



## 9.7 Township of Middle

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

### 9.7.1 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
Sean B. McDevitt, EMS/OEM Coordinator 33 W. Mechanic Street, Cape May Court House (609) 465-8871 <a href="mailto:smcdevitt@middletownship.com">smcdevitt@middletownship.com</a>	None identified at this time.

### 9.7.2 Municipal Profile

The Township of Middle is located within the central portion of Cape May County, New Jersey. It is bounded on the north by the Township of Dennis, on the east by the Boroughs of Avalon and Stone Harbor and the Atlantic Ocean, on the south-southeast by the Wildwoods and the Atlantic Ocean, the southwest by the Township of Lower and the west by the Delaware Bay. It is part of the Ocean City Metropolitan Statistical Area. Cape May Court House, Rio Grande and Whitesboro-Burleigh are census-designated places (CDPs) and unincorporated communities located within Middle Township. Green Creek is an unincorporated community that has no corresponding CDP.

According to the U.S. Census Bureau, the township has a total area of 83 square miles, with 70.3 square miles of it land and 12.6 square miles of it (15.2-percent) water. As of 1 July, 214 there were estimated to be 18,883 people residing 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 map in Section 9.7.8 of this annex, which illustrates the hazard areas along with the location of potential new development.

**Table 9.7-1. Growth and Development**

Property or Development Name	Type (e.g. Res., Comm.)	# of Units / Structures	Address	Block / Lot	Known Hazard Zone(s)	Description/Status of Development
<b>Recent Development from 2010 to Present</b>						
None identified at this time.						
<b>Known or Anticipated Development in the Next Five (5) Years</b>						
None identified at this time.						

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

### 9.7.3 Natural Hazard Event History Specific to the Municipality

Cape May 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 2010 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 9.7-2. Hazard Event History**

Date(s) of Event	Event Type	FEMA Declaration # (If Applicable)	County Designated?	Summary of Damages/Losses
February 10, 2008	High Winds	No	N/A	Arcing wires throughout community
March 5, 2008	Thunderstorms and Strong Winds	No	N/A	Arcing wires and downed tree limbs throughout community
May 12, 2008	Coastal Flood	No	N/A	Tidal flooding in Avalon Manor, Stone Harbor Manor, and Delaware Bay communities
October 28, 2008	High Wind	No	N/A	Arcing wires throughout community
February 12, 2009	Strong Wind	No	N/A	Arcing wires and downed tree limbs throughout community
November 12-13, 2009	Severe Storms and Flooding associated with Tropical Depression Ida and a Nor'Easter	DR-1867	Yes	Tidal flooding, arcing and downed wires, tree limbs down
February 5-6, 2010	Severe Winter Storm and Snowstorm (blizzard)	DR-1889	Yes	Power outage in some sections of the Township. Damage to Atlantic City Electric infrastructure in Shelter operations at Middle school for Middle, Stone Harbor and Wildwoods. Evacuation on Oceana Nursing Home.
February 9-10, 2010	Winter Storm / Blizzard	No	N/A	Continued power outages
December 26-27, 2010	Severe Winter Storm and Snowstorm	DR-1954	Yes	Winter storm conditions
July 24, 2011	Severe Thunderstorm	No	N/A	Tree limbs down
August 27-28, 2011	Hurricane Irene	DR-4021	Yes	Power outages, Tree limbs and trees down, Property damage. Mandatory Evacuation of County through County OEM. Opened shelter of last resort at Elementary School. Police, EMS and DPW overtime was required.
October 29, 2011	Severe Storm	DR-4048	Yes	Arcing wires Tree limbs down
June 29-30, 2012	Thunderstorms	DR-4070	No	Arcing wires trees down
October 28, 2012	Hurricane Sandy	DR-4086	Yes	Voluntary evacuation order. Power outages in some sections of the Township. Damage to bulkheads and buildings Delaware Bay communities. Severe damage to several residences in the Reeds Beach section.
March 6-7, 2012	Nor'Easter	No	N/A	Tidal Flooding
March 12, 2014	Strong Winds	No	N/A	Arcing wires and downed tree limbs throughout community
February 14-15, 2015	High Winds	No	N/A	Arcing wires and downed tree limbs throughout community



### 9.7.4 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 Middle. 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 Middle.

**Table 9.7-3. 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>
Climate Change & Sea Level Rise	RCV in +3 feet: \$414,690,225	Frequent	18	Medium
Coastal Erosion	RCV in CEHA: \$41,689,229	Frequent	18	Medium
Flood	1% Annual Chance: \$1,088,688,244	Frequent	36	High
Hurricanes & Tropical Storms	Category 1 SLOSH: \$1,203,391,931 Category 2 SLOSH: \$5,111,750,460 Category 3 SLOSH: \$9,033,414,058 Category 4 SLOSH: \$9,796,822,573	Frequent	54	High
Nor'Easter	Damage estimate not available	Frequent	48	High
Severe Weather	100-Year MRP: \$23,726,072 500-year MRP: \$157,332,581 Annualized: \$1,691,499	Frequent	48	High
Severe Winter Weather	1% GBS: \$60,663,004 5% GBS: \$303,315,018	Frequent	51	High
Tsunami	Damage estimate not available	Rare	6	Low
Wildfire	Estimated Value Exposed to Extreme, Very High and High: \$651,768,314	Frequent	27	Medium

#### National Flood Insurance Program (NFIP) Summary

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

**Table 9.7-4. 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)
Middle Township	1,138	738	\$9,032,750	18	6	771

Source: FEMA, 2015

Note (1) Policies, claims, repetitive loss and severe repetitive loss statistics provided by FEMA and are current as of July 31, 2015 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 7/31/2015.

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.  
 Note (5) A zero percentage denotes less than 1/100th percentage and not zero damages or vulnerability as may be the case.

### Critical Facilities

**Table 9.7-5. Number of Critical Facilities Located in the 1-Percent Annual Chance Flood Zone**

Municipality	Facility Types																	
	Airport	Communication	County Office	EMS	Emergency Operation Center	Ferry	Fire Station	Library	Marina	Military	Municipal Hall	Place of Interest	Police Station	School	Senior Facility	Wastewater Pump	Wastewater Treatment	Well
Middle Township	0	3	2	0	0	0	0	0	9	1	0	1	0	0	1	3	1	3

Source: Cape May County  
 Note: EMS – Emergency Medical Services

### Other Vulnerabilities Identified by Municipality

None identified at this time.

### 9.7.5 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 Middle.

**Table 9.7-6. Planning and Regulatory Tools**

Tool/Program (code, ordinance, plan)	Do you have this? (Yes/No)	Authority (local, county, state, federal)	Dept./Agency Responsible	Code Citation and Comments (Code Chapter, name of plan, explanation of authority, etc.)
<b>Planning Capability</b>				
Master Plan	Yes	Local	Planning Board	Master Plan (last updated 7/2010)
Capital Improvements Plan	No	N/A	N/A	
Floodplain Management/Basin Plan	No	N/A	N/A	
Stormwater Management Plan	Yes	Local	Planning, Zoning, Code	Storm Water Management Plan (2007)
Open Space Plan	Yes	Local	Planning, Zoning, Code	Conservation Element and Farmland Preservation Plan



Table 9.7-6. Planning and Regulatory Tools

Tool/Program (code, ordinance, plan)	Do you have this? (Yes/No)	Authority (local, county, state, federal)	Dept./Agency Responsible	Code Citation and Comments (Code Chapter, name of plan, explanation of authority, etc.)
				Element in Master Plan; Open Space and Recreation Plan (April 2013)
Stream Corridor Management Plan	No	N/A	N/A	
Watershed Management or Protection Plan	Yes	Local	Planning, Zoning, Code	2/23/10
Economic Development Plan	Yes	Local	Economic Development Council	Middle Township Market Analysis
Comprehensive Emergency Management Plan	No	N/A	N/A	
Emergency Operations Plan	Yes	State, County, Local	Emergency Management Coordinator	
Post-Disaster Recovery Plan	No	N/A	N/A	
Transportation Plan	No	N/A	N/A	
Strategic Recovery Planning Report	No	N/A	N/A	
Other Plans:	Yes	Local	Planning, Zoning,	Natural Resources Inventory (last revised May 2010); Community Forestry Management Plan (2010-2015)
<b>Regulatory Capability</b>				
Building Code	Yes	State, Local	Building, Code	Chapter 112, Construction Codes, Uniform
Zoning Ordinance	Yes	Local	Zoning Board	Chapter 250, Zoning; Ord. No. 1392-11 (8/1/11)
Subdivision Ordinance	Yes	Local	Planning/Zoning Board	Chapter 218, Subdivision of Land and Site Plan Review; Ord. No. 909-94 (1/19/95)
NFIP Flood Damage Prevention Ordinance	Yes	Federal, State, Local	Building	Chapter 146, Flood Damage Prevention
NFIP: Cumulative Substantial Damages	No	N/A	N/A	
NFIP: Freeboard	Yes	State, Local	Building	Chapter 146, Flood Damage Prevention
Growth Management Ordinances	No	N/A	N/A	
Site Plan Review Requirements	Yes	Local	Planning/Zoning Board	Chapter 218, Subdivision of Land and Site Plan Review
Stormwater Management Ordinance	Yes	Federal, State, Local	Planning, Zoning, Code	Ordinance 1247 (2007)
Municipal Separate Storm Sewer System (MS4)	Yes	Federal, Local	Planning, Zoning, Code	Chapter 213-2; Ord. No. 1483-14 (9/13/14)
Natural Hazard Ordinance	No	N/A	N/A	
Post-Disaster Recovery Ordinance	No	N/A	N/A	
Real Estate Disclosure Requirement	Yes	State	Division of Consumer Affairs	N.J.A.C. 13:45A-29.1



**Table 9.7-6. Planning and Regulatory Tools**

Tool/Program (code, ordinance, plan)	Do you have this? (Yes/No)	Authority (local, county, state, federal)	Dept./Agency Responsible	Code Citation and Comments (Code Chapter, name of plan, explanation of authority, etc.)
Other [Special Purpose Ordinances (i.e., sensitive areas, steep slope)]	No	N/A	N/A	

**Administrative and Technical Capability**

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

**Table 9.7-7. Administrative and Technical Capabilities**

Resources	Is this in place? (Yes or No)	Department/Agency/Position
<b>Administrative Capability</b>		
Planning Board	Yes	Planning Board
Mitigation Planning Committee	No	
Environmental Board/Commission	Yes	Environmental Commission
Open Space Board/Committee	Yes	Recreation Advisory Board
Economic Development Commission/Committee	Yes	Economic Development Council
Maintenance Programs to Reduce Risk	No	
Mutual Aid Agreements	No	
<b>Technical/Staffing Capability</b>		
Planner(s) or Engineer(s) with knowledge of land development and land management practices	Yes	Planning & Zoning Department
Engineer(s) or Professional(s) trained in construction practices related to buildings and/or infrastructure	Yes	Construction Department
Planners or engineers with an understanding of natural hazards	Yes	Contract support
NFIP Floodplain Administrator	Yes	Construction Official
Surveyor(s)	Yes	Contract Support
Personnel skilled or trained in GIS and/or Hazus-MH applications	Yes	Planning, Zoning, Building and Contract
Scientist familiar with natural hazards	No	
Emergency Manager	Yes	Emergency Management Coordinator
Grant Writer(s)	Yes	Grants/Econ Dev. Coordinator
Staff with expertise or training in benefit/cost analysis	Yes	Administrator
Professionals trained in conducting damage assessments	Yes	Building, Code Enforcement

**Fiscal Capability**

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

**Table 9.7-8. Fiscal Capabilities**

Financial Resources	Accessible or Eligible to Use (Yes/No/Don't Know)
Community Development Block Grants (CDBG, CDBG-DR)	Yes
Capital Improvements Project Funding	Yes
Authority to levy taxes for specific purposes	Yes



**Table 9.7-8. Fiscal Capabilities**

Financial Resources	Accessible or Eligible to Use (Yes/No/Don't Know)
User fees for water, sewer, gas, or electric service	Yes-sewer
Impact Fees for homebuyers or developers of new development/homes	No
Stormwater Utility Fee	No
Incur debt through general obligation bonds	Yes
Incur debt through special tax bonds	Yes
Incur debt through private activity bonds	Yes
Withhold public expenditures in hazard-prone areas	No
Other Federal or State Funding Programs	Yes
Open Space Acquisition Funding Programs	No
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 Middle.

**Table 9.7-9. 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)	No	NP	N/A
Building Code Effectiveness Grading Schedule (BCEGS)	No	NP	N/A
Public Protection (ISO Fire Protection Classes 1 to 10)	No	NP	N/A
Storm Ready	No	NP	N/A
Firewise	No	NP	N/A
Disaster/Safety Programs in/for Schools	No		
Organizations with Mitigation Focus (advocacy group, non-government)	No		
Public Education Program/Outreach (through website, social media)	Yes		
Public-Private Partnerships	No		

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 Middle’s capability to work in a hazard-mitigation capacity and/or effectively implement hazard mitigation strategies to reduce hazard vulnerabilities.

Table 9.7-10. 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)

Salvatore J. Desimone, Floodplain Administrator, CEM

#### Flood Vulnerability Summary

The Township does not currently maintain a list of properties that have been flood damaged. It is estimated that 25-30 residential structures were damaged as a result of Hurricane Sandy. Of these properties, twelve to fifteen were determined to be substantially damaged. All of these property owners are interested in mitigation. Six homes are currently undergoing mitigation. This mitigation is being funded by Rem and State funding.

#### Resources

The Flood Damage Prevention Ordinance (FDPO) identifies the Construction Official/Director of Inspections as the NFIP Floodplain Administrator. The floodplain administrator is the sole person assuming responsibilities for floodplain administration including, record keeping, inspections, mapping questions, damage assessments and outreach programs. Public education and outreach efforts regarding flood hazards include public meetings and the availability of multiple publications. Barriers to running an effective floodplain management program include the size of the township (72 square miles) and the number of structures in the floodplain (1,400). The floodplain administrator is adequately trained for floodplain management responsibilities, although additional training would be welcome.





### Compliance History

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The Township is currently in good standing with the NFIP; however, there are ten structures known to be in violation on NFIP regulations. These violations are mostly due to venting problems. The most recent Community Assistance Visit was in June of 2014.

As of August 31, 2015 there are 1,160 policies in force, insuring over \$274.2 million of property with total annual insurance premiums of \$966,389. Since 1978, 735 claims have been paid totaling \$1,268,876 (901 claims total have been submitted; however, 163 claims were closed without pay and 3 claims are still open).

### Regulatory

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The Township of Middle's floodplain regulations exceeds the minimum State and FEMA requirements. The Planning Board Engineer reviews all properties for Flood Plain Compliance. The floodplain administrator also review construction plans.

### Community Rating System

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The Township of Middle does not currently participate in the Community Rating System (CRS) program; however the Township is planning to join the 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 of Middle has a Master Plan that was most recently updated in 2010. The Master Plan considers areas of natural hazard risk, but does not currently refer to the hazard mitigation plan. The Mater Plan includes elements relevant for hazard mitigation planning including the Infrastructure, Conservation, Economic Development and Storm Water elements.

### Regulatory and Enforcement (Ordinances)

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The Township has multiple chapters pertaining to the mitigation of hazards. These ordinances include the Flood Damage Prevention Chapter, Stormwater Control Chapter, Building Code and others.

### Operational and Administration

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Staff receives training and continuing professional education that supports natural hazard risk reduction.

Staff members have experience in preparing grant applications for mitigation projects.

## 9.7.6 Mitigation Strategy and Prioritization

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



### Past Mitigation Initiative Status

The following table indicates progress on the community’s mitigation strategy identified in the 2010 Plan. Actions that are carried forward as part of this plan update are included in the following subsection in its own table with prioritization. Previous actions that are now on-going programs and capabilities are indicated as such in the following table and may also be found under ‘Capability Assessment’ presented previously in this annex.

**Table 9.7-11. Past Mitigation Initiative Status**

Description	Status	Review Comments
TM-1a: Where appropriate, support retrofitting of structures located in hazard-prone areas to protect structures from future damage, with repetitive loss and severe repetitive loss properties as priority. Identify facilities that are viable candidates for retrofitting based on cost-effectiveness versus relocation. Where retrofitting is determined to be a viable option, consider implementation of that action based on available funding.	In progress. Constantly monitoring structures.	Include in 2016 HMP Update.
TM-1b: Where appropriate, support purchase, or relocation of structures located in hazard-prone areas to protect structures from future damage, with repetitive loss and severe repetitive loss properties as priority. Identify facilities that are viable candidates for relocation based on cost-effectiveness versus retrofitting. Where relocation is determined to be a viable option, consider implementation of that action based on available funding.	In progress. Constantly monitoring structures, however acquisitions are unlikely in the Township.	Include in 2016 HMP Update.
TM-2 (CMC-2): Consider participation in the incentive-based program CRS.	In progress. Floodplain Administrator is working on this.	Include in 2016 HMP Update.
TM-3: Continue to support the implementation, monitoring, maintenance, and updating of this Plan, as defined in Section 7.0	In progress. The Township is continuing to update information.	Include in 2016 HMP Update.
TM-4: Strive to maintain compliance with, and good-standing in the National Flood Insurance program.	Complete.	Combine this with TM-2 in the 2016 HMP Update.
TM-5: Continue to develop, enhance, and implement existing emergency plans.	75% complete. Township is currently working on updating their EOP.	Include in 2016 HMP Update.
TM-6: Create/enhance/ maintain mutual aid agreements with neighboring communities.	Complete.	Include in 2016 HMP Update. The Township will continue to maintain mutual aid agreements with neighboring communities.
TM-7: Support County-wide initiatives identified in Section 9.1 of the County Annex. Support county-wide initiatives identified in the Cape May County Hazard Mitigation Plan	Complete.	Include in 2016 HMP Update. The Township will continue to support County-wide initiatives
TM-8: Purchase back-up generator to supply back-up power to the regional shelter located at Elementary #2 School	In progress- 25% complete. Funding issues; seeking grant funding.	Include in 2016 HMP Update.
TM-9: Widen the lanes of Route 47 to accommodate more traffic. This heavily trafficked roadway is an essential evacuation	Progress TBD.	Include in 2016 HMP Update, with updated details once determined.



**Table 9.7-11. Past Mitigation Initiative Status**

Description	Status	Review Comments
route. This project would be a part of a regional project with Dennis Township and Cumberland County.		
TM-10: Widen the lanes on Courthouse Dennisville Road to accommodate more traffic. This heavily trafficked roadway is an essential evacuation route.	Progress TBD.	Include in 2016 HMP Update, with updated details once determined.
TM-11: Widen the lanes on Indian Trail Road (County Road). This heavily trafficked roadway is an essential evacuation route.	Progress TBD.	Include in 2016 HMP Update, with updated details once determined.
TM-12: Elevate Beach Avenue on Reeds Beach to mitigate flooding.	Progress TBD.	Include in 2016 HMP Update, with updated details once determined.
TM-13: Purchase and install hurricane shutters on municipal buildings; with high priority to Town Hall.	In progress.	Include in 2016 HMP Update, with updated details once determined.
TM-14: Bulkheads on Reeds Beach to mitigate flooding in residential area which will mitigate flooding for approximately 30 homes.	Progress TBD.	Include in 2016 HMP Update, with updated details once determined.
TM-15: Elevate Springer’s Mill Road to mitigate flooding	Progress TBD.	Include in 2016 HMP Update, with updated details once determined.
TM-16: Connect Grassy Sound’s sewers to public sewer system. The existing sewer system consists of an above-ground tank that is vulnerable to flooding. This would be a multi-jurisdictional effort with North Wildwood.	In progress	Include in 2016 HMP Update
TM-17: Elevate Route 9 by High Tech in Edgewood to mitigate flooding.	Progress TBD.	Include in 2016 HMP Update, with updated details once determined.
TM-18 (CMC-9): Elevate Route 47 roadway and ramps, which will require elevating the Garden State Parkway bridge overpass (intersection of State Route 47 and Garden State Parkway)	No progress. County lead project - see county for update info.	Include in 2016 HMP Update, with updated details once determined.
TM-19 (CMC-12): Elevate Route 147 roadway and ramps, which will require elevating the Garden State Parkway bridge overpass (intersection of State Route 147 and Garden State Parkway)	No progress. County lead project - see county for update info.	Include in 2016 HMP Update, with updated details once determined.
TM-20 (CMC-20): As an interim project prior to implementation of TM-21 below, elevate the Avalon Boulevard northbound onramp to the GSP (chronic problem area and critical for evacuation)	No progress. County lead project - see county for update info.	Include in 2016 HMP Update, with updated details once determined.
TM-21 (CMC-21): Elevate Avalon Blvd roadway and ramp, which will require elevating the Garden State Parkway bridge overpass (intersection of Avalon Blvd and Garden State Parkway)	No progress. County lead project - see county for update info.	Include in 2016 HMP Update, with updated details once determined.
TM-22: Identify and install proper locations for and install water drawn stations (siphons) to increase fire-fighting capabilities.	Progress TBD.	Include in 2016 HMP Update, with updated details once determined.
TM-23 (CMC-17 and TL-16): Elevate CR-603 (Bayshore Road) through Lower and Middle Townships through Fishing Creek Swamp. County to advise as to status of this project	No progress. County lead project - see county for update info.	Include in 2016 HMP Update, with updated details once determined.



**Table 9.7-11. Past Mitigation Initiative Status**

Description	Status	Review Comments
TM-24 (CMC-22, Avalon): Elevate Avalon Boulevard from Parkway into Avalon proper (~2.5 miles).	No progress. County lead project - see county for update info.	Include in 2016 HMP Update, with updated details once determined.
TM-25 (CMC-43): Conduct an engineering study to understand flooding issues and evaluate possible solutions along the entire length of Shunpike Road (CR620) in Middle Township	No progress. County lead project - see county for update info.	Include in 2016 HMP Update, with updated details once determined.
TM-26 (CMC-50): Conduct an engineering study to understand flooding issues and evaluate possible solutions at low areas along Satt Boulevard (CR626) in Middle Township	No progress. County lead project - see county for update info.	Include in 2016 HMP Update, with updated details once determined.
TM-27 (CMC-51): Conduct an engineering study to understand flooding issues and evaluate possible solutions along Railroad Avenue (CR626) in Middle Township	No progress. County lead project - see county for update info.	Include in 2016 HMP Update, with updated details once determined.
TM-28 (CMC-53): Conduct an engineering study to understand flooding issues and evaluate possible solutions along Dias Creek Road (CR612) in Middle Township	No progress. County lead project - see county for update info.	Include in 2016 HMP Update, with updated details once determined.
TM-29 (CMC-54): Conduct an engineering study to understand flooding issues and evaluate possible solutions along Indian Trail Road (CR618) in Middle Township	No progress. County lead project - see county for update info.	Include in 2016 HMP Update, with updated details once determined.
TM-30 (CMC-55): Conduct an engineering study to understand flooding issues and evaluate possible solutions along Goshen-Swainton Road (CR646) in Middle Township	No progress. County lead project - see county for update info.	Include in 2016 HMP Update, with updated details once determined.
TM-31 (CMC-62): Install shore/roadway protection along Ocean Drive (CR619) in Middle Township	No progress. County lead project - see county for update info.	Include in 2016 HMP Update, with updated details once determined.
TM-32 (CMC-63): Construction of storm drain pipe to minimize flooding on Goshen Road (CR615) from Johnson Lane to Church Street in Middle Township	No progress. County lead project - see county for update info.	Include in 2016 HMP Update, with updated details once determined.
TM-33 (CMC-64): Construction of storm sewer system to alleviate flooding on Court House – South Dennis Road (CR657) from Village Drive to College Drive in Middle Township	No progress. County lead project - see county for update info.	Include in 2016 HMP Update, with updated details once determined.
TM-34 (CMC-69): Become a National Fire Protection Association (NFPA) “Firewise” community. Participation in the NFPA “Firewise” program shall be supported by countywide and regional resources including the Cape May County Fire Chiefs Association and the New Jersey State Forest Fire Service (Firewise Community Liaison) by providing information on the “Firewise” program, facilitating public outreach and awareness programs, and supporting community fire risk reduction activities as appropriate (see County Initiative CMC-69).	No progress.	Include in 2016 HMP Update.
TD-35: Through attendance at the regular meetings of the Cape May County Fire Chiefs Association, and in partnership with the New Jersey Division of Fire Safety and the New Jersey State Forest Fire Service, expand and	In progress.	Include in 2016 HMP Update.



Table 9.7-11. Past Mitigation Initiative Status

Description	Status	Review Comments
enhance public awareness and education programs that support wildfire mitigation at the property owner level; and expand local wildfire preparedness and response capabilities through participation in seminars and training, and the implementation of recommendations and initiatives offered by these agencies, as resources permit.		

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

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

- None identified to date.

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

Table 9.7-12 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, fourteen evaluation/prioritization criteria are used to complete the prioritization of mitigation initiatives. For each new mitigation action, a numeric rank is assigned (-1, 0, or 1) for each of the 14 evaluation criteria to assist with prioritizing your actions as ‘High,’ ‘Medium,’ or ‘Low.’ The table below summarizes the evaluation of each mitigation initiative, listed by Action Number.

Table 9.7-13 provides a summary of the prioritization of all proposed mitigation initiatives for the Plan update.



Table 9.7-12. Proposed Hazard Mitigation Initiatives

Initiative	Mitigation Initiative	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Goals Met	Lead and Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category	CRS Category
TM-1a	<p>Property Mitigation Support – Retrofit: Where appropriate, support retrofitting (e.g. elevation) of structures located in hazard-prone areas to protect structures from future damage, with repetitive loss and severe repetitive loss properties as priority. Identify facilities that are viable candidates for retrofitting based on cost-effectiveness versus relocation. Where retrofitting is determined to be a viable option, consider implementation of that action based on available funding. The Township is constantly monitoring structures.</p> <p>Funding sources: FEMA Mitigation Grant Programs (primarily HMGP and FMA); local property owner for match as supported by ICC and other non-Federal match sources as available.</p>											
	See above.	Existing	Hurricane / Tropical Storm, Flood, Severe Weather	1, 2, 4, 6	Township (likely through NFIP Floodplain Administrator)	High	High	See above.	Long-term DOF	Medium-High*	EAP, SIP	PI, PP
TM-1b	<p>Property Mitigation Support – Acquisition/Relocation: Where appropriate, support acquisition and/or relocation of structures located in hazard-prone areas to protect structures from future damage, with repetitive loss and severe repetitive loss properties as priority. Identify facilities that are viable candidates for acquisition/relocation based on cost-effectiveness versus retrofitting. Where acquisition/relocation is determined to be a viable option, consider implementation of that action based on available funding. The Township is constantly monitoring structures, however acquisitions are unlikely in the Township.</p> <p>Funding sources: FEMA Mitigation Grant Programs (primarily HMGP and FMA); local property owner for match as supported by ICC and other non-Federal match sources as available.</p>											
	See above.	Existing	Hurricane / Tropical Storm, Flood, Severe Weather	1, 2, 4, 6	Township (likely through NFIP Floodplain Administrator)	High	High	See above.	Long-term DOF	Medium-High*	EAP, SIP	PI, PP
TM-2 [former TM-2 and TM-4 (CMC-2)]	<p>Continue to maintain compliance with, and good-standing in the National Flood Insurance program, as well as continued evaluation of entering the CRS program in consideration of local resources to support the program and the overall benefits to NFIP insured property owners.</p>											
	See above.	New & Existing	Hurricane / Tropical Storm, Flood, Severe Weather	1, 2, 6	Township (likely through NFIP Floodplain Administrator)	Medium - High	Low - Medium	Local Budget	In progress. Floodplain Administrator is working on this.	High	All	All
TM-3 (former TM-3)	Continue to support the implementation, monitoring, maintenance, and updating of this Plan, as defined in Section 7.0.	New & Existing	All Hazards	1 through 6	Township (through mitigation planning point of contacts)	Medium	Low – High (for 5-year update)	Local Budget, possibly FEMA Mitigation Grant Funding for	Ongoing	Medium	LPR, EAP	PR, PI



Table 9.7-12. Proposed Hazard Mitigation Initiatives

Initiative	Mitigation Initiative	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Goals Met	Lead and Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category	CRS Category
								5-year update				
TM-4 (former TM-4)	Continue to develop, enhance, and implement existing emergency plans. Township is currently working on updating their EOP.	New & Existing	All Hazards	1, 3, 4, 6	Municipal Emergency Manager with support from County OEM and NJ OEM	Medium	Low	Local Budget	Ongoing. EOP update 75% complete.	Medium	LPR, EM	PR, EM
TM-5 (former TM-5)	Create/enhance/ maintain mutual aid agreements with neighboring communities.	New & Existing	All Hazards	1, 3, 4, 6	Township OEM Coordinator	Medium	Low - Medium	Local Budget	Ongoing	Medium	LPR	PR
TM-6 (former TM-7)	Support County-wide initiatives identified in Section 9.1 of the County Annex. Support county-wide initiatives identified in the Cape May County Hazard Mitigation Plan	New & Existing	All Hazards	1 through 6	Local departments (as applicable for specific initiative)	Low - Medium	Low - High	Existing programs and grant funding where applicable	Ongoing – Long-term depending on initiative	Medium – High (dependent)	All	All
TM-7 (former TM-8)	Purchase back-up generator to supply back-up power to the regional shelter located at Elementary #2 School. Continue to seek available grant funding.	Existing	All Hazards (except Coastal Erosion)	1, 3, 4	School Board, as supported by Township (grant funding)	High – Improved emergency response and recovery capabilities (sheltering)	Low	Existing programs and grant funding where applicable	DOF	Medium	SIP	PP
TM-8 (former TM-9)	Widen the lanes of Route 47 to accommodate more traffic. This heavily trafficked roadway is an essential evacuation route. This project would be a part of a regional project with Dennis Township and Cumberland County.	Existing	All Hazards (except Coastal Erosion)	1, 3, 4, 6	Middle Township; Dennis Township; Cape May County; Cumberland County; State of New Jersey	Reduced vulnerability of critical transportation infrastructure to flooding; potential life-safety (evacuation)	High	FEMA HMA, other grant funding where applicable	Progress TBD.	Medium	SIP	PP
TM-9 (former TM-10)	Widen the lanes on Courthouse Dennisville Road to accommodate more traffic. This heavily	Existing	All Hazards (except	1, 3, 4, 6	Middle Township; Cape May County	Reduced vulnerability of critical transportation	High	FEMA HMA, other grant funding	Progress TBD.	Medium	SIP	PP



**Table 9.7-12. Proposed Hazard Mitigation Initiatives**

Initiative	Mitigation Initiative	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Goals Met	Lead and Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category	CRS Category
	trafficked roadway is an essential evacuation route.		Coastal Erosion)			infrastructure to flooding; potential life-safety (evacuation)		where applicable				
TM-10 (former TM-11)	Widen the lanes on Indian Trail Road (County Road). This heavily trafficked roadway is an essential evacuation route.	Existing	All Hazards (except Coastal Erosion)	1, 3, 4, 6	Middle Township; Cape May County	Reduced vulnerability of critical transportation infrastructure to flooding; potential life-safety (evacuation)	High	FEMA HMA, other grant funding where applicable	Progress TBD.	Medium	SIP	PP
TM-11 (former TM-12)	Elevate Beach Avenue on Reeds Beach to mitigate flooding.	Existing	Hurricane / Tropical Storm, Severe Weather, Flood	1, 3, 4	Middle Township	Reduced vulnerability of critical transportation infrastructure to flooding; potential life-safety (evacuation)	High	FEMA HMA, other grant funding where applicable	Progress TBD.	Medium	SIP	PP
TM-12 (former TM-13)	Purchase and install hurricane shutters on municipal buildings; with high priority to Town Hall.	Existing	Hurricane / Tropical Storm, Severe Weather	1, 3, 4	Middle Township	High	Medium	FEMA HMA, other grant funding where applicable	In progress – TBD.	Medium	SIP	PP
TM-13 (former TM-14)	Bulkheads on Reeds Beach to mitigate flooding in residential area which will mitigate flooding for approximately 30 homes.	Existing	Hurricane / Tropical Storm, Severe Weather, Flood	1, 4	Middle Township	Medium - High	Medium	FEMA HMA, other grant funding where applicable	Progress TBD.	Medium	SIP	PP
TM-14 (former TM-15)	Elevate Springer’s Mill Road to mitigate flooding	Existing	Hurricane / Tropical Storm, Severe Weather, Flood	1, 3, 4	Cape May County	Reduced vulnerability of critical transportation infrastructure to flooding; potential life-	High	FEMA HMA, other grant funding where applicable	Progress TBD.	Medium	SIP	PP





Table 9.7-12. Proposed Hazard Mitigation Initiatives

Initiative	Mitigation Initiative	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Goals Met	Lead and Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category	CRS Category
						safety (evacuation)						
TM-15 (former TM-16)	Connect Grassy Sound's sewers to public sewer system. The existing sewer system consists of an above-ground tank that is vulnerable to flooding. This would be a multi-jurisdictional effort with North Wildwood.	Existing	Hurricane / Tropical Storm, Severe Weather, Flood	1, 3, 6	North Wildwood; Middle Township	High	Medium to High	Middle Township Capital Budget; PDM	In progress	Medium	SIP	PP
TM-16 (former TM-17)	Elevate Route 9 by High Tech in Edgewood to mitigate flooding.	Existing	Hurricane / Tropical Storm, Severe Weather, Flood	1, 3, 4	Middle Township; State of New Jersey	Reduced vulnerability of critical transportation infrastructure to flooding; potential life-safety (evacuation)	High	FEMA HMA, other grant funding where applicable	Progress TBD.	Medium	SIP	PP
TM-17 [former (CMC-9)]	Elevate Route 47 roadway and ramps, which will require elevating the Garden State Parkway bridge overpass (intersection of State Route 47 and Garden State Parkway)	Existing	Hurricane / Tropical Storm, Severe Weather, Flood	1, 3, 4	NJ DOT; New Jersey Turnpike Authority	Reduced vulnerability of critical transportation infrastructure to flooding; potential life-safety (evacuation)	High	State/Federal tolls	No progress. County lead project - see county for update info.	Medium	SIP	PP
TM-18 [former (CMC-12)]	Elevate Route 147 roadway and ramps, which will require elevating the Garden State Parkway bridge overpass (intersection of State Route 147 and Garden State Parkway)	Existing	Hurricane / Tropical Storm, Severe Weather, Flood	1, 3, 4	NJ DOT; New Jersey Turnpike Authority	Reduced vulnerability of critical transportation infrastructure to flooding; potential life-safety (evacuation)	High	FEMA HMA, other grant funding where applicable	No progress. County lead project - see county for update info.	Medium	SIP	PP
TM-19 [former (CMC-20)]	As an interim project prior to implementation of TM-21 below, elevate the Avalon Boulevard	N/A	Hurricane / Tropical Storm, Flooding,	1, 3, 4	County Engineering with NJTPA	Reduced vulnerability of critical transportation	High (because funding is not)	TBD	No progress. County lead project - see	High	SIP	PP



Table 9.7-12. Proposed Hazard Mitigation Initiatives

Initiative	Mitigation Initiative	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Goals Met	Lead and Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category	CRS Category
	northbound onramp to the GSP (chronic problem area and critical for evacuation)		Severe Weather			infrastructure to flooding; potential life-safety (evacuation)	identified) but project is relatively low cost – Priority is HIGH		county for update info.			
TM-20 [former (CMC-21)]	Elevate Avalon Blvd roadway and ramp, which will require elevating the Garden State Parkway bridge overpass (intersection of Avalon Blvd and Garden State Parkway)	Existing	Hurricane / Tropical Storm, Severe Weather, Flood	1, 3, 4	NJ DOT; New Jersey Turnpike Authority	Reduced vulnerability of critical transportation infrastructure to flooding; potential life-safety (evacuation)	High	FEMA HMA, other grant funding where applicable	No progress. County lead project - see county for update info.	Medium	SIP	PP
TM-21 (former TM-22)	Identify and install proper locations for and install water drawn stations (siphons) to increase fire-fighting capabilities.	New & Existing	Wildfire	1, 3, 4	Township	Medium – Increased firefighting capabilities	Medium	FEMA HMA, other grant funding where applicable	Progress TBD.	Medium	SIP, EM	PP, ES
TM-22 [former (CMC-17 and TL-16)]	Elevate CR-603 (Bayshore Road) through Lower and Middle Townships through Fishing Creek Swamp. County to advise as to status of this project	Existing	Hurricane / Tropical Storm, Severe Weather, Flood	1, 3, 4	Cape May County	Reduced vulnerability of critical transportation infrastructure to flooding; potential life-safety (evacuation)	High	FEMA HMA, other grant funding where applicable	No progress. County lead project - see county for update info.	Medium	SIP	PP
TM-23 [former (CMC-22, Avalon)]	Elevate Avalon Boulevard from Parkway into Avalon proper (~2.5 miles).	Existing	Hurricane / Tropical Storm, Flooding, Severe Weather	1, 3, 4	County Engineering	Reduced vulnerability of critical transportation infrastructure to flooding; potential life-safety (evacuation)	High	TBD	No progress. County lead project - see county for update info.	Medium	SIP	PP
TM-24 [former	Conduct an engineering study to understand flooding issues and	Existing	Severe Weather, Flooding	1, 3, 4, 6	County Engineering with	Reduced vulnerability of critical	Medium	County and Local Funding	No progress. County lead project - see	High	SIP	PP



Table 9.7-12. Proposed Hazard Mitigation Initiatives

Initiative	Mitigation Initiative	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Goals Met	Lead and Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category	CRS Category
(CMC-43)]	evaluate possible solutions along the entire length of Shunpike Road (CR620) in Middle Township				municipal support	transportation infrastructure to flooding; potential life-safety (evacuation)			county for update info.			
TM-25 [former (CMC-50)]	Conduct an engineering study to understand flooding issues and evaluate possible solutions at low areas along Satt Boulevard (CR626) in Middle Township	Existing	Severe Weather, Flooding	1, 3, 4, 6	County Engineering with municipal support	Reduced vulnerability of critical transportation infrastructure to flooding; potential life-safety (evacuation)	Medium	County and Local Funding	No progress. County lead project - see county for update info.	High	SIP	PP
TM-26 [former (CMC-51)]	Conduct an engineering study to understand flooding issues and evaluate possible solutions along Railroad Avenue (CR626) in Middle Township	Existing	Severe Weather, Flooding	1, 3, 4, 6	County Engineering with municipal support	Reduced vulnerability of critical transportation infrastructure to flooding; potential life-safety (evacuation)	Medium	County and Local Funding	No progress. County lead project - see county for update info.	High	SIP	PP
TM-27 [former (CMC-53)]	Conduct an engineering study to understand flooding issues and evaluate possible solutions along Dias Creek Road (CR612) in Middle Township	Existing	Severe Weather, Flooding	1, 3, 4, 6	County Engineering with municipal support	Reduced vulnerability of critical transportation infrastructure to flooding; potential life-safety (evacuation)	Medium	County and Local Funding	No progress. County lead project - see county for update info.	High	SIP	PP
TM-28 [former (CMC-54)]	Conduct an engineering study to understand flooding issues and evaluate possible solutions along Indian Trail Road (CR618) in Middle Township	Existing	Severe Weather, Flooding	1, 3, 4, 6	County Engineering with municipal support	Reduced vulnerability of critical transportation infrastructure to flooding; potential life-safety (evacuation)	Medium	County and Local Funding	No progress. County lead project - see county for update info.	High	SIP	PP



Table 9.7-12. Proposed Hazard Mitigation Initiatives

Initiative	Mitigation Initiative	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Goals Met	Lead and Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category	CRS Category
TM-29 [former (CMC-55)]	Conduct an engineering study to understand flooding issues and evaluate possible solutions along Goshen-Swainton Road (CR646) in Middle Township	Existing	Severe Weather, Flooding	1, 3, 4, 6	County Engineering with municipal support	Reduced vulnerability of critical transportation infrastructure to flooding; potential life-safety (evacuation)	Medium	County and Local Funding	No progress. County lead project - see county for update info.	High	SIP	PP
TM-30 [former (CMC-62)]	Install shore/roadway protection along Ocean Drive (CR619) in Middle Township	Existing	Hurricane / Tropical Storm, Severe Weather, Coastal Erosion	1, 3, 4, 5	County Engineering with municipal support	Reduced vulnerability of critical transportation infrastructure to flooding; potential life-safety (evacuation)	High	HMA Grants, County and Local Funding	No progress. County lead project - see county for update info.	High	SIP	PP
TM-31 [former (CMC-63)]	Construction of storm drain pipe to minimize flooding on Goshen Road (CR615) from Johnson Lane to Church Street in Middle Township	New & Existing	Flooding, Severe Weather	1, 3, 4, 6	County Engineering with municipal support	Reduced vulnerability of critical transportation infrastructure to flooding; potential life-safety (evacuation)	Low	HMA Grants, County and Local Funding	No progress. County lead project - see county for update info.	High	SIP	PP
TM-32 [former (CMC-64)]	Construction of storm sewer system to alleviate flooding on Court House – South Dennis Road (CR657) from Village Drive to College Drive in Middle Township	New & Existing	Flooding, Severe Weather	1, 3, 4, 6	County Engineering with municipal support	Reduced vulnerability of critical transportation infrastructure to flooding; potential life-safety (evacuation)	Low	HMA Grants, County and Local Funding	No progress. County lead project - see county for update info.	High	SIP	PP
TM-33 (former TM-34 (CMC-69))	Become a National Fire Protection Association (NFPA) “Firewise” community. Participation in the NFPA “Firewise” program shall be supported by countywide and regional resources including the Cape May County Fire Chiefs Association and the New Jersey State Forest Fire Service (Firewise Community Liaison) by providing information on the “Firewise” program, facilitating public outreach and awareness programs, and supporting community fire risk reduction activities as appropriate (see County Initiative CMC-69).											
	See above.	N/A	Wildfire	1, 2, 4, 6	Local Fire Chiefs working with	Medium	L-M	Existing Budgets	Short-term	High	EM, EAP	ES, PI



**Table 9.7-12. Proposed Hazard Mitigation Initiatives**

Initiative	Mitigation Initiative	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Goals Met	Lead and Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category	CRS Category
					County Fire Coordinator							
TM-34 (former TM-35)	Through attendance at the regular meetings of the Cape May County Fire Chiefs Association, and in partnership with the New Jersey Division of Fire Safety and the New Jersey State Forest Fire Service, expand and enhance public awareness and education programs that support wildfire mitigation at the property owner level; and expand local wildfire preparedness and response capabilities through participation in seminars and training, and the implementation of recommendations and initiatives offered by these agencies, as resources permit.											
	See above.	N/A	Wildfire	1, 2, 4, 6	Local Fire Chiefs	Improved local capabilities to manage wildfire risk	LM	Existing Budgets	Short-term	High	EM, EAP	ES, PI

**Notes:**

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

(1) 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.

(2) While Climate Change and Sea Level rise are not specifically identified as "hazards mitigated" in this table, it is recognized that climate change and sea level rise may exacerbate/amplify the risk of the following identified hazards: Climate Change – Coastal Erosion, Flood Coastal Storms (hurricane, tropical storms, Nor'Easters), Severe Weather, Severe Winter Weather, Wildfire; Sea Level Rise – Coastal Erosion, Flood Coastal Storms (hurricane, tropical storms, Nor'Easters), Tsunami.

Acronyms and Abbreviations:

CAV	Community Assistance Visit
CRS	Community Rating System
DPW	Department of Public Works
FEMA	Federal Emergency Management Agency
FPA	Floodplain Administrator
HMA	Hazard Mitigation Assistance
N/A	Not applicable
NFIP	National Flood Insurance Program
OEM	Office of Emergency Management

Potential FEMA HMA Funding Sources:

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

Timeline:

Short	1 to 5 years
Long Term	5 years or greater
OG	On-going program
DOF	Depending on funding

Costs:

Where actual project costs have been reasonably estimated:

Low	< \$10,000
Medium	\$10,000 to \$100,000
High	> \$100,000

Where actual project costs cannot reasonably be established at this time:

Low	Possible to fund under existing budget. Project is part of, or can be part of an existing on-going program.
Medium	Could budget for under existing work plan, but would require a reapportionment of the budget or a budget amendment, or the cost of the project would have to be spread over multiple years.

Benefits:

Where possible, an estimate of project benefits (per FEMA's benefit calculation methodology) has been evaluated against the project costs, and is presented as:

Low=	< \$10,000
Medium	\$10,000 to \$100,000
High	> \$100,000

Where numerical project benefits cannot reasonably be established at this time:

Low	Long-term benefits of the project are difficult to quantify in the short term.
Medium	Project will have a long-term impact on the reduction of risk exposure to life and property, or project will provide an immediate reduction in the risk exposure to property.



Costs:

High Would require an increase in revenue via an alternative source (i.e., bonds, grants, fee increases) to implement. Existing funding levels are not adequate to cover the costs of the proposed project.

Benefits:

High Project will have an immediate impact on the reduction of risk exposure to life and property.

Mitigation Category:

- *Local Plans and Regulations (LPR)* – These actions include government authorities, policies or codes that influence the way land and buildings are being developed and built.
- *Structure and Infrastructure Project (SIP)*- These actions involve modifying existing structures and infrastructure to protect them from a hazard or remove them from a hazard area. This could apply to public or private structures as well as critical facilities and infrastructure. This type of action also involves projects to construct manmade structures to reduce the impact of hazards.
- *Natural Systems Protection (NSP)* – These are actions that minimize damage and losses, and also preserve or restore the functions of natural systems.
- *Education and Awareness Programs (EAP)* – These are actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. These actions may also include participation in national programs, such as StormReady and Firewise Communities
- *Emergency Management (EM)* – These actions are identified as an emergency management activity; however, they are not necessarily “mitigation”

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 9.7-13. Summary of Prioritization of Actions

Mitigation Action / Project Number	Mitigation Action/Initiative	Life Safety	Property Protection	Cost-Effectiveness	Technical	Political	Legal	Fiscal	Environmental	Social	Administrative	Multi-Hazard	Timeline	Agency Champion	Other Community Objectives	Total	High / Medium / Low
TM-1a	Property Mitigation Support – Retrofit	1	1	1	1	1	0	0	0	1	1	1	1	1	0	10	Medium-High*
TM-1b	Property Mitigation Support – Acquisition/Relocation	1	1	1	1	0	0	0	0	1	1	1	1	1	0	9	Medium-High*
TM-2 [former TM-2 and TM-4 (CMC-2)]	Continue to maintain compliance with, and good-standing in the National Flood Insurance program, as well as continued evaluation of entering the CRS program in consideration of local resources to support the program and the overall benefits to NFIP insured property owners.	0	1	1	1	1	1	0	0	1	1	1	1	1	1	11	High
TM-3 (former TM-3)	Continue to support the implementation, monitoring, maintenance, and updating of this Plan, as defined in Section 7.0.	0	1	1	1	1	1	0	0	1	1	1	1	1	1	11	Medium
TM-4 (former TM-4)	Continue to develop, enhance, and implement existing emergency plans. Township is currently working on updating their EOP.	1	1	1	1	1	1	0	0	1	0	1	1	1	1	11	Medium
TM-5 (former TM-5)	Create/enhance/ maintain mutual aid agreements with neighboring communities.	1	1	1	1	1	1	0	0	1	0	1	1	1	1	11	Medium
TM-6 (former TM-7)	Support County-wide initiatives identified in Section 9.1 of the County Annex. Support county-wide initiatives identified in the Cape May County Hazard Mitigation Plan.	1	1	0	1	0	1	0	0	1	0	1	1	1	1	9	Medium – High (dependent)
TM-7 (former TM-8)	Purchase back-up generator to supply back-up power to the regional shelter located at Elementary #2 School. Continue to seek available grant funding.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Medium
TM-8 (former TM-9)	Widen the lanes of Route 47 to accommodate more traffic. This heavily trafficked roadway is an essential evacuation route. This project would be a part of a regional project with Dennis Township and Cumberland County.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Medium
TM-9 (former TM-10)	Widen the lanes on Courthouse Dennisville Road to accommodate more traffic. This heavily trafficked roadway is an essential evacuation route.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Medium
TM-10 (former TM-11)	Widen the lanes on Indian Trail Road (County Road). This heavily trafficked roadway is an essential evacuation route.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Medium
TM-11 (former TM-12)	Elevate Beach Avenue on Reeds Beach to mitigate flooding.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Medium
TM-12 (former TM-13)	Purchase and install hurricane shutters on municipal buildings; with high priority to Town Hall.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Medium





Table 9.7-13. Summary of Prioritization of Actions

Mitigation Action / Project Number	Mitigation Action/Initiative	Life Safety	Property Protection	Cost-Effectiveness	Technical	Political	Legal	Fiscal	Environmental	Social	Administrative	Multi-Hazard	Timeline	Agency Champion	Other Community Objectives	Total	High / Medium / Low
TM-13 (former TM-14)	Bulkheads on Reeds Beach to mitigate flooding in residential area which will mitigate flooding for approximately 30 homes.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Medium
TM-14 (former TM-15)	Elevate Springer's Mill Road to mitigate flooding	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Medium
TM-15 (former TM-16)	Connect Grassy Sound's sewers to public sewer system. The existing sewer system consists of an above-ground tank that is vulnerable to flooding. This would be a multi-jurisdictional effort with North Wildwood.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Medium
TM-16 (former TM-17)	Elevate Route 9 by High Tech in Edgewood to mitigate flooding.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Medium
TM-17 [former (CMC-9)]	Elevate Route 47 roadway and ramps, which will require elevating the Garden State Parkway bridge overpass (intersection of State Route 47 and Garden State Parkway)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Medium
TM-18 [former (CMC-12)]	Elevate Route 147 roadway and ramps, which will require elevating the Garden State Parkway bridge overpass (intersection of State Route 147 and Garden State Parkway)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Medium
TM-19 [former (CMC-20)]	As an interim project prior to implementation of TM-21 below, elevate the Avalon Boulevard northbound onramp to the GSP (chronic problem area and critical for evacuation)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	High
TM-20 [former (CMC-21)]	Elevate Avalon Blvd roadway and ramp, which will require elevating the Garden State Parkway bridge overpass (intersection of Avalon Blvd and Garden State Parkway)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Medium
TM-21 (former TM-22)	Identify and install proper locations for and install water drawn stations (siphons) to increase fire-fighting capabilities.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Medium
TM-22 [former (CMC-17 and TL-16)]	Elevate CR-603 (Bayshore Road) through Lower and Middle Townships through Fishing Creek Swamp. County to advise as to status of this project	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Medium
TM-23 [former (CMC-22, Avalon)]	Elevate Avalon Boulevard from Parkway into Avalon proper (~2.5 miles).	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Medium
TM-24 [former (CMC-43)]	Conduct an engineering study to understand flooding issues and evaluate possible solutions along the entire length of Shunpike Road (CR620) in Middle Township	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	High







Table 9.7-13. Summary of Prioritization of Actions

Mitigation Action / Project Number	Mitigation Action/Initiative	Life Safety	Property Protection	Cost-Effectiveness	Technical	Political	Legal	Fiscal	Environmental	Social	Administrative	Multi-Hazard	Timeline	Agency Champion	Other Community Objectives	Total	High / Medium / Low
TM-25 [former CMC-50]	Conduct an engineering study to understand flooding issues and evaluate possible solutions at low areas along Satt Boulevard (CR626) in Middle Township	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	High
TM-26 [former CMC-51]	Conduct an engineering study to understand flooding issues and evaluate possible solutions along Railroad Avenue (CR626) in Middle Township	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	High
TM-27 [former CMC-53]	Conduct an engineering study to understand flooding issues and evaluate possible solutions along Dias Creek Road (CR612) in Middle Township	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	High
TM-28 [former CMC-54]	Conduct an engineering study to understand flooding issues and evaluate possible solutions along Indian Trail Road (CR618) in Middle Township	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	High
TM-29 [former CMC-55]	Conduct an engineering study to understand flooding issues and evaluate possible solutions along Goshen-Swainton Road (CR646) in Middle Township	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	High
TM-30 [former CMC-62]	Install shore/roadway protection along Ocean Drive (CR619) in Middle Township	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	High
TM-31 [former CMC-63]	Construction of storm drain pipe to minimize flooding on Goshen Road (CR615) from Johnson Lane to Church Street in Middle Township	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	High
TM-32 [former CMC-64]	Construction of storm sewer system to alleviate flooding on Court House – South Dennis Road (CR657) from Village Drive to College Drive in Middle Township	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	High
TM-33 (former TM-34 (CMC-69)	Become a National Fire Protection Association (NFPA) “Firewise” community.	1	1	1	1	1	1	0	0	1	0	0	1	1	1	10	High
TM-34 (former TM-35)	Enhanced Wildfire Public Awareness and Education	1	1	1	1	1	1	1	0	1	0	0	1	1	1	11	High

\*The municipality recognizes that the mitigation of RL/SRL priorities is a Federal and State priority despite the fact that limited local resources and authority limit the municipality's ability to implement this project.

Note: Refer to Section 6 which contains the guidance on conducting the prioritization of mitigation actions. Where the community has determined that the original priority ranking for “carry forward” initiatives remains valid, the earlier priority ranking is indicated on the prioritization table, however the 2016 criteria ratings are indicated with a null “-” marking..



### **9.7.7 Future Needs To Better Understand Risk/Vulnerability**

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None at this time.

### **9.7.8 Hazard Area Extent and Location**

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

### **9.7.9 Additional Comments**

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None at this time.



Figure 9.7-1. Township of Middle Hazard Area Extent and Location Map 1





