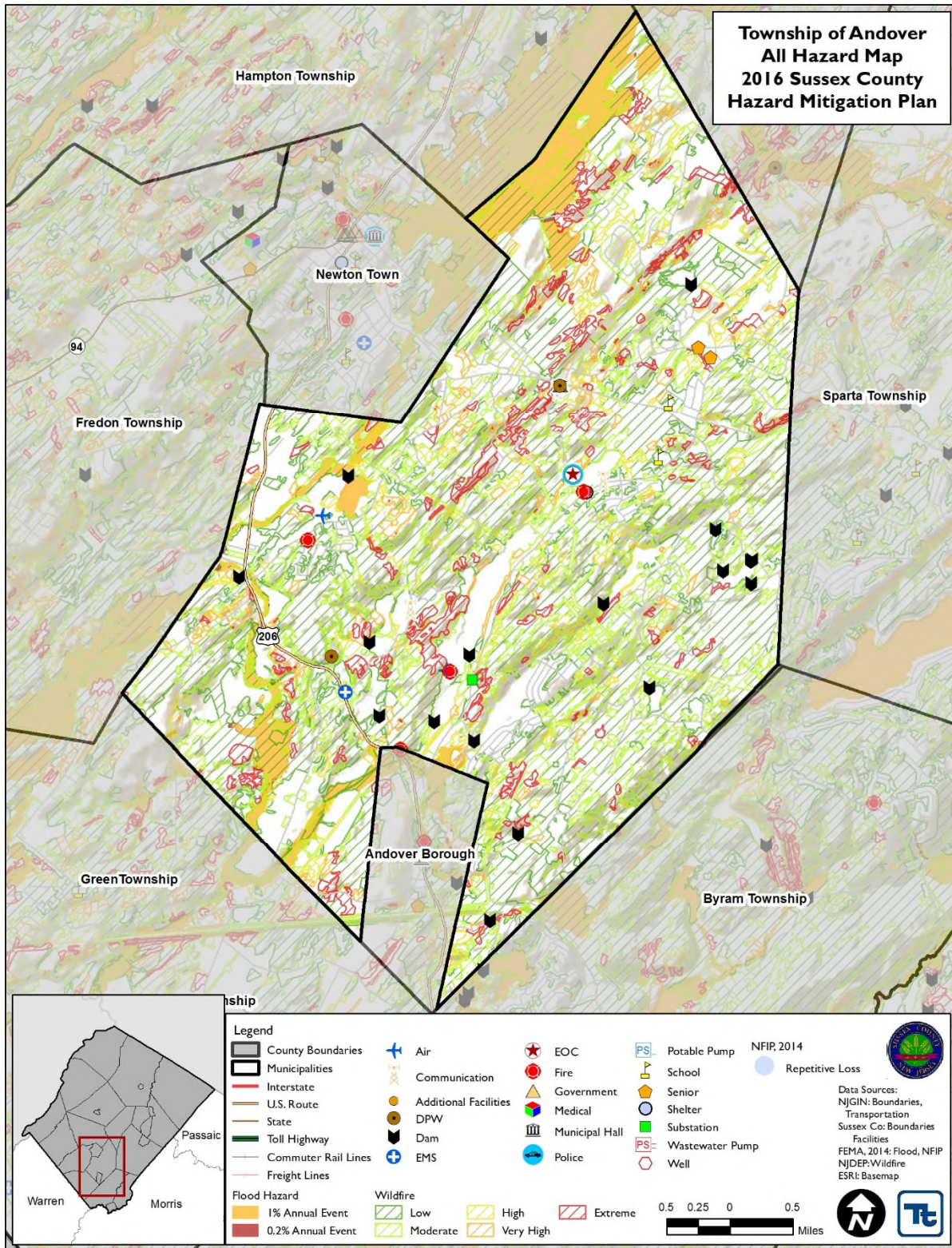
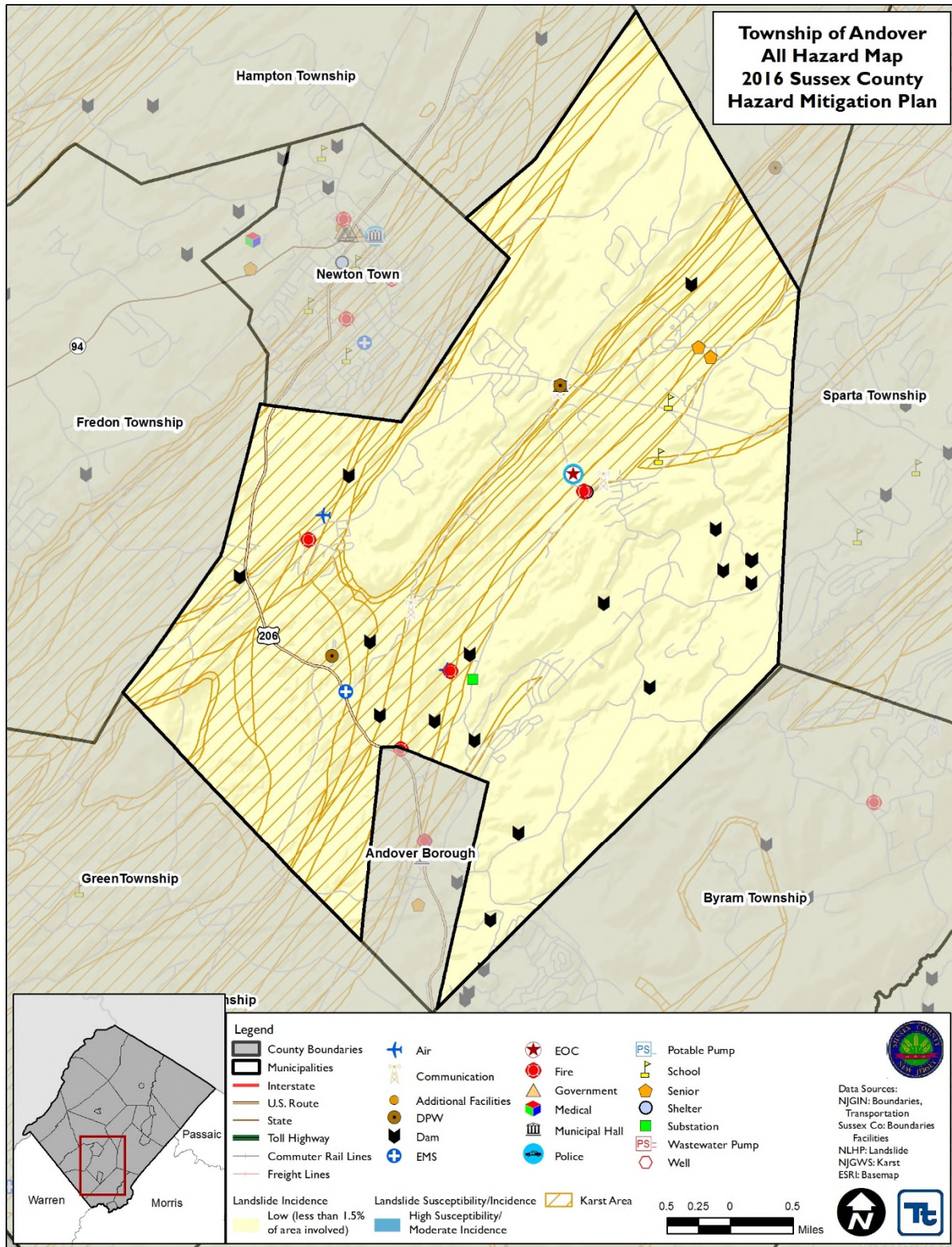




Figure 9.3-3. Township of Andover Hazard Area Extent and Location Map 2





Action Number: Andover Township-1

Mitigation Action/Initiative: Install backup generator for critical infrastructure / emergency shelter Andover Twp Firehouse / Town Hall / DPW

Assessing the Risk	
Hazard(s) addressed:	All hazards that may lead to a power outage
Specific problem being mitigated:	Loss of power restricts Township critical infrastructure from functioning during times of need
Evaluation of Potential Actions/Projects	
Actions/Projects Considered (name of project and reason for not selecting):	1. Purchase and install backup generators for critical infrastructure in the Township
	2. Build new facilities
	3. Update existing facilities
Action/Project Intended for Implementation	
Description of Selected Action/Project	Purchase and install backup generators for critical infrastructure in the Township
Action/Project Category	SIP
Goals/Objectives Met	1, 2, 6
Applies to existing and/or new development; or not applicable	Existing
Benefits (losses avoided)	Protect life and property / provide emergency shelter and con't services
Estimated Cost	High
Priority	High
Plan for Implementation	
Responsible/Lead Agency/Department	Township and OEM
Local Planning Mechanism	Emergency Management
Potential Funding Sources	Grant funding with local cost share
Timeline for Completion	Short Term
Reporting on Progress	
Date of Status Report/ Report of Progress	Date: 05/20/2015 Progress on Action/Project: grant submitted to FEMA via NJEMGrants



Action Number: Andover Township-1
Mitigation Action/Initiative: Install backup generator for critical infrastructure / emergency shelter Andover Twp Firehouse / Town Hall / DPW

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Provide shelter for Township residents; allow for continuity of operations
Property Protection	1	
Cost-Effectiveness	1	
Technical	1	
Political	1	
Legal	1	
Fiscal	-1	Will need to seek grant funding for this project
Environmental	1	
Social	0	
Administrative	1	
Multi-Hazard	1	All
Timeline	1	Short Term
Local Champion	1	
Other Community Objectives	1	
Total	11	
Priority (High/Med/Low)	High	



Action Number: Andover Twp-2
Mitigation Action/Initiative: Pierce Road – stormwater retention basin

Assessing the Risk	
Hazard(s) addressed:	Flood
Specific problem being mitigated:	Ponding of water and freezing of water due to improper drainage
Evaluation of Potential Actions/Projects	
Actions/Projects Considered (name of project and reason for not selecting):	1. Install drainage / stormwater drains
	2. Create large area retention basin
	3. Mitigate erosion
Action/Project Intended for Implementation	
Description of Selected Action/Project	Install drainage and retention basins
Action/Project Category	SIP
Goals/Objectives Met	1, 2, 6
Applies to existing and/or new development; or not applicable	Existing
Benefits (losses avoided)	Avoid loss of life and damage to infrastructure
Estimated Cost	\$ 500,000
Priority	High
Plan for Implementation	
Responsible/Lead Agency/Department	Township of Andover / Engineer
Local Planning Mechanism	Stormwater Management
Potential Funding Sources	Grant funding / local community specific cost share
Timeline for Completion	5 years
Reporting on Progress	
Date of Status Report/ Report of Progress	Date: Progress on Action/Project:



Action Number: Andover Twp-2

Mitigation Action/Initiative: Pierce Road – stormwater retention basin

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	
Property Protection	1	
Cost-Effectiveness	1	
Technical	1	
Political	1	
Legal	1	
Fiscal	-1	
Environmental	1	
Social	1	
Administrative	1	
Multi-Hazard	1	Flood, Severe Weather
Timeline	0	>5 years
Local Champion	1	
Other Community Objectives	1	
Total	11	
Priority (High/Med/Low)	High	



Action Number: Andover Twp-3
Mitigation Action/Initiative: Pinkeyville Road – stormwater retention basin

Assessing the Risk	
Hazard(s) addressed:	Flood
Specific problem being mitigated:	Ponding of water and freezing of water due to improper drainage
Evaluation of Potential Actions/Projects	
Actions/Projects Considered (name of project and reason for not selecting):	1. Install drainage / stormwater drains
	2. Create large area retention basin
	3. Mitigate erosion
Action/Project Intended for Implementation	
Description of Selected Action/Project	Install drainage and retention basins
Action/Project Category	SIP
Goals/Objectives Met	1, 2, 6
Applies to existing and/or new development; or not applicable	Existing
Benefits (losses avoided)	Avoid loss of life and damage to infrastructure
Estimated Cost	\$ 500,000
Priority	High
Plan for Implementation	
Responsible/Lead Agency/Department	Township of Andover / Engineer
Local Planning Mechanism	Stormwater Management
Potential Funding Sources	Grant funding / local community specific cost share
Timeline for Completion	5 years
Reporting on Progress	
Date of Status Report/ Report of Progress	Date: Progress on Action/Project:



Action Number: Andover Twp-3

Mitigation Action/Initiative: Pinkeyville Road – stormwater retention basin

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Protect residents from flooding in this area
Property Protection	1	Protect structures from damage in this area
Cost-Effectiveness	1	
Technical	1	
Political	1	
Legal	1	
Fiscal	-1	
Environmental	1	
Social	1	
Administrative	1	
Multi-Hazard	1	Flood, Severe Weather
Timeline	0	>5 years
Local Champion	1	
Other Community Objectives	1	
Total	11	
Priority (High/Med/Low)	High	



Action Number: Andover Twp-10

Mitigation Action/Initiative: Upgrade roof of Long Pond School to current snow load and high wind standards

Assessing the Risk	
Hazard(s) addressed:	Severe Winter Weather, Severe Weather
Specific problem being mitigated:	Potential for roof collapse and/or damage due to snow and wind
Evaluation of Potential Actions/Projects	
Actions/Projects Considered (name of project and reason for not selecting):	1. Replace roof of school
	2. Do nothing – current problem continues
	3. No other feasible options were identified
Action/Project Intended for Implementation	
Description of Selected Action/Project	Replace roof of Long Pond School to current snow loads and high wind standards.
Action/Project Category	SIP
Goals/Objectives Met	1, 2, 6
Applies to existing and/or new development; or not applicable	Existing
Benefits (losses avoided)	Avoid loss of life and damage to infrastructure
Estimated Cost	High
Priority*	Medium
Plan for Implementation	
Responsible/Lead Agency/Department	Andover Regional Board of Education / OEM
Local Planning Mechanism	School Budget
Potential Funding Sources	Grant funding / local school board share
Timeline for Completion	Short Term
Reporting on Progress	
Date of Status Report/ Report of Progress	Date: Progress on Action/Project:



Action Number: Andover Twp-10

Mitigation Action/Initiative: Upgrade roof of Long Pond School to current snow load and high wind standards

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Protect students from any damages that could occur if roof is not upgraded
Property Protection	1	Protect school from damages
Cost-Effectiveness	1	
Technical	1	
Political	0	
Legal	1	
Fiscal	-1	
Environmental	0	
Social	0	
Administrative	0	
Multi-Hazard	1	Severe Weather, Severe Winter Weather
Timeline	0	
Local Champion	1	
Other Community Objectives	1	
Total	7	
Priority (High/Med/Low)	Med	



Action Number: Andover Twp-11

Mitigation Action/Initiative: Upgrade roof of FMB School to current snow load and high wind standards

Assessing the Risk	
Hazard(s) addressed:	Severe Winter Weather, Severe Weather
Specific problem being mitigated:	Potential for roof collapse and/or damage due to snow and wind
Evaluation of Potential Actions/Projects	
Actions/Projects Considered (name of project and reason for not selecting):	1. Replace roof of school
	2. Do nothing – current problem continues
	3. No other feasible options were identified
Action/Project Intended for Implementation	
Description of Selected Action/Project	Replace roof of FMB School to current snow loads and high wind standards.
Action/Project Category	SIP
Goals/Objectives Met	1, 2, 6
Applies to existing and/or new development; or not applicable	Existing
Benefits (losses avoided)	Avoid loss of life and damage to infrastructure
Estimated Cost	High
Priority	Medium
Plan for Implementation	
Responsible/Lead Agency/Department	Andover Regional Board of Education / OEM
Local Planning Mechanism	School Budget
Potential Funding Sources	Grant funding / local school board share
Timeline for Completion	Short Term
Reporting on Progress	
Date of Status Report/ Report of Progress	Date: Progress on Action/Project:



Action Number: Andover Twp-11

Mitigation Action/Initiative: Upgrade roof of FMB School to current snow load and high wind standards

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Protect students from any damages that could occur if roof is not upgraded
Property Protection	1	Protect school from damages
Cost-Effectiveness	1	
Technical	1	
Political	0	
Legal	1	
Fiscal	-1	
Environmental	0	
Social	0	
Administrative	0	
Multi-Hazard	1	Severe Weather, Severe Winter Weather
Timeline	0	
Local Champion	1	
Other Community Objectives	1	
Total	7	
Priority (High/Med/Low)	Med	



Action Number: Andover Twp-14

Mitigation Action/Initiative: Stormwater retention basin – Old Creamery Rd & Hemlock Ave

Assessing the Risk	
Hazard(s) addressed:	Flood
Specific problem being mitigated:	Ponding of water and freezing of water due to improper drainage
Evaluation of Potential Actions/Projects	
Actions/Projects Considered (name of project and reason for not selecting):	1. Install drainage / stormwater drains
	2. Create large area retention basin
	3. Do nothing – current problem continues
Action/Project Intended for Implementation	
Description of Selected Action/Project	Install drainage and retention basins
Action/Project Category	Structure and Infrastructure Project
Goals/Objectives Met	1, 2, 6
Applies to existing and/or new development; or not applicable	Existing
Benefits (losses avoided)	Avoid loss of life and damage to infrastructure
Estimated Cost	\$500,000
Priority	High
Plan for Implementation	
Responsible/Lead Agency/Department	Township of Andover / Engineer
Local Planning Mechanism	Stormwater Management
Potential Funding Sources	Grant funding / local community specific cost share
Timeline for Completion	5 years
Reporting on Progress	
Date of Status Report/ Report of Progress	Date: Progress on Action/Project:



Action Number: Andover Twp-14

Mitigation Action/Initiative: Stormwater retention basin – Old Creamery Rd & Hemlock Ave

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Protect residents from flooding in this area
Property Protection	1	Protect structures from damage in this area
Cost-Effectiveness	1	
Technical	1	
Political	1	
Legal	1	
Fiscal	-1	
Environmental	1	
Social	1	
Administrative	1	
Multi-Hazard	1	Flood, Severe Weather
Timeline	0	>5 years
Local Champion	1	
Other Community Objectives	1	
Total	11	
Priority (High/Med/Low)	High	