



9.17 Borough of Woodbine

This section presents the jurisdictional annex for the Borough of Woodbine.

9.17.1 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
Mayor Wm. Pikolycky 501 Washington Avenue Woodbine, NJ 08270 (609) 861-2153 mayor@boroughofwoodbine.net	Jeff Doran, Emergency Management 501 Washington Avenue Woodbine, NJ 08270 (609) 517-1986 jeff@jdoran.net

9.17.2 Municipal Profile

The Borough of Woodbine is located within the northern section of Cape May County, New Jersey. It is bounded on the north and east by the Township of Upper and on the south and west by the Township of Dennis. It is part of the Ocean City Metropolitan Statistical Area.

According to the U.S. Census Bureau, the borough has a total area of 8.0 square miles, all of it land. The majority of the Borough lies within the Pinelands Preservation Area, wherein land use is strictly controlled by the Pinelands Commission authorized by the NJDEP. It is estimated that there are 2,439 people residing in the Borough as of July 1, 2014.

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 9.17.8 of this annex, which illustrates the hazard areas along with the location of potential new development.

Table 9.17-1. 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
Recent Development from 2010 to Present						
Automobile Dealership	Comm.	1	600 block of DeHirsch		None	Complete
Known or Anticipated Development in the Next Five (5) Years						
None identified						

* Only location-specific hazard zones or vulnerabilities identified.

9.17.3 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 9.17-2. Hazard Event History

Date(s) of Event	Event Type	FEMA Declaration # (If Applicable)	County Designated?	Summary of Damages/Losses
February 5-6, 2010	Snow	DR-1889	Yes	PA Amount Received - \$1,926.15
March 12, 2010	Nor'easter	DR-1897	Yes	PA Amount Received - \$4,499.81
August 26-28, 2011	Hurricane	DR-4021	Yes	PA Amount Received - \$20,979.20
December 26-27, 2010	Snow	DR-1954	Yes	PA Amount Received - \$5,548.74
October 29-30, 2012	Hurricane	DR-4086	Yes	PA Amount Received - \$439.59

9.17.4 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 Borough of Woodbine. 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 Borough of Woodbine.

Table 9.17-3. Hazard Risk/Vulnerability Risk Ranking

Hazard type	Estimate of Potential Dollar Losses to Structures Vulnerable to the Hazard ^{a, c}	Probability of Occurrence	Risk Ranking Score (Probability x Impact)	Hazard Ranking ^b
Climate Change & Sea Level Rise	RCV in +3 feet: \$0	Frequent	18	Medium
Coastal Erosion	RCV in CEHA: \$0	Frequent	18	Medium
Flood	1% Annual Chance: \$0	Frequent	18	Medium
Hurricanes & Tropical Storms	Category 1 SLOSH: \$0 Category 2 SLOSH: \$0 Category 3 SLOSH: \$4,703,234 Category 4 SLOSH: \$15,963,840	Frequent	18	Medium
Nor'Easter	Damage estimate not available	Frequent	48	High
Severe Weather	100-Year MRP: \$1,873,047 500-year MRP: \$12,970,574 Annualized: \$128,139	Frequent	48	High
Severe Winter Weather	1% GBS: \$7,059,788 5% GBS: \$35,298,939	Frequent	51	High
Tsunami	Damage estimate not available	Rare	6	Low



Table 9.17-3. Hazard Risk/Vulnerability Risk Ranking

Hazard type	Estimate of Potential Dollar Losses to Structures Vulnerable to the Hazard ^{a, c}	Probability of Occurrence	Risk Ranking Score (Probability x Impact)	Hazard Ranking ^b
Wildfire	Estimated Value Exposed to Extreme, Very High and High: \$5,088,340	Frequent	27	Medium

Notes: GBS = General building stock; MRP = Mean return period.

- a. The general building stock valuation is based on the custom inventory generated for the County utilizing improved value.
- b. High = Total hazard priority risk ranking score of 31 and above
Medium = Total hazard priority risk ranking of 20-30+
Low = Total hazard risk ranking below 20
- c. Refer to Section 5.1 for further details on the loss methodology. Loss estimates for the severe storm and severe winter storm hazards are structural values only and do not include the estimated value of contents. Loss estimates for the flood and earthquake hazards represent both structure and contents. Potential flood loss estimates were generated using Hazus-MH and the 2015 FEMA DFIRM for the 1-percent annual chance event. For the wildfire hazard, the improved value and estimated contents of buildings located within the identified hazard zones is provided.

National Flood Insurance Program (NFIP) Summary

The following table summarizes the NFIP statistics for the Borough of Woodbine.

Table 9.17-4. 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)
Woodbine Borough	6	0	\$0	0	0	0

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 July 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 9.17-5. 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
Woodbine Borough	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Source: Cape May County

Note: EMS – Emergency Medical Services





Other Vulnerabilities Identified by Municipality

The Borough believes that their biggest hazard risk is from wildfire due to their location within and proximity to the Pinelands Preservation Area. Additionally, the Borough hosts the Woodbine Airport which is run by their local Port Authority.

9.17.5 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 Borough of Woodbine.

Table 9.17-6. Planning and Regulatory Tools

Tool/Program (code, ordinance, plan)	Do you have this? (Yes/No)	Authority (local, county, state, federal)	Dept./Agency Responsible	Code Citation and Comments (Code Chapter, name of plan, explanation of authority, etc.)
Planning Capability				
Master/Comprehensive Plan	Yes	Local	Planning and Zoning Board	
Capital Improvements Plan	No			
Floodplain Management/Basin Plan	No			
Stormwater Management Plan	No			
Open Space Plan	No			
Stream Corridor Management Plan	No			
Watershed Management or Protection Plan	No			
Economic Development Plan	Yes	Local		
Comprehensive Emergency Management Plan	Yes	Local		
Emergency Operations Plan	Yes	Local		
Post-Disaster Recovery Plan	No			
Transportation Plan	No			
Strategic Recovery Planning Report	Yes	County		County-wide SRPR
Other Plans:	Yes	Local		Rural Sustainability Plan
Regulatory Capability				
Building Code	Yes	State & Local		State Uniform Construction Code Act (N.J.S. 52:27D-119 et seq.)
Zoning Ordinance	Yes	Local		Ch. 26, Adopted 1982
Subdivision Ordinance	Yes	Local		Ch. 24
NFIP Flood Damage Prevention Ordinance	Yes	Federal, State, Local		Ch. 22



Table 9.17-6. 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.)
NFIP: Cumulative Substantial Damages	No			
NFIP: Freeboard	Yes	State, Local		BEF+1
Growth Management Ordinances	No			
Site Plan Review Requirements	Yes	Local		Chapter 23 Land Use Development
Stormwater Management Ordinance	Yes	Local		Chapter 21 Stormwater Control
Municipal Separate Storm Sewer System (MS4)	No			
Natural Hazard Ordinance	No			
Post-Disaster Recovery Ordinance	No			
Real Estate Disclosure Requirement	Yes	State	Division of Consumer Affairs	N.J.A.C. 13:45A-29.1
Other [Special Purpose Ordinances (i.e., sensitive areas, steep slope)]	No			

Administrative and Technical Capability

The table below summarizes potential staff and personnel resources available to the Borough of Woodbine.

Table 9.17-7. Administrative and Technical Capabilities

Resources	Is this in place? (Yes or No)	Department/Agency/Position
Administrative Capability		
Planning Board	Yes	Planning and Zoning Board
Mitigation Planning Committee	No	
Environmental Board/Commission	No	
Open Space Board/Committee	No	
Economic Development Commission/Committee	No	
Maintenance Programs to Reduce Risk	Yes	Public Works
Mutual Aid Agreements	Yes	Vol. Fire Department with surrounding departments
Technical/Staffing Capability		
Planner(s) or Engineer(s) with knowledge of land development and land management practices	Yes	Under contract
Engineer(s) or Professional(s) trained in construction practices related to buildings and/or infrastructure	Yes	Under contract
Planners or engineers with an understanding of natural hazards	Yes	Under contract
NFIP Floodplain Administrator	Yes	Per Ch. 22 – “Borough Engineer or his designee”
Surveyor(s)	Yes	Under contract
Personnel skilled or trained in GIS and/or Hazus-MH applications	No	
Scientist familiar with natural hazards	Yes	Various, including Under contract



Table 9.17-7. Administrative and Technical Capabilities

Resources	Is this in place? (Yes or No)	Department/Agency/Position
Emergency Manager	Yes	Manuel Gonzalez
Grant Writer(s)	Yes	Triad Consultants
Staff with expertise or training in benefit/cost analysis	No	
Professionals trained in conducting damage assessments	No	

Fiscal Capability

The table below summarizes financial resources available to the Borough of Woodbine.

Table 9.17-8. Fiscal Capabilities

Financial Resources	Accessible or Eligible to Use (Yes/No/Don't Know)
Community Development Block Grants (CDBG, CDBG-DR)	Yes – Currently Using
Capital Improvements Project Funding	No
Authority to levy taxes for specific purposes	Yes – Have Not Used
User fees for water, sewer, gas, or electric service	No
Impact Fees for homebuyers or developers of new development/homes	Yes – COAH Fee Ordinance Established but Not Utilized Yet
Stormwater Utility Fee	
Incur debt through general obligation bonds	Yes – Have Not Used
Incur debt through special tax bonds	Yes – Never Used
Incur debt through private activity bonds	No
Withhold public expenditures in hazard-prone areas	No
Other Federal or State Funding Programs	Yes
Open Space Acquisition Funding Programs	Yes
Other	No

Education/Outreach and Community Classifications

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

Table 9.17-9. 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		
Public Protection (ISO Fire Protection Classes 1 to 10)	No		
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		





Table 9.17-9. Education/Outreach and Community Classifications

Program	Do you have/participate in this? (Yes/No)	Classification (if applicable)	Date Classified (if applicable)
Public Education Program/Outreach (through website, social media)	Yes	Municipal website	
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 Borough of Woodbine’s capability to work in a hazard-mitigation capacity and/or effectively implement hazard mitigation strategies to reduce hazard vulnerabilities.

Table 9.17-10. 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)

Bruce Graham, Engineering/Zoning

Resources

The Flood Damage Prevention Ordinance (FDPO) identifies the Borough Engineer or his designee as the NFIP Floodplain Administrator.

Compliance History

The Borough is currently in good standing with the NFIP.

Regulatory

The Borough of Woodbine's floodplain regulations is found in Chapter 22 of the municipal code and meets the minimum State and FEMA requirements.

Community Rating System

The Borough of Woodbine does not participate in the Community Rating System (CRS) program.

Integration of Hazard Mitigation into Existing and Future Planning Mechanisms

For a community to succeed in reducing long-term risk, hazard mitigation must be integrated into the day-to-day local government operations. As part of this planning effort, each community was surveyed to obtain a better understanding of their community's progress in plan integration. A summary is provided below. In addition, the community identified specific integration activities that will be incorporated into municipal procedures.

Regulatory and Enforcement (Ordinances)

The Borough has multiple chapters pertaining to the mitigation of hazards. These ordinances include the Flood Control chapter and Stormwater Control chapter.

Chapter XXII Flood Control – The purpose of this chapter is to promote the public health, safety and general welfare, and to minimize public and private losses due to flood conditions in specific areas by provisions designed:

- a. To protect human life and health.
- b. To minimize expenditure of public money for costly flood control projects.
- c. To minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public.
- d. To minimize prolonged business interruptions.
- e. To minimize damage to public facilities and utilities such as water and gas mains, electric, telephone, and sewer lines, and streets and bridges located in areas of special flood hazard.
- f. To help maintain a stable tax base by providing for the second use and development of areas of special flood hazard so as to minimize future flood blight areas.
- g. To insure that potential buyers are notified that property is in an area of special flood hazard.
- h. To insure that those who occupy the areas of special flood hazard assume responsibility for their actions.



Chapter XXI Stormwater Control – The purpose of this chapter is to establish minimum stormwater management requirements and controls for major development. Through this section, the Borough has established the following goals for stormwater control:

- a. To reduce flood damage, including damage to life and property;
- b. To minimize any increase in stormwater runoff from new development;
- c. To reduce soil erosion from any development or construction project;
- d. To assure the adequacy of existing and proposed culverts and bridges, and other in-stream structures;
- e. To maintain groundwater recharge;
- f. To minimize any increase in nonpoint pollution;
- g. To maintain the integrity of stream channels for their biological functions, as well as for drainage;
- h. To restore, protect, maintain and enhance the quality of the streams and water resources of the Borough and the ecological character and quality of the Pinelands Area;
- i. To minimize pollutants in stormwater runoff from new and existing development in order to restore, protect, enhance and maintain the chemical, physical and biological integrity of the surface and groundwaters of the Borough, to protect public health and to enhance the domestic, municipal, recreational, industrial and other uses of water; and
- j. To protect public safety through the proper design and operation of stormwater management basins.

Operational and Administration

While the Borough recognizes that it has a risk to wildfire, the entire Borough is on city water which includes fire hydrants. The State has an aggressive state forest fire program.

9.17.6 Mitigation Strategy and Prioritization

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

Past Mitigation Initiative Status

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

Table 9.17-11. Past Mitigation Initiative Status

Description	Status	Review Comments
BW-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.	Ongoing – No vulnerable properties identified to date.	Include in 2016 HMP Update.
BW-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	Ongoing – No vulnerable properties identified to date.	Include in 2016 HMP Update.



Table 9.17-11. Past Mitigation Initiative Status

Description	Status	Review Comments
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.		
BW-2 (CMC-2): Consider participation in the incentive-based program CRS.	The Borough has participated in informational events (meetings/workshops) to learn more about the CRS program and has decided not to formally participate at this time.	Discontinue in 2016 HMP Update.
BW-3: Continue to support the implementation, monitoring, maintenance, and updating of this Plan, as defined in Section 7.0	Ongoing. The Borough has participated in the implementation and monitoring of the plan over the past 5 years and is participating in the plan update.	This initiative is being removed from the updated mitigation strategy as it refers to activities that are a now an ongoing and normal part of municipal operations.
BW-4: Strive to maintain compliance with, and good-standing in the National Flood Insurance program.	Ongoing. The Borough is currently in good standing with the NFIP and will continue to adhere to NFIP requirements for maintaining good standing.	This initiative is being removed from the updated mitigation strategy as it refers to activities that are a now an ongoing and normal part of municipal operations.
BW-5: Continue to develop, enhance, and implement existing emergency plans.	Ongoing. The Borough continually works to improve existing emergency plans.	This initiative is being removed from the updated mitigation strategy as it refers to activities that are a now an ongoing and normal part of municipal operations.
BW-6: Create/enhance/ maintain mutual aid agreements with neighboring communities.	Ongoing. The Borough has mutual aid agreements with surrounding municipalities for fire.	This initiative is being removed from the updated mitigation strategy as it refers to activities that are a now an ongoing and normal part of municipal operations.
BW -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	In progress / ongoing. The Borough has supported County-wide mitigation initiatives over the course of the performance period of the plan and will continue to do so after the plan update.	Include in 2016 HMP Update.
BW-8: Retrofit (harden) Borough facilities that may be used to support sheltering and staging operations (in cooperation with County and State OEM), including backup utilities where needed.	No progress. The Borough was awarded an HMGP grant for permanent backup generators at the school (ARC-designated shelter), airport, municipal building and	Include in 2016 HMP Update, to further include the EOC/ambulance facility.



Table 9.17-11. Past Mitigation Initiative Status

Description	Status	Review Comments
	water pumping station that was subsequently pulled back.	
BW-9 (CMC-50): Work with County to identify proper locations for and install water draw (siphon) stations to increase fire-fighting capabilities.	The Borough has city water and other facilities which meets fire-fighting needs.	Discontinue.
BW-10: Work with County OEM and Borough industries and commercial operations (e.g. Sea Isle Ice Company, Woodbine Municipal Airport) to enhance their capabilities to support regional emergency preparedness, response and recovery.	Ongoing. There is strong cooperation between Borough and County administration, facility owners and the port authority.	Include in 2016 updated strategy.
BW-11: Work with servicing utilities (e.g. Atlantic Electric) to ensure that services meet modern and appropriate design standards to resist failures caused by natural hazards.	Ongoing. Atlantic Electric has greatly improved their tree limb management programs.	This initiative is being removed from the updated mitigation strategy as it refers to activities that are a now an ongoing and normal part of municipal and Atlantic Electric operations.
BW-12: Scott Avenue reconstruction project - reconstruction of Scott Avenue from DeHirsch Boulevard (County Route 550) to Freidrichstadt Avenue, including storm drainage improvements.	Complete.	
BW-13: Conduct an engineering study to understand flooding issues and evaluate possible solutions along Webster Avenue (CR638) in the Borough of Woodbine.	TBD – This is a County project	Include in 2016 updated strategy.
BW-14 (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 updated strategy.
BW-15: 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.	In progress. Education through local schools in cooperation with Lower Township Fire Bureau who provided funding.	Include in 2016 updated strategy.



Completed Mitigation Initiatives not Identified in the Previous Mitigation Strategy

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

- None identified at the time of the plan update.

Proposed Hazard Mitigation Initiatives for the Plan Update

Table 9.17-12 summarizes the comprehensive-range of specific mitigation initiatives the Borough 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 9.17-13 provides a summary of the prioritization of all proposed mitigation initiatives for the Plan update.



Table 9.17-12. Proposed Hazard Mitigation Initiatives

Initiative	Mitigation Initiative	Applies to New and/or Existing Structures (1)	Hazard(s) Mitigated (2)	Goals Met	Lead and Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category	CRS Category
BW-1a	Property Mitigation Support – Retrofit: 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.											
	See above.	Existing	Coastal Storm, Flood, Severe Weather	1, 2, 4, 6	Borough (likely through NFIP Floodplain Administrator); State OEM, County OEM	High - Reduced risk of property damage from flooding	High	FEMA Mitigation Grant Programs and local budget (or property owner) for cost share	Long-term DOF	M-H	SIP, EAP	PP, NR
BW-1b	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.											
	See above.	Existing	Coastal Storm, Flood, Severe Weather	1, 2, 4, 6	Borough (likely through NFIP Floodplain Administrator); State OEM, County OEM	High - Eliminate risk of property damage from flooding	High	FEMA Mitigation Grant Programs and local budget (or property owner) for cost share	Long-term DOF	M-H	SIP, EAP	PP, NR
BW-2 (former BW-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)	High	Low - High	Existing programs and grant funding where applicable	Ongoing – Long-term depending on initiative	M-H (dependent)	All	All
BW-3 (former BW-8)	Retrofit (harden) Borough facilities that may be used to support sheltering and staging operations (in cooperation with County and State OEM), including backup utilities where needed. Continue to seek funding for permanent backup generators at the school (ARC-designated shelter), airport, municipal building, EOC/ambulance facility, and water pumping station											
	See above.	Existing	All Hazards	1,3,4,6	Municipal Emergency Manager with support from		Medium - High	FEMA Mitigation and HLS grants; County and	Long-term	Medium	SIP, EM*	PP, ES



Table 9.17-12. Proposed Hazard Mitigation Initiatives

Initiative	Mitigation Initiative	Applies to New and/or Existing Structures (1)	Hazard(s) Mitigated (2)	Goals Met	Lead and Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category	CRS Category
					County OEM and NJOEM			Local funding				
BW-4 (former BW-10)	Work with County OEM and Borough industries and commercial operations (e.g. Sea Isle Ice Company, Woodbine Municipal Airport) to enhance their capabilities to support regional emergency preparedness, response and recovery.	N/A	All Hazards	1,3,4,6	County and Local OEM; owners of applicable Borough businesses and facilities		Medium - High	DHS grants; County and Local funding	Long-term	Medium	EM*	ES
	Continue to support County-led efforts to conduct an engineering study to understand flooding issues and evaluate possible solutions along Webster Avenue (CR638) in the Borough of Woodbine.											
BW-5 (former BW-13)	See above.	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	Dependent on County schedule	High	SIP	PP
	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).											
BW-6 (former BW-14 (CMC-69)	See above.	N/A	Wildfire	1, 2, 4, 6	Local Fire Chiefs working with County Fire Coordinator	Improved local capabilities to manage wildfire risk	L-M	Existing Budgets	Short-term	High	EM*, EAP	ES, PI
	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.											
BW-7 (former BW-15)	See above.	N/A	Wildfire	1, 2, 4, 6	Local Fire Chiefs	Improved local capabilities to manage wildfire risk	L-M	Existing Budgets	Short-term	High	EM*, EAP	ES, PI
BW-8	Installation of stormwater management infrastructure along multiple Borough roads in order to mitigate recurring flooding conditions and maintain access along a County Emergency Evacuation Route during storm events.											



Table 9.17-12. Proposed Hazard Mitigation Initiatives

Initiative	Mitigation Initiative	Applies to New and/or Existing Structures (1)	Hazard(s) Mitigated (2)	Goals Met	Lead and Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category	CRS Category
	See above.	Existing	Flood; Severe Weather	1, 2	Public Works	Medium	High	Grant funding where available; municipal budget	Short Term / DOF	Medium	SIP	PP

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

Benefits:

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

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

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

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

Mitigation Category:





- *Local Plans and Regulations (LPR)* – These actions include government authorities, policies or codes that influence the way land and buildings are being developed and built.
- *Structure and Infrastructure Project (SIP)*- These actions involve modifying existing structures and infrastructure to protect them from a hazard or remove them from a hazard area. This could apply to public or private structures as well as critical facilities and infrastructure. This type of action also involves projects to construct manmade structures to reduce the impact of hazards.
- *Natural Systems Protection (NSP)* – These are actions that minimize damage and losses, and also preserve or restore the functions of natural systems.
- *Education and Awareness Programs (EAP)* – These are actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. These actions may also include participation in national programs, such as StormReady and Firewise Communities
- *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 9.17-13. 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
BW-1a	Property Mitigation Support – Retrofit	1	1	1	1	1	0	0	0	1	1	1	1	1	0	10	M-H*
BW-1b	Property Mitigation Support – Acquisition/Relocation	1	1	1	1	0	0	0	0	1	1	1	1	1	0	9	M-H
BW-2 (former BW-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	M-H (dependent)
BW-3 (former BW-8)	Backup power for the school (ARC-designated shelter), airport, municipal building, EOC/ambulance facility, and water pumping station	1	1	1	0	1	0	0	1	1	1	1	0	1	0	9	Medium
BW-4 (former BW-10)	Work with County OEM and Borough industries and commercial operations (e.g. Sea Isle Ice Company, Woodbine Municipal Airport) to enhance their capabilities to support regional emergency preparedness, response and recovery.	1	0	0	1	1	1	0	0	1	0	1	0	1	1	8	Medium
BW-5 (former BW-13)	Webster Avenue (CR638) Flood Mitigation	1	1	0	1	1	1	0	1	1	0	1	1	1	1	11	High
BW-6 (former BW-14 (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
BW-7 (former BW-15)	Enhanced Wildfire Public Awareness and Education	1	1	1	1	1	1	1	0	1	0	0	1	1	1	11	High
BW-8	Installation of stormwater management infrastructure along multiple Borough roads in order to mitigate recurring flooding conditions and maintain access along a County Emergency Evacuation Route during storm events.	1	1	1	1	0	0	0	0	1	1	1	0	0	0	7	Medium

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.
 * 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.





9.17.7 Future Needs To Better Understand Risk/Vulnerability

None at this time.

9.17.8 Hazard Area Extent and Location

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

9.17.9 Additional Comments

None at this time.



Figure 9.17-1. Borough of Woodbine Hazard Area Extent and Location Map 1

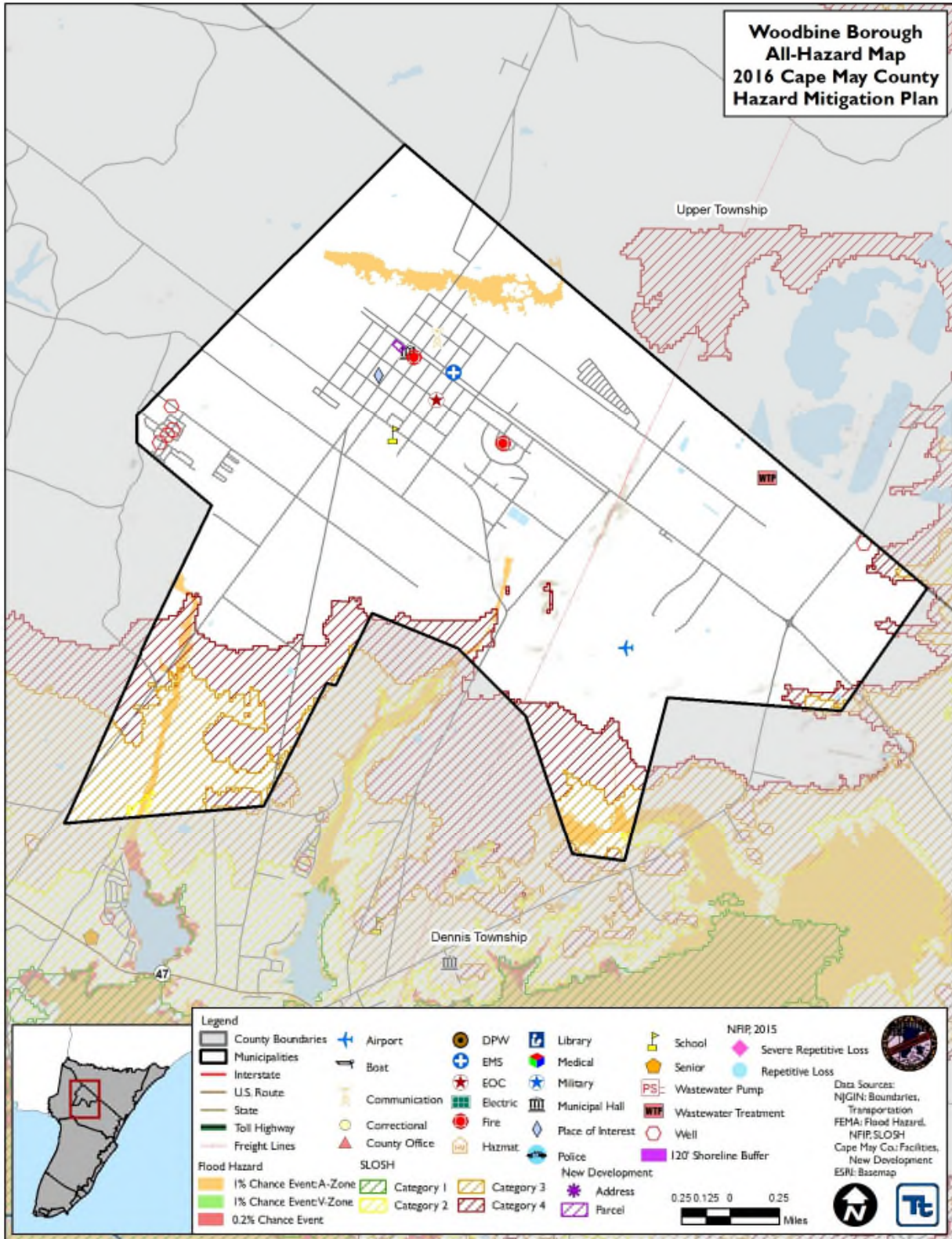




Figure 9.17-2. Borough of Woodbine Hazard Area Extent and Location Map 2

