



9.21 Township of Mendham

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

9.21.1 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
Evan Thomas; Emergency Management Coordinator (973) 543-1466 ewt58@aol.com	Lieutenant Ross Johnson Mendham Township Police Department 3 Cherry Lane, Brookside, NJ 07926 (973) 543-2175

9.21.2 Municipal Profile

This section provides a summary of the community.

Population

According to the U.S. Census, the 2010 population for the Township of Mendham was 5,869.

Location

According to the U.S. Census, the Township has a total area of 18.10 square miles, of which 17.87 square miles is land and 0.23 square miles is water. The Township includes the hamlet of Brookside in which are located the school, police, fire, municipal building, community center and post office.

Growth/Development Trends

The following table summarizes recent residential/commercial development since 2010 to present and any known or anticipated major residential/commercial development and major infrastructure development that has been identified in the next five years within the municipality. Refer to the map later in this annex which illustrates the hazard areas along with the location of potential new development.

Table 9.21-1. Growth and Development

Property or Development Name	Type (e.g., Res., Comm.)	# of Units / Structures	Location (address and/or Block & Lot)	Known Hazard Zone(s)	Description/Status of Development
Recent Development from 2010 to present					
The Township has had a number of residential subdivisions in the decade, however none of this development has been located within floodplains or other defined hazard zones.					
Known or Anticipated Development in the Next Five (5) Years					
While the Township has some areas of anticipated development (residential subdivision), none of it is located within floodplains or other defined hazard zones. Approximately 73% of the Township is "developed".					

* Only location-specific hazard zones or vulnerabilities identified.



9.21.3 Natural Hazard Event History Specific to the Municipality

Morris 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 9.21-2. Hazard Event History

Dates of Event	Event Type	FEMA Declaration # (If Applicable)	County Designated?	Summary of Damages/Losses
August 26 – September 5, 2011	Hurricane Irene	EM-3332 DR-4021	Yes Yes	Power outages less than 2 days Township-wide. Road closures due to flooding. Public Assistance (PA) requested.
October 29, 2011	Severe Storm	DR-4048	Yes	Power outages for 2 days+ Township wide. PA requested.
October 26 – November 8, 2012	Hurricane Sandy	EM-3354 DR-4086	Yes Yes	Some residents sheltered for up to 3 days. Widespread power outages affecting residents for up to 7 days. PA requested for debris management, emergency management and DPW services.

9.21.4 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 following summarizes the hazard vulnerabilities and their ranking in the Township of Mendham. 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 Mendham.

Table 9.21-3. 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
Drought	Damage estimate not available	Frequent	27	Medium
Dam Failure	Damage estimate not available	Occasional	24	Medium
Earthquake	500-year MRP: \$1,428,256 2,500-year MRP: \$30,099,847	Occasional	24	Medium
Extreme Temperature	Damage estimate not available	Frequent	18	Medium
Flood	1% Annual Chance: \$866,616	Occasional	12	Low
Geological Hazards	Exposed to Class A and Class B: \$48,180,678	Occasional	12	Low
Severe Storm	100-Year MRP: \$2,073,274 500-year MRP: \$14,091,428 Annualized: \$110,616	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
Winter Storm	1% GBS: \$29,005,517 5% GBS: \$145,027,587	Frequent	54	High
Wildfire	Estimated Value Exposed to Extreme, Very High and High: \$30,206,642	Rare	6	Low

Notes:

- a. Building damage ratio estimates based on FEMA 386-2 (August 2001)
- b. The valuation of general building stock and loss estimates was based on custom inventory for the municipality.
High = Total hazard priority risk ranking score of 31 and above
Medium = Total hazard priority risk ranking of 20-30+
Low = Total hazard risk ranking below 20
- c. Loss estimates for the severe storm and severe winter storm hazards are structural values only and do not include the value of contents.
- d. Loss estimates for the flood and earthquake hazards represent both structure and contents.
- e. The HAZUS-MH earthquake model results are reported by Census Tract.

National Flood Insurance Program (NFIP) Summary

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

Table 9.21-4. NFIP Summary

Municipality	# Policies (1)	# Claims (Losses) (1)	Total Loss Payments (2)	# Rep. Loss Prop. (1)	# Severe Rep. Loss Prop. (1)	# Policies in 100-year Boundary (3)
Township of Mendham	36	21	\$179,747.84	1	0	6

Source: FEMA Region 2, 2014

- (1) Policies, claims, repetitive loss and severe repetitive loss statistics provided by FEMA Region 2, and are current as of 9/30/2014. Please note the total number of repetitive loss properties includes the severe repetitive loss properties. The number of claims represents claims closed by 9/30/14.
- (2) Total building and content losses from the claims file provided by FEMA Region 2.
- (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.

Notes: 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.
A zero percentage denotes less than 1/100th percentage and not zero damages or vulnerability as may be the case.
Number of policies and claims and claims total exclude properties located outside County boundary, based on provided latitude and longitude.

Critical Facilities

The table below presents HAZUS-MH estimates of the damage and loss of use to critical facilities in the community as a result of a 1- and 0.2-percent annual chance flood events.

Table 9.21-5. Potential Flood Losses to Critical Facilities

Name	Type	Exposure		Potential Loss from 1% Flood Event		
		1% Event	0.2% Event	Percent Structure Damage	Percent Content Damage	Days to 100-Percent ⁽¹⁾
No Name Provided	EMS	X	X	0	0	-
Southeast Morris Co MUA Clyde Potts WTP	Wastewater		X	-	-	-
Washington Corner Dam	Dam	X	X	-	-	-

Source: HAZUS-MH 2.1





Note (1): HAZUS-MH 2.1 provides a general indication of the maximum restoration time for 100% operations. Clearly, a great deal of effort is needed to quickly restore essential facilities to full functionality; therefore this will be an indication of the maximum downtime (HAZUS-MH 2.1 User Manual).

Note (2): In some cases, a facility may be located in the DFIRM flood hazard boundary; however HAZUS did not calculate potential loss. This may be because the depth of flooding does not amount to any damages to the structure according to the depth damage function used in HAZUS for that facility type. Further, HAZUS-MH may estimate potential damage to a facility that is outside the DFIRM because the model generated a depth grid beyond the DFIRM boundaries.

- NA Not available
- X Facility located within the DFIRM boundary
- Not calculated by HAZUS-MH 2.1

Other Vulnerabilities Identified

History of flooding in the Township of Mendham indicates that flooding may be experienced in any season of the year. The more extensive floods have occurred mostly in late summer and early fall and are usually associated with tropical disturbances moving north along the Atlantic coast (FEMA FIS 2010). The Township has reported flooding at three locations within the municipality:

- Flooding occurs on the North Branch Raritan River just upstream from the confluence of Burnett Brook. This area has a wide floodplain and the flooding along this section has been attributed to a topographic constriction near the Roxiticus Road crossing. Several homes along this road are affected by this.
- Flooding on the Whippany River occurs in the area of Tingley Road and has been attributed to the wide flat floodplain in the area.
- Flooding also occurs on the tributary to Harmony Brook in the area of West Main Street and Cherry Lane and it appears that it attributed to the structures at Cherry Lane. Municipal offices and several other structures are affected by this (FEMA FIS 2010).

9.21.5 Capability Assessment

This section identifies the following capabilities of the local jurisdiction:

- Planning and regulatory capability
- Administrative and technical capability
- Fiscal capability
- Community classification
- National Flood Insurance Program
- 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 Mendham.

Table 9.21-6. Planning and Regulatory Tools

Tool / Program (code, ordinance, plan)	Do you have this? (Yes/No)	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	Planning Board	Adopted Nov. 2000-2002
Capital Improvements Plan	Yes	Local	Administration	2014
Floodplain Management/Basin Plan	Yes	Local		This plan being updated in 2015
Stormwater Management Plan	Yes	Local		Chapter 297 S/W management supported by Ferriero Engineering





Tool / Program (code, ordinance, plan)	Do you have this? (Yes/No)	Authority (local, county, state, federal)	Dept./Agency Responsible	Code Citation and Comments (Code Chapter, name of plan, explanation of authority, etc.)
Open Space Plan	Yes	Local	Open Space Committee	Environmental Resource Inventory
Stream Corridor Management Plan	No			
Watershed Management or Protection Plan	No			
Economic Development Plan	No			
Comprehensive Emergency Management Plan	Yes	Local	OEM	Township OEM
Emergency Response Plan	Yes	Local	OEM	Township OEM
Post-Disaster Recovery Plan	No			
Transportation Plan	No			
Strategic Recovery Planning Report	No			
Other Plans:	No			
Regulatory Capability				
Building Code	Yes	State & Local	Building Department	State Uniform Construction Code Act (N.J.S. 52:27D-119 et seq.) Chapter 127
Zoning Ordinance	Yes	Local	Planning Board; Board of Adjustment	
Subdivision Ordinance	Yes	Local	Planning Board; Board of Adjustment	
NFIP Flood Damage Prevention Ordinance	Yes	Federal, State, Local	Township Engineer	
NFIP: Cumulative Substantial Damages	No	Local		
NFIP: Freeboard	Yes	State, Local	Township Engineer	
Growth Management Ordinances	No			
Site Plan Review Requirements	Yes	Local	Planning Board; Board of Adjustment	
Stormwater Management Ordinance	Yes	Federal, State, Local	Township Engineer	Chapter 297
Municipal Separate Storm Sewer System (MS4)	Yes	Federal, State, Local	Township Engineer	Chapter 297
Natural Hazard Ordinance	No			
Post-Disaster Recovery Ordinance	No	Local		
Real Estate Disclosure Requirement	Yes	State	Division of Consumer Affairs	N.J.A.C. 13:45A-29.1
Other [Special Purpose Ordinances (i.e., sensitive areas, steep slope)]	No			



Administrative and Technical Capability

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

Table 9.21-7. Administrative and Technical Capabilities

Resources	Is this in place? (Yes or No)	Department/ Agency/Position
Administrative Capability		
Planning Board	Y	Planning Board; Board of Adjustment
Mitigation Planning Committee	N	
Environmental Board/Commission	Y	Environmental Commission
Open Space Board/Committee	Y	Open Space Committee
Economic Development Commission/Committee	N	
Maintenance Programs to Reduce Risk	Y	Capital Program; DPW projects
Mutual Aid Agreements	Y	
Technical/Staffing Capability		
Planner(s) or Engineer(s) with knowledge of land development and land management practices	Y	Ferriero Engineering
Engineer(s) or Professional(s) trained in construction practices related to buildings and/or infrastructure	Y	Ferriero Engineering
Planners or engineers with an understanding of natural hazards	Y	Ferriero Engineering
NFIP Floodplain Administrator	Y	Paul Ferriero, PE, PE - Ferriero Engineering
Surveyor(s)	Y	Contracted
Personnel skilled or trained in GIS and/or HAZUS-MH applications	Y	Ferriero Engineering
Scientist familiar with natural hazards	Y	Ferriero Engineering
Emergency Manager	Y	OEM
Grant Writer(s)	Y	OEM
Staff with expertise or training in benefit/cost analysis	Y	Ferriero Engineering
Professionals trained in conducting damage assessments		

Fiscal Capability

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

Table 9.21-8. 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, through municipal budget
Authority to Levy Taxes for specific purposes	Yes
User fees for water, sewer, gas or electric service	Water, Sewer
Impact Fees for homebuyers or developers of new development/homes	No
Stormwater Utility Fee	No
Incur debt through general obligation bonds	Yes
Incur debt through special tax bonds	Available
Incur debt through private activity bonds	No





Financial Resources	Accessible or Eligible to Use (Yes/No/Don't Know)
Withhold public expenditures in hazard-prone areas	No
Other Federal or State Funding Programs	FEMA Grants
Open Space Acquisition Funding Programs	Available through State and County
Other	

Community Classifications

The table below summarizes classifications for community program available to the Township of Mendham.

Table 9.21-9. Community Classifications

Program	Do you have 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)	TBD	TBD	TBD
Public Protection (ISO Fire Protection Classes 1 to 10)	Yes	TBD	TBD
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)	No	N/A	N/A
Public Education Program/Outreach (through website, social media)	Yes	N/A	N/A
Public-Private Partnerships	Yes		

N/A = Not applicable. NP = Not participating. - = Unavailable. TBD = To be determined.

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 CRS class applies to flood insurance while the 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 Mendham’s capability to work in a hazard-mitigation capacity and/or effectively implement hazard mitigation strategies to reduce hazard vulnerabilities.

Table 9.21-10. Self-Assessment Capability for the Municipality

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

National Flood Insurance Program

NFIP Floodplain Administrator

Paul W. Ferriero, PE, PP, CME, CFM, LEED AP

Flood Vulnerability Summary

As of 2/28/2015 there are 36 NFIP policies in force within the community, insuring \$ 10,113,900 of property with total annual insurance premiums of \$ 33,005. Since 1978, 21 NFIP claims have been paid totaling \$ 179,748. As of 9/30/2014, there are 1 Repetitive Loss and no Severe Repetitive Loss properties in the community.

Resources

The Township Engineer is the designated floodplain administrator, who makes available floodplain maps, provides information on floodplain building requirements, issues floodplain development permits, performs permit review and record-keeping. Land use planning and compliance with the provisions of the local Flood Damage Prevention Ordinance is supported by the Planning Board and Board of Adjustment. The available resources are believed to be appropriate and sufficient to effectively manage the flood risk within the community.

Compliance History

The community is currently in good standing in the NFIP and has no outstanding compliance issues. The current NFIP Floodplain Administrator has no knowledge of when the last CAV was performed. The municipality sees no specific need for a CAV at this time.

Regulatory

The community joined the NFIP in 07/05/82. The current effective NFIP rate maps for the community are dated 10/2/1997. Mendham Township does not participate in the Community Rating System (CRS) program.

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

The Township Consulting Engineering firm, Ferriero Engineering, Inc., provides design and inspection services for Township infrastructure and capital projects such as drainage, road improvements, and park improvements. They also provide assistance to the Township when applying for grant applications and help manage those grants when awarded. FEI has been appointed by the Planning Board and Board of Adjustment to assist these Boards with technical review when applications are filed by private developers or homeowners. The firm will also provide review of Land Disturbance and Lot Development Permit Applications for developed and undeveloped lots that do not require any Board approval. Their staff will inspect projects at various stages during construction to ensure that compliance with the approved plans is achieved.

Any project in the Township that will disturb more than 5,000 SF of land will require a Land Disturbance Permit from Mendham Township and approval by the Morris County Soil Conservation District prior to commencement. Land Disturbance is defined as "Any activity involving the clearing, cutting, excavation, grading, filling, storing or transporting of land, or any other activity which causes land to be exposed to the danger of erosion." A NJ licensed engineer is required to prepare the plan that must accompany the application.

Any project in the Township that will require the demolition of an existing principal structure, the construction of a new principal structure, or an addition to a principal structure of greater than 50% of the existing floor area, will require a Lot Development Permit from Mendham Township prior to commencement. A separate Land Disturbance Permit is not required in this case, but the Morris County Soil Conservation District approval is required.

Regulatory and Enforcement

See "Planning" above.

Operational and Administration

The general administration of the Township is managed by the Township Administrator. The Administrator oversees all municipal departments, coordinates the day to day operations of the community and carries out the policies as set by the elected Township Committee.

Acting as the principal liaison between the Township Committee, township departments and the general public, the Township Administrator supervises a wide range of operational activities. The Administrator's duties include:

- Execution and enforcement of Township ordinances, resolutions and other Committee policies.
- Management of Township personnel.
- Oversight of the Township's purchasing program.
- Supervision of Township major capital improvement projects.
- Preparation of the Township's annual budget and management of expenditures under the budget plan.
- Coordination of the Township's open space acquisition program



- Solicitation of grant funding for various programs and projects.
- Oversight of the Township’s public information activities (including the website and Mendham TV).
- Oversight of various State Mandated programs (such as Stormwater Management, Recycling, Affordable Housing, etc.).
- General coordination of all citizen service requests.
- Various other activities as directed by the Township Committee.

The Mendham Township Committee includes representatives to Open Space, Whippany Watershed Commission; Finance, and Wildlife Management.

The finance officer oversees all aspects of finance within the Township, including tax collection, tax assessment, payroll, purchasing and budgetary accounting. The finance officer administers the investment program, borrowing and repaying of debt and interest, the rendering of all tax bills, collection of all cash receivables and the maintenance of proper records associated with the safekeeping of funds.

Fiscal

See “Operational and Administration” above.

Education and Outreach

See “Operational and Administration” above.



9.21.6 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 2010 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.

Table 9.21-11. Past Mitigation Initiative Status

Description	Status	Review Comments
Mendham Twp 1: Brookside Main Street property protection (storm water management).	In progress – 20% complete and on-schedule	Include in 2015 strategy. Additional drainage to extend beyond current scope
Mendham Twp 2: Pitney drainage property protection (storm water management).	In progress – 0% complete	Include in 2015 strategy. Twp must determine use of municipal property & open space
Mendham Twp 3: Martins Lane property protection (storm water management).	In progress – 0% complete, priority schedule	Include in 2015 strategy. Redirect runoff.
Mendham Twp 4: Roxiticus Road property protection (storm water management).	No progress.	Include in 2015 strategy. Ascertain impact of road alignment. Capital project impact.
Mendham Twp 5: Dam status evaluation (three dams) Woodland Lake Dam, Clyde Potts Dam, and Brookrace Dam.	In progress – 5% complete	Include in 2015 strategy. Ascertain impact of drainage improvements against dam evaluation
Mendham Twp 6: Relocate Police Department Headquarters out of floodplain.	In progress. Ascertaining whether bldg location should remain in current footprint	Include in 2015 strategy. The Twp must assess the accessibility of keeping the dept in current location. Determine alternate location on current Township-owned properties.
Mendham Twp 7: Sewage package Plant backup generator (two).	In progress 80% complete Locations secured; specs complete Public awareness initiative plan to be executed	Include in 2015 strategy. Maintain in 2015 plan until specs/RFP complete
Mendham Twp 8: Sewage package Plant infrastructure upgrades (two).	In progress 50% complete Technology selected RFP to be completed Public awareness campaign drafted	Include in 2015 strategy. Maintain in 2015 plan until specs/RFP complete
Mendham Twp 9: Retention Basin Improvement/capacity upgrade (five).	In progress - 5% complete. Identifying adjacent properties Identifying impact	Ascertain impact against drainage improvements
Mendham Twp 10: Underground cistern fire hydrants (six).	In progress - 50% complete. Existing street-fed cisterns cleared. Locations for additional to be established	Include in 2015 strategy. Cisterns located for complete coverage of Twp must be confirmed



Description	Status	Review Comments
Mendham Twp 11: Stream Bank stabilization Mosle Road.	No progress. Current activities clearing property	Include in 2015 strategy. Ascertain impact against drainage improvements
Mendham Twp 12: Develop all-hazards public education and outreach program for hazard mitigation and preparedness.	In progress - 5% complete. Local OEM to draft outreach program	Include in 2015 strategy. Twp has all outreach structure in place. Local OEM to provide message and plan for outreach

Completed Mitigation Initiatives not Identified in the Previous Mitigation Strategy

The municipality has identified the following mitigation projects/activities that have also been completed but were not identified in the previous mitigation strategy in the 2010 Plan:

- None identified at this time.

Proposed Hazard Mitigation Initiatives for the Plan Update

The Township of Mendham participated in a mitigation action workshop in January 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).

Table 9.21-12 summarizes the comprehensive-range of specific mitigation initiatives the Township of Mendham 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 9.21-13 provides a summary of the prioritization of all proposed mitigation initiatives for the Plan update.



Table 9.21-12. 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
Mendham Twp 1	Brookside Main Street property protection (storm water management). Additional drainage to extend beyond current scope	Existing	Flood, Severe Storm	3, 4	Township Engineer	Reduced vulnerability of property and infrastructure to flood damage	Medium	Township Budget	In progress – 20% complete and on-schedule	High - Ongoing	SIP	PP
Mendham Twp 2	Pitney drainage property protection (storm water management). Twp must determine use of municipal property & open space.	Existing	Flood, Severe Storm	3, 4	Township Engineer	Reduced vulnerability of property and infrastructure to flood damage	Medium	Township Budget	In progress – 0% complete	Medium-Ongoing	SIP	PP
Mendham Twp 3	Martins Lane property protection (storm water management). Redirect runoff.	Existing	Flood, Severe Storm	3, 4	Township Engineer	Reduced vulnerability of property and infrastructure to flood damage	Medium	Township Budget	In progress – 0% complete, priority schedule	High - Ongoing	SIP	PP
Mendham Twp 4	Roxiticus Road property protection (storm water management). Ascertain impact of road alignment. Capital project impact.	Existing	Flood, Severe Storm	3, 4	Township Engineer	Reduced vulnerability of property and infrastructure to flood damage	High	Capital Budget	Short	High	SIP	PP
Mendham Twp 5	Dam status evaluation (three dams) Woodland Lake Dam, Clyde Potts Dam, and Brookrace Dam. Ascertain impact of drainage improvements against dam evaluation	Existing	Flood, Severe Storm, Earthquake	3, 4	Township Engineer	High – Reduced risk of dam failure; life safety	Medium	Municipal Budget	In progress – 5% complete	High	SIP	PP
Mendham Twp 6	Relocate Police Department Headquarters out of floodplain. The Twp must assess the accessibility of keeping the building in current location.	Existing	Flood, Severe Storm	3, 4	OEM Coordinator; Township Engineer	Reduced risk of damage and loss of service of a critical facility; potential life	High	FEMA HMA Funding; Township budget for local	In progress – preparing – 2015 HMA grant application. Ascertain	High	SIP	PP



Table 9.21-12. 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
	Determine alternate location on current Township-owned properties.					safety		match	whether bldg. location should remain in current footprint			
Mendham Twp 6	Sewage package Plant backup generator (two). Locations secured. Specs complete. Public awareness initiative plan to be executed.	Existing	All hazards resulting in loss of power	3, 4	Township Engineer	Reduced vulnerability of critical infrastructure to loss of service	Medium-High	Capital Budget	In progress 80% complete	High – In Progress	SIP	PP
Mendham Twp 8	Sewage package Plant infrastructure upgrades (two). Technology selected. RFP to be completed. Public awareness campaign drafted	Existing	Flood, Severe Storm	3, 4	Township Engineer	Reduced vulnerability of critical infrastructure to loss of service and damage	High	Capital Budget	In progress 50% complete	High – In Progress	SIP	PP
Mendham Twp 9	Retention Basin Improvement/capacity upgrade (five). Identifying adjacent properties. Identifying impact. Ascertain impact against drainage improvements.	Existing	Flood, Severe Storm	3, 4	Township Engineer	Reduced vulnerability of property and infrastructure to flood damage	Medium - High	Capital Budget	In progress - 5% complete.	High – In Progress	SIP	PP
Mendham Twp 10	Underground cistern fire hydrants (six). Existing street-fed cisterns cleared. Locations for additional to be established. Cisterns located for complete coverage of Twp must be confirmed.	Existing	Fire, Wildfire	3, 4	Township Engineer	Improved fire-fighting capabilities	Medium - High	Capital Budget	In progress - 50% complete. SIP	High – In Progress	SIP	PP
Mendham Twp 11	Stream Bank stabilization Mosle Road. Current activities clearing property. Ascertain impact against drainage improvements.	Existing	Flood, Severe Storm	3, 4	Township Engineer	Reduced vulnerability to infrastructure damage	Medium - High	Capital Budget	Long-term	Medium	SIP	PP
Mendham Twp 12	Develop all-hazards public education and outreach program for hazard	N/A	All Hazards	1, 2	Local and County OEM	Improve public preparedness	Low	Capital Budget	In progress - 5% complete	High - Ongoing	EAP	PI





Table 9.21-12. 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 and mitigation capabilities	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category	CRS Category
	mitigation and preparedness. Local OEM to draft outreach program. Twp has all outreach structure in place. Local OEM to provide message and plan for outreach.											

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:

- 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
- NJDEP New Jersey Department of Environmental Protection
- NJOEM New Jersey Office of Emergency Management
- 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
- RFC Repetitive Flood Claims Grant Program (discontinued 2015)
- SRL Severe Repetitive Loss Grant Program (discontinued 2015)

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 reapportionment of the budget or a budget amendment, or the cost of the project would have to be spread over multiple years.

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.





Costs:

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:

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 9.21-13. 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
Mendham Twp 1	Brookside Main Street property protection (storm water management). Additional drainage to extend beyond current scope	0	1	0 (no formal BCA developed)	1	1	1	1 (funded project)	0	1	1	1	1	1	1	11	High - Ongoing
Mendham Twp 2	Pitney drainage property protection (storm water management). Twp must determine use of municipal property & open space.	0	1	0 (no formal BCA developed)	1	1	1	0	0	1	1	1	0 (not yet funded)	1	1	9	Medium-Ongoing
Mendham Twp 3	Martins Lane property protection (storm water management). Redirect runoff.	0	1	0 (no formal BCA developed)	1	1	1	1 (funded project)	0	1	1	1	1	1	1	11	High - Ongoing
Mendham Twp 4	Roxiticus Road property protection (storm water management). Ascertain impact of road alignment. Capital project impact.	0	1	0 (no formal BCA developed)	1	1	1	1 (funded project)	0	1	1	1	1	1	1	11	High
Mendham Twp 5	Dam status evaluation (three dams) Woodland Lake Dam, Clyde Potts Dam, and Brookrace Dam. Ascertain impact of drainage improvements against dam evaluation	1	1	0 (no formal BCA developed)	1	1	1	1 (funded project)	0	1	1	1	1	1	1	11	High
Mendham Twp 6	Relocate Police Department Headquarters out of floodplain. The Twp must assess the accessibility of keeping the building in current location. Determine alternate location on current Township-owned properties.	1 (ability to respond could affect public safety)	1	1	1	1	1	0 (applying for grant funding)	1	1	1	1	0 (dependent on grant funding)	1	1	12	High
Mendham Twp 7	Sewage package Plant backup generator (two). Locations secured. Specs complete. Public awareness initiative plan to be executed.	0	1	1 (assumed cost effective)	1	1	1	1 (funded project)	1	1	1	1	1	1	1	13	High – In Progress





Table 9.21-13. 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
Mendham Twp 8	Sewage package Plant infrastructure upgrades (two). Technology selected. RFP to be completed. Public awareness campaign drafted	0	1	1 (assumed cost effective)	1	1	1	1 (funded project)	1	1	1	1	1	1	1	13	High – In Progress
Mendham Twp 9	Retention Basin Improvement/capacity upgrade (five). Identifying adjacent properties. Identifying impact. Ascertain impact against drainage improvements.	0	1	0 (no formal BCA developed)	1	1	1	1 (funded project)	0	1	1	1	1	1	1	11	High – In Progress
Mendham Twp 10	Underground cistern fire hydrants (six). Existing street-fed cisterns cleared. Locations for additional to be established. Cisterns located for complete coverage of Twp must be confirmed.	1	1	0 (no formal BCA developed)	1	1	1	1 (funded project)	0	1	1	1	1	1	1	12	High – In Progress
Mendham Twp 11	Stream Bank stabilization Mosle Road. Current activities clearing property. Ascertain impact against drainage improvements.	0	1	0 (no formal BCA developed)	1	1	1	1 (funded project)	0	1	1	1	1	1	1	11	Medium
Mendham Twp 12	Develop all-hazards public education and outreach program for hazard mitigation and preparedness. Local OEM to draft outreach program. Twp has all outreach structure in place. Local OEM to provide message and plan for outreach.	1	1	1 (assumed)	1	1	1	1	0	1	1	1	1	1	1	13	High - Ongoing

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





9.21.7 Future Needs To Better Understand Risk/Vulnerability

None at this time.

9.21.8 Hazard Area Extent and Location

Hazard area extent and location maps have been generated for the Township of Mendham 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 Mendham has significant exposure. These maps are illustrated in the hazard profiles within Section 5.4, Volume I of this Plan.

9.21.9 Additional Comments

None at this time.



Figure 9.21-1. Township of Mendham Hazard Area Extent and Location Map 1

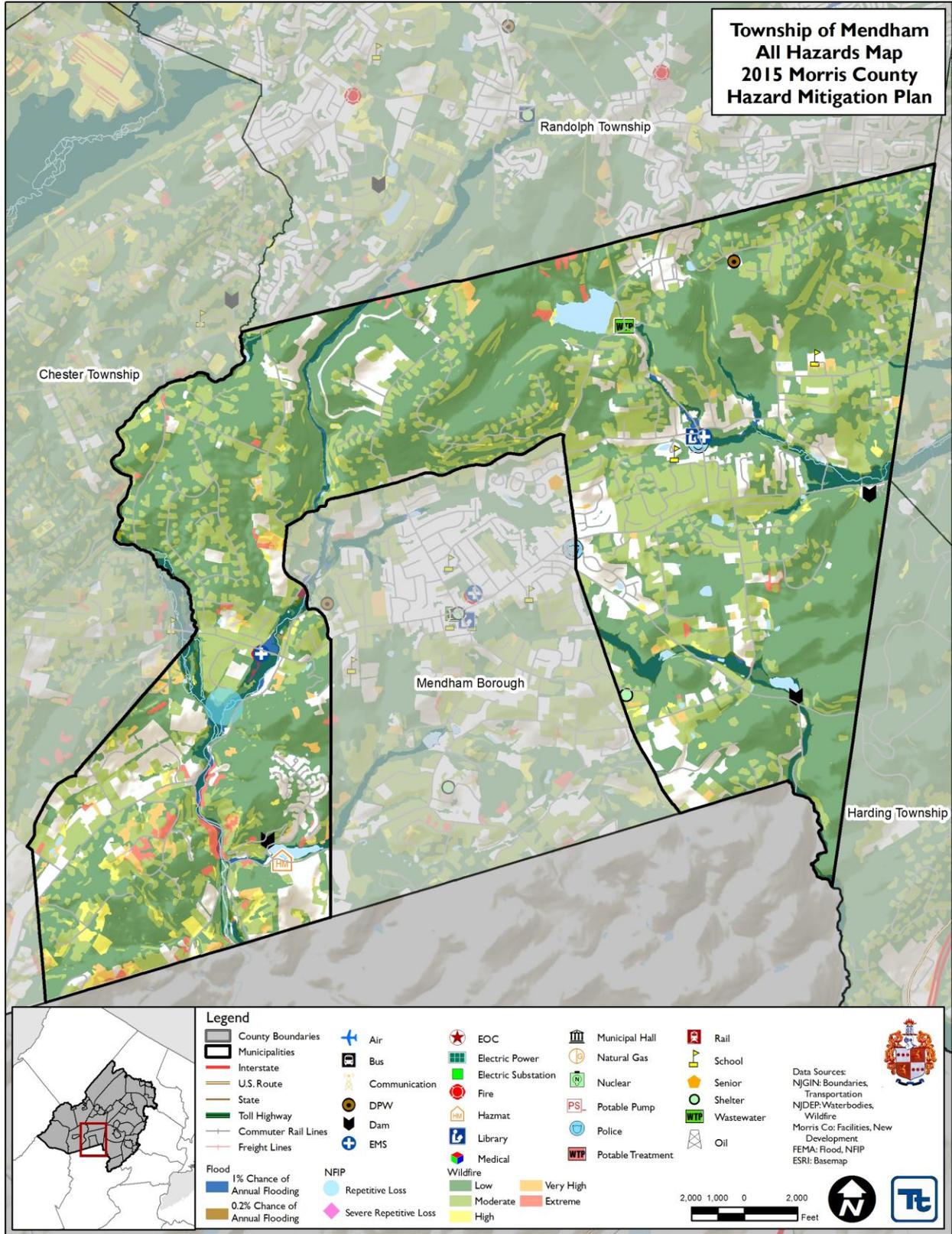
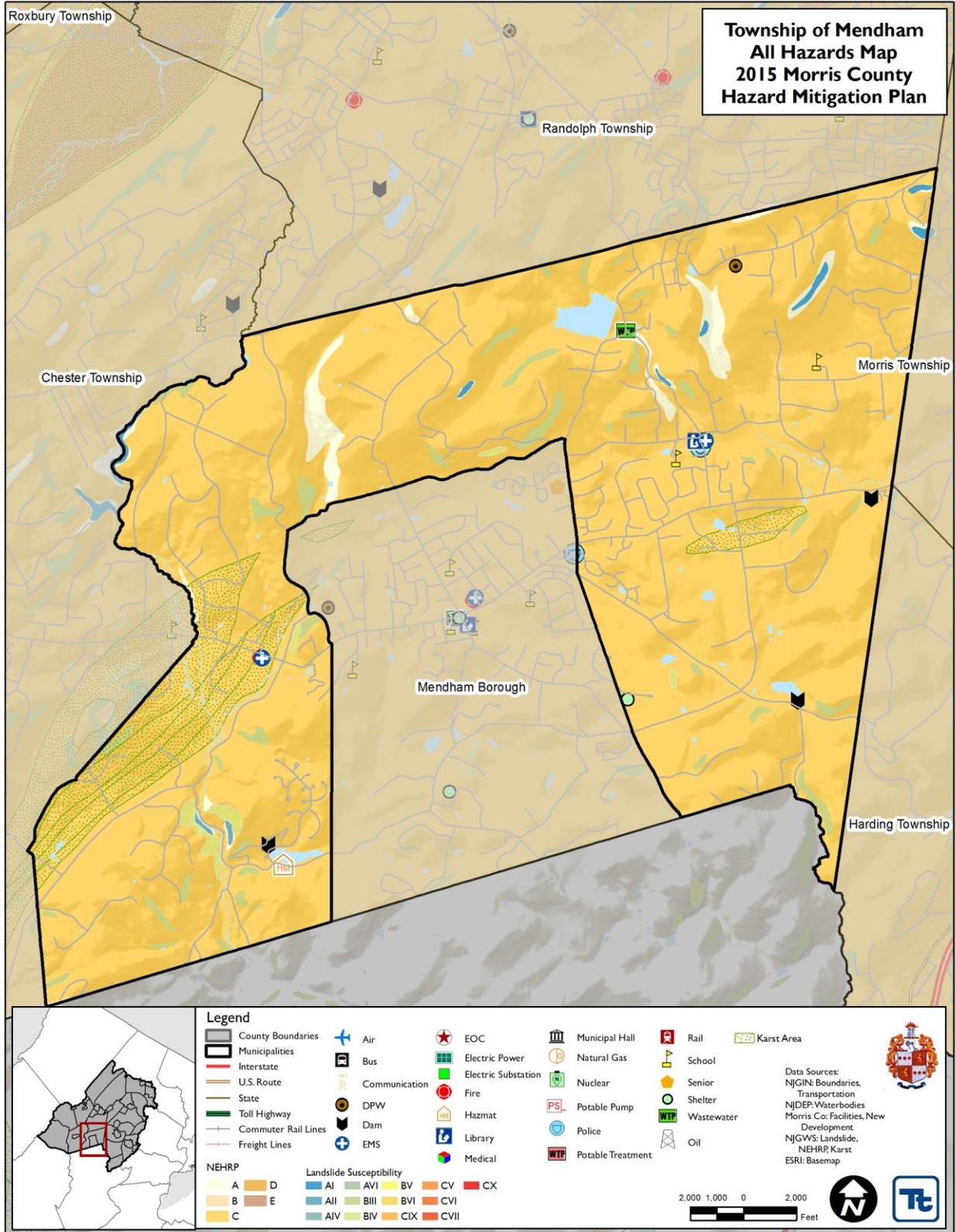




Figure 9.21-2. Township of Mendham Hazard Area Extent and Location Map 2





Name of Jurisdiction: Township of Mendham
Action Number: Mendham Twp 6
Mitigation Action/Initiative: Relocate Police Department Headquarters

Assessing the Risk	
Hazard(s) addressed:	Flood, Severe Storm
Specific problem being mitigated:	The police headquarters is currently located within the floodplain
Evaluation of Potential Actions/Projects	
Actions/Projects Considered (name of project and reason for not selecting):	1 Relocate the police department headquarters
	2. Elevate the building
	3. Do nothing – current problem continues
Action/Project Intended for Implementation	
Description of Selected Action/Project	Relocate Police Department Headquarters out of floodplain. The Twp must assess the accessibility of keeping the building in current location. Determine alternate location on current Township-owned properties.
Action/Project Category	SIP
Goals/Objectives Met	3, 4
Applies to existing, future, or not applicable	Existing
Benefits (losses avoided)	Reduced risk of damage and loss of service of a critical facility; potential life safety
Estimated Cost	High
Priority*	High
Plan for Implementation	
Responsible Organization	OEM Coordinator; Township Engineer
Local Planning Mechanism	Emergency Management
Potential Funding Sources	FEMA HMA Funding; Township budget for local match
Timeline for Completion	In progress – preparing 2015 HMA grant application. Ascertaining whether bldg. location should remain in current footprint
Reporting on Progress	
Date of Status Report/ Report of Progress	Date: Progress on Action/Project:

* Refer to results of Prioritization (page 2)



Name of Jurisdiction: Township of Mendham
Action Number: Mendham Twp 6
Mitigation Action/Initiative: Relocate Police Department Headquarters

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	
Property Protection	1	Removal of the existing building will protect it from flooding and allow the department to continue their operations in the event of an emergency
Cost-Effectiveness	1	Decrease flood damage repair costs
Technical	1	
Political	1	
Legal	1	
Fiscal	0	
Environmental	1	
Social	1	
Administrative	1	
Multi-Hazard	1	Flood and Severe Storm
Timeline	0	
Agency Champion	1	
Other Community Objectives	1	
Total	12	
Priority (High/Med/Low)	High	