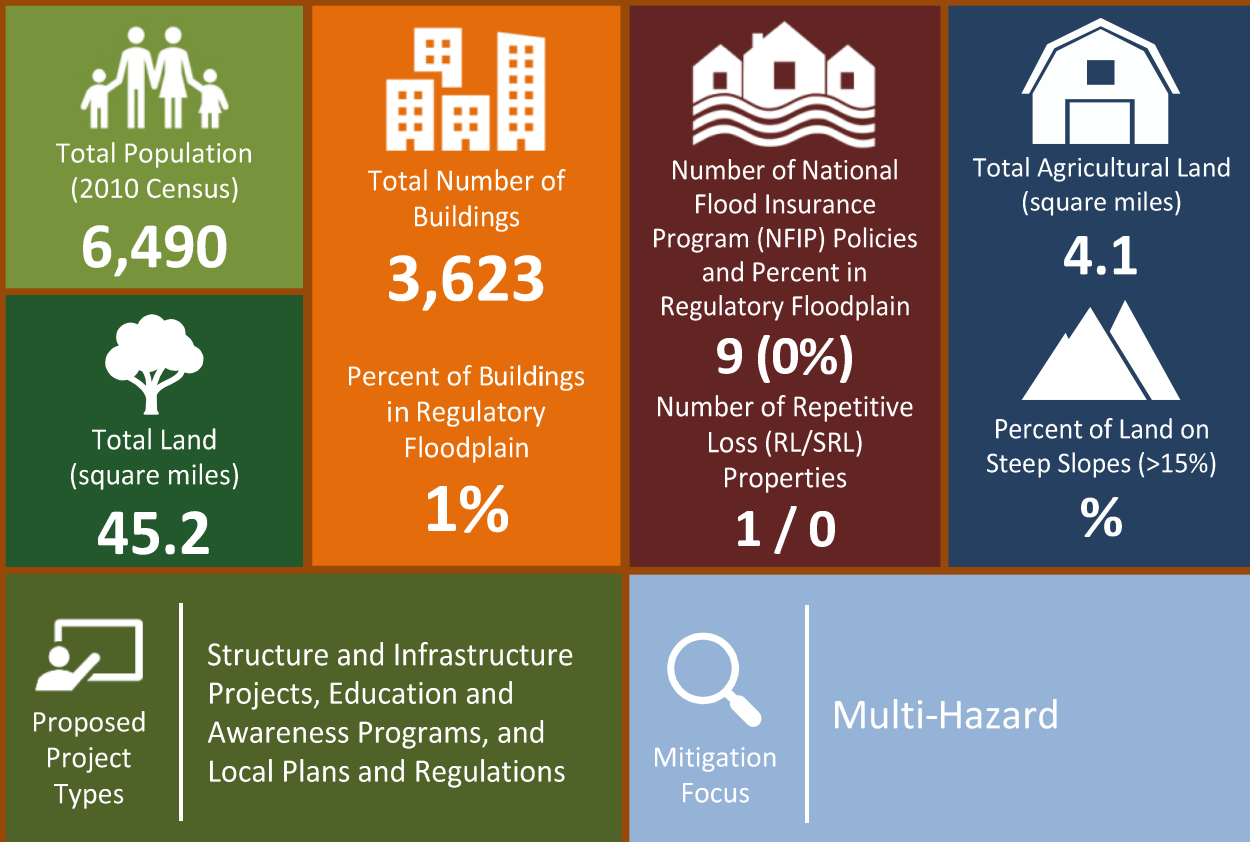
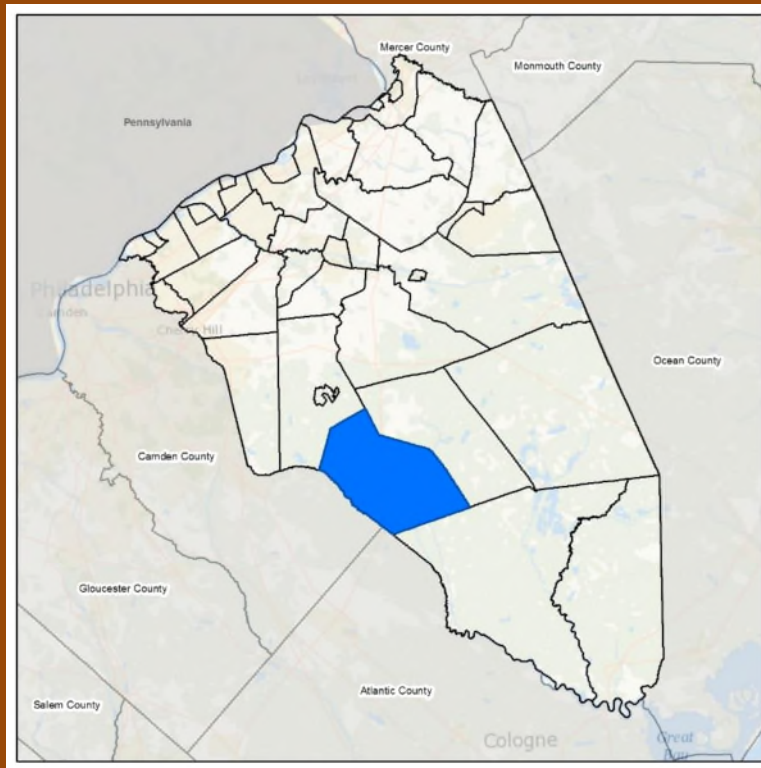




MUNICIPAL ANNEX | Shamong Township





9.33 Township of Shamong

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

9.33.1 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
John Lyons, OEM Coordinator 105 Willow Grove Road, Shamong, NJ 08008 609.618.7991 shamongoem@gmail.com	Susan Onorato, Administrator 105 Willow Grove Road, Shamong, NJ 08008 609.268.2377 ext. 301 sonorato@shamong.net

9.33.2 Municipal Profile

Shamong Township, incorporated in 1852, was originally a part of Evesham Township. It is one of many communities that make up the Pinelands National Reserve. Shamong is a Native American word meaning “place of the horn” or “place of many deer.” From 1758 until 1802, 3,284 acres of the township were home to the first and only Native American reservation in New Jersey. Prominent citizens of old Shamong included John B. Gardner, former mayor of Atlantic City, Civil War veteran, and United States congressman. James Still, the famed “black doctor of the Pines,” was born in Shamong in 1812, and his younger brother, William Still, is celebrated as the father of the Underground Railroad.¹

Shamong Township is governed under the Township form of government with a five-member Township Committee. The Township Committee is elected directly by the voters in partisan elections to serve three-year terms of office on a staggered basis, with one or two seats coming up for election each year. At an annual reorganization meeting, the Township Committee selects one of its members to serve as Mayor and another as Deputy Mayor.

Under the township form, all legislative powers are concentrated in the committee. The committee also has all executive powers not placed in the mayor either by general law or the revised Township act. Additionally, all municipalities under the traditional form may appoint, including the township form, may appoint a municipal administration and “delegate to him all or a portion of the executive responsibilities of the municipality.”²

The Township of Shamong is located in western Burlington County. The Township is bordered by Washington to the south, Medford to the north, and Tabernacle to the east and north-east. To the west, the Township is bordered by the Camden County municipality of Waterford. Shamong has a total area of approximately 45 square miles, of which 44.4 square miles is land and 0.6 square miles is water. There are several unincorporated communities within the Township: Atsion, Dellette, Flyat, Hampton Furnace, High Crossing, Indian Mills, and Smalls. According to the 2010 Census, the community's population was 6,490.

¹ http://www.arcadiapublishing.com/mm5/merchant.mvc?Screen=PROD&Product_Code=9780738564975

² http://www.njslom.org/magart0307_p14.html





Shamong Township contains lands within the Pinelands which is managed by the Pinelands Comprehensive Management Plan. The plan establishes nine land use management areas with goals, objectives, development intensities and permitted uses for each. The boundaries of these management areas are displayed on the Pinelands Land Capability Map. They are implemented through local zoning that must conform with Pinelands land use standards. Shamong Township has lands designated as preservation area district, forest area, agricultural production area, rural development area, regional growth area, Pinelands Village, and special agricultural production area.

Growth/Development Trends

The Township of Shamong did not note any recent residential/commercial development since 2013 or any major residential or commercial development, or major infrastructure development planned for the next five years in the municipality.

9.33.3 Natural Hazard Event History Specific to the Municipality

Burlington 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 2013 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 9.33-2. Hazard Event History

Dates of Event	Event Type (Disaster Declaration if applicable)	Burlington County Designated?	Summary of Damages/Losses
October 29, 2012	Sandy DR-4086	State Declaration	Roof damage and interior water damage to Indian Mills Fire Station in excess of \$107,000
Jan 2, 2014	Winter Storm	State Declaration	Local snow clearing operations with support as needed from emergency services.
Jan 21-22, 2014	Winter Storm	State Declaration	Local snow clearing operations with support as needed from emergency services.
Feb 13-14, 2014	Winter Storm/Nor'easter	State Declaration	Local snow clearing operations with support as needed from emergency services.
March 2-3, 2014	Winter Storm Titan	State Declaration	Local snow clearing operations with support as needed from emergency services.
April 30-May 1, 2014	Heavy Rain and Flooding	No	Heavy rain caused considerable poor drainage and creek flooding in the northern Burlington County. Rancocas Creek was hit the hardest by flooding. Many roads were flooded and closed. Approximately \$1 million in property damage in the County.
June 23, 2015	Severe Storm (DR-4231)	Yes	Straight Line Winds, wide spread power outages in township and neighboring towns. Extensive tree and debris cleanup. Widespread utility outages with Atlantic City Electric, local substation in neighboring town was destroyed and many poles out, wires ripped from homes. Power outage lasted several days. Structural damage to Indian Mills Fire Company secondary building, approx.. \$25,000 repair.





Dates of Event	Event Type (Disaster Declaration if applicable)	Burlington County Designated?	Summary of Damages/Losses
January 22-24, 2016	Severe Winter Storm (DR-4264)	Yes	Significant materials, resources, overtime and donated volunteer time for emergency road clearing, salting, snow removal, and response during the storm.

Notes:

- EM Emergency Declaration (FEMA)
- FEMA Federal Emergency Management Agency
- DR Major Disaster Declaration (FEMA)
- N/A Not applicable

9.33.4 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 Shamong. 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 Shamong.

Table 9.33-3. 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
Coastal Erosion	RCV Exposed to CE Hazard Area: \$0	Rare	6	Low
Drought	Damage estimate not available.	Frequent	30	Medium
Earthquake	100-Year GBS: \$0 500-Year GBS: \$1,220,960 2,500-Year GBS: \$17,435,907	Occasional	28	Medium
Flood	1% Annual Chance: \$16,751,317	Frequent	18	Medium
Landslide	RCV Exposed to Landslide Hazard Area: \$0	Rare	6	Low
Severe Storm	100-year MRP: \$4,465,749 500-year MRP: \$7,373,057 Annualized: \$142,126	Frequent	48	High
Severe Winter Weather	1% GBS: \$16,962,188 5% GBS: \$84,810,942	Frequent	51	High
Wildfire	Estimated Value in the Extreme, Very High, and High Hazard Areas: \$68,978,608	Frequent	33	High

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 Shamong.

Table 9.33-4. 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 Shamong	23	7	\$8,926.85	1	0	0

Source: FEMA Region 2 2017, 2018

(1) Repetitive loss and severe repetitive loss statistics provided by FEMA Region 2 and are current as of 10/31/2017. Policy and claims statistics current as of 9/30/2018

Please note the total number of repetitive loss properties does not include the severe repetitive loss properties. The number of claims represents claims closed by 9/30/2018.

(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 are based on the addresses geocoded from the FEMA Region 2 policy file – 10/31/2017.

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.

Critical Facilities

The table below presents Hazards United States (HAZUS) – Multi-Hazards (MH) estimates of the damage and loss of use to critical facilities in the community as a result of a 1-percent annual chance flood event.

Table 9.33-6. 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
None identified.					

Source: FEMA 2017, Burlington County

Note: - = Damages not calculated by HAZUS-MH v4.0

Other Vulnerabilities Identified

The municipality has identified the following vulnerabilities within their community:

- Municipal building at 105 Willow Grove Road has no backup power. Site is designated as the primary EOC location. A building generator and ATS would provide the ability to utilize the facility and resources within during an extended power outage, allow basic governmental functions to continue including communications and administration.
- Severe weather events are a typical vulnerability for our area, demonstrated by events listed in the history section for significant snow accumulation and ice conditions in a heavily populated and traffic area such as South Jersey. Additionally, the trees are prone to effect power outages during winter and thunderstorm/wind events such as the June storm 2015 that affected power lines and a substation





resulting in multi-day power outages. Many of the homes water systems are based on wells, so a loss of electricity means no water. A large concentration of farms including livestock such as horses and pigs in the area would be affected by a loss of water service.

- With a large portion of the township located within and nearby Wharton State Forest, and a heavily wooded area with neighboring state forests and pinelands designates a large risk of Wildfire. Besides the risk of fire danger, the wildland urban interface areas would be subject to short notice evacuations, driving the need for temporary sheltering including pets and livestock.
- A portion of the township, being remote and in the Pinelands, has little or no access to internet services, spotty Verizon landline coverage, and poor to no cellular coverage. Emergency communications focus heavily on the use of phone, email and text alerts using Swift911. Some of these residents may not be in scope to receive those alerts, and ongoing administration of that program requires knowledge and registration of the program. Swift911 demonstrated a lack of bandwidth to send timely alerts in times of a regionally impacted event, which could delay important messages. There is no audible warning system for the township.

9.33.5 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 Shamong.

Table 9.33-7. Planning and Regulatory Tools

Tool / Program (code, ordinance, plan)	Do you have this? (Yes/No) If Yes, date of adoption or update	Authority (local, county, state, federal)	Dept. /Agency Responsible	Code Citation and Comments (Code Chapter, name of plan, explanation of authority, etc.)
Planning Capability				
Master Plan	Yes, 2013	Local	Planning Board	
Capital Improvements Plan	No			
Floodplain Management / Basin Plan	No			
Stormwater Management Plan	Yes 2005	Local	Road Department	Chapter 110
Open Space Plan	Yes 1990	Local	Planning Board	Chapter 110
Stream Corridor Management Plan	No			
Watershed Management or Protection Plan	No			
Economic Development Plan	No			





Tool / Program (code, ordinance, plan)	Do you have this? (Yes/No) If Yes, date of adoption or update	Authority (local, county, state, federal)	Dept. /Agency Responsible	Code Citation and Comments (Code Chapter, name of plan, explanation of authority, etc.)
Comprehensive Emergency Management Plan	Yes	Local	OEM	Chapter 147
Emergency Operation Plan	No			
Post-Disaster Recovery Plan	No			
Transportation Plan	No			
Strategic Recovery Planning Report	No			
Other Plans:	No			
Regulatory Capability				
Building Code	Yes 12/12/41	State & Local	Building Inspection	
Zoning Ordinance	Unknown 9/1/70	Local	Zoning Office	
Subdivision Ordinance	Yes 12/30/54	Local	Zoning Office	
NFIP Flood Damage Prevention Ordinance	Yes	Federal, State, Local		Chapter 90
NFIP: Cumulative Substantial Damages	No			
NFIP: Freeboard	Yes	State, Local	Zoning Office	Chapter 90
Growth Management Ordinances	Yes	Local	Planning Board	Chapter 110
Site Plan Review Requirements	Yes	Local	Planning Board	
Stormwater Management Ordinance	Yes 2005	Local	Road Department	Chapter 145
Municipal Separate Storm Sewer System (MS4)	Yes	Local	Township	Chapter 145
Natural Hazard Ordinance	No			
Post-Disaster Recovery Ordinance	N/A			
Real Estate Disclosure Requirement	Yes	State		
Other (Special Purpose Ordinances [i.e., sensitive areas, steep slope])				

Administrative and Technical Capability

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





Table 9.33-8. Administrative and Technical Capabilities

Resources	Is this in place? (Yes or No)	Department/ Agency/Position
Administrative Capability		
Planning Board	Yes	
Mitigation Planning Committee	No	
Environmental Board/Commission	No	
Open Space Board/Committee	No	
Economic Development Commission/Committee	No	
Maintenance programs to reduce risk	No	
Mutual aid agreements	Yes	
Technical/Staffing Capability		
Planner(s) or engineer(s) with knowledge of land development and land management practices	Yes	Twp. Engineer (Dante Guzzi 609 654-4440)
Engineer(s) or professional(s) trained in construction practices related to buildings and/or infrastructure	Yes	Twp. Engineer (Dante Guzzi 609 654-4440)
Planners or engineers with an understanding of natural hazards	Yes	Twp. Engineer (Dante Guzzi 609 654-4440)
NFIP Floodplain Administrator (FPA)	Yes	Twp. Engineer (Dante Guzzi 609 654-4440)
Surveyor(s)	Yes	Twp. Engineer (Dante Guzzi 609 654-4440)
Personnel skilled or trained in GIS and/or Hazards United States (HAZUS) – Multi-Hazards (MH) applications	No	
Scientist familiar with natural hazards	No	
Emergency Manager	Yes	Twp. OEM
Grant writer(s)	Yes	Burlington County Bridge Commission
Staff with expertise or training in benefit/cost analysis	No	
Professionals trained in conducting damage assessments	No	

Fiscal Capability

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

Table 9.33-9. Fiscal Capabilities

Financial Resources	Accessible or Eligible to Use (Yes/No)
Community development Block Grants (CDBG, CDBG-DR)	Yes
Capital improvements project funding	Yes
Authority to levy taxes for specific purposes	No
User fees for water, sewer, gas or electric service	No
Impact fees for homebuyers or developers of new development/homes	No
Stormwater utility fee	No
Incur debt through general obligation bonds	No
Incur debt through special tax bonds	No
Incur debt through private activity bonds	No
Withhold public expenditures in hazard-prone areas	No





Financial Resources	Accessible or Eligible to Use (Yes/No)
Other federal or state Funding Programs	Yes (FEMA)
Open Space Acquisition funding programs	No
Other	No

Community Classifications

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

Table 9.33-10. 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)	No		
Public Protection (ISO Fire Protection Classes 1 to 10)	No		
Storm Ready Certification	No	N/A	N/A
Firewise Communities classification	No	N/A	N/A
Natural disaster/safety programs in/for schools	No		
Organizations with mitigation focus (advocacy group, non-government)	No		
Public education program/outreach (through website, social media)	No		
Public-private partnership initiatives addressing disaster-related issues	No		

Note:

- N/A Not applicable
- NP Not participating
- Unavailable

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 <https://www.isomitigation.com/ppc/>
- The National Weather Service Storm Ready website at <http://www.stormready.noaa.gov/index.html>
- The National Firewise Communities website at <http://firewise.org/>

Self-Assessment of Capability





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

Table 9.33-11. 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 (FPA)

Dante Guzzi, Twp. Engineer

Flood Vulnerability Summary

The FPA for the Township of Shamong indicated that is is unknown if the Township maintains a list or inventories of properties that have been damaged by flooding.

Resources

The FPA for the Township of Shamong indicated that it is unknown if there is additional support to the responsibilities of floodplain administration. NFIP administration services and functions provided to residents of Shamong include permit review by the construction office. At this time, there are no known education or outreach programs to the community regarding flood hazards/risk or flood risk reduction. The FPA stated that there are currently no barriers to running an effective floodplain management program and that he does feel adequately supported and trained to fulfill the responsibilities as the municipal floodplain administrator. The FPA would consider attending continuing education and certification training on floodplain management if it were offered in the future.

Compliance History

The Township is currently in good standing with the NFIP; however, the date of the most recent compliance audit is unknown.

Regulatory

The Township of Shamong’s floodplain ordinance meets the minimum set by FEMA and the State of New Jersey. There are no additional ordinances that support floodplain management within the Township. The planning board and/or zoning board does consider efforts to reduce flood risk when reviewing variances such as height restrictions. The Township is currently not in the CRS program; however, they have considered joining and would attend a seminar if offered.

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

Pinelands Comprehensive Management Plan: The New Jersey Pinelands Commission protects the Pinelands through its implementation of the Comprehensive Management Plan (CMP). The CMP contains the rules that guide land-use, development and natural resource protection programs in the state Pinelands Area. The regulations and standards contained in the CMP are designed to promote orderly development by channeling growth toward appropriate areas while safeguarding the region's unique natural, ecological, agricultural, archaeological, historical, scenic, cultural and recreational resources.

The Pinelands Comprehensive Management Plan provides general provisions, interpretations and definitions, certification of County, Municipal and Federal Installation Plans, development review, minimum standards for land uses and intensities, management programs and minimum standards, amendments to the comprehensive management plan, enforcement, acquisition of properties with limited practical use, and pilot programs.

Regulatory and Enforcement (Ordinances)

NJDEP Municipal Stormwater Regulation Program: New Jersey Department of Environmental Protection issued the statewide municipal stormwater permits that became effective January 1, 2018 and authorizes stormwater discharges from municipal separate storm sewer systems (MS4s) to the waters of the state. Municipalities that have been issued a Notice of Authorization (NOA) to discharge under the Tier A (urban and coastal municipalities) or Tier B (more rural municipalities) master general permit must develop and implement a stormwater program. The first New Jersey Pollutant Discharge Elimination System (NJPDES) permit authorizing discharges from MS4 municipalities became effective in 2004 (subsequently renewed in 2009 and now in 2018), so most municipalities have developed stormwater programs; however, the 2018 permit requires the municipalities to maintain a stormwater management plan and enforce stormwater ordinances to address development and redevelopment consistent with the Stormwater Management rules at N.J.A.C 7:8, as well as implementation of additional requirements. For more information on the municipal stormwater regulation program, see www.nj.gov/dep/dwq/msrp_home.htm. Shamong Township is Tier A municipality.

Stormwater Management: Chapter 145 of the municipal code discusses stormwater management. This chapter is intended to regulate improper disposal of waste, pet waste, wildlife feeding, the yard waste collection program, illicit connections, and enforcement and penalties in order to protect public health, safety and welfare, and to prescribe penalties for failure to comply.

Flood Damage Prevention: The degree of flood protection required by this chapter (Chapter 90 of the municipal code) is considered reasonable for regulatory purposes and is based on scientific and engineering considerations. Larger floods can and will occur on rare occasions. Flood heights may be increased by man-made or natural causes. This chapter does not imply that land outside the areas of special flood hazards or uses permitted within such areas will be free from flooding or flood damages.

Operational and Administration

Shamong Township has the following Departments:





- Administration
- Registrar/Vital Statistics
- Public Safety
- Parks & Recreation
- Public Works
- Municipal Court

The Recreational Committee is responsible for the administration of the Township's public parks and recreational facilities.

Funding

Shamong Township identified that NJFF grants have been supplied for equipment and mitigation programs in the past and that typically funding requires a 50% municipal match.

Education and Outreach

Shamong Township has a website where one can access information about Township Officials, Departments, Ordinances, Stormwater Management, and Zoning Maps & Forms. There is also information and links about hurricane preparedness and the Special Needs Registry for Disasters.

9.33.6 Mitigation Strategy and Prioritization

This section discusses past mitigation 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 2013 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 9.33-12. Status of Previous Mitigation Actions

Action Number	2013 Mitigation Action	Responsible Party	Status (In progress, No progress, Complete)	Describe Status 1. Please describe what was accomplished and indicate % complete. 2. If there was no progress, indicate what obstacles/delays encountered? 3. If there was progress, how is/was the action being funded (e.g., FEMA HMGP grant, local budget)?	Next Steps 1. Project to be included in 2019 HMP or Discontinue 2. If including action in the 2019 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
SG-1	Install fire breaks in strategic areas identified throughout the Township	NJ State Forestry Service	In progress	Shamong Township does not have direct authority/responsibility for installation of fire breaks in State Forest areas. Section B-1 Warden is a member of Shamong LEPC and relays that progress has been made, breaks installed and maintained in key areas within the township boundaries. This will be an ongoing mission of the NJFFS	1. Discontinue 2. NJFFS leading effort; Will ask for periodic updates on plans and progress from B-1 Warden.
SG-2	Conduct storm drain upgrades in identified areas throughout the Township	Public Works	Complete	Storm drain maintenance and upgrades completed in areas of township including McKendimen Drive as part of annual roadwork strategic plan. As budget allows, additional areas of repair and upgrade will be identified.	1. Discontinue 2. Ongoing capability; Reference the Shamong roadway plan and will provide periodic updates on areas that require attention. As budget allows and bond coverage exists, additional maintenance will be performed. 3.
SG-3	Conduct storm drain construction in identified areas throughout the Township	Public Works	In Progress	Storm drain construction will be an ongoing review as part of annual roadwork strategic plan. As budget allows, additional areas of construction will be identified.	1. Discontinue 2. Ongoing capability; Coordinate with Public Works and Township Engineer to identify and budget for needed construction projects. 3.
SG-4	Address and conduct power line tree management in identified problem areas throughout the Township	Atlantic City Electric, Comcast Cable & Verizon	Complete	Shamong Township is not directly responsible for the maintenance of power line tree management. Responsible parties have been identified. Ongoing maintenance effort to keep roadways clear of overhead interference	1. Discontinue 2. ACE, Comcast, Verizon leading effort; Propose a coordination meeting periodically with the responsible parties to understand the area management plan, timing and resources committed to track progress.
SG-5	Evaluate benefits of participating in CRS program	Twp. Committee; Planning	No Progress	Turnover of staff and a lack of research on the CRS program.	1. Discontinue 2. The number of homes that would be impacted by the CRS program is negligible, verified with TetraTech to make a data-based decision. Shamong will not pursue getting CRS rated. 3.
SG-6	Conduct and facilitate community and public education and outreach for residents and businesses to	Shamong OEM with support from Planning Partners,	In Progress	Utilize website to share this information in addition to Swift 9-1-1 during storm/disasters. Shamong OEM Facebook page and targeted public outreach efforts to promote planning, preparedness and mitigation tools.	1. Discontinue 2. Ongoing capability





Action Number	2013 Mitigation Action	Responsible Party	Status (In progress, No progress, Complete)	Describe Status 1. Please describe what was accomplished and indicate % complete. 2. If there was no progress, indicate what obstacles/delays encountered? 3. If there was progress, how is/was the action being funded (e.g., FEMA HMGP grant, local budget)?	Next Steps 1. Project to be included in 2019 HMP or Discontinue 2. If including action in the 2019 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
	promote natural hazard risk reduction to include: Disaster preparedness Hazard mitigation	County Planning, NJOEM, FEMA		Enrolled in RSG Wildfire program and have hosted some instances of public outreach using OEM and CERT resources.	
SG-7	Improve municipal communication systems to include information sharing with county and surrounding municipalities.	Municipality with support from County, NJOEM and FEMA	In Progress	Utilize website to share this information in addition to Swift 9-1-1 during storm/disasters Enrollment information added to new homeowner info packet, distributed via Facebook and printed material outreach.	1. Discontinue 2. Ongoing capability
SG-8	Obtain and install backup power sources at critical facilities.	Municipality with support from County, NJOEM and FEMA	No Progress	Budgetary restrictions at this time.	1. Include in 2019 HMP 2. Looking for grant funding as Township cannot budget for.
SG-9	Create/Enhance/Maintain Mutual Aid agreements with neighboring communities for continuity of operations	Municipality with support from County, NJOEM, FEMA and surrounding communities	Complete	Shamong has and continues to look for mutual aid agreements to benefit Shamong and the surrounding communities.	1. Discontinue 2. Ongoing capability
SG-10	Continue to support the implementation, monitoring, maintenance, and updating of this Plan through participating in the 5 year Plan Update	Municipality with support from Planning Partners, County Planning, NJOEM, FEMA	Complete	Shamong will be compliant within budgetary restrictions.	1. Discontinue 2. Participating in plan update
SG-11	Promote the participation of Floodplain Administrators within the planning process and other activities.	Municipality with support from County, NJOEM and FEMA	Complete	Include the township engineer / floodplain administrator in planning activities and in worksheet planning for the HazMit effort	1. Discontinue 2. Ongoing capability
SG-12	Enhance resilience to severe storms by joining the NOAA "Storm Ready" program.	Municipality with support from County,	In Progress	Having reviewed the Storm Ready requirements. I believe there is some benefit in	1. Include in 2019 HMP





Action Number	2013 Mitigation Action	Responsible Party	Status (In progress, No progress, Complete)	Describe Status 1. Please describe what was accomplished and indicate % complete. 2. If there was no progress, indicate what obstacles/delays encountered? 3. If there was progress, how is/was the action being funded (e.g., FEMA HMGP grant, local budget)?	Next Steps 1. Project to be included in 2019 HMP or Discontinue 2. If including action in the 2019 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
		NJOEM and FEMA		exploring this program in the future and it will be included in the 2018 HMP.	2. Areas of notification and forecast warnings are in place but additional program requirements must be developed before a storm ready application can be submitted. 3.
SG-13	Provide public education and outreach on proper installation and/or use of backup power	Municipal Clerk	In Progress	Shamong will be compliant within budgetary restrictions.	1. Include in 2019 HMP 2. Investigate availability of safety documentation, possibly include with building department for any permitted electrical or gas work for backup generators.
SG-14	Address dangerous trees threatening people and property through proactive tree-trimming (vegetation management) programs in conjunction with property owners and utility companies.	Municipal DPW/Private Property owners & utility companies	Complete	Shamong will be compliant within budgetary restrictions.	1. Discontinue 2. Ongoing effort to review problem areas and coordinate with our partners to manage the vegetation within the township.
SG-15	Evaluate the benefits of participating in the Firewise or RSG Program	Municipal OEM with support from NJSFF	In Progress	Due to staffing issues and personnel changes, the Firewise program was not evaluated during the prior program timetable. Shamong OEM has registered the agency with RSG and has begun developing a program for sharing the education and materials.	1. Include in 2019 HMP 2. Specific outreach programs are being looked at in conjunction with NJSFF to bring RSG materials to homeowners and residents in key areas.





Completed Mitigation Initiatives not Identified in the Previous Mitigation Strategy

The Township of Shamong has identified the following mitigation projects/activities that have also been completed but were not identified in the previous mitigation strategy in the 2013 Plan:

- None identified by the municipality.

Proposed Hazard Mitigation Initiatives for the Plan Update

The municipality participated in a mitigation action workshop in March 2018 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 9.33-13 summarizes the comprehensive-range of specific mitigation initiatives the Township of Shamong 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 9.33-14 provides a summary of the prioritization of all proposed mitigation initiatives for the Plan update.



Table 9.33-13. Proposed Hazard Mitigation Initiatives

Initiative	Mitigation Initiative	Critical Facility (Yes / No)	Hazard(s) Mitigated	Goals and Objectives Met	Lead and Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category	CRS Category
SG-1 (former SG-8)	Obtain and install backup power sources at critical facilities.	No	All Hazards	1, 2, 6	Municipality with support from County, NJOEM and FEMA	Medium	Medium	Municipal Budget	Short	Medium	SIP	ES
SG-2 (former SG-12)	Enhance resilience to severe storms by joining the NOAA “Storm Ready” program.	No	Severe Storm	All	Municipality with support from County, NJOEM and FEMA	Medium	Low	Municipal Budget	Short	Medium	EAP	PI
SG-3 (former SG-13)	Provide public education and outreach on proper installation and/or use of backup power	No	Severe Storm	1, 2, 5	Municipal Clerk	Medium	Low	Municipal Budget	Short	High	EAP	PI
SG-4 (former SG-15)	Evaluate the benefits of participating in the Firewise or RSG Program	No	Wildfire	All	Municipal OEM	Medium	Low	Municipal Government, OEM	Short	Medium	LPR	PR
SG-5	During future updates of the Master Plan, Stormwater Management Plan, Open Space Plan, or other plans, work to integrate hazard mitigation principles and recommendations into the plans. Additionally, use these hazard mitigation principles and plan recommendations to update local building and zoning codes to create a more resilient community.	No	All Hazards	All	Municipality	High	Low	Municipal Budget	Short Term, Depending on update schedule	High	LPR	PR, PI
SG-6	The Township will promote and support non-structural flood hazard mitigation alternatives for at risk properties within the floodplain, specifically those that have been identified as Repetitive Loss (RL) and Severe Repetitive Loss (SRL). At risk areas include: <ul style="list-style-type: none"> Stokes Road Alternatives would include acquisition/relocation or	No	Flood	1, 2	Municipality with support from County	High	High	Grant funding; Municipal budget	Short	High	SIP	PP





	elevation depending on feasibility, and the completion of initiative is dependent on funding, benefits versus cost, and willing participation of property owners.											
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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
OEM	Office of Emergency Management

Potential FEMA HMA Funding Sources:

FMA	Flood Mitigation Assistance Grant Program
HMGF	Hazard Mitigation Grant Program
PDM	Pre-Disaster Mitigation Grant Program
RFC	Repetitive Flood Claims Grant Program (discontinued in 2015)
SRL	Severe Repetitive Loss Grant Program (discontinued in 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*

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Table 9.33-14. 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	Total	High / Medium / Low
SG-1 (former SG-8)	Obtain and install backup power sources at critical facilities.	1	1	1	1	1	1	-1	0	0	1	1	1	1	0	9	Medium
SG-2 (former SG-12)	Enhance resilience to severe storms by joining the NOAA "Storm Ready" program.	1	0	0	1	1	1	0	0	1	1	1	0	1	0	8	Medium
SG-3 (former SG-13)	Provide public education and outreach on proper installation and/or use of backup power	1	1	1	1	1	0	0	0	1	1	1	0	1	0	9	High
SG-4 (former SG-15)	Evaluate the benefits of participating in the Firewise or RSG Program	1	0	0	1	1	1	0	0	1	1	0	0	1	0	7	Medium
SG-5	During future updates of the Master Plan, Stormwater Management Plan, Open Space Plan, or other plans, work to integrate hazard mitigation principles and recommendations into the plans. Additionally, use these hazard mitigation principles and plan recommendations to update local building and zoning codes to create a more resilient community.	1	1	1	1	1	1	1	0	0	1	1	0	1	0	10	High
SG-6	The Township will promote and support non-structural flood hazard mitigation	1	1	0	1	1	1	-1	0	0	1	0	1	1	0	8	High





Table 9.33-14. 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	Total	High / Medium / Low
	<p>alternatives for at risk properties within the floodplain, specifically those that have been identified as Repetitive Loss (RL) and Severe Repetitive Loss (SRL). At risk areas include:</p> <ul style="list-style-type: none"> Stokes Road <p>Alternatives would include acquisition/relocation or elevation depending on feasibility, and the completion of initiative is dependent on funding, benefits versus cost, and willing participation of property owners.</p>																

Note: Refer to Section 6, which conveys guidance on prioritizing mitigation actions.





9.33.7 Future Needs To Better Understand Risk/Vulnerability

None at this time.

9.33.8 Hazard Area Extent and Location

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

9.33.9 Additional Comments

None at this time.

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Figure 9.33-1. Township of Shamong Hazard Area Extent and Location Map 1

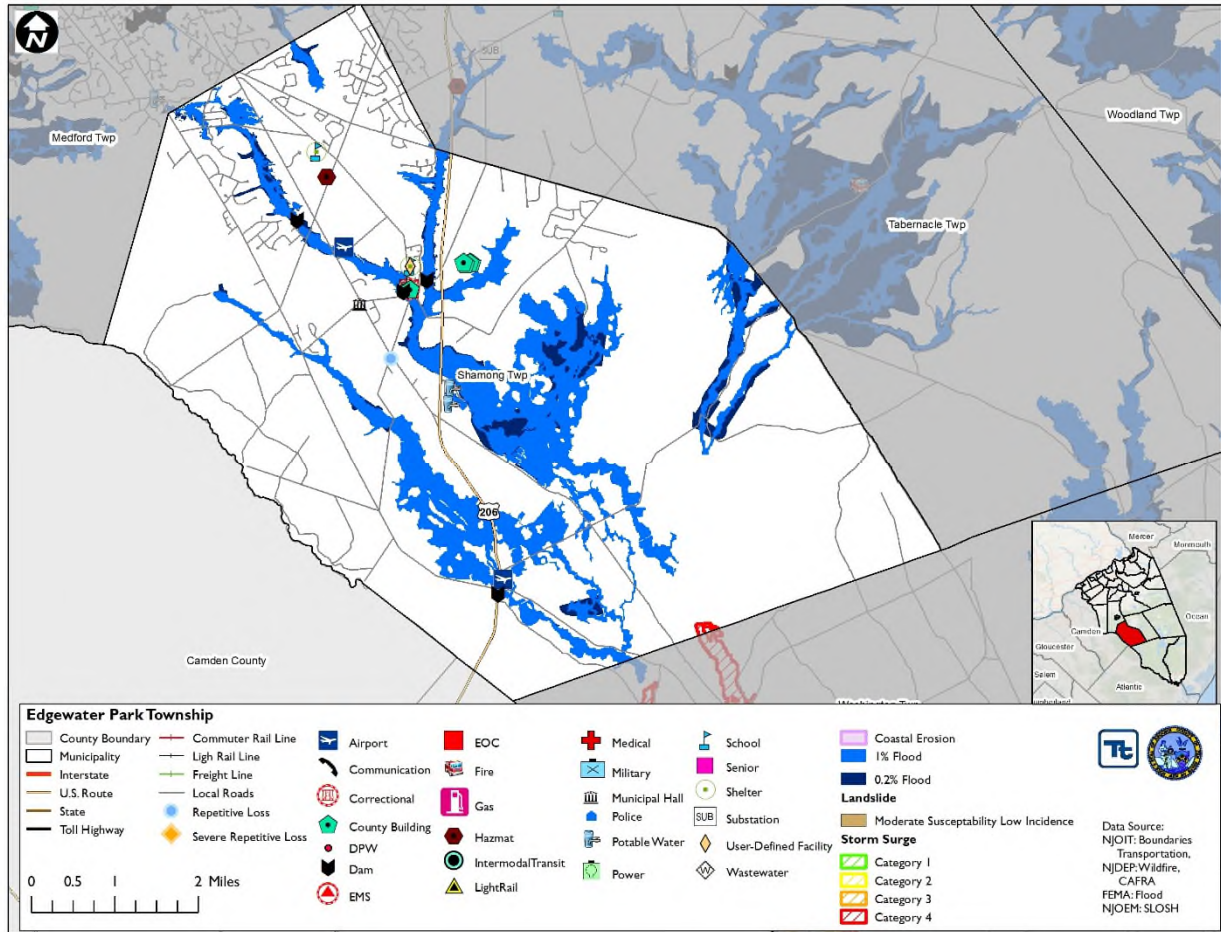
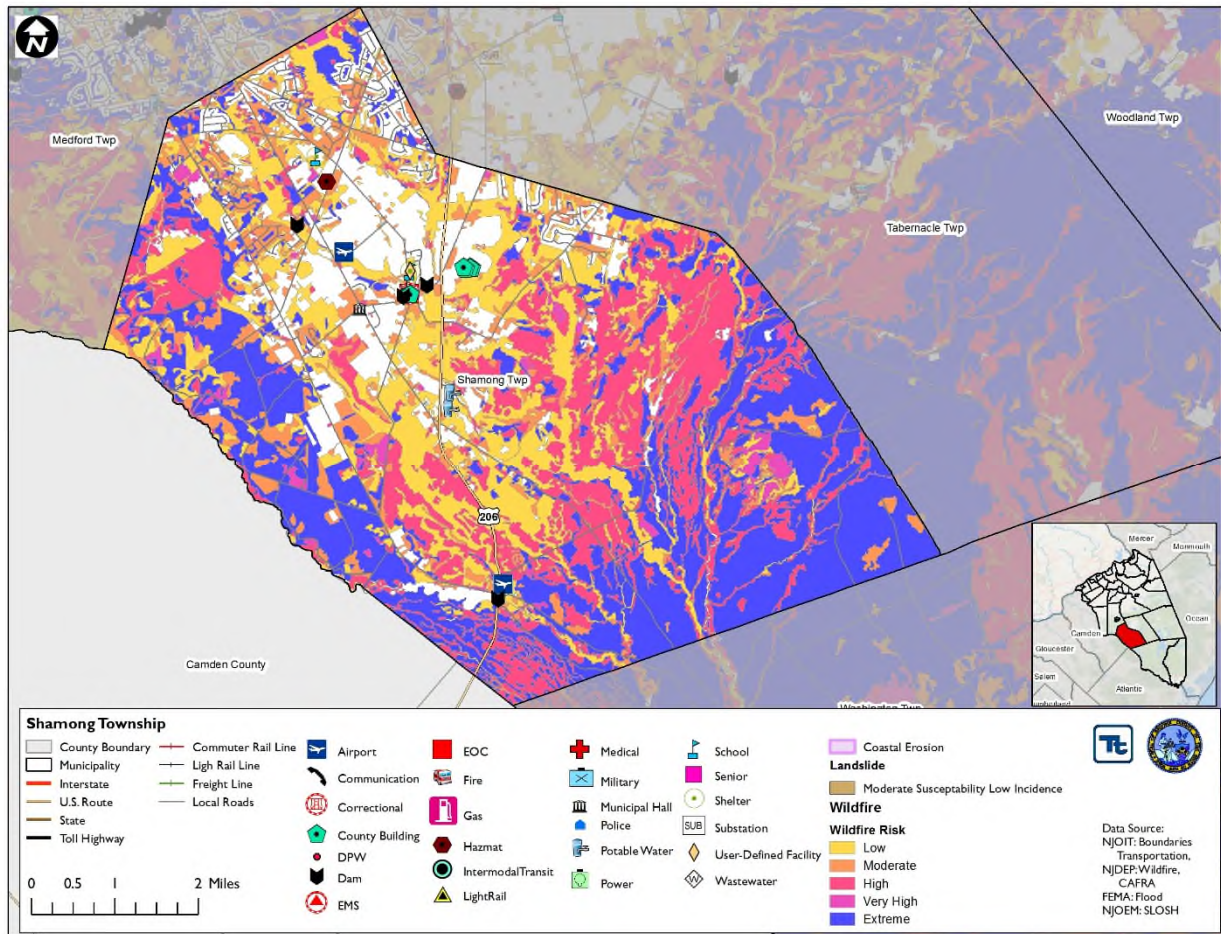




Figure 9.33-2. Township of Shamong Hazard Area Extent and Location Map 2





Action Number: SG-1 (former SG-8)
Mitigation Action Name: Obtain and install backup power sources at critical facilities.

Assessing the Risk	
Hazard(s) addressed:	All Hazards
Specific problem being mitigated:	Backup power to essential facilities is critical during an emergency event
Evaluation of Potential Actions/Projects	
Actions/Projects Considered (name of project and reason for not selecting):	No Action - current problem continues
Action/Project Intended for Implementation	
Description of Selected Action/Project	Installation of generators and backup power required to ensure the building's ability to remain functional during an event.
Mitigation Action Type	SIP
Goals Met	1, 2, 6
Critical Facility (Y/N)	No
Benefits (losses avoided)	Medium
Estimated Cost	Medium
Priority*	Medium
Plan for Implementation	
Responsible Organization	Municipality with support from County, NJOEM and FEMA
Local Planning Mechanism	ES
Potential Funding Sources	Municipal Budget
Timeline for Completion	Short
Reporting on Progress	
Date of Status Report/ Report of Progress	Date: 1/31/18 Status: Budgetary restrictions at this time



Action Number:

SG-1 (former SG-8)

Mitigation Action Name:

Obtain and install backup power sources at critical facilities.

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	
Property Protection	1	
Cost-Effectiveness	1	
Technical	1	
Political	1	
Legal	1	
Fiscal	-1	
Environmental	0	
Social	0	
Administrative	1	
Multi-Hazard	1	
Timeline	1	
Agency Champion	1	
Other Community Objectives	0	
Total	9	
Priority (H/M/L)	Medium	



Action Number:

SG-6

Mitigation Action Name:

The Township will promote and support non-structural flood hazard mitigation alternatives for at risk properties within the floodplain, specifically those that have been identified as Repetitive Loss (RL) and Severe Repetitive Loss (SRL). At risk areas include:

- Stokes Road

Alternatives would include acquisition/relocation or elevation depending on feasibility, and the completion of initiative is dependent on funding, benefits versus cost, and willing participation of property owners.

Assessing the Risk	
Hazard(s) addressed:	Flood
Specific problem being mitigated:	Repetitively flooded properties place an undue stress on the property owner and Township and efforts should be made to mitigate them.
Evaluation of Potential Actions/Projects	
Actions/Projects Considered (name of project and reason for not selecting):	No Action - current problem continues
Action/Project Intended for Implementation	
Description of Selected Action/Project	Work with owners to explore mitigation opportunities for repetitively flooded properties, and if appropriate and feasible, carry out acquisition, relocation, elevation and floodproofing measures to protect these properties.
Mitigation Action Type	SIP
Goals Met	1, 2
Critical Facility (Y/N)	No
Benefits (losses avoided)	High
Estimated Cost	High
Priority*	High
Plan for Implementation	
Responsible Organization	Municipality with support from County
Local Planning Mechanism	PP
Potential Funding Sources	Grant funding; Municipal budget
Timeline for Completion	Short
Reporting on Progress	
Date of Status Report/ Report of Progress	Date: 5/31/18 Status: New Action



Action Number:
Mitigation Action Name:

SG-6

The Township will promote and support non-structural flood hazard mitigation alternatives for at risk properties within the floodplain, specifically those that have been identified as Repetitive Loss (RL) and Severe Repetitive Loss (SRL). At risk areas include:

- Stokes Road

Alternatives would include acquisition/relocation or elevation depending on feasibility, and the completion of initiative is dependent on funding, benefits versus cost, and willing participation of property owners.

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	
Property Protection	1	
Cost-Effectiveness	0	
Technical	1	
Political	1	
Legal	1	
Fiscal	-1	
Environmental	0	
Social	0	
Administrative	1	
Multi-Hazard	0	
Timeline	1	
Agency Champion	1	
Other Community Objectives	0	
Total	8	
Priority (H/M/L)	High	