

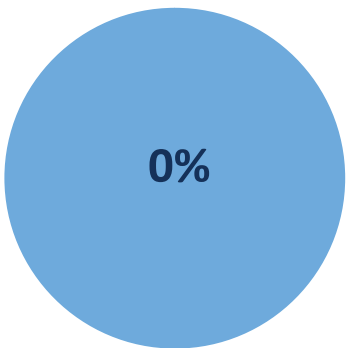
## *Appendix Vol I.46 Shrewsbury Township*

Please find below the following documents specific to this jurisdiction that have been included as part of the plan update process.

- Summary Sheet
- Mitigation Action Table
- Mitigation Action Worksheets
- Capability Assessment
- Flood Zone Map
- Sea Level Rise Vulnerability Map
- Meeting Material



NFIP Statistics



Percent Land Area Within SFHA

6  
Total Mitigation  
Actions

0  
  
Education and Awareness Programs

5  
  
Structure and Infrastructure Projects

1  
  
Local Plans and Regulations

0  
  
Natural Systems Protection

Critical Facilities



0 SV Population At Risk (2017)

0 Population at Risk (2017)

Shrewsbury, Township of					Monmouth County HMP Mitigation Action Summary							
Community Action #	Action Name	Action Description	Action Category	Action Type	Hazard(s) Addressed	Priority	Ease of Implementation	Responsible Party	Potential Funding Sources	Cost Estimate	Timeline	Action Status
46_01	Purchase and Install a Generator for the Township Municipal Building and Make Necessary Improvements to EOC	The Township Municipal Building needs an emergency generator and EOC needs improvements to the telecom and electrical systems to remain operable during power outages.	Maintenance/Response/Recovery	Structure and Infrastructure Project	All Hazards	Medium	Low	Township Engineer and Township Clerk	FEMA HMA	\$300,000.00	1 year	Ongoing
46_02	Implement BMPs from the Stormwater Management Plan	Ongoing implementation of the practices identified in the current Stormwater Management Plan.	Administrative	Structure and Infrastructure Project	Flood, Nor'easter, Hurricane and Tropical Storm	Medium	Low	Mayor and Committee	Municipal budget	\$300,000.00	1 year	Ongoing
46_03	Acquire, elevate, or relocate buildings and infrastructure in flood prone areas, with a focus on Repetitive Loss (RL) and Severe Repetitive Loss (SRL) properties	Acquire, elevate, or relocate structures that repetitively flood. Currently there are no properties on NFIP's RL/SRL property list, however if a property becomes a RL/SRL property, then work with residents to mitigate the repetitive flooding.	Mitigation - Risk Reduction	Structure and Infrastructure Project	Flood, Wave Action, Nor'easter, Hurricane and Tropical Storm, Storm Surge, Winter Storm	High	Medium	Engineer	FEMA HMA		5 + years	Ongoing
46_04	Purchase and Install Surveillance Cameras at DPW and Township Municipal Building	Install surveillance cameras at both the DPW & Township Municipal Building.	Maintenance/Response/Recovery	Structure and Infrastructure Project	Terrorism	Medium	Low	Township	Homeland Security grants		1 year	New
46_05	Coordinate with State Police on Emergency Response Time	Create a plan with the State Police on quicker response time. The Township is open to allowing the State Police to have a staging area within the Township.	Administrative	Local Plans and Regulations	All Hazards	Medium	Low	Township, State Police, City of Long Branch	Homeland Security grants, Monmouth County budget, municipal budget		2 years	New
46_06	Purchase and Install Generator for Pump Station	Purchase and maintain generators to continue critical community services during utility interruptions and storm events.	Mitigation - Continuity of Functional Use	Structure and Infrastructure Project	All Hazards	High	Low	Township	FEMA HMA		1 year	New

# Monmouth County Mitigation Action Worksheets

Community Action Number: 46\_01

Shrewsbury, Township of

## Describing the Action

Action Name:	Purchase and Install a Generator for the Township Municipal Building and Make Necessary Improvements to EOC
Action Category:	Maintenance/Response/Recovery
Action Type:	Structure and Infrastructure Project
HMA Eligible Activity:	Non-structural Retrofitting of Existing Buildings and Facilities
Action Description:	The Township Municipal Building needs an emergency generator and EOC needs improvements to the telecom and electrical systems to remain operable during power outages.

## Evaluating the Action

Hazard(s) Addressed:	All Hazards
Goals:	3, 7
Risk Reduction:	Township EOC and Town Hall experience telecommunications and electrical system failure during severe storms (due to wind related power failures, such as downed trees on power lines). This renders the systems inoperable and the Township is unable to provide critical services to its residents.
Technical:	This mitigation action is technically feasible.
Political:	There is both political and public support for this mitigation action.
Legal:	The Township can implement this mitigation action with the proper permits.
Environmental:	There are no environmental impacts associated with this mitigation action.
Social:	Does not adversely affect any particular social group. Perceived by the public to be a good thing because it supports local services during emergencies.
Administrative Capability:	The Township can implement this mitigation action with its personnel.
Local Champion:	The Mayor, Committee, and OEM, will advocate for this mitigation action.
Other Community Objectives:	This mitigation action improves the quality of life for Township residents in periods of blackouts.
STAPLEE Evaluation:	N/A

## Implementing the Action

Cost Estimate:	\$300,000.00
Priority:	Medium
Scale of Ease of Implementation:	Low
Responsible Party:	Township Engineer and Township Clerk
Local Planning Mechanism:	Bid documents
Likely Funding Source(s):	FEMA HMA
Timeline:	1 year
Action Status:	Ongoing
Notes:	Ongoing 2015 action; telecom improvements were completed and improvements to the electrical systems are ongoing. The Township Municipal Building would like a generator so it can function as a shelter.

# Monmouth County Mitigation Action Worksheets

Community Action Number: 46\_02

Shrewsbury, Township of

## Describing the Action

Action Name:	Implement BMPs from the Stormwater Management Plan
Action Category:	Administrative
Action Type:	Structure and Infrastructure Project
HMA Eligible Activity:	Mitigation Reconstruction
Action Description:	Ongoing implementation of the practices identified in the current Stormwater Management Plan.

## Evaluating the Action

Hazard(s) Addressed:	Flood, Nor'easter, Hurricane and Tropical Storm
Goals:	3, 4, 5, 6
Risk Reduction:	Some flooding occurs in the Township during severe storms and periods of high rainfall/runoff due to drainage system insufficiencies. Stormwater management is seen locally as a key aspect of mitigating typical effects of hurricanes, tropical storms, and nor'easters in the Township. Climate change will contribute to more frequent and severe weather events.
Technical:	This mitigation action is technically feasible.
Political:	There is both political and public support for this mitigation action.
Legal:	The Township can implement this mitigation action with the proper permits.
Environmental:	No adverse environmental impact anticipated.
Social:	Does not adversely affect any particular social group. Perceived by the public to be a good thing because of common nature of flooding in the project area.
Administrative Capability:	The Township can implement this mitigation action with its personnel.
Local Champion:	The Mayor, Committee, and OEM, will advocate for this mitigation action.
Other Community Objectives:	This mitigation action improves the health, safety and quality of life to Township residents in periods of high rainfall/runoff caused by severe storms.
STAPLEE Evaluation:	N/A

## Implementing the Action

Cost Estimate:	\$300,000.00
Priority:	Medium
Scale of Ease of Implementation:	Low
Responsible Party:	Mayor and Committee
Local Planning Mechanism:	Existing Stormwater Management Plan dated April 2005
Likely Funding Source(s):	Municipal budget
Timeline:	1 year
Action Status:	Ongoing
Notes:	Ongoing 2015 action; Crawford Street in front of Township Municipal Building & DPW commonly floods; needs a new stormwater pipe.

# Monmouth County Mitigation Action Worksheets

Community Action Number: 46\_03

Shrewsbury, Township of

## Describing the Action

Action Name:	Acquire, elevate, or relocate buildings and infrastructure in flood prone areas, with a focus on Repetitive Loss (RL) and Severe Repetitive Loss (SRL) properties
Action Category:	Mitigation - Risk Reduction
Action Type:	Structure and Infrastructure Project
HMA Eligible Activity:	Structure Elevation
Action Description:	Acquire, elevate, or relocate structures that repetitively flood. Currently there are no properties on NFIP's RL/SRL property list, however if a property becomes a RL/SRL property, then work with residents to mitigate the repetitive flooding.

## Evaluating the Action

Hazard(s) Addressed:	Flood, Wave Action, Nor'easter, Hurricane and Tropical Storm, Storm Surge, Winter Storm
Goals:	1, 2, 3, 4, 5
Risk Reduction:	Several residential structures throughout the community are prone to flooding, with their main floor elevations below current BFEs. Sea level rise and climate change will contribute to more frequent and severe flooding and surge events.
Technical:	Elevation and acquisition are both technically feasible project types.
Political:	Our political leadership supports this type of project.
Legal:	While the municipality does not own the structures in question, we fully support the homeowners in moving forward.
Environmental:	No environmental impacts are anticipated at this time; this would be confirmed as specific homeowners come forward and their property details are reviewed. It is likely that environmental impacts would be positive, as household hazardous wastes are no longer introduced into floodwaters.
Social:	No particular social group in our community is likely to be disproportionately impacted by this project; this would be reevaluated as particular interested homeowners come forward.
Administrative Capability:	Our municipality has the administrative capabilities to manage an elevation and/or acquisition project.
Local Champion:	Affected homeowners, elected officials.
Other Community Objectives:	Improve and protect lifestyles of residents; reduction of costly property damage; resiliency; floodplain management; capital improvements.
STAPLEE Evaluation:	10

## Implementing the Action

Cost Estimate:	
Priority:	High
Scale of Ease of Implementation:	Medium
Responsible Party:	Engineer
Local Planning Mechanism:	Homeowners; Mayor; Council; Administrator; Engineer; local ordinance; Hazard Mitigation Plan
Likely Funding Source(s):	FEMA HMA
Timeline:	5 + years
Action Status:	Ongoing
Notes:	Ongoing action; the Borough deems this action necessary and is searching for potential funding.

# Monmouth County Mitigation Action Worksheets

Community Action Number: 46\_04

Shrewsbury, Township of

## Describing the Action

Action Name: Purchase and Install Surveillance Cameras at DPW and Township Municipal Building

Action Category: Maintenance/Response/Recovery

Action Type: Structure and Infrastructure Project

HMA Eligible Activity: Miscellaneous/Other

Action Description: Install surveillance cameras at both the DPW & Township Municipal Building.

## Evaluating the Action

Hazard(s) Addressed: Terrorism

Goals: 1, 2, 3

Risk Reduction: DPW & Township Municipal Building has no surveillance at these municipally-owned buildings, which makes them vulnerable to an attack.

Technical: Technically feasible.

Political: No adverse political ramifications are expected.

Legal: No legal impediments anticipated.

Environmental: No adverse environmental impact anticipated.

Social: Does not adversely affect any particular social group. Perceived by the public to be a good thing because it protects local services.

Administrative Capability: Township has sufficient capacity and experience to administer this action

Local Champion: OEM/ Fire Marshal, Mayor

Other Community Objectives:

STAPLEE Evaluation: N/A

## Implementing the Action

Cost Estimate:

Priority: Medium

Scale of Ease of Implementation: Low

Responsible Party: Township

Local Planning Mechanism: Hazard Mitigation Plan

Likely Funding Source(s): Homeland Security grants

Timeline: 1 year

Action Status: New

Notes:

# Monmouth County Mitigation Action Worksheets

Community Action Number: 46\_05

Shrewsbury, Township of

## Describing the Action

Action Name:	Coordinate with State Police on Emergency Response Time
Action Category:	Administrative
Action Type:	Local Plans and Regulations
HMA Eligible Activity:	Miscellaneous/Other
Action Description:	Create a plan with the State Police on quicker response time. The Township is open to allowing the State Police to have a staging area within the Township.

## Evaluating the Action

Hazard(s) Addressed:	All Hazards
Goals:	1, 2, 3
Risk Reduction:	Currently, the Township is covered by the State Police and shares a mutual aid agreement with Long Branch, due to the small population of the municipality. While the Township appreciates the police assistance, response time has been up to an hour in some cases, which puts Township Resident's life and property at risk.
Technical:	Technically feasible.
Political:	The Mayor supports this action and is willing to work with Long Branch and the State Police.
Legal:	Must revise the mutual aid agreement with Long Branch or create a EOP/COP with State Police.
Environmental:	No adverse environmental impact anticipated
Social:	Does not adversely affect any particular social group. Perceived by the public to be a good thing because it supports local services during emergencies.
Administrative Capability:	Township has sufficient capacity to create a plan with adjacent jurisdictions.
Local Champion:	OEM/ Fire Marshal, Mayor
Other Community Objectives:	
STAPLEE Evaluation:	N/A

## Implementing the Action

Cost Estimate:	
Priority:	Medium
Scale of Ease of Implementation:	Low
Responsible Party:	Township, State Police, City of Long Branch
Local Planning Mechanism:	Hazard Mitigation Plan
Likely Funding Source(s):	Homeland Security grants, Monmouth County budget, municipal budget
Timeline:	2 years
Action Status:	New
Notes:	



# Monmouth County Mitigation Action Worksheets

Community Action Number: 46\_06

Shrewsbury, Township of

## Describing the Action

Action Name:	Purchase and Install Generator for Pump Station
Action Category:	Mitigation - Continuity of Fuctional Use
Action Type:	Structure and Infrastructure Project
HMA Eligible Activity:	Generators
Action Description:	Purchase and maintain generators to continue critical community services during utility interruptions and storm events.

## Evaluating the Action

Hazard(s) Addressed:	All Hazards
Goals:	1, 2, 3, 7
Risk Reduction:	Avoid future utility interruption of the sewer pump.
Technical:	Technically feasible.
Political:	No adverse political ramifications are expected.
Legal:	No legal impediments anticipated.
Environmental:	No adverse environmental impact anticipated
Social:	Does not adversely affect any particular social group. Perceived by the public to be a good thing because it supports local services during emergencies.
Administrative Capability:	Township has sufficient capacity and experience to administer this action.
Local Champion:	OEM/ Fire Marshal, Mayor
Other Community Objectives:	
STAPLEE Evaluation:	N/A

## Implementing the Action

Cost Estimate:	
Priority:	High
Scale of Ease of Implementation:	Low
Responsible Party:	Township
Local Planning Mechanism:	Hazard Mitigation Plan
Likely Funding Source(s):	FEMA HMA
Timeline:	1 year
Action Status:	New
Notes:	

## CAPABILITY ASSESSMENT WORKSHEET

Name: Tom Welsh

Title: Fire Marshal/OEM

Jurisdiction: Shrewsbury Township

Organization:

Local Mitigation Capabilities are existing authorities, policies, programs, and resources that reduce hazard impacts or that could be used to implement hazard mitigation activities. Please complete the tables and questions in the worksheet as completely as possible.

### Planning & Regulatory

Planning and Regulatory Capabilities are the plans, policies, codes, and ordinances that prevent and reduce the impacts of hazards. Please indicate which of the following your jurisdiction currently has in place.

Plan	Yes/No	1. What is the date/year of the plan? 2. Does the plan address hazards? 3. Does the plan identify projects to include in the mitigation strategy? 4. Can the plan be used to implement mitigation actions?
Comprehensive/Master Plan	No	
Capital Improvements Plan	No	
Economic Development Plan	No	
Local Emergency Operations Plan	No	
Continuity of Operations Plan		
Post-Disaster Recovery Plan	No	
Transportation Plan		
Stormwater Management Plan	Yes	1. 2005
Community Wildfire Protection Plan		



## CAPABILITY ASSESSMENT WORKSHEET

Other special plans (e.g., brownfields redevelopment, disaster recovery, coastal zone management, climate change adaptation)	Yes	Stormwater Pollution Prevention Plan
<b>Building Code, Permitting, and Inspections</b>	<b>Yes/No</b>	<b>Are codes adequately enforced?</b>
Building Code	Yes	Version/Year:
Building Code Effectiveness Grading Schedule (BCEGS) Score		Score:
Fire Department ISO rating		Rating:
Site Plan Review Requirements	No	
<b>Land Use Planning and Ordinances</b>	<b>Yes/No</b>	<b>Is the ordinance an effective measure for reducing hazard impacts? Is the ordinance adequately administered and enforced?</b>
Zoning Ordinance	Yes	
Subdivision Ordinance	No	
Floodplain Ordinance		
Natural hazard ordinance (stormwater, steep slope, wildfire)		
Flood Insurance Rate Maps		
Acquisition of Land for Open Space and Public Recreation Uses		
Post-Disaster Recovery Ordinance	No	
Real Estate Disclose Ordinance	No	



## CAPABILITY ASSESSMENT WORKSHEET

Other (ie. Special Purposes Ordinance)	Yes	Special Purposes Ordinance
<b>How can the above capabilities be expanded and improved to reduce risk?</b>		

### Administrative & Technical

Identify whether your community has the following administrative and technical capabilities. These include staff and their skills and tools that can be used for mitigation planning and to implement specific mitigation actions. For smaller jurisdictions without local staff resources, if there are public resources at the next higher-level government that can provide technical assistance, indicate so in your comments.

Administration	Yes/No	Describe capability Is coordination effective?
Planning Commission		
Mitigation Planning Committee		
Maintenance Programs to Reduce Risk (e.g., tree trimming, clearing drainage systems)	Yes	Contract w/ JCP&L only covers part of the town
Mutual Aid Agreements	Yes	Mutual Aid w/ Long Branch First Aid
Staff	Yes/No FT/PT	Is the staff full time or part time? Is staffing adequate to enforce regulations? Is the staff trained on hazards and mitigation? Is coordination between agencies and staff effective?
Chief Building Official		
Floodplain Administrator	Yes	
Emergency Manager	Yes	
Community Planner	Yes	



## CAPABILITY ASSESSMENT WORKSHEET

Civil Engineer	Yes	
Surveyor	Yes	
GIS Coordinator	Yes	
Scientists familiar with the hazards of the community	No	
Other		
<b>Technical</b>	<b>Yes/No</b>	<b>Describe capability Has capability been used to access/mitigate risk in the past?</b>
Warning Systems/Services (Reverse 911, outdoor warning signals)		
Hazard Data and Information		
Grant Writing	Yes	
Hazus Analysis	Yes	
Other		
<b>How can the above capabilities be expanded and improved to reduce risk?</b>		



## CAPABILITY ASSESSMENT WORKSHEET

### Financial

Identify whether your jurisdiction has access to or is eligible to use the following funding resources for hazard mitigation.

Funding Resource	Access / Eligibility (Yes/No)	Has the funding resource been used in the past and for what type of activities? Could the resource be used to fund future mitigation actions?
Capital Improvements Project Funding	Yes	
Authority to Levy Taxes for Specific Purposes	Yes	
Fees for Water, Sewer, Gas, or Electric Services	No	
Impact Fees for New Development	Yes	
Stormwater Utility Fee		
Incur Debt Through Private Activities	Yes	
Community Development Block Grant	No	
Other Federal Funding Programs	Yes	
State Funding Programs		
Other (e.g., withhold spending in hazard-prone areas)	Yes	Incur Debt through General Obligation Funds
<b>How can these capabilities be expanded and improved to reduce risk?</b>		
The Township will budget, yearly, sufficient funds to implement, in phases, hazard mitigation strategies.		



## CAPABILITY ASSESSMENT WORKSHEET

### Education and Outreach

Identify education and outreach programs and methods already in place that could be used to implement mitigation activities and communicate hazard-related information.

Program/Organization	Yes/No	Describe program/organization and how it relates to disaster resilience and mitigation. Could the program/organization help implement future mitigation activities?
Local Citizen Groups or Non-Profit Organizations Focused on Environmental Protection, Emergency Preparedness, Access and Functional Needs Populations, etc.		
Ongoing Public Education or Information Programs (e.g., responsible water use, fire safety, household preparedness, environmental education)		
Natural Disaster or Safety Related School Programs		
StormReady Certification		
Firewise Communities Certification		
Public-Private Partnership Initiatives Addressing Disaster Related Issues		
Other		
<b>How can these capabilities be expanded and improved to reduce risk?</b>		





Building Classification

Industrial

Farm

Commercial

Vacant

Apartment

Civic/Public (Tax Exempt)

Residential (four families or less)

Unclassified

Parcel Classification

Industrial

Farm

Commercial

Vacant

Apartment

Civic/Public (Tax Exempt)

Residential (four families or less)

Unclassified

Open Space




0200400

Feet

N

Source: 2014 Esri; Monmouth County; NJOIT-OGIS; NJGIN MODIV Parcel, FEMA

Projection: New Jersey State Plane, NAD 1983



The map displays flood hazard areas for Shrewsbury Township, overlaid on a map showing building and parcel classifications. The legend in the bottom right corner defines the flood hazard areas: 1% Annual Chance Flood (SFHA) includes Regulatory Floodway (hatched), Zone A, AE, AO, AH (light blue), and Zone VE (dark blue); 0.2% Annual Chance Flood includes Zone X (purple) and Undetermined (grey); and Zone D (hatched). A red line indicates the Evacuation Route. The map also shows building classifications (Industrial, Commercial, Apartment, Residential, Farm, Vacant, Civic/Public, Unclassified, Open Space) and parcel classifications (Industrial, Commercial, Apartment, Residential, Farm, Vacant, Civic/Public, Unclassified). Street names include Edgbrook Ct, Willow Rd, Edison Ave, Wyckham Rd, Society Hillway Wb, Palermo Dr, Church Downs Dr, Crawfords St, Barker Ave, Beshaw Ave, Crawfords St, Church Downs Dr, Winding Brook Way, and Ave at the Commons. The map is labeled with Shrewsbury Borough and Tinton Falls Borough. Highway markers for 51, 13, and 35 are shown.

This map was developed using the 10-04-18 statewide composite of parcel data published by the NJOIT-OGIS. The State of New Jersey makes great effort to provide secure, accurate, and complete data and metadata. However, portions of the data and metadata may be incorrect or not current. Any errors or omissions should be reported for investigation to OGIS.





Building Classification

Industrial

Farm

Commercial

Vacant

Apartment

Civic/Public (Tax Exempt)

Residential (four families or less)

Unclassified

Parcel Classification

Industrial

Farm

Commercial

Vacant

Apartment

Civic/Public (Tax Exempt)

Residential (four families or less)

Unclassified

Open Space

0200400

Feet

N

Source: 2014 Esri; Monmouth County; NJOIT-OGIS; NJGIN MODIV Parcel, FEMA

Projection: New Jersey State Plane, NAD 1983



Michael Baker INTERNATIONAL





## MEETING NOTES

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**Topic:** Shrewsbury Township- Monmouth County HMP Update Meeting

**Date:** June 24, 2019

**Time:** 12:00 PM- 12:30 PM

**Location:** Call in Meeting

**Attendees:**

Edward	Nolan	Mayor
Tom	Welsh	Fire Marshal / OEM

**Drafted by:** Paige Kaspar

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**Introductions (Paige):**

- Goals and Hazards
- What is Mitigation Hazard Planning?
- Funding Available
  - HMA
- Mitigation Strategies

**2015 Mitigation Actions:**

- Mitigation Action 1: Improvements to telecom and electrical systems at critical facilities→ Completed
  - Carry on with the EOC and local shelters
- Mitigation 2: Stormwater Management Planning→ Ongoing
- Mitigation 3: Elevation and/or Acquisition of Flood prone Residential Structure→ Completed
  - Oil contamination. Homes elevated for remediation. UST removal at DPW

**2020 New Mitigation Actions:**

- Would like cameras for municipal building
- JCP&L electric contract only covers have the town. Would like for them to cover the whole town.
- Generator for pump station
- Gymnasium at boro hall as a shelter



## Monmouth County Multi-Jurisdictional Hazard Mitigation Plan Update



- New pipe near Crawford Rd near DPW and Boro Hall.
- Emergency Responders needed. Trailer needed for more of a presence. Coordinate with state police on improved response times and with the county on shared services.

### **Capabilities:**

- JCP&L electric contract only covers have the town.
- Firehouse and EMS shared service
  - Longbranch first aid
  - Shrewsbury Borough for fire and emergency
- Planner and Engineer- Maser



# Monmouth County Multi-Jurisdictional Hazard Mitigation Plan Update



Meeting: Shrewsbury Twp.

Date: 06-24-19

Initial	Last Name	First Name	Title	Organization	Email Address
	Nolan	Edward	Mayor	Shrewsbury Twp.	
	Welsh	Tom	Fire Marshal/OEM	Shrewsbury Twp.	<a href="mailto:twelsh_redbanknj.org">twelsh_redbanknj.org</a>
	Ashman	Brittany	Planner	MB	
	Kasper	Paige	Planner	MB	