



## 9.9 TOWNSHIP OF GREEN

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

### 9.9.1 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
Linda Peralta, Clerk/Administrator 150 Kennedy Road, P.O. Box 65, Tranquility, NJ 07879 Phone: (908) 852-9333 Email: clerk_admin@greentwp.com	Peg Phillips, Mayor 150 Kennedy Road, P.O. Box 65, Tranquility, NJ 07879 Phone: (908) 852-9333 Email: <a href="mailto:pPhillips@greentwp.com">pPhillips@greentwp.com</a>

### 9.9.2 MUNICIPAL PROFILE

Green Township is located in southwestern Sussex County and is bordered to the north by Fredon and Andover Townships, to the south and west by Warren County and to the east by Byram Township. The following unincorporated communities are located within the Township: Huntsburg, Greendell, Tranquility, and Huntsville. According to the U.S. Census, the 2010 population for the Township of Green was 3,601. The Pequest River, Bear Brook, and Trout Brook are named streams that flow through the Township. Lake Tranquility, Buckmire Pond, and Turtle Pond are the larger named lakes located in the Township.

#### 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 maps later in this annex which illustrate the hazard areas along with the location of potential new development.

**Table 9.9-1. 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
<b>Recent Development from 2010 to present</b>					
Airport Road	Comm.	3	Airport Road Block 31 Lots 1.06, 1.08, 1.09	Wildfire: High; Carbonate Hazard	Lot 1.08 under construction
Hackettstown-Andover 12” Gas Line	Utility	–	Route 517	–	Gas Main
<b>Known or Anticipated Development in the Next Five (5) Years</b>					
Airport Road	Comm.	4	Airport Road Block 31-Lots 1.03, 1.04, 1.05, 1.07	Wildfire: High; Carbonate Hazard	–
Crossed Keys	Comm.	1	289 Pequest Road Block 22 Lots 2 & 2.02	Flood: 1% Chance; Carbonate Hazard	In planning

\* Only location-specific hazard zones or vulnerabilities identified.





### 9.9.3 NATURAL HAZARD EVENT HISTORY SPECIFIC TO THE MUNICIPALITY

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

**Table 9.9-2. Hazard Event History**

Date(s) of Event	Event Type	FEMA Declaration # (If Applicable)	County Designated?	Summary of Damages/Losses
March 5, 2008	Strong Wind	N/A	N/A	One flooded basement pump out
October 28, 2008	Heavy Snow and Strong Winds	N/A	N/A	Four calls for wires down on Hillside, Dogwood Drive (2), and Highland Ave. One activated alarm.
February 1-2, 2011	Winter Storm	N/A	N/A	Stand by for Allamuchy Fire Department.
March 11-12, 2011	Heavy Rain and Flooding	N/A	N/A	One flooded basement pumped out.
August 26 – September 5, 2011	Hurricane Irene	DR-4021	Yes	The Township had power outages that affected approximately 500 homes for six to 10 days. There were two structure fires, one mutual aid for tanker into Stillwater, 15 flooded basements pumped out, 27 wires down, and two motor vehicle accidents. Additionally, the Township had overtime costs for cleanup and equipment operation.
September 28 – October 6, 2011	Remnants of Tropical Storm Lee	DR-4039	Yes	One flooded basement pumped out, two activated alarms, one wires down, one electrical fire, two motor vehicle accidents; Whitehall Road was flooded and closed from September 10 <sup>th</sup> to December 1 <sup>st</sup> .
October 29, 2011	Severe Storm	DR-4048	Yes	Eight wires down, five brush fires, one tree on wires, one activated alarm.
October 26 – November 8, 2012	Hurricane Sandy	DR-4086	Yes	The Township opened a warming shelter at the Green Township Fire Department and the Township municipal building for 14 days. There were multiple road closures and power outages town-wide for three to 14 days. The Township responded to a structure fire in Blairstown. There were 45 wires down, 23 trees down, one tree on a home, a transformer incident and an electrical fire. The Township had overtime for cleanup in the Township.
September 12, 2013	Heavy Rain and Flash Flooding	N/A	N/A	One smoke condition in basement, 23 wires down.

### 9.9.4 HAZARD VULNERABILITIES AND RANKING

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

**Table 9.9-3. Hazard Risk/Vulnerability Risk Ranking**

Hazard type	Estimate of Potential Dollar Losses to Structures Vulnerable to the Hazard <sup>a, c</sup>	Probability of Occurrence	Risk Ranking Score (Probability x Impact)	Hazard Ranking <sup>b</sup>
Dam Failure	Damage estimate not available	Occasional	24	High*
Drought	Damage estimate not available	Frequent	30	Medium
Earthquake	100-Year GBS: \$0 500-Year GBS: \$405,042 2,500-Year GBS: \$6,470,904	Occasional	28	Medium
Flood	1% Annual Chance: \$25,076,647	Frequent	18	Medium
Geologic	GBS Exposed to Carbonate Rock Areas: \$743,457,272	Occasional	36	Medium**
Hurricane	100-year MRP: \$227,207 500-year MRP: \$1,955,312 Annualized: \$13,840	Frequent	48	High
Nor'Easter	Damage estimate not available	Frequent	48	High
Severe Weather	100-Year MRP: \$227,207 500-year MRP: \$1,955,312 Annualized: \$13,840	Frequent	48	High
Severe Winter Weather	1% GBS: \$6,178,929 5% GBS: \$30,894,647	Frequent	51	High
Wildfire	Estimated Value in the Extreme, Very High, and High Hazard Areas: \$85,197,298	Frequent	24	Medium
Hazardous Materials	Damage estimate not available	Frequent	36	High

**Notes:**

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

### National Flood Insurance Program (NFIP) Summary

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





**Table 9.9-4. NFIP Summary**

Municipality	# Policies (1)	# Claims (Losses) (1)	Total Loss Payments (2)	# Rep. Loss Prop. (1)	# Severe Rep. Loss Prop. (1)	# Policies in 1% Flood Boundary (3)
Township of Green	12	1	\$11,652	0	0	2

Source: FEMA, 2014

Note (1) Policies, claims, repetitive loss and severe repetitive loss statistics provided by FEMA and are current as of November 31, 2014 and are summarized by Community Name. Please note the total number of repetitive loss properties excludes the severe repetitive loss properties. The number of claims represents claims closed by 11/31/2014.

Note (2) Total building and content losses from the claims file provided by FEMA Region 2.

Note (3) The policies inside and outside of the flood zones is based on the latitude and longitude provided by FEMA Region 2 in the policy file.

Note (4) FEMA noted that where there is more than one entry for a property, there may be more than one policy in force or more than one GIS possibility.

**Critical Facilities**

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

**Other Vulnerabilities Identified by Municipality**

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

**9.9.5 CAPABILITY ASSESSMENT**

This section identifies the following capabilities of the local jurisdiction:

- Planning and regulatory capability
- Administrative and technical capability
- Fiscal capability
- Education/Outreach and Community classification
- Self-Assessment of Capability
- National Flood Insurance Program
- 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 Green.

**Table 9.9-5. 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.)
<b>Planning Capability</b>				
Master Plan	Yes	Local	Planning Bd.	Master Plan Reexamination Report, Green Township, September 2008
Capital Improvements Plan	No			
Floodplain Management/Basin Plan	No			





Table 9.9-5. 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.)
Stormwater Management Plan	Yes	Local	Planning Bd.	
Open Space Plan	Yes	Local	Open Space	Open Space and Recreation Plan Update, 2009
Stream Corridor Management Plan	No			
Watershed Management or Protection Plan	No			
Economic Development Plan	No			
Comprehensive Emergency Management Plan	No			
Emergency Response Plan	Yes	Local	OEM	EOP
Post-Disaster Recovery Plan				
Transportation Plan	No			
Strategic Recovery Planning Report	No			
Other Plans:	Yes	Local	Planning Board	Green Township Land Use Plan, December 2005 Housing Element and Fair Share Plan, December 2005
<b>Regulatory Capability</b>				
Building Code	Yes	State & Local	Zoning Official	State Uniform Construction Code Act (N.J.S. 52:27D-119 et seq.)
Zoning Ordinance	Yes	Local	Zoning Official	Chapter 30, Article XII
Subdivision Ordinance	Yes	Local	Zoning Official	Chapter 30, Article IX
NFIP Flood Damage Prevention Ordinance	Yes	Federal, State, Local	Zoning Official	Chapter 25
NFIP: Cumulative Substantial Damages	No			
NFIP: Freeboard	Yes	State & Local		N.J.A.C 7:13 – Flood Hazard Area Control Act
Growth Management Ordinances	No			
Site Plan Review Requirements	Yes	Local	Planning Bd.	Chapter 30, Article IX
Stormwater Management Ordinance	Yes	Local & County	Township Committee	N.J.A.C. 5:21 – Section 30-17.1A
Municipal Separate Storm Sewer System (MS4)	No			
Natural Hazard Ordinance	No			
Post-Disaster Recovery Ordinance	No			
Real Estate Disclosure Requirement	No	State	Division of Consumer Affairs	N.J.A.C. 13:45A-29.1



**Table 9.9-5. 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.)
Other [Special Purpose Ordinances (i.e., sensitive areas, steep slope)]	Yes	Local & County	Township Committee/Engineer	Soil and Soil Removal Chapter 26 – purpose to control soil erosion and sediment damages and related environmental damage by requiring adequate provisions for surface water retention and drainage and for the protection of exposed soil surfaces in order to promote the safety, public health, convenience and general welfare of the community.

**Administrative and Technical Capability**

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

**Table 9.9-6. Administrative and Technical Capabilities**

Resources	Is this in place? (Yes or No)	Department/Agency/Position
<b>Administrative Capability</b>		
Planning Board	Yes	Green Township Planning Board
Mitigation Planning Committee	Yes	
Environmental Board/Commission	Yes	Green Township Environmental Advisory Committee
Open Space Board/Committee	Yes	Open Space Advisory Committee
Economic Development Commission/Committee	No	
Maintenance Programs to Reduce Risk	No	
Mutual Aid Agreements	Yes	Fire, First Aid
<b>Technical/Staffing Capability</b>		
Planner(s) or Engineer(s) with knowledge of land development and land management practices	Yes	Township Engineer/Township Planner
Engineer(s) or Professional(s) trained in construction practices related to buildings and/or infrastructure	Yes	Township Engineer
Planners or engineers with an understanding of natural hazards	Yes	Township Engineer/Township Planner
NFIP Floodplain Administrator	Yes	David Deal, Zoning Officer
Surveyor(s)	Yes	Township Engineer
Personnel skilled or trained in GIS and/or Hazus-MH applications	Yes	Township Engineer
Scientist familiar with natural hazards	No	
Emergency Manager	Yes	OEM
Grant Writer(s)	Yes	Township Engineer or Planner
Staff with expertise or training in benefit/cost analysis	Yes	Township Engineer
Professionals trained in conducting damage assessments	No	



**Fiscal Capability**

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

**Table 9.9-7. Fiscal Capabilities**

Financial Resources	Accessible or Eligible to Use (Yes/No/Don't Know)
Community Development Block Grants (CDBG, CDBG-DR)	N/A
Capital Improvements Project Funding	Yes
Authority to levy taxes for specific purposes	Yes
User fees for water, sewer, gas, or electric service	No
Impact Fees for homebuyers or developers of new development/homes	Yes
Stormwater Utility Fee	No
Incur debt through general obligation bonds	Yes
Incur debt through special tax bonds	Yes
Incur debt through private activity bonds	Yes
Withhold public expenditures in hazard-prone areas	Yes
Other Federal or State Funding Programs	Yes
Open Space Acquisition Funding Programs	Yes
Other	No

**Education/Outreach and Community Classifications**

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

**Table 9.9-8. Education/Outreach and Community Classifications**

Program	Do you have/participate in this? (Yes/No)	Classification (if applicable)	Date Classified (if applicable)
Community Rating System (CRS)	NP	N/A	N/A
Building Code Effectiveness Grading Schedule (BCEGS)	No		
Public Protection (ISO Fire Protection Classes 1 to 10)	Yes	05/5Y	July 2014
Storm Ready	NP	N/A	N/A
Firewise	NP	N/A	N/A
Disaster/Safety Programs in/for Schools	No		
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

The classifications listed above relate to the community’s ability to provide effective services to lessen its vulnerability to the hazards identified. These classifications can be viewed as a gauge of the community’s capabilities in all phases of emergency management (preparedness, response, recovery, and mitigation) and are used as an underwriting parameter for determining the costs of various forms of insurance. The Community Rating System (CRS) class applies to flood insurance while the Building Code Effectiveness Grading Schedule





(BCEGS) and Public Protection classifications apply to standard property insurance. CRS classifications range on a scale of 1 to 10 with class 1 being the best possible classification, and class 10 representing no classification benefit. Firewise classifications include a higher classification when the subject property is located beyond 1,000 feet of a creditable fire hydrant and is within five road miles of a recognized fire station.

Criteria for classification credits are outlined in the following documents:

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

### Self-Assessment of Capability

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

Table 9.9-9. Self-Assessment of Capability

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)

David Deal, Zoning Officer  
Phone: (908) 852-9333  
Email: zoning@greentwp.com

#### Flood Vulnerability Summary

The Township does not maintain lists/inventories of properties that have been damaged by floods. During Irene, Lee and Sandy, no inventories were kept regarding structures damaged. Damages from Irene and Lee was due to flooding particularly in the Lake Tranquility area of the Township where drainage is not good (many basements needed pumping) and where the Pequest River cross Pequest Road. Sandy caused wind damage to structures. The Township FPA does make substantial damage estimates; however, he did not make them during the most recent FEMA disaster declarations. It is unknown if any homes are interested in mitigation currently. There was one home that was approached by Open Space but was declined acquisition.





## Resources

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The Township FPA is the sole person assuming the responsibilities of floodplain administration. If needed, the Township will contact professionals. If and when the FPA is needed, he conducts permit reviews for the Township. The Township provides a general handout regarding flood hazards and risks. The FPA indicated that there are currently no barriers to running an effective floodplain management program. The FPA feels adequately supported and trained and has is a Certified Floodplain Manager (CFM). He would consider attending continuing education and certification training on floodplain management.

## Compliance History

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The Township is currently in good standing with the NFIP. It is unknown when the last compliance audit was conducted.

## Regulatory

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The Township's floodplain management regulations/ordinances are in harmony with the FEMA and State minimum requirements. During site plan review and application review, the Planning and Zoning Boards consider efforts to reduce flood risk when reviewing. The Township has not considered joining CRS.

## Community Rating System

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The Township of Green does not participate in the Community Rating System (CRS) program.

## Integration of Hazard Mitigation into Existing and Future Planning Mechanisms

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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

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**Land Use Planning:** The Township has a Planning Board and Zoning Board of Adjustments which reviews all applications for development and consider natural hazard risk areas in their review.

**Highlands:** Green Township is located in the New Jersey Highlands Region and is part of both the Highlands Planning and Preservation Areas. As such, the Township is one of 88 municipalities protected by and subject to the provisions of the Highlands Water Protection and Planning Act that protects, enhances and restores Highland's natural resources. The Highlands Act requires that future land use in the Highlands Region be guided by the Regional Master Plan's Land Use Capability Map (LUCM) Series which includes tools to identify and protect the natural, scenic and other resources of the region. In supporting and complying with the Highlands Act, the Township enacted amendments and updates to local zoning and development ordinances that ensure the protection of important resources and areas. The Highland Act creates three primary zones: a Protection Zone, a Conservation Zone and an Existing community Zone. Protection Zones are areas with the highest quality resources with extreme limitations on allowable development while Conservation Zones have significant agricultural lands and associated woodlands and environmental features with allowable development consisting primarily of agricultural uses. Existing Community Zones consist of areas of concentrated development with limited environmental constraints. These zones are overlaid with existing local zoning maps to identify and address issues of public interest including watershed management, open space preservation, historic preservation, flood protection among others.



The Township has identified a new mitigation initiative to review the current hazard mitigation plan and other hazard analyses prior to land use, zoning changes and development permitting. Refer to Table 9.9-11 for further information.

### Regulatory and Enforcement (Ordinances)

The Township has multiple chapters pertaining to the mitigation of hazards. These ordinances include the Flood Control Chapter, Stormwater Management Chapter, and an Environmental Impact Statement requirement included in the Site Plan Review Chapter. The Township also has a chapter specific to the hazards associated with environmentally sensitive areas.

The Township has a soil and removal ordinance (Chapter 26). The purpose is to control soil erosion and sediment damages and related environmental damage by requiring adequate provisions for surface water retention and drainage and for the protection of exposed soil surfaces in order to promote the safety, public health, convenience and general welfare of the community.

### Operational and Administration

The Township has established a Planning Board, Zoning Board of Adjustments, Environmental Committee, and Open space Committee that are responsible for the review of development applications. The Township has a zoning officer as well as a planning and zoning board secretary.

### Funding

**Operating Budget:** The Township's operating budget contains minimal provisions for expected repairs like snow removal and infrastructure repair after a storm or natural disaster.

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

### Education and Outreach

The Township's website's home page posts information regarding upcoming community events and important municipal decisions.

## 9.9.6 MITIGATION STRATEGY AND PRIORITIZATION

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

### Past Mitigation Initiative Status

The following table indicates progress on the community's mitigation strategy identified in the 2011 HMP. 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 9.9-10. Past Mitigation Initiative Status

<b>Initiative Number</b>	<b>2011 Mitigation Action</b>	<b>Responsible Party</b>	<b>Status</b> (In progress, No progress, Complete)	<b>Describe Status</b> 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)?	<b>Next Step</b> (Include in 2016 HMP? or Discontinue)	<b>Describe Next Step</b> 1. If including action in the 2016 HMP, revise/reword to be more specific (as appropriate). 2. If discontinue, explain why.
Green Township 1	Retrofit roof to meet current high wind standards on Green Hills School located on Mackerley Road.	School Board Administrator	No Progress	1. 0% complete 2. No funding 3.	Include in 2016 HMP	1. Revise action to include in the 2016 HMP: work with school to retrofit roof to meet current high wind standards on Green Hills School located on Mackerley Road as funding permits.
Green Township 2	Implement Fire Wise Program throughout the Township.	OEM Coordinator	In Progress	1. 0% complete 2. Initial meeting scheduled late April 2015	Include in 2016 HMP	1. Initial information meeting 2.
Green Township 3	Stream bank stabilization and augmentation of the Pequest River.	Township Engineer	No Progress	1. 0% complete 2. no funding/mainly private property 3.	Include in 2016 HMP	Revise action to say and include in the 2016 HMP: work with private land owners to stabilize stream bank(s) and augment Pequest River
Green Township 4	Retrofit impact resistant windows and shutters on municipal building located on Kennedy Road.	DPW Administrator	No Progress	1. 0% complete 2. no funding 3. 4.	Include in 2016 HMP	Revise action to say and include in the 2016 HMP: retrofit impact resistant windows and shutters on municipal building located on Kennedy Road as funding permits
Green Township 5	Retrofit an external -frame to mitigate straight line winds to post office building located on Municipal Road	Township Administrator	No Progress	1. 0% complete 2. no funding 3.	Include in 2016 HMP	Revise action to say and include in the 2016 HMP: retrofit an external frame to mitigate straight line winds to PO building located on Municipal Rd as funding permits.
Green Township 6	Retrofit roof to meet current high wind standards for two buildings located on the Trinca Airport located on Airport Road.	Township Administrator	In Progress	1. 75% complete 2. one building removed and 1/2 of other building removed funded through local budget and insurance 3.	Include in 2016 HMP	Revise action to say and include in the 2016 HMP: retrofit roof on remaining building to meet current high wind standards located at Trinca Airport on Airport Road
Green Township 7	Storm-water runoff management system implemented for 350 homes in the Lake Tranquility development.	DPW Administrator	No Progress	1. 0% complete 2. no funding/largely private property 3.	Include in 2016 HMP	Revise action to say and include in the 2016 HMP: implement a storm water runoff management system for 350 homes in Lake



<u>Initiative Number</u>	<u>2011 Mitigation Action</u>	<u>Responsible Party</u>	<u>Status</u> (In progress, No progress, Complete)	<u>Describe Status</u> 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)?	<u>Next Step</u> (Include in 2016 HMP? or Discontinue)	<u>Describe Next Step</u> 1. If including action in the 2016 HMP, revise/reword to be more specific (as appropriate). 2. If discontinue, explain why.
						Tranquility area as funding and private cooperation permit
Green Township 8	Conduct all-hazards public education and outreach program for hazard mitigation and preparedness.	OEM Coordinator, in coordination with SCDEM	No Progress	1. unknown 2. 3.	Include in 2016 HMP	1. SCDEM 2.



### **Completed Mitigation Initiatives not Identified in the Previous Mitigation Strategy**

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

### **Proposed Hazard Mitigation Initiatives for the Plan Update**

The Township participated in a mitigation action workshop in April 2015 and was provided the following FEMA publications to use as a resource as part of their comprehensive review of all possible activities and mitigation measures to address their hazards: FEMA 551 'Selecting Appropriate Mitigation Measures for Floodprone Structures' (March 2007) and FEMA 'Mitigation Ideas – A Resource for Reducing Risk to Natural Hazards' (January 2013). In May 2015, the Township participated in a second workshop led by FEMA Region 2 and NJOEM and was provided the results to the risk assessment to further assist with the identification of mitigation actions.

Table 9.9-11 summarizes the comprehensive-range of specific mitigation initiatives the Township would like to pursue in the future to reduce the effects of hazards. Some of these initiatives may be previous actions carried forward for this plan update. These initiatives are dependent upon available funding (grants and local match availability) and may be modified or omitted at any time based on the occurrence of new hazard events and changes in municipal priorities. Both the four FEMA mitigation action categories and the six CRS mitigation action categories are listed in the table below to further demonstrate the wide-range of activities and mitigation measures selected.

As discussed in Section 6, 14 evaluation/prioritization criteria are used to complete the prioritization of mitigation initiatives. For each new mitigation action, a numeric rank is assigned (-1, 0, or 1) for each of the 14 evaluation criteria to assist with prioritizing your actions as 'High', 'Medium', or 'Low.' Table 9.9-12 provides a summary of the prioritization of all proposed mitigation initiatives for the HMP update.



Table 9.9-11. 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
Green Twp-1	Ensure continuity of operations at critical facilities and municipal buildings. Identified at this time: Add or replace permanent generators at critical facilities (municipal building, Road Dept., Fire Station, Squad Building)	Existing	All	1, 2, 6	OEM Coordinator Fire Department	High	High	HMGP with local budget for cost share	Short Term / DOF	High	SIP	PP
Green Twp-2	Purchase and install repeaters on two existing towers in the Township. This will increase the level of emergency communities both inter and intra-agency.	New and Existing	All	1, 2, 5, 6	OEM Coordinator Fire Department	High	High	HMGP grants with local budget for cost share	Short Term / DOF	High	SIP	PP
Green Twp-3	Ensure continuity of operations: Purchase portable generators (12) to ensure those in need have the life support needed during and after an event.	Existing	All	1, 2	First Aid Captain, Fire Chief, Administrator (Engineer)	High	Medium	HMGP with local budget for cost share	Ongoing / DOF	Medium	SIP	PP
Green Twp-4	Add stand pipes at draft sites – 2 or more throughout Township	New and Existing	All	All	Administrator OEM Coordinator	Medium	Medium	Grant funding with local budget for cost share	Short Term / DOF	Medium	SIP	PP
Green Twp-5	Purchase/replace portable water pumps (12) to ensure those who experience flooding in conjunction with loss of power are adequately protected from loss of structure and/or mold issues.	Existing	Flood	2, 5	Fire Chief, Administrator	High	Medium	HMGP with local budget for cost share	Ongoing / DOF	Medium	SIP	PP
Green Twp-6 (old #3)	Work with private land owners to stabilize stream bank(s) and augment Pequest River	Existing	Flood	1, 2	Township Engineer	Medium to High	High	Grant funding with local cost share	Short Term / DOF	Medium	SIP	PP
Green Twp-7 (old #4)	Retrofit impact resistant windows and shutters on municipal building located on Kennedy Road as funding permits	Existing	Severe Weather, Severe Winter Weather, Hurricanes / Tropical Storms	1, 2	DPW	Medium	Medium	Grant funding with local cost share	Short Term / DOF	High	SIP	PP
Green Twp-8 (old #5)	Retrofit an external frame to mitigate straight line winds to PO building located on Municipal Rd as funding permits	Existing	Severe Weather, Severe Winter Weather, Hurricanes /	1, 2	Township Administrator	Medium	High	Grant funding with local cost share	Short Term / DOF	High	SIP	PP



Table 9.9-11. 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
			Tropical Storms									
Green Twp-9 (old #6)	Retrofit roof on remaining building to meet current high wind standards located at Trinca Airport on Airport Road	Existing	Severe Weather, Severe Winter Weather, Hurricanes / Tropical Storms	1, 2	Township Administrator	Medium	High	Grant funding with local cost share	Short Term / DOF	High	SIP	PP
Green Twp-10 (old #7)	Implement a storm water runoff management system for 350 homes in Lake Tranquility area as funding and private cooperation permit	Existing	Flood	1, 2	DPW	Medium	High	Grant funding with local cost share	Short Term / DOF	High	SIP	PP
Green Twp-11 (old #8)	Conduct all-hazards public education and outreach program for hazard mitigation and preparedness.	New and Existing	All	All	OEM Coordinator, in coordination with SCDEM	High	Low	Municipal Budget	Short Term / DOF	High	LPR, EAP	PR, PI
Green Twp-12 (new)	Review the current hazard mitigation plan and other hazard analysis prior to land use, zoning changes and development permitting.	N/A	All	All	Township Engineer and Planner	High	Low	Municipal Budget	Short Term / DOF	High	LPR	PR
Green Twp-13 (new)	Provide protection to buildings/infrastructure in high hazard areas in the Township	New and Existing	All	All	Township Engineer and Planner	High	Medium to High	Grant Funding with local cost share	Short Term / DOF	Medium	SIP	PP
Green Twp - 14 (old #1)	Work with school to retrofit roof to meet current high wind standards on Green Hills School located on Mackerley Road as funding permits.	Existing	Severe Weather, Severe Winter Weather, Hurricanes / Tropical Storms	1, 2	Township Administrator, School Board	Medium	High	Grant funding with local cost share	Short Term / DOF	High	SIP	PP
Green Twp - 15 (old #2)	Implement Fire Wise	New and Existing	Wildfire	All	OEM Coordinator	Medium	Medium/Low	Municipal budget	Short Term/ DOF	Medium	EAP, LPR	PR, PI

Notes:

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

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

Acronyms and Abbreviations:

Potential FEMA HMA Funding Sources:

Timeline:





CRS	Community Rating System	FMA	Flood Mitigation Assistance Grant Program	Short	1 to 5 years
DPW	Department of Public Works	HMGP	Hazard Mitigation Grant Program	Long Term	5 years or greater
FEMA	Federal Emergency Management Agency	PDM	Pre-Disaster Mitigation Grant Program	OG	On-going program
FPA	Floodplain Administrator	RFC	Repetitive Flood Claims Grant Program (discontinued)	DOF	Depending on funding
HMA	Hazard Mitigation Assistance	SRL	Severe Repetitive Loss Grant Program (discontinued)		
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				

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 9.9-12. 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
Green Twp-1	Add or replace permanent generators at critical facilities (municipal building, Road Dept., Fire Station, Squad Building)	1	1	1	1	1	1	1	0	1	1	1	1	1	1	13	High
Green Twp-2	Purchase and install repeaters on two existing towers in the Township. This will increase the level of emergency communities both inter and intra-agency.	1	1	1	1	1	1	1	0	1	1	1	1	1	1	13	High
Green Twp-3	Purchase portable generators (12) to ensure those in need have the life support needed during and after an event.	1	1	1	1	1	1	0	0	1	1	1	1	1	0	11	Medium
Green Twp-4	Add stand pipes at draft sites – 2 or more throughout Township	1	1	1	1	0	0	0	0	1	1	1	0	0	0	7	Medium
Green Twp-5	Purchase/replace portable water pumps (12) to ensure those who experience flooding in conjunction with loss of power are adequately protected from loss of structure and/or mold issues.	1	1	1	1	1	1	0	0	1	1	0	1	1	0	10	Medium
Green Twp-6	Work with private land owners to stabilize stream bank(s) and augment Pequest River	1	1	1	1	0	0	1	1	1	1	0	0	0	0	8	Medium
Green Twp-7	Retrofit impact resistant windows and shutters on municipal building located on Kennedy Road as funding permits	1	1	1	1	1	1	0	0	0	1	1	1	0	0	9	High
Green Twp-8	retrofit an external frame to mitigate straight line winds to PO building located on	1	1	1	1	1	1	0	0	0	1	1	1	0	0	9	High



Table 9.9-12. 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
	Municipal Rd as funding permits																
Green Twp-9	retrofit roof on remaining building to meet current high wind standards located at Trinca Airport on Airport Road	1	1	1	1	1	1	0	0	0	1	1	1	0	0	9	High
Green Twp-10	implement a storm water runoff management system for 350 homes in Lake Tranquility area as funding and private cooperation permit	1	1	1	1	1	0	0	1	0	1	1	1	0	0	9	High
Green Twp-11	Conduct all-hazards public education and outreach program for hazard mitigation and preparedness.	1	1	1	1	1	1	1	0	1	1	1	1	0	0	11	High
Green Twp-12	Review the current hazard mitigation plan and other hazard analysis prior to land use, zoning changes and development permitting.	1	1	1	1	1	1	1	0	1	1	1	1	0	0	11	High
Green Twp-13	Provide protection to buildings/infrastructure in high hazard areas in the Township	1	1	1	1	1	1	0	0	0	1	1	1	0	0	9	Medium
Green Twp -14	Work with school to retrofit roof to meet current high wind standards on Green Hills School located on Mackerley Road as funding permits.	1	1	1	1	1	1	0	0	0	1	1	1	0	0	9	High
Green Twp -15	Implement Firewise	1	1	1	1	1	1	0	0	0	1	0	1	1	0	9	Medium

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





### **9.9.7 FUTURE NEEDS TO BETTER UNDERSTAND RISK/VULNERABILITY**

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None at this time.

### **9.9.8 HAZARD AREA EXTENT AND LOCATION**

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

### **9.9.9 ADDITIONAL COMMENTS**

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None at this time.



Figure 9.9-1. Township of Green Hazard Area Extent and Location Map 1

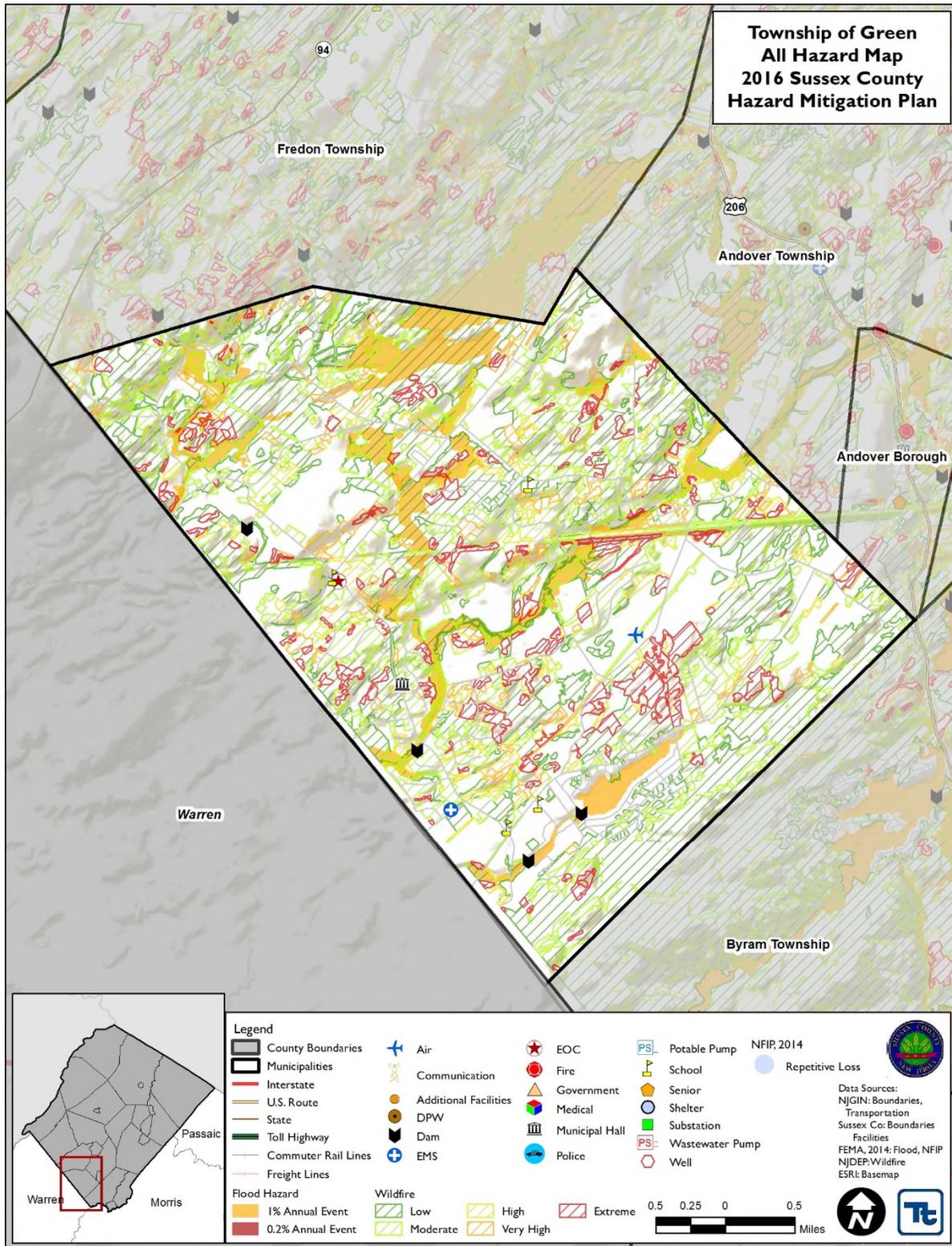
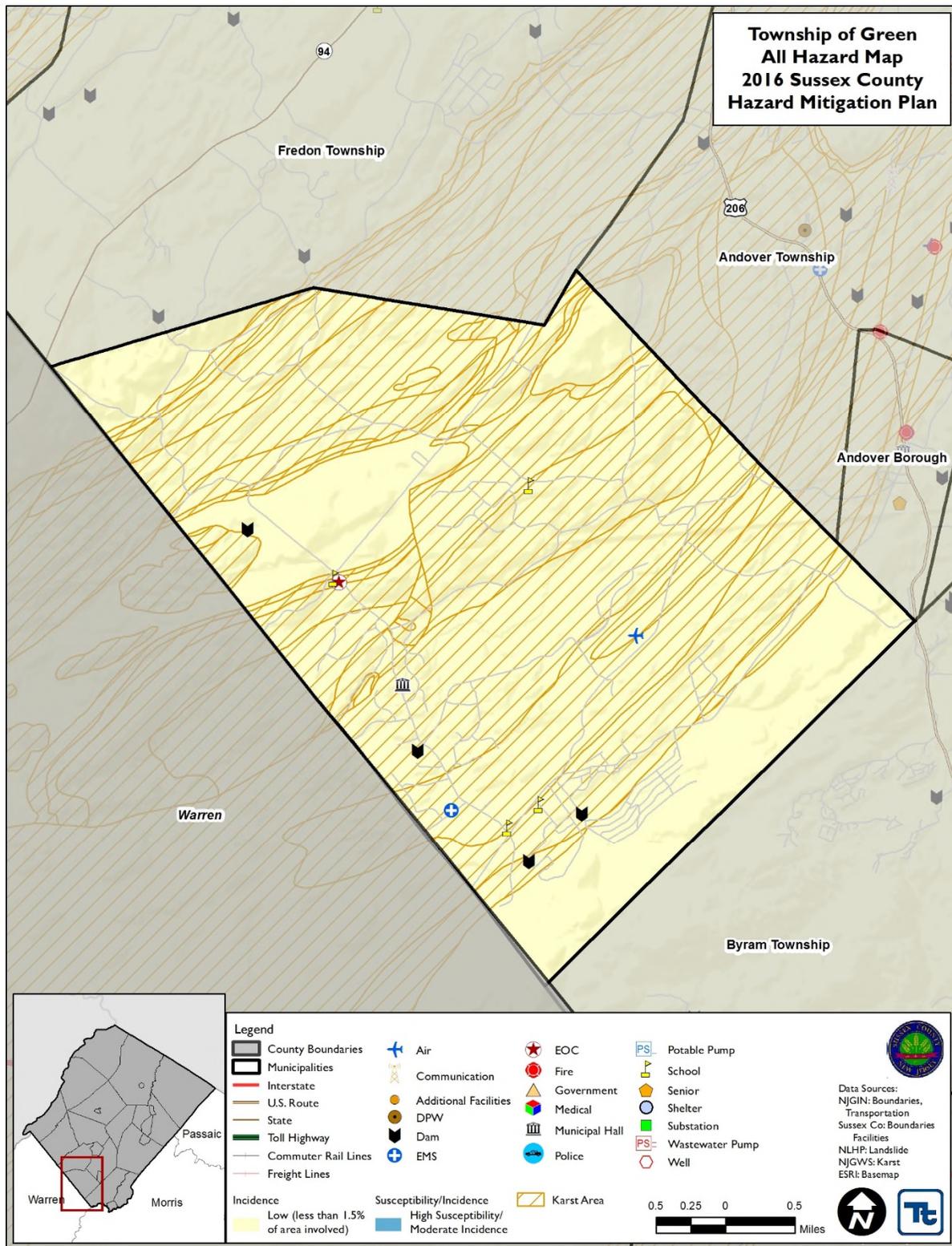




Figure 9.9-2. Township of Green Hazard Area Extent and Location Map 2





**Action Number:** Green Twp-1  
**Mitigation Action/Initiative:** Add or replace permanent generators at critical facilities (municipal building, Road Dept., Fire Station, Squad Building)

Assessing the Risk	
<b>Hazard(s) addressed:</b>	Power loss from high winds/storm events
<b>Specific problem being mitigated:</b>	<p>DPW building does not have back-up power and needs to be operational during natural hazard event.</p> <p>Fire house has very old, malfunctioning back-up power and needs to be replaced so as to be operational during natural hazard event; building also serves as warming station/shelter.</p> <p>First Aide Squad building has very old, malfunctioning back-up power and needs to be replaced so as to be operational during natural hazard event; serves on 24/7 basis emergency personnel.</p> <p>Municipal building does not have back-up power and needs to be operational during natural hazard event; building also serves as warming station.</p>
Evaluation of Potential Actions/Projects	
<b>Actions/Projects Considered (name of project and reason for not selecting):</b>	<ol style="list-style-type: none"> <li>1. Purchase a backup generator</li> <li>2. Do nothing</li> <li>3. No other feasible options were identified</li> </ol>
Action/Project Intended for Implementation	
<b>Description of Selected Action/Project</b>	Purchase generators for critical facilities in Township to ensure continuity of operations during and post-hazard events.
<b>Action/Project Category</b>	SIP
<b>Goals Met</b>	1, 2, 6
<b>Applies to existing and or new development, or not applicable</b>	Existing building
<b>Benefits (losses avoided)</b>	High
<b>Estimated Cost</b>	High
<b>Priority*</b>	High
Plan for Implementation	
<b>Responsible Organization</b>	Administrator (Engineer), OEM Coordinator, Fire Chief, First Aid Squad Captain
<b>Local Planning Mechanism</b>	Capital Plan and Mitigation Plan
<b>Potential Funding Sources</b>	FEMA Mitigation Assistance
<b>Timeline for Completion</b>	Short (1 to 2 years) dependent upon funding
Reporting on Progress	
<b>Date of Status Report/ Report of Progress</b>	Date: Progress on Action/Project:



**Action Number:** Green Twp-1  
**Mitigation Action/Initiative:** Add or replace permanent generators at critical facilities (municipal building, Road Dept., Fire Station, Squad Building)

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	These buildings and their operations are critical during and after disasters – power is necessary to maintenance equipment and pump gas
Property Protection	1	
Cost-Effectiveness	1	
Technical	1	
Political	1	
Legal	1	
Fiscal	1	Grant funding is being actively pursued for this project – match is already in budget.
Environmental	0	
Social	1	All facilities serve vulnerable populations and areas in the Township
Administrative	1	
Multi-Hazard	1	
Timeline	1	Project expected to be complete within 1 to 2 years
Agency Champion	1	
Other Community Objectives	1	Purchase of generator is also in the Capital Plan
<b>Total</b>	13	
<b>Priority (High/Med/Low)</b>	High	



**Action Number:** Green Twp-2

**Mitigation Action/Initiative:** Increased levels of emergency communication – inter/intra agency

Assessing the Risk	
<b>Hazard(s) addressed:</b>	Loss due to any and all hazard(s)
<b>Specific problem being mitigated:</b>	Inter and intra agency communications are currently hampered by the terrain and lack of adequate towers in the area
Evaluation of Potential Actions/Projects	
<b>Actions/Projects Considered (name of project and reason for not selecting):</b>	1. Purchase and install repeaters to existing towers in the area.
	2. Do nothing – current problem continues
	3. No other feasible options were identified
Action/Project Intended for Implementation	
<b>Description of Selected Action/Project</b>	Purchase and install repeaters on two existing towers in the area to increase levels of emergency communication.
<b>Action/Project Category</b>	SIP
<b>Goals/Objectives Met</b>	1, 2, 5, 6
<b>Applies to existing and/or new development; or not applicable</b>	Existing
<b>Benefits (losses avoided)</b>	High
<b>Estimated Cost</b>	High
<b>Priority*</b>	High
Plan for Implementation	
<b>Responsible/Lead Agency/Department</b>	Fire Chief – Squad Captain - Administrator – Engineer, SCDEM
<b>Local Planning Mechanism</b>	Mitigation Plan Capital Plan
<b>Potential Funding Sources</b>	FEMA Mitigation Assistance, local budget(s)
<b>Timeline for Completion</b>	Short, some funding in current budget
Reporting on Progress	
<b>Date of Status Report/ Report of Progress</b>	Date: Progress on Action/Project:



**Action Number:** Green Twp-2

**Mitigation Action/Initiative:** Increased levels of emergency communication – inter/intra agency

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Reliable communications both inter and intra agency are critical for the safety of the population
Property Protection	1	Reliable communications both inter and intra agency are critical for the protection of public and private property.
Cost-Effectiveness	1	
Technical	1	
Political	1	
Legal	1	
Fiscal	1	Local funding and some grant funding
Environmental	0	
Social	1	Communications serve the entire population
Administrative	1	
Multi-Hazard	1	
Timeline	1	1 – 2 years
Local Champion	1	
Other Community Objectives	1	Capital Plan
Total	13	
<b>Priority (High/Med/Low)</b>	High	



**Action Number:** Green Twp-3

**Mitigation Action/Initiative:** Portable generators for those in need

Assessing the Risk	
<b>Hazard(s) addressed:</b>	All hazards
<b>Specific problem being mitigated:</b>	Loss of power in municipality poses a threat to those residents that rely on equipment, such as oxygen.
Evaluation of Potential Actions/Projects	
<b>Actions/Projects Considered (name of project and reason for not selecting):</b>	1. Purchase portable generators (12) to ensure those in need have the life support needed during and after an event.
	2. Do nothing – current problem continues
	3. No other feasible options were identified
Action/Project Intended for Implementation	
<b>Description of Selected Action/Project</b>	Purchase portable generators (12) to ensure those in need have the life support needed during and after an event.
<b>Action/Project Category</b>	SIP
<b>Goals/Objectives Met</b>	1, 2
<b>Applies to existing and/or new development; or not applicable</b>	Existing
<b>Benefits (losses avoided)</b>	High
<b>Estimated Cost</b>	Medium
<b>Priority*</b>	Medium
Plan for Implementation	
<b>Responsible/Lead Agency/Department</b>	First Aid Captain, Fire Chief, Administrator (Engineer)
<b>Local Planning Mechanism</b>	Hazard Mitigation, Emergency Management
<b>Potential Funding Sources</b>	HMGP with local budget for cost share
<b>Timeline for Completion</b>	Ongoing / DOF
Reporting on Progress	
<b>Date of Status Report/ Report of Progress</b>	Date: Progress on Action/Project:



**Action Number:** Green Twp-3

**Mitigation Action/Initiative:** Portable generators for those in need

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Provide a means of power for those that rely on healthcare equipment that requires electricity
Property Protection	1	
Cost-Effectiveness	1	
Technical	1	
Political	1	
Legal	1	
Fiscal	1	
Environmental	0	
Social	1	
Administrative	1	
Multi-Hazard	1	All hazards
Timeline	1	
Local Champion	1	
Other Community Objectives	0	
Total	12	
<b>Priority (High/Med/Low)</b>	Medium	



**Action Number:** Green Twp-4

**Mitigation Action/Initiative:** Stand pipes at draft sites

Assessing the Risk	
<b>Hazard(s) addressed:</b>	All hazards
<b>Specific problem being mitigated:</b>	Lack of stand pipes at draft stations for emergency equipment
Evaluation of Potential Actions/Projects	
<b>Actions/Projects Considered (name of project and reason for not selecting):</b>	1. Add stand pipes at draft sites – 2 or more throughout Township
	2. Do nothing – current problem continues
	3. No other feasible options were identified
Action/Project Intended for Implementation	
<b>Description of Selected Action/Project</b>	Add stand pipes at draft sites – 2 or more throughout Township
<b>Action/Project Category</b>	SIP
<b>Goals/Objectives Met</b>	All
<b>Applies to existing and/or new development; or not applicable</b>	New and Existing
<b>Benefits (losses avoided)</b>	Medium
<b>Estimated Cost</b>	Medium
<b>Priority*</b>	Medium
Plan for Implementation	
<b>Responsible/Lead Agency/Department</b>	Administrator, OEM Coordinator
<b>Local Planning Mechanism</b>	Emergency Management, Hazard Mitigation
<b>Potential Funding Sources</b>	Grant funding with local budget for cost share
<b>Timeline for Completion</b>	Short Term / DOF
Reporting on Progress	
<b>Date of Status Report/ Report of Progress</b>	Date: Progress on Action/Project:



**Action Number:** Green Twp-4

**Mitigation Action/Initiative:** Stand pipes at draft sites

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	0	
Legal	0	
Fiscal	0	Need to obtain grant funding
Environmental	0	
Social	1	
Administrative	1	
Multi-Hazard	1	All hazards
Timeline	0	
Local Champion	0	
Other Community Objectives	0	
Total	7	
<b>Priority (High/Med/Low)</b>	Medium	



**Action Number:** Green Twp-5

**Mitigation Action/Initiative:** Purchase/replace portable water pumps

Assessing the Risk	
<b>Hazard(s) addressed:</b>	Flood
<b>Specific problem being mitigated:</b>	Basements of homes in the Township flood during periods of heavy rain and the residents do not have pumps to remove the water.
Evaluation of Potential Actions/Projects	
<b>Actions/Projects Considered (name of project and reason for not selecting):</b>	1. Purchase/replace portable water pumps (12)
	2. Do nothing – current problem continues
	3. No other feasible options were identified
Action/Project Intended for Implementation	
<b>Description of Selected Action/Project</b>	Purchase/replace portable water pumps (12) to ensure those who experience flooding in conjunction with loss of power are adequately protected from loss of structure and/or mold issues.
<b>Action/Project Category</b>	SIP
<b>Goals/Objectives Met</b>	2, 5
<b>Applies to existing and/or new development; or not applicable</b>	Existing
<b>Benefits (losses avoided)</b>	High
<b>Estimated Cost</b>	Medium
<b>Priority*</b>	Medium
Plan for Implementation	
<b>Responsible/Lead Agency/Department</b>	Fire Chief, Administrator
<b>Local Planning Mechanism</b>	Emergency Management, Hazard Mitigation
<b>Potential Funding Sources</b>	HMGP with local budget for cost share
<b>Timeline for Completion</b>	Ongoing / DOF
Reporting on Progress	
<b>Date of Status Report/ Report of Progress</b>	Date: Progress on Action/Project:



**Action Number:** Green Twp-5

**Mitigation Action/Initiative:** Purchase/replace portable water pumps

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	0	Need to obtain grant funding
Environmental	0	
Social	1	
Administrative	1	
Multi-Hazard	0	Flood
Timeline	1	
Local Champion	1	
Other Community Objectives	0	
Total	10	
<b>Priority (High/Med/Low)</b>	Medium	



**Action Number:** Green Twp-7

**Mitigation Action/Initiative:** Retrofit municipal building

Assessing the Risk	
<b>Hazard(s) addressed:</b>	Severe Weather, Severe Winter Weather, Hurricanes / Tropical Storms
<b>Specific problem being mitigated:</b>	The current windows and shutters of the municipal building are not impact resistant and the building is prone to damages during periods of high winds.
Evaluation of Potential Actions/Projects	
<b>Actions/Projects Considered (name of project and reason for not selecting):</b>	1. Retrofit impact resistant windows and shutters on municipal building located on Kennedy Road as funding permits
	2. Do nothing – current problem continues
	3. No other feasible options were identified
Action/Project Intended for Implementation	
<b>Description of Selected Action/Project</b>	Retrofit impact resistant windows and shutters on municipal building located on Kennedy Road as funding permits
<b>Action/Project Category</b>	SIP
<b>Goals/Objectives Met</b>	1, 2
<b>Applies to existing and/or new development; or not applicable</b>	Existing
<b>Benefits (losses avoided)</b>	Medium
<b>Estimated Cost</b>	Medium
<b>Priority*</b>	High
Plan for Implementation	
<b>Responsible/Lead Agency/Department</b>	DPW
<b>Local Planning Mechanism</b>	Hazard Mitigation
<b>Potential Funding Sources</b>	Grant funding with local cost share
<b>Timeline for Completion</b>	Short Term / DOF
Reporting on Progress	
<b>Date of Status Report/ Report of Progress</b>	Date: Progress on Action/Project:



**Action Number:** Green Twp-7

**Mitigation Action/Initiative:** Retrofit municipal building

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Protect those using the municipal building during high wind events
Property Protection	1	Protect the building from damages
Cost-Effectiveness	1	
Technical	1	
Political	1	
Legal	1	
Fiscal	0	Need to seek grant funding to cover costs
Environmental	0	
Social	0	
Administrative	1	
Multi-Hazard	1	
Timeline	1	
Local Champion	0	
Other Community Objectives	0	
Total	9	
<b>Priority (High/Med/Low)</b>	High	



**Action Number:** Green Twp-8

**Mitigation Action/Initiative:** Retrofit post office building

Assessing the Risk	
<b>Hazard(s) addressed:</b>	Severe Weather, Severe Winter Weather, Hurricanes / Tropical Storms
<b>Specific problem being mitigated:</b>	The current frame of the post office building is not mitigated from straight-line winds
Evaluation of Potential Actions/Projects	
<b>Actions/Projects Considered (name of project and reason for not selecting):</b>	1. Retrofit an external frame to mitigate straight line winds to PO building located on Municipal Rd as funding permits
	2. Do nothing – current problem continues
	3. No other feasible options were identified
Action/Project Intended for Implementation	
<b>Description of Selected Action/Project</b>	Retrofit an external frame to mitigate straight line winds to PO building located on Municipal Rd as funding permits
<b>Action/Project Category</b>	SIP
<b>Goals/Objectives Met</b>	1, 2
<b>Applies to existing and/or new development; or not applicable</b>	Existing
<b>Benefits (losses avoided)</b>	Medium
<b>Estimated Cost</b>	High
<b>Priority*</b>	High
Plan for Implementation	
<b>Responsible/Lead Agency/Department</b>	Township Administrator
<b>Local Planning Mechanism</b>	Hazard Mitigation
<b>Potential Funding Sources</b>	Grant funding with local cost share
<b>Timeline for Completion</b>	Short Term / DOF
Reporting on Progress	
<b>Date of Status Report/ Report of Progress</b>	Date: Progress on Action/Project:



**Action Number:** Green Twp-8

**Mitigation Action/Initiative:** Retrofit post office building

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Protect those using the municipal building during high wind events
Property Protection	1	Protect the building from damages
Cost-Effectiveness	1	
Technical	1	
Political	1	
Legal	1	
Fiscal	0	Need to seek grant funding to cover costs
Environmental	0	
Social	0	
Administrative	1	
Multi-Hazard	1	
Timeline	1	
Local Champion	0	
Other Community Objectives	0	
Total	9	
<b>Priority (High/Med/Low)</b>	High	



**Action Number:** Green Twp-9

**Mitigation Action/Initiative:** Retrofit roof of Trinca Airport

Assessing the Risk	
<b>Hazard(s) addressed:</b>	Severe Weather, Severe Winter Weather, Hurricanes / Tropical Storms
<b>Specific problem being mitigated:</b>	Roof of the building at Trinca Airport does not meet current high wind standards and vulnerable to damages from wind events
Evaluation of Potential Actions/Projects	
<b>Actions/Projects Considered (name of project and reason for not selecting):</b>	1. Retrofit roof on remaining building to meet current high wind standards located at Trinca Airport on Airport Road
	2. Do nothing – current problem continues
	3. No other feasible options were identified
Action/Project Intended for Implementation	
<b>Description of Selected Action/Project</b>	Retrofit roof on remaining building to meet current high wind standards located at Trinca Airport on Airport Road
<b>Action/Project Category</b>	SIP
<b>Goals/Objectives Met</b>	1, 2
<b>Applies to existing and/or new development; or not applicable</b>	Existing
<b>Benefits (losses avoided)</b>	Medium
<b>Estimated Cost</b>	High
<b>Priority*</b>	High
Plan for Implementation	
<b>Responsible/Lead Agency/Department</b>	Township Administrator
<b>Local Planning Mechanism</b>	Hazard Mitigation
<b>Potential Funding Sources</b>	Grant funding with local cost share
<b>Timeline for Completion</b>	Short Term / DOF
Reporting on Progress	
<b>Date of Status Report/ Report of Progress</b>	Date: Progress on Action/Project:



**Action Number:** Green Twp-9

**Mitigation Action/Initiative:** Retrofit roof of Trinca Airport

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Protect those using the municipal building during high wind events
Property Protection	1	Protect the building from damages
Cost-Effectiveness	1	
Technical	1	
Political	1	
Legal	1	
Fiscal	0	Need to seek grant funding to cover costs
Environmental	0	
Social	0	
Administrative	1	
Multi-Hazard	1	
Timeline	1	
Local Champion	0	
Other Community Objectives	0	
Total	9	
<b>Priority (High/Med/Low)</b>	High	



Action Number: Green Twp-10

Mitigation Action/Initiative: Stormwater runoff management system

Assessing the Risk	
Hazard(s) addressed:	Flood
Specific problem being mitigated:	Flooding of homes in the area of Lake Tranquility
Evaluation of Potential Actions/Projects	
Actions/Projects Considered (name of project and reason for not selecting):	1. Implement a storm water runoff management system for 350 homes in Lake Tranquility area as funding and private cooperation permit
	2. Do nothing – current problem continues
	3. No other feasible options were identified
Action/Project Intended for Implementation	
Description of Selected Action/Project	Implement a storm water runoff management system for 350 homes in Lake Tranquility area as funding and private cooperation permit
Action/Project Category	SIP
Goals/Objectives Met	1, 2
Applies to existing and/or new development; or not applicable	Existing
Benefits (losses avoided)	Medium
Estimated Cost	High
Priority*	High
Plan for Implementation	
Responsible/Lead Agency/Department	DPW
Local Planning Mechanism	Hazard Mitigation, Stormwater
Potential Funding Sources	Grant funding with local cost share
Timeline for Completion	Short Term / DOF
Reporting on Progress	
Date of Status Report/ Report of Progress	Date: Progress on Action/Project:



**Action Number:** Green Twp-10

**Mitigation Action/Initiative:** Stormwater runoff management system

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	
Property Protection	1	Protect homes from damage from flood events
Cost-Effectiveness	1	
Technical	1	
Political	1	
Legal	0	
Fiscal	0	Need grant funding
Environmental	1	
Social	0	
Administrative	1	
Multi-Hazard	1	
Timeline	1	
Local Champion	0	
Other Community Objectives	0	
Total	9	
<b>Priority (High/Med/Low)</b>	High	



**Action Number:** Green Twp-13

**Mitigation Action/Initiative:** Provide protection to buildings/infrastructure in high hazard areas in the Township

Assessing the Risk	
<b>Hazard(s) addressed:</b>	All
<b>Specific problem being mitigated:</b>	Buildings and infrastructure located in high hazard areas of the Township are vulnerable to all hazards
Evaluation of Potential Actions/Projects	
<b>Actions/Projects Considered (name of project and reason for not selecting):</b>	1. Provide protection to buildings/infrastructure in high hazard areas in the Township
	2. Do nothing – current problem continues
	3. No other feasible options were identified
Action/Project Intended for Implementation	
<b>Description of Selected Action/Project</b>	Provide protection to buildings/infrastructure in high hazard areas in the Township
<b>Action/Project Category</b>	SIP
<b>Goals/Objectives Met</b>	All
<b>Applies to existing and/or new development; or not applicable</b>	New and Existing
<b>Benefits (losses avoided)</b>	High
<b>Estimated Cost</b>	Medium to High
<b>Priority*</b>	Medium
Plan for Implementation	
<b>Responsible/Lead Agency/Department</b>	Township Engineering and Planning
<b>Local Planning Mechanism</b>	Hazard Mitigation
<b>Potential Funding Sources</b>	Grant funding with local cost share
<b>Timeline for Completion</b>	Short Term / DOF
Reporting on Progress	
<b>Date of Status Report/ Report of Progress</b>	Date: Progress on Action/Project:



**Action Number:** Green Twp-13

**Mitigation Action/Initiative:** Provide protection to buildings/infrastructure in high hazard areas in the Township

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	
Property Protection	1	Protect buildings from damage from hazard events
Cost-Effectiveness	1	
Technical	1	
Political	1	
Legal	1	
Fiscal	0	Need to seek grant funding
Environmental	0	
Social	0	
Administrative	1	
Multi-Hazard	1	
Timeline	1	
Local Champion	0	
Other Community Objectives	0	
Total	9	
<b>Priority (High/Med/Low)</b>	Medium	



**Action Number:** Green Twp-14

**Mitigation Action/Initiative:** Retrofit roof of Green Hills School Building

Assessing the Risk	
<b>Hazard(s) addressed:</b>	Severe Weather, Severe Winter Weather, Hurricanes / Tropical Storms
<b>Specific problem being mitigated:</b>	Roof of the school building does not meet current high wind standards and vulnerable to damages from wind events
Evaluation of Potential Actions/Projects	
<b>Actions/Projects Considered (name of project and reason for not selecting):</b>	1. Retrofit roof on remaining building to meet current high wind standards
	2. Do nothing – current problem continues
	3. No other feasible options were identified
Action/Project Intended for Implementation	
<b>Description of Selected Action/Project</b>	Retrofit roof on Green Hills School located on Mackerley Road to meet current high wind standards
<b>Action/Project Category</b>	SIP
<b>Goals/Objectives Met</b>	1, 2
<b>Applies to existing and/or new development; or not applicable</b>	Existing
<b>Benefits (losses avoided)</b>	Medium
<b>Estimated Cost</b>	High
<b>Priority*</b>	High
Plan for Implementation	
<b>Responsible/Lead Agency/Department</b>	Township Administrator, School Board
<b>Local Planning Mechanism</b>	Hazard Mitigation
<b>Potential Funding Sources</b>	Grant funding with local cost share
<b>Timeline for Completion</b>	Short Term / DOF
Reporting on Progress	
<b>Date of Status Report/ Report of Progress</b>	Date: Progress on Action/Project:



**Action Number:** Green Twp-9

**Mitigation Action/Initiative:** Retrofit roof of Green Hills School building

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Protect those using the municipal building during high wind events
Property Protection	1	Protect the building from damages
Cost-Effectiveness	1	
Technical	1	
Political	1	
Legal	1	
Fiscal	0	Need to seek grant funding to cover costs
Environmental	0	
Social	0	
Administrative	1	
Multi-Hazard	1	
Timeline	1	
Local Champion	0	
Other Community Objectives	0	
Total	9	
<b>Priority (High/Med/Low)</b>	High	