



9.8 Township of Chester

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

9.8.1 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
Bruce Ellmann; OEM Coordinator 908-879-8300 oem@chestertownship.org	Sarah Jane Noll Planning and Zoning 908-879-5100 x823 snoll@chestertownship.org

9.8.2 Municipal Profile

Chester Township is located in southwestern Morris County and is bordered to the north by Roxbury Township, to the south by Somerset County, to the east by Mendham Township, and to the west by Washington Township. There are several parks and preserves located in the Township and include: Chubb Park, Tiger Brook Park, Hacklebarney State Park, and the Black River Fish and Wildlife Management Area. Approximately 12 square miles of the Township is permanently protected from development. Within the Township are three hamlets: Pleasant Hill, Milltown, and Hacklebarney. The Lamington River and its tributary, Burnett Brook, Drakes Brook (tributary), Herzog Brook, Peapack Brook, and Gladstone Brook all flow through the Township. Additionally, the Township is located within the New Jersey Highlands Act Preservation District. According to the U.S. Census, the 2010 population for the Township of Chester was 7,838. According to the U.S. Census, the Township has a total area of 29.42 square miles, of which 29.377 square miles is land and 0.085 square miles is water.

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 9.8-1. 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					
None identified at this time.					
Known or Anticipated Development in the Next Five (5) Years					
None identified at this time. 90% of Chester Township is in the Highlands Act Preservation District.					

* Only location-specific hazard zones or vulnerabilities identified.



9.8.3 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 9.8-2. 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	Loss of Service – Numerous road closures due to trees/wires and flooding on Ironia, Furnace and Hillside Roads. PA Requested – Cat. A-\$10k Cat. B-\$5k
October 29, 2011	Severe Storm	DR-4048	Yes	Power lines down/and or poles damaged throughout Township (7)
October 26 – November 8, 2012	Hurricane Sandy	EM-3354 DR-4086	Yes Yes	Extensive power outages throughout Township. Public and private property damage through Township due to wind/trees.

9.8.4 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 Chester. 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 Chester.

Table 9.8-3. Natural 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: \$1,834,508 2,500-year MRP: \$37,120,794	Occasional	24	Medium
Extreme Temperature	Damage estimate not available	Frequent	18	Medium
Flood	1% Annual Chance: \$835,109	Occasional	12	Low
Geological Hazards	Exposed to Class A and Class B: \$23,326,484	Occasional	12	Low
Severe Storm	100-Year MRP: \$2,465,196	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: \$24,563,004 Annualized: \$132,069			
Winter Storm	1% GBS: \$37,633,356 5% GBS: \$188,166,782	Frequent	54	High
Wildfire	Estimated Value Exposed to Extreme, Very High and High: \$72,984,379	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 Chester.

Table 9.8-4. 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)
Chester Township	15	0	\$0.00	0	0	0

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.

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 9.8-5. 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 critical facilities are located in the FEMA 1% and 0.2% Flood Hazard Area.						

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

According to the 2015 Preliminary FEMA Flood Insurance Study (FIS) for Morris County, the Township of Chester lies within two watershed systems. The western and northern most part of the Township is part of the Lamington River watershed and the remaining part of the Township lies in the upper North Branch Raritan River watershed. Both watersheds are major contributors to the North Branch Raritan River Basin. Major flooding has occurred in the Township within the upper North Branch Raritan River in July 1919, August 1971, October 1996, September 1999, and August 2011 (FEMA FIS 2015).

9.8.5 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 Chester.

Table 9.8-6. 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	Highlands Regional Master Plan (2004) Chester Township Master Plan (2000, Reexamination Report 2007)
Capital Improvements Plan	Yes	Local	County	
Floodplain Management/Basin Plan	Yes	Local	Stormwater	
Stormwater Management Plan	Yes	Local	Eng. & Zoning	
Open Space Plan	Yes	Local	Council	
Stream Corridor Management Plan	Yes	State	NJDEP	
Watershed Management or	No			



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.)
Protection Plan				
Economic Development Plan	No			
Comprehensive Emergency Management Plan	Yes	Local	OEM Director	
Emergency Response Plan	Yes	Local	OEM	
Post-Disaster Recovery Plan	No			
Transportation Plan	No			
Strategic Recovery Planning Report	No			
Other Plans:				
Regulatory Capability				
Building Code	Yes	State & Local		State Uniform Construction Code Act (N.J.S. 52:27D-119 et seq.)
Zoning Ordinance	Yes	Local	Zoning Office	Chapter 113 (Land Use)
Subdivision Ordinance	Yes	Local	Planning/Zoning	Chapter 113 (Land Use) Part 4 (Subdivision of Land)
NFIP Flood Damage Prevention Ordinance	Yes	Federal, State, Local	Planning/Zoning	Chapter 113 (Land Use) Part 7 (Flood Damage Prevention)
NFIP: Cumulative Substantial Damages	No			
NFIP: Freeboard	Yes	State, Local		
Growth Management Ordinances	No			
Site Plan Review Requirements	Yes	Local	Planning/Zoning	
Stormwater Management Ordinance	Yes	Local	Planning/Zoning	Chapter 113 (Land Use) Part 8 (Stormwater Control)
Municipal Separate Storm Sewer System (MS4)	No	State		
Natural Hazard Ordinance	No			
Post-Disaster Recovery Ordinance	No			
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)]	Yes	Local	Planning/Zoning	



Administrative and Technical Capability

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

Table 9.8-7. Administrative and Technical Capabilities

Resources	Is this in place? (Yes or No)	Department/Agency/Position
Administrative Capability		
Planning Board	Yes	Planning Board and Zoning Board of Adjustments
Mitigation Planning Committee	No	
Environmental Board/Commission	Yes	Environmental Commission; Planning & Zoning
Open Space Board/Committee	Yes	The Township has an Open Space Advisory Committee and a Parks and Recreation Committee; Planning & Zoning
Economic Development Commission/Committee	No	
Maintenance Programs to Reduce Risk	No	
Mutual Aid Agreements	Yes	Administration, Police, DPW
Technical/Staffing Capability		
Planner(s) or Engineer(s) with knowledge of land development and land management practices	Yes	Planning & Zoning
Engineer(s) or Professional(s) trained in construction practices related to buildings and/or infrastructure	Yes	Planning & Zoning
Planners or engineers with an understanding of natural hazards	Yes	Planning & Zoning
NFIP Floodplain Administrator	Yes	Sarah Jane Noll; Planning/Zoning Administrator, Zoning Official, Environmental Commission Secretary
Surveyor(s)	No	
Personnel skilled or trained in GIS and/or HAZUS-MH applications	Yes	Planning & Zoning
Scientist familiar with natural hazards	No	
Emergency Manager	Yes	OEM
Grant Writer(s)	No	
Staff with expertise or training in benefit/cost analysis	No	
Professionals trained in conducting damage assessments	Yes	DPW, Police, Construction

Fiscal Capability

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

Table 9.8-8. Fiscal Capabilities

Financial Resources	Accessible or Eligible to Use (Yes/No/Don't Know)
Community development Block Grants (CDBG, CDBG-DR)	Yes, County
Capital Improvements Project Funding	Yes, Governing Body
Authority to Levy Taxes for specific purposes	Yes, Governing Body
User fees for water, sewer, gas, or electric service	No
Impact Fees for homebuyers or developers of new development/homes	No



Financial Resources	Accessible or Eligible to Use (Yes/No/Don't Know)
Stormwater Utility Fee	No
Incur debt through general obligation bonds	Yes, Governing Body
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, Governing Body
Open Space Acquisition Funding Programs	Yes, County, State and Governing Body
Other	

Community Classifications

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

Table 9.8-9. Community Classifications

Program	Do you have this? (Yes/No)	Classification (if applicable)	Date Classified (if applicable)
Community Rating System (CRS)	No		
Building Code Effectiveness Grading Schedule (BCEGS)	No		
Public Protection (ISO Fire Protection Classes 1 to 10)	Yes	4/6	9/2014
Storm Ready	No		
Firewise	No		
Disaster/Safety Programs in/for Schools	Yes		
Organizations with Mitigation Focus (advocacy group, non-government)	Yes		
Public Education Program/Outreach (through website, social media)	Yes		
Public-Private Partnerships	No		

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 1000 feet of a creditable fire hydrant and is within 5 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 Chester’s capability to work in a hazard-mitigation capacity and/or effectively implement hazard mitigation strategies to reduce hazard vulnerabilities.

Table 9.8-10. 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-Limited to 2% budget cap		
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

Sarah Jane Noll, Planning/Zoning Administrator, Zoning Official, Environmental Commission Secretary; as supported by Jim Fania, Construction Official

Flood Vulnerability Summary

The municipality has no properties located in the flood zone. The Township is currently an active member of the NFIP and in good compliance. As of February 28, 2015, there are 22 policies in force, insuring \$5,780,500 of property with total annual insurance premiums of \$12,062. Since 1978, one claim has been paid totaling \$5,161.94. As of September 30, 2014, there are no Repetitive or Severe Repetitive Loss properties in the community.

Resources

Sarah Jane Noll, the Planning/Zoning Administrator, Zoning Official and Environmental Commission Secretary, is further supported by Jim Fania, Construction Official, in administering the Township’s floodplain management program.

Sarah Jane Noll has indicated that additional training/education would support their floodplain management capabilities, and would attend related training and education programs if offered locally.

Compliance History

The community is in good standing in the NFIP. The most recent CAV was three years ago.

Regulatory

Existing local ordinances, plans and programs (e.g., site plan review) support floodplain management in the community.



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 Planning Board and ZBA considers natural hazard risk when evaluating development applications.

The current Chester Township Master Plan (2000 Master Plan) was adopted by the Planning Board pursuant to Article 3 of the MLUL (N.J.S.A. 40:55D-28) on October 23, 2001. A Reexamination Report was adopted on October 23, 2007. Subsequent to adoption of the 2000 Master Plan, the Planning Board adopted amendments to the Master Plan in April of 2004, April of 2005, April of 2004, November of 2005 and May of 2010, affecting the following Master Plan Elements, respectively: Environmental Plan and Utility Plan; Land Use Plan; Housing Plan and Fair Share Plan; and Housing Plan and Fair Share Plan. The Reexamination Report and amendments are available for review at the Chester Township Municipal Building in the office of the Planning/Zoning Administrator.

Regulatory and Enforcement

The Town contracts with Ferriero Engineering to support engineering and regulatory compliance, including floodplain management.

The Township has opted into the Highlands Master Plan, which includes additional regulatory structures to protect sensitive natural resources, and preserve open space which may include floodplains.

Operational and Administration

See "Regulatory and Enforcement" above.

Fiscal

The Township has been investigating consolidation options and their fiscal and/or operational impacts.

Education and Outreach

The Township has an extensive website, which includes information and sign-up for their Emergency Notification Alert System on the home page. The Office of Emergency Management page includes preparedness and mitigation information, and further links to the Township's social media outlets.



9.8.6 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 9.8-11. Past Mitigation Initiative Status

Description	Status	Review Comments
Chester Twp 1: Retrofit police department roof on Parker Road	Complete	This action has been completed and will not be included in the 2015 mitigation strategy
Chester Twp 2: Backup power for Town hall on Parker Road	Complete	This action has been completed and will not be included in the 2015 mitigation strategy
Chester Twp 3: Backup power for DPW on Furnace Road	In Progress	Completion by Fall 2015; this will not be included in the 2015 mitigation strategy
Chester Twp 4: Apply engineering study measures on Peapack-Gladstone Reservoir Dam	No Progress, lack of funding	To be included in 2015 mitigation strategy. Budgetary issues impede implementation.
Chester Twp 5: Develop all-hazards public education and outreach program for hazard mitigation and preparedness	In Progress	To be included in 2015 mitigation strategy. Additional funding is being sought.

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 Chester participated in a mitigation action workshop in January 2014 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 9.8-12 summarizes the comprehensive-range of specific mitigation initiatives the Township of Chester 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, fourteen 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 9.8-13 provides a summary of the prioritization of all proposed mitigation initiatives for the Plan update.



Table 9.8-12. 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
Chester Twp-1 (former Chester Twp 4)	Apply engineering study measures on Peapack-Gladstone Reservoir Dam.	Existing	Flood, Severe Storm	All goals.	Engineering; Public Works	High – reduced risk of property and infrastructure damage; potential life safety.	TBD	Available grant funding; Township for local match	Budgetary issues impede implementation.	Medium	SIP	PP
Chester Twp-2 (former Chester Twp 5)	Develop all-hazards public education and outreach program for hazard mitigation and preparedness.	N/A	All Hazards	All goals.	Township Administration and OEM	Improved public preparedness and mitigation capabilities	\$10-15K	Available grant funding; Township for local match	Additional funding is being sought.	High	EAP	PI, ES
Chester Twp-3	Upgrade/Replace old undersized generator at Black River Middle School, designated shelter	Existing	Severe Storm, Severe Winter Storm	3, 4	Township Administrator; OEM	High – Reduced vulnerability of critical facility/services	\$75-\$100k	Grant funding as available; Township for local match.	Short Term, depending on funding availability	High	SIP	PP, ES
Chester Twp-4	Town wide Storm Sirens. Current fire siren barely covers 20% of town and folks are used to hearing it, so it doesn't draw their attention. Need a different type.	Existing	Severe Storm	1	OEM	Improved ability to warn residents; life-safety	50-100k	Available grant funding; Township for local match	Short Term/DOF	High	EAP	PI, ES
Chester Twp-5	Expand fuel storage capacity for Municipal/Emergency Vehicle use. There is only one gas station in the Township, so fuel reserves are limited.	Existing and New	All hazards	4	OEM, Engineer, DPW	Improved energy resiliency for vital Township operations and services	150-200k	Available grant funding; Township for local match	Short Term/DOF	High	SIP	ES
Chester Twp-6	Funds to upgrade/fit out new Joint Borough/Township Emergency Operations Center and renovate decontamination showers	Existing	All hazards	2, 3, 4	OEM	Improved regional emergency management capabilities	Medium (\$50,000-\$75,000)	Available grant funding; Township for local match	Short Term/DOF	High	SIP	ES
Chester Twp-7	Tannersbrook Road drainage/culverts/raise road bed	Existing	Flood and Severe Storm	3, 4	Engineering/DPW	High – reduce road closure due to flooding	High (\$750,000-\$1 million)	Available grant funding (FMA/PDM); Township for	Long Term	High	SIP	PP





Table 9.8-12. 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
								local match				

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.
- 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 9.8-13. 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
Chester Twp-1 (former Chester Twp 4)	Apply engineering study measures on Peapack-Gladstone Reservoir Dam.	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	Medium
Chester Twp-2 (former Chester Twp 5)	Develop all-hazards public education and outreach program for hazard mitigation and preparedness.	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	High
Chester Twp-3	Upgrade/Replace old undersized generator at Black River Middle School, designated shelter	1	0	1	1	1	1	0	1	1	1	1	1	1	1	12	High
Chester Twp-4	Town wide Storm Sirens. Current fire siren barely covers 20% of town and folks are used to hearing it, so it doesn't draw their attention. Need a different type.	1	1	1	1	0	0	0	1	1	1	0	1	1	1	10	High
Chester Twp-5	Expand fuel storage capacity for Municipal/Emergency Vehicle use. There is only one gas station in the Township, so fuel reserves are limited.	1	0	0	1	0	0	0	0	1	1	1	1	1	1	8	High
Chester Twp-6	Funds to upgrade/fit out new Joint Borough/Township Emergency Operations Center and renovate decontamination showers	1	0	1	0	1	1	0	0	1	1	1	1	1	0	9	High
Chester Twp-7	Tannersbrook Road drainage/culverts/raise road bed	1	1	1	0	1	1	0	0	1	1	1	0	1	0	8	High

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





9.8.7 Future Needs To Better Understand Risk/Vulnerability

None at this time.

9.8.8 Hazard Area Extent and Location

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

9.8.9 Additional Comments

None at this time.



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

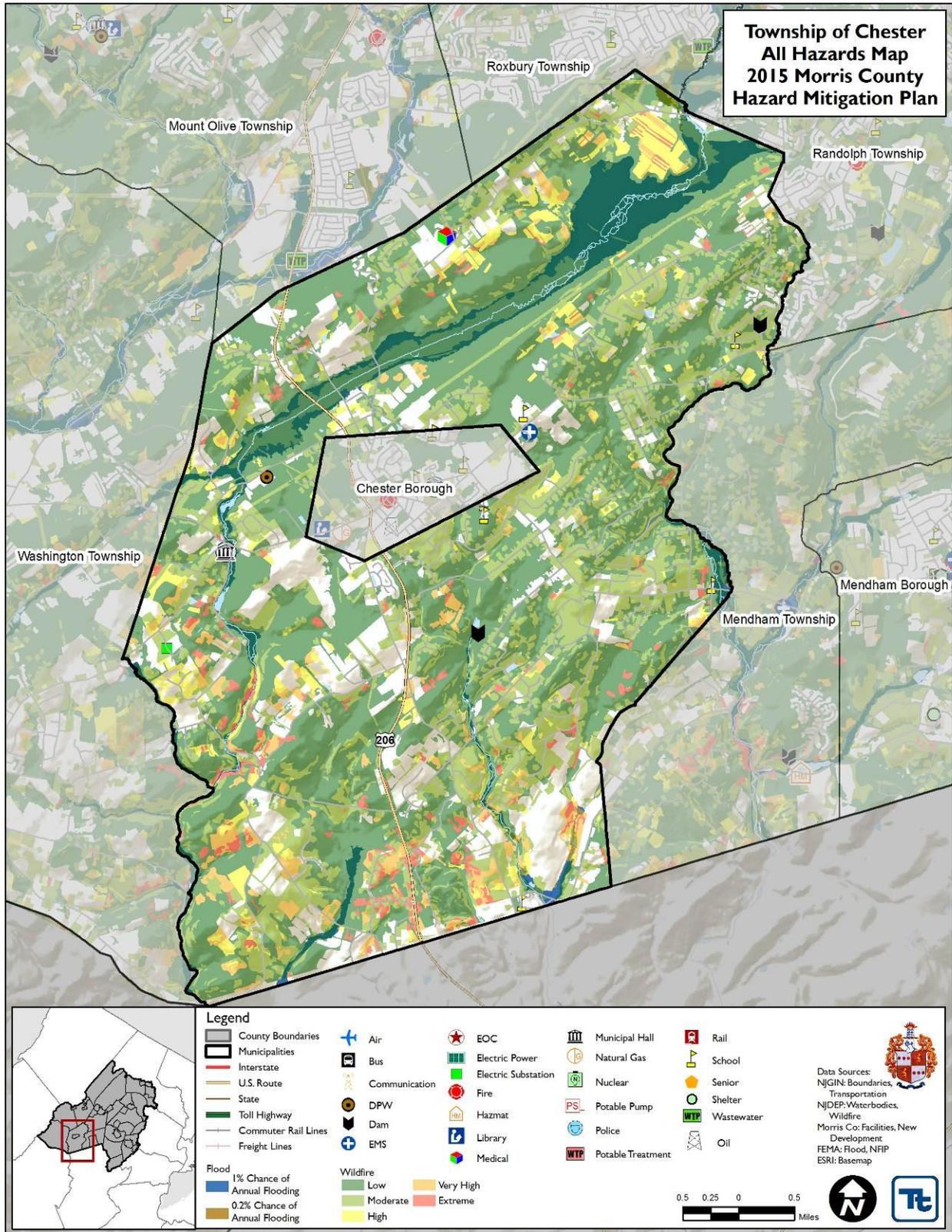
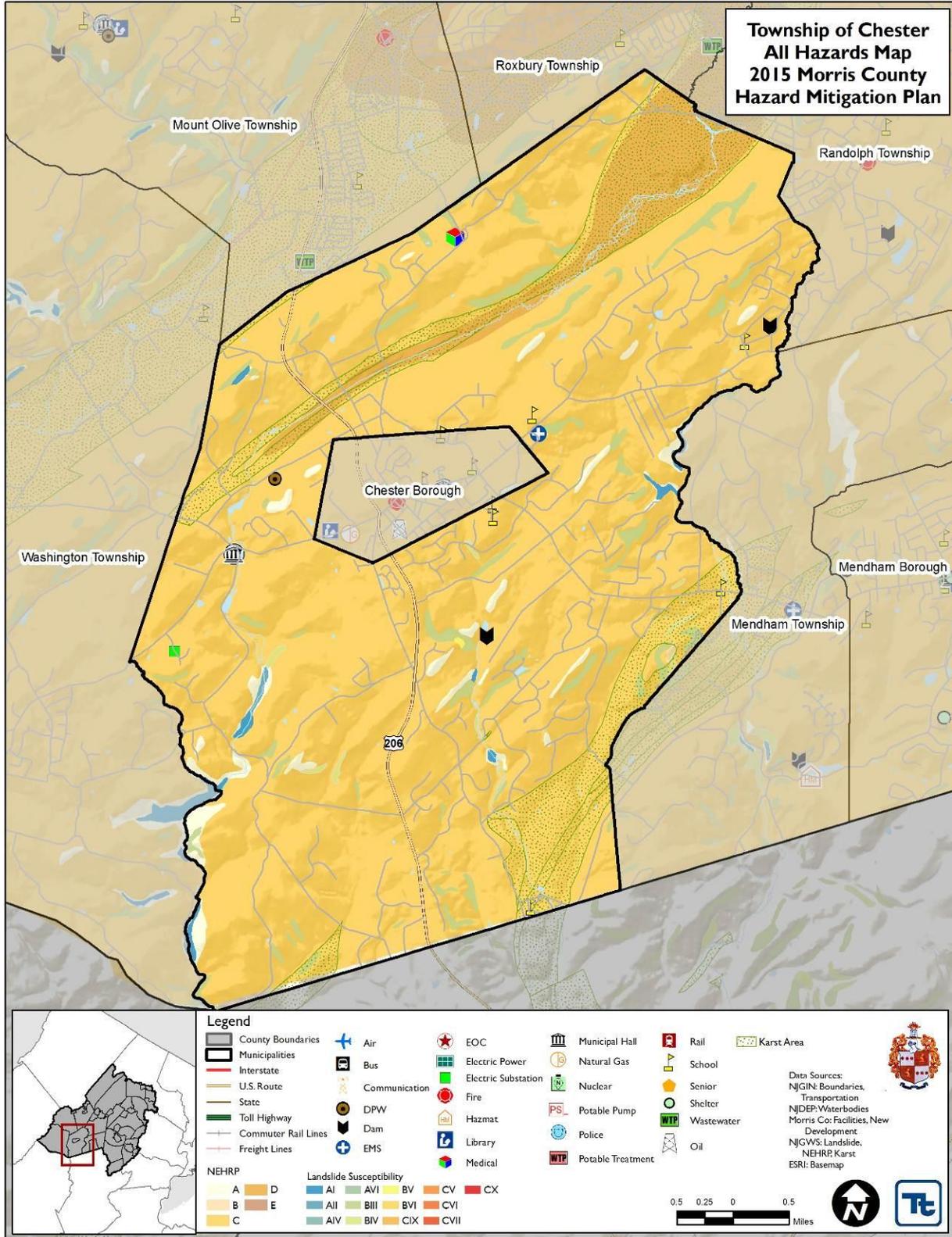




Figure 9.8-2. Township of Chester Hazard Area Extent and Location Map 2





Name of Jurisdiction: Township of Chester
Action Number: Chester Twp-3
Action Name: Upgrade/replace generator at middle school

Assessing the Risk	
Hazard(s) addressed:	Severe Storm, Severe Winter Storm
Specific problem being mitigated:	Loss of power to a critical facility, the Black River Middle School, which is used as a shelter in the Township
Evaluation of Potential Actions/Projects	
Actions/Projects Considered (name of project and reason for not selecting):	1. Upgrade/replace generator at middle school
	2. Purchase portable generators
	3. Do nothing – current problem continues
Action/Project Intended for Implementation	
Description of Selected Action/Project	Upgrade/Replace old undersized generator at Black River Middle School, designated shelter
Mitigation Action/Project Type	SIP
Goals Met	3, 4
Applies to existing structures/infrastructure, future, or not applicable	Existing
Benefits (losses avoided)	High – Reduced vulnerability of critical facility/services
Estimated Cost	Medium-\$75,000 to \$100,000
Priority*	High
Plan for Implementation	
Responsible Organization	Township Administration; OEM
Local Planning Mechanism	Emergency Management
Potential Funding Sources	Grant funding as available; Township for local match
Timeline for Completion	Short Term/DOF
Reporting on Progress	
Date of Status Report/ Report of Progress	Date: Progress on Action/Project:

* Refer to results of Prioritization (see next page)



Action Number:

Chester Twp-3

Action Name:

Upgrade/replace generator at middle school

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Will allow this critical facility to remain operational during power outages.
Property Protection	0	This project will have no significant effect on reducing damage to the Middle School.
Cost-Effectiveness	1	This project is considered highly cost-effective
Technical	1	There are no technical issues associated with the project, and with routine maintenance will provide long term protection against power interruptions.
Political	1	This project is supported both publically and politically.
Legal	1	The municipality has full legal authority to implement this project.
Fiscal	0	
Environmental	1	
Social	1	
Administrative	1	The Township has all administrative and technical resources necessary to implement this project
Multi-Hazard	1	Severe Storm, Severe Winter Storm
Timeline	1	The project will be completed within five years of grant award
Agency Champion	1	
Other Community Objectives	1	
Total	12	
Priority (High/Med/Low)	High	



Name of Jurisdiction: Township of Chester
 Action Number: Chester Twp-4
 Action Name: Install township-wide storm sirens

Assessing the Risk	
Hazard(s) addressed:	Severe Storm
Specific problem being mitigated:	Current fire siren barely covers 20% of town and residents are used to hearing it, so it doesn't draw their attention.
Evaluation of Potential Actions/Projects	
Actions/Projects Considered (name of project and reason for not selecting):	1. Investigate and install new storm sirens in the Township
	2. Do nothing – current problem continues
	3. No other feasible options were identified
Action/Project Intended for Implementation	
Description of Selected Action/Project	Investigate and install new storm sirens in the Township that will draw attention of residents in case of an emergency
Mitigation Action/Project Type	EAP
Goals Met	1
Applies to existing structures/infrastructure, future, or not applicable	Existing
Benefits (losses avoided)	Improved ability to warn residents; life-safety
Estimated Cost	Medium
Priority*	High
Plan for Implementation	
Responsible Organization	OEM
Local Planning Mechanism	Emergency Management
Potential Funding Sources	Grant funding as available; Township for local match
Timeline for Completion	Short Term/DOF
Reporting on Progress	
Date of Status Report/ Report of Progress	Date: Progress on Action/Project:

* Refer to results of Prioritization (see next page)



Action Number:
Action Name:

Chester Twp-4
Install township-wide storm sirens

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Will provide a siren system for storm events
Property Protection	1	This project will provide a warning system and help residents prepare their property for storm events
Cost-Effectiveness	1	This project is considered highly cost-effective
Technical	1	There are no technical issues associated with the project, and with routine maintenance will provide long term protection against power interruptions.
Political	0	
Legal	0	
Fiscal	0	
Environmental	1	
Social	1	
Administrative	1	The Township has all administrative and technical resources necessary to implement this project
Multi-Hazard	0	Severe Storm
Timeline	1	The project will be completed within five years of grant award
Agency Champion	1	
Other Community Objectives	1	
Total	10	
Priority (High/Med/Low)	High	



Name of Jurisdiction: Township of Chester
Action Number: Chester Twp-5
Action Name: Expand fuel storage capacity

Assessing the Risk	
Hazard(s) addressed:	All
Specific problem being mitigated:	During periods of power outages, there is only one gas station located in the Township. This makes it difficult for emergency vehicles and personnel to have fuel for their vehicles.
Evaluation of Potential Actions/Projects	
Actions/Projects Considered (name of project and reason for not selecting):	1. Expand fuel storage capacity 2. Do nothing – current problem continues 3. No other feasible options were identified
Action/Project Intended for Implementation	
Description of Selected Action/Project	Expand fuel storage capacity for Municipal/Emergency Vehicle use. There is only one gas station in the Township, so fuel reserves are limited.
Mitigation Action/Project Type	SIP
Goals Met	4
Applies to existing structures/infrastructure, future, or not applicable	New and Existing
Benefits (losses avoided)	Improved energy resiliency for vital Township operations and services
Estimated Cost	High
Priority*	High
Plan for Implementation	
Responsible Organization	OEM, Engineer, and DPW
Local Planning Mechanism	Emergency Management
Potential Funding Sources	Grant funding as available; Township for local match
Timeline for Completion	Short Term/DOF
Reporting on Progress	
Date of Status Report/ Report of Progress	Date: Progress on Action/Project:

* Refer to results of Prioritization (see next page)



Action Number:
Action Name:

Chester Twp-5
Expand fuel storage capacity

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Will provide more opportunities to obtain fuel during power outages and times of fuel shortages
Property Protection	0	This project does not have protect any type of property or critical facilities
Cost-Effectiveness	0	
Technical	1	
Political	0	
Legal	0	
Fiscal	0	
Environmental	0	
Social	1	
Administrative	1	The Township has all administrative and technical resources necessary to implement this project
Multi-Hazard	1	All hazard
Timeline	1	The project will be completed within five years of grant award
Agency Champion	1	
Other Community Objectives	1	
Total	8	
Priority (High/Med/Low)	High	



Name of Jurisdiction: Township of Chester
Action Number: Chester Twp-6
Action Name: Upgrade/Renovate EOC

Assessing the Risk	
Hazard(s) addressed:	All
Specific problem being mitigated:	Inadequate EOC that is shared by the Borough and Township of Chester – needs to up updated and the decontamination showers need to be renovated
Evaluation of Potential Actions/Projects	
Actions/Projects Considered (name of project and reason for not selecting):	1. Update/renovate EOC
	2. Do nothing – current problem continues
	3. No other feasible options were identified
Action/Project Intended for Implementation	
Description of Selected Action/Project	Funds to upgrade/fit out new Joint Borough/Township Emergency Operations Center and renovate decontamination showers
Mitigation Action/Project Type	SIP
Goals Met	2, 3, 4
Applies to existing structures/infrastructure, future, or not applicable	Existing
Benefits (losses avoided)	Improved regional emergency management capabilities
Estimated Cost	Medium (\$50,000-\$75,000)
Priority*	High
Plan for Implementation	
Responsible Organization	OEM
Local Planning Mechanism	Emergency Management
Potential Funding Sources	Grant funding as available; Township for local match
Timeline for Completion	Short Term/DOF
Reporting on Progress	
Date of Status Report/ Report of Progress	Date: Progress on Action/Project:

* Refer to results of Prioritization (see next page)



Action Number:
Action Name:

Chester Twp-6
Upgrade/Renovate EOC

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Provide an EOC for emergency personnel during times of emergency events
Property Protection	0	This project will not protect properties from events
Cost-Effectiveness	1	
Technical	0	
Political	1	
Legal	1	
Fiscal	0	
Environmental	0	
Social	1	
Administrative	1	
Multi-Hazard	1	All hazards
Timeline	1	Once funding is obtained, project will be completed within five years
Agency Champion	1	
Other Community Objectives	0	
Total	9	
Priority (High/Med/Low)	High	



Name of Jurisdiction: Township of Chester
Action Number: Chester Twp-7
Action Name: Tannersbrook Road drainage/culverts/raise road bed

Assessing the Risk	
Hazard(s) addressed:	Flood and Severe Storm
Specific problem being mitigated:	Flooding of Tannersbrook Road during periods of heavy precipitation
Evaluation of Potential Actions/Projects	
Actions/Projects Considered (name of project and reason for not selecting):	1. Improve drainage and culverts; raise road bed
	2. Do nothing – current problem continues
	3. No other feasible options were identified
Action/Project Intended for Implementation	
Description of Selected Action/Project	Improve drainage and culverts; raise road bed of Tannersbrook Road
Mitigation Action/Project Type	SIP
Goals Met	3, 4
Applies to existing structures/infrastructure, future, or not applicable	Existing
Benefits (losses avoided)	High – reduce road closure due to flooding
Estimated Cost	High (\$750,000-\$1 million)
Priority*	High
Plan for Implementation	
Responsible Organization	Engineering/DPW
Local Planning Mechanism	TBD
Potential Funding Sources	Grant funding as available (FMA/PDM); Township for local match
Timeline for Completion	Long Term
Reporting on Progress	
Date of Status Report/ Report of Progress	Date: Progress on Action/Project:

* Refer to results of Prioritization (see next page)



Action Number:
Action Name:

Chester Twp-6
Tannersbrook Road drainage/culverts/raise road bed

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Protect roadway from flooding which would allow for essential personnel to use road during emergencies
Property Protection	1	Protect surrounding properties from flood damages
Cost-Effectiveness	1	
Technical	0	
Political	1	
Legal	1	
Fiscal	0	
Environmental	0	
Social	1	
Administrative	1	Township has the means to conduct this project
Multi-Hazard	1	Severe Storm and Flooding
Timeline	0	Project is a long-term (greater than five years)
Agency Champion	1	
Other Community Objectives	0	
Total	8	
Priority (High/Med/Low)	High	