



9.9 City of Ocean City

This section presents the jurisdictional annex for the City of Ocean City.

9.9.1 Hazard Mitigation Plan Point of Contact

The following individuals have been identified as the hazard mitigation plan’s primary and alternate points of contact.

Primary Point of Contact	Alternate Point of Contact
Frank Donato III 861 Asbury Avenue Ocean City, NJ 08226 Phone: (609) 525-9350 fdonato@ocnj.us	Matt von der Hayden 861 Asbury Avenue Ocean City, NJ 08226 (609) 525-9360 mvonderhayden@ocnj.us

9.9.2 Municipal Profile

The City of Ocean City is located along the Atlantic Ocean coastline within the northeastern portion of Cape May County, New Jersey. It is bounded on the north by Atlantic County, New Jersey and the Great Egg Harbor Bay, on the east by the Atlantic Ocean, on the south-southwest by the Township of Upper and the City of Sea Isle City and the west by the Township of Upper. It is the principal city of the Ocean City Metropolitan Statistical Area which encompasses all of Cape May County.

The City of Ocean City is a barrier island with bridge connections to Marmora (Township of Upper) via the 34th Street (Roosevelt Boulevard) Bridge, Egg Harbor Township via the Ocean City-Longport Bridge, Somers Point via the 9th Street Bridge (NJ 52), and Strathmere (Township of Upper) via the Corson's Inlet Bridge. The Eastern side of Ocean City borders the Atlantic Ocean, while the Western side faces the Great Egg Harbor Bay, Beach Thoroughfare, Pecks Bay and Crook Horn Creek.

According to the U.S. Census Bureau, the city has a total area of 10.8 square miles, with 6.3 square miles of it land and 4.5 square miles of it (41.4-percent) water. As of 2010 there were 11,701 people residing in the City.

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

Table 9.9-1. Growth and Development

Property or Development Name	Type (e.g. Res., Comm.)	# of Units / Structures	Address	Block / Lot	Known Hazard Zone(s)	Description/Status of Development
Recent Development from 2010 to Present						
Wawa – 4 th Street	Comm.	6	4 th and West Avenue		Floodplain	Complete
Peter Lumber	Comm.	8	1500 Block of Haven Avenue		Floodplain	Complete
Costeria Cottages	Comm.	4	1200 Block of Haven Avenue		Floodplain	Ongoing
Palermo's market	Comm.	7	400 Block of Asbury Avenue		Floodplain	Ongoing



Property or Development Name	Type (e.g. Res., Comm.)	# of Units / Structures	Address	Block / Lot	Known Hazard Zone(s)	Description/Status of Development
Known or Anticipated Development in the Next Five (5) Years						
North End Pump Station	Public	N/A	1 st to 8 th Streets between West and Bay Avenues		Floodplain	Major Infrastructure Improvement
Perry Egan	Comm.	Unknown	1600 Block of Simpson Avenue		Floodplain	Unknown
Shoemaker Lumber	Comm.	Unknown	1200 Block between West and Haven Avenues		Floodplain	Unknown
Bookers	Res	5	800 Block of Wesley Avenue		Floodplain	2 structures completed with 3 additional possible

* Only location-specific hazard zones or vulnerabilities identified.

9.9.3 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 9.9-2. Hazard Event History

Date(s) of Event	Event Type	FEMA Declaration # (If Applicable)	County Designated?	Summary of Damages/Losses
November 11-15, 2009	Severe Storms and Flooding associated with Tropical Depression Ida and a Nor'Easter	DR-1867	Yes	<p>Life Safety: shelters were opened</p> <p>Loss of Service: Road closures and utility outages</p> <p>Infrastructure Damage: Roads</p> <p>Public Facility Damage: damage caused to City Buildings and equipment, parks and recreational facilities</p> <p>Public Assistance was requested (\$1.71M)</p> <p>Other Loss Information: Emergency protective services and debris removal</p>
February 5-6, 2010	Severe Winter Storm and Snowstorm (blizzard)	DR-1889	Yes	<p>Life Safety: shelters were opened</p> <p>Loss of Service: Road closures and utility outages</p> <p>Infrastructure Damage: Roads</p> <p>Public Assistance was requested (\$118K)</p>



Date(s) of Event	Event Type	FEMA Declaration # (If Applicable)	County Designated?	Summary of Damages/Losses
				Other Loss Information: Emergency protective services
December 26-27, 2010	Severe Winter Storm and Snowstorm	DR-1954	Yes	Life Safety: shelters were opened Loss of Service: Road closures and utility outages Infrastructure Damage: Roads Public Assistance was requested (\$77K) Other Loss Information: Emergency protective services
August 27 to September 5, 2011	Hurricane Irene	DR-4021	Yes	Life Safety: Evacuation and sheltering Loss of Service: Road closures Infrastructure Damage: Roads Public Assistance was requested (\$138K) Other Loss Information: Emergency Protective Measures and Parks and Recreational Facility repairs
October 29, 2011	Severe Storm	DR-4048	Yes	Life Safety: Evacuation and sheltering Loss of Service: Road closures Infrastructure Damage: Roads Other Loss Information: Parks and Recreational Facility repairs
October 28 to November 8, 2012	Hurricane Sandy	DR-4086	Yes	Life Safety: Evacuation and sheltering Loss of Service: Road closures, utility outages and commercial closures Infrastructure Damage: Roads, treatment facilities and lift stations Public Facility Damage: Firehouses – 5th Street and 46th Street, Ocean City High School – Theater and 5th St. , City, Transportation Center, Vehicle Maintenance Private Facility Damage: Widespread minor to major damage Public Assistance was requested (\$15.9M) Other Loss Information: Damage caused to City Buildings, equipment, parks and recreational facilities, roads, Beach Sand, Dunes, Outfalls,



Date(s) of Event	Event Type	FEMA Declaration # (If Applicable)	County Designated?	Summary of Damages/Losses
				Emergency Protective Measures and debris removal

9.9.4 Hazard Vulnerabilities and Ranking

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

Table 9.9-3. 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: \$2,284,080,731	Frequent	42	High
Coastal Erosion	RCV in CEHA: \$92,951,394	Frequent	18	Medium
Flood	1% Annual Chance: \$8,930,311,486	Frequent	54	High
Hurricanes & Tropical Storms	Category 1 SLOSH: \$8,270,361,393 Category 2 SLOSH: \$10,079,876,734 Category 3 SLOSH: \$10,079,876,734 Category 4 SLOSH: \$10,079,876,734	Frequent	54	High
Nor'Easter	Damage estimate not available	Frequent	48	High
Severe Weather	100-Year MRP: \$64,821,855 500-year MRP: \$488,660,324 Annualized: \$3,130,152	Frequent	48	High
Severe Winter Weather	1% GBS: \$65,940,756 5% GBS: \$329,703,780	Frequent	51	High
Tsunami	Damage estimate not available	Rare	6	Low
Wildfire	Estimated Value Exposed to Extreme, Very High and High: \$935,211	Frequent	18	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 City of Ocean City.

Table 9.9-4. NFIP Summary

Municipality	# Policies (1)	# Claims (Losses) (1)	Total Loss Payments (2)	# Rep. Loss Prop. (1)	# Severe Rep. Loss Prop. (1)	# Policies in 1% Flood Boundary (3)
Ocean City	10,917	7,660	\$175,834,476	268	60	10,061

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 9.9-5. 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
Ocean City	1	1	0	0	1	0	3	1	6	0	1	3	1	3	5	4	1	3

Source: Cape May County

Note: EMS – Emergency Medical Services

Other Vulnerabilities Identified by Municipality

The New Jersey Beach Profile Network (NJBPN) was authorized by the New Jersey Department of Environmental Protection (NJDEP) and established by the Richard Stockton College Coastal Research Center (CRC) in 1986. The NJBPN monitors (by survey sites) the shoreline conditions along New Jersey's coast. In Cape May County, there are 31 survey sites, with seven located in the City of Ocean City. Each year, the NJBPN completes an annual report for the counties where survey sites are located. The reports provide a summary of beach changes, a review of any major beach restoration or hard structure projects, and a discussion of issues and pending project work in the County. For details regarding the annual reports for Cape May County and its municipalities, please refer to: <http://intraweb.stockton.edu/eyos/page.cfm?siteID=149&pageID=9>

9.9.5 Capability Assessment

This section identifies the following capabilities of the local jurisdiction:

- Planning and regulatory capability
- Administrative and technical capability
- Fiscal capability
- Education/Outreach and Community classification





- Self-Assessment of Capability
- National Flood Insurance Program
- Integration of Mitigation Planning into Existing and Future Planning Mechanisms

Planning and Regulatory Capability

The table below summarizes the regulatory tools that are available to the City of Ocean City.

Table 9.9-6. 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 Plan	Yes	Local/State	Administration City	MLUL/Re-exam Report 2012
Capital Improvements Plan	Yes	Local	Administration City	2015 to 2019; 2016 to 2020
Floodplain Management/Basin Plan	Yes	State/Local	DEP/City	OC Code Chapters 18-22
Stormwater Management Plan	Yes	Local	Administration City	OC Code Chapters 25-1700.32 Included as an element in the Master Plan.
Open Space Plan	Yes	Local	Administration City	Recreation and Open Space Inventory March, 2015
Stream Corridor Management Plan	No	N/A	N/A	
Watershed Management or Protection Plan	No	N/A	N/A	
Economic Development Plan	No	N/A	N/A	
Comprehensive Emergency Management Plan	Yes	Local	Administration City	Emergency Response Plan – 6/28/13 to 6/28/2017
Emergency Response Plan	Yes	Local	Administration City	OC EOP, – 6/28/13 to 6/28/2017
Post-Disaster Recovery Plan	No	N/A		
Transportation Plan	No	N/A		
Strategic Recovery Planning Report	Yes	Local	Administration City	SRPR Completed
Other Plans:	Yes	Local	Administration City	Conservation and Beach Dune District regulations (OC Code 25- 206, adopted 2009) Cumulative Improvements Conservation Plan Element, Environmental Resources and Recreation Inventory (2009)
Regulatory Capability				
Building Code	Yes	State & Local	DCA/City	State Uniform Construction Code Act (N.J.S. 52:27D-119 et seq.)
Zoning Ordinance	Yes	Local	Administration City	MLUL/Chapter 25 of OC Code
Subdivision Ordinance	Yes	Local	Administration City	OC Code 25-700.6 authorized by N.J.S.A. 40:55D-51.
NFIP Flood Damage Prevention Ordinance	Yes	Federal, State, Local	DEP/City	OC Code Chapter 21



Table 9.9-6. 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	Yes	Federal, State, Local	DEP/City	OC Code Chapter 21
NFIP: Freeboard	Yes	State, Local	DEP/City	OC Code Chapter 21
Growth Management Ordinances	No	N/A	N/A	
Site Plan Review Requirements	Yes	State/Local	DCA/City	MLUL, OC Code Chapter 23
Stormwater Management Ordinance	Yes	Local	Administration City	Ordinance 06-36
Municipal Separate Storm Sewer System (MS4)	Yes	Local	Administration City	OC Code Chapter 15
Natural Hazard Ordinance	No	N/A	N/A	
Post-Disaster Recovery Ordinance	No	N/A	N/A	
Real Estate Disclosure Requirement	Yes	Local	Administration City	
Other [Special Purpose Ordinances (i.e., sensitive areas, steep slope)]	Yes	Local	Administration City	Bulkhead ordinance, OC Code Chapter 22 Beach and Dune Zone (Ordinance 88-27)

Administrative and Technical Capability

The table below summarizes potential staff and personnel resources available to the City of Ocean City.

Table 9.9-7. Administrative and Technical Capabilities

Resources	Is this in place? (Yes or No)	Department/Agency/Position
Administrative Capability		
Planning Board	Yes	Planning Board and Zoning Board of Adjustment
Mitigation Planning Committee	No	N/A
Environmental Board/Commission	Yes	Environmental Commission
Open Space Board/Committee	No	Committee TBD
Economic Development Commission/Committee	No	N/A
Maintenance Programs to Reduce Risk	Yes	Stormwater Basin Plan (Annual)
Mutual Aid Agreements	Yes	Fire
Technical/Staffing Capability		
Planner(s) or Engineer(s) with knowledge of land development and land management practices	Yes	Administration City
Engineer(s) or Professional(s) trained in construction practices related to buildings and/or infrastructure	Yes	Administration City
Planners or engineers with an understanding of natural hazards	Yes	Administration City
NFIP Floodplain Administrator	Yes	Construction Code Official
Surveyor(s)	No	N/A
Personnel skilled or trained in GIS and/or Hazus-MH applications	Yes	Administration City
Scientist familiar with natural hazards	No	N/A



Table 9.9-7. Administrative and Technical Capabilities

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

Fiscal Capability

The table below summarizes financial resources available to the City of Ocean City.

Table 9.9-8. 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
User fees for water, sewer, gas, or electric service	N/A
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	No
Withhold public expenditures in hazard-prone areas	No
Other Federal or State Funding Programs	Yes
Open Space Acquisition Funding Programs	Yes
Other	N/A

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 City of Ocean City.

Table 9.9-9. 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)	Yes	6	June, 2013
Building Code Effectiveness Grading Schedule (BCEGS)	Yes	3	May 8, 2012
Public Protection (ISO Fire Protection Classes 1 to 10)	Yes	3	May 8, 2012
Storm Ready	Yes	-	September, 2015
Firewise	No	-	N/A
Disaster/Safety Programs in/for Schools	Yes		
Organizations with Mitigation Focus (advocacy group, non-government)	No	N/A	N/A



Table 9.9-9. 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	N/A	N/A
Public-Private Partnerships	Yes	CRS 5	May 1, 2015

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

Table 9.9-10. 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)

Pat Newton, Construction Code Official

Flood Vulnerability Summary

The City maintains a list of properties that have been flood damaged. Please see Table 9.9-4 for a summary of NFIP statistics for the City, which illustrates the City's flood vulnerability.

Resources

The Flood Damage Prevention Ordinance (FDPO) identifies the Construction Official as the NFIP Floodplain Administrator. The floodplain administrator, assisted by four certified floodplain managers, assumes responsibilities for floodplain administration including, Permit review, inspections, damage assessments, record-keeping, GIS, education and outreach.

Flood-related education and outreach is administered through a program for public information. In recent years the City has worked with local community groups, citizens and the local office of Emergency Management to provide more public outreach programs. The City has updated its website to be more user-friendly and the new site receives over one million hits during the peak summer season. The new, enhanced website focuses on flood hazard information and links directly to FEMA's Flood Smart website. Additional information such as information on warning systems, zoning and flood resources (e.g. FEMA FIRM maps) is also available on the site. Documents related to floodplain management are also available in the Ocean City Public Library. The City also distributes an annual outreach brochure and has a flood warning program consisting of several elements such as the development of a "key communicator" chain to pass accurate flood and storm information, bay water heights are reported on the City website, and posting and maintaining evacuation signs.

The City is an island community, which results in some barriers to running an effective floodplain management program. The floodplain administrator and support staff is adequately trained for floodplain management responsibilities, although additional training and/or continued education opportunities would be welcome.

Compliance History

The City is currently in good standing with the NFIP. The date of the most frequent Community Assistance Visit is unknown; however, there was a CRS visit in May of 2015.

As of August 31, 2015 there are 17,135 policies in force, insuring over \$4.02 billion of property with total annual insurance premiums of \$11,412,181. Since 1978, 7,595 claims have been paid totaling \$176,073,547 (9,268 claims total have been submitted; however, 1,609 claims were closed without pay and 64 claims are still open).

Regulatory

The City of Ocean City's floodplain regulations exceed the minimum State and FEMA requirements.

Community Rating System

The City of Ocean City is currently a Class 5 community 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.

Planning

Land Use Planning: The City of Ocean City has a Master Plan that was most recently revised in 2012. The Master Plan considers areas of natural hazard risk and refers to the hazard mitigation plan.

Stormwater Management: The stormwater management plan is included as element in the Master Plan.

Open Space: The City has an Open Space plan, which has many goals and objectives consistent with the hazard mitigation planning. The acquisition criteria for new open space includes recommendations addressing protection from natural hazards.

Re-Development Plan: The City has a redevelopment plan for the Flanders and 10th Street Marina owned properties.

Comprehensive Emergency Management Plan: The City has a Comprehensive Emergency Management Plan that refers to the HMP.

Post-Disaster Recovery Plan: At the time of the development of this annex, the City is developing a Strategic Recovery Planning Report.

Regulatory and Enforcement (Ordinances)

The City has multiple chapters pertaining to the mitigation of hazards. These ordinances include the Flood Damage Prevention Chapter, Building Code, Bulkhead Ordinance, Beach and Dune Zone Ordinance and others. The Planning Board and Zoning Board of Adjustments uses these ordinances to guide their decisions regarding natural hazard risk management. Developers in the City are required to take additional actions to mitigate natural hazard risk including building to the BFE+2 level and funneling the stormwater to street and City drainage systems.

Operational and Administration

Land Use Planning: The City has a municipal planner. The Planning Board and Zoning Board of Appeals review applications to determine compliance with natural risk reduction requirements.

Program for Public Information (PPI): The City has a PPI committee that guides the public outreach efforts regarding flood hazards.

Stormwater Management: Stormwater Management functions in the community are performed by Michael Rossbach (Director of Public Works) and Arthur Chew (Assistant City Engineer).

Floodplain Management: Pat Newton, the Construction Official and Floodplain Manager, performs the NFIP Floodplain Management functions.

Technical Resources: The City has staff that has experience with benefit-cost analysis, substantial damage estimates, and grant application preparation. City staff receive training and education in support of natural hazard risk reduction; however, staff would benefit from additional training in HAZUS-MH.



Administration: Staff participate in associations and organizations that support natural hazard risk reduction capabilities: Certified Floodplain Managers (5), New Jersey Association of Floodplain Managers and Association of State of Floodplain Managers.

Funding

Operating Budget: The City's operating budget contains line items for mitigation projects/activities.

Capital Improvements Budget: The City's capital improvements budget contains mitigation-related projects. The Capital Plan is Ocean City's financing and implementation plan for the construction and renovation of the City's infrastructure. This includes paving and drainage, dredging, beach, boardwalk, public building and properties, public areas, large equipment and vehicles, departmental equipment, communications, and intermodal, transportation, and parking infrastructure. The Capital Plan is structured as a five year plan.

Grants: The City has received grant funding for projects that were used for the development of a bioswale (NJ American Water funding source - \$10,000) and North End Pump Station mitigation (FEMA funding source \$4,984,384).

Other Funds: The City has City Capital Plan that may be used to fiscally support hazard mitigation projects.

Education and Outreach

The City administers public education and outreach for flood hazard through its Community Rating System Program for Public Information Committee. In addition, the City has a Citizen Corps program administered through the Ocean City Office of Emergency Management.

9.9.6 Mitigation Strategy and Prioritization

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

Past Mitigation Initiative Status

The following table indicates progress on the community's mitigation strategy identified in the 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 9.9-11. Past Mitigation Initiative Status

Description	Status	Review Comments
<p>OC-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.</p>	<p>In Progress. Efforts are ongoing. One repetitive loss property was demolished and reconstructed to current standards. There are 200 homes on a list requesting to be elevated through a state run grant program to elevate homes.</p>	<p>Include in 2016 HMP Update.</p>
<p>OC-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.</p>	<p>In Progress. The entire City is located within a floodplain, so relocation away from the flood hazard is not a viable alternative.</p>	<p>While the City will include this initiative in the 2016 HMP update, it is unlikely that acquisition/relocation is a viable mitigation strategy for the City.</p>
<p>OC-2 (CMC-2): Continue active participation in the incentive-based program CRS. OC-10: CRS – continue to work to improve CRS rating. This includes advising ISO of current activities that may not be properly credited (e.g. real estate disclosure)</p>	<p>The City is currently a CRS Class 5 community and is working to improve its rating.</p>	<p>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.</p>
<p>OC-3: Continue to support the implementation, monitoring, maintenance, and updating of this Plan, as defined in Section 7.0</p>	<p>The City has participated in the implementation and monitoring of the plan over the past 5 years and is participating in the plan update.</p>	<p>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. Annual updates under Activity 510 are a CRS requirement that the City intends to continue.</p>
<p>OC-4: Strive to maintain compliance with, and good-standing in the National Flood Insurance program.</p>	<p>The City is currently in good standing with the NFIP and will continue to adhere to NFIP requirements for maintaining good standing.</p>	<p>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.</p>
<p>OC-5: Continue to develop, enhance, and implement existing emergency plans.</p>	<p>The City continually works to improve existing emergency plans. A Strategic Recovery Plan is in the process of being developed.</p>	<p>A modified version of this initiative is being included in the 2016 HMP update, specifically identifying that a Strategic Recovery Plan is in the process of being developed.</p>
<p>OC-6: Create/enhance/ maintain mutual aid agreements with neighboring communities.</p>	<p>Mutual aid agreements are in place for fire services.</p>	<p>Include in 2016 HMP Update.</p>
<p>OC-7: Support County-wide initiatives identified in Section 9.1 of the County Annex.</p>	<p>The City has supported County-wide mitigation</p>	<p>Include in 2016 HMP Update.</p>



Table 9.9-11. Past Mitigation Initiative Status

Description	Status	Review Comments
Support county-wide initiatives identified in the Cape May County Hazard Mitigation Plan	initiatives over the course of the performance period of the plan and will continue to do so after the plan update.	
OC-8: Establish an ordinance to require bringing property grades (including driveways and garages) above the BFE for new construction.	Ordinance #12-19 was passed requiring 2 feet of freeboard. An additional ordinance requiring a minimum elevation for garages has been drafted, but has not yet been adopted.	A modified version of this initiative is being included in the 2016 HMP update, specifically identifying that an additional ordinance requiring a minimum elevation for garages has been drafted, but has not yet been adopted.
OC-9: Develop and implement a COOP/COG for municipal government facilities (e.g. city hall records which are now kept on first floor). COOP/COG plan to be an annex to the OC EOP.	Complete. Documents less than 10 years old are all electronic. Plans have been developed to put older documents on microfilm. Contract support was acquired to implement a COOP/COG.	The COOP/COG Plan is in progress for 2016.
OC-11: Consider putting expanded information on the website about more flood vulnerable sections of the City (e.g. low elevation areas) – affects CRS credits.	The City has made significant improvements to the website and is continually working to improve.	Include in 2016 HMP Update. Improve and maintain information on the City website regarding the flood hazard.
OC-12: Promote public awareness of local flood risk (e.g. put BFE's on telephone poles using yellow spikes or painted bands; identify flood levels at all critical facilities)	In progress. 111 historic markers have been put in place. The City will continue to add markers as survey work is completed.	Include in 2016 HMP Update.
OC-13: Upgrade existing revetment wall (needs to be extended to the south and existing sections upgraded) and provide additional road protection to CR-619 in Strathmere to Ocean City, and elevate sections of road as needed.	In progress. Portions were destroyed during Hurricane Sandy. County installed bulkhead and additional road protection for CR 619 for portions. The City will continue to support the County to complete project.	Include in 2016 HMP Update.
OC-14 (CMC-36): Upgrade storm drainage in Ocean City, which are currently designed to handle only a 2-year storm event.	In progress. City continues work to increase drainage capacity to 10-year storm. Improvements made in recent years include 39 th street to 42 nd street, 7 th street from West avenue to the boardwalk, 8 th street from West Avenue to	Current outfalls at 11 th Street, West 17 th Street, and Surf Road had been upgraded.



Table 9.9-11. Past Mitigation Initiative Status

Description	Status	Review Comments
	Atlantic Avenue. Upcoming projects include Merion Park, 1 st Street to 8 th Street west of West Avenue, 10 th Street and Palen Avenue, Arkansas Road, Bayshore Drive, 11 th Street from Haven Avenue to Bay Avenue	
OC-15 (CMC-37): Elevate Bay Avenue (CR-659) in floodprone areas (33 rd to 28 th , 20 th to 18 th , 9 th to 2 nd). This is an evacuation route, and was generally impassable during the recent (Sept. 2009) Nor'Easter.	Complete. County reconstructed Bay Avenue from 6 th Street to 18 th Street.	Project Completed
OC-16: Replace firehouses at 29 th and West and 34 th and West with one in a less floodprone area. 29 th and West is located in a particularly floodprone area.	In progress. Error in initiative, no firehouse located at 34 th and West. 29 th Street firehouse severely damaged during Sandy. Currently evaluating options and funding to reconstruct with living quarters above ABFE.	Carry forward for structure at 29 th and West.
OC-17: Retrofit police department (location of EOC) with wind resistant glazing and/or storm shutters.	Complete. Storm shutters installed on windows for 911 area and IT area.	City is currently evaluating construction of a new police station and demolition of existing facility.
OC-18: Elevate Haven Avenue and 11 th Street to allow access to public building. This building can serve as an EOC, and is properly elevated but access is not.	Complete. 11 th and Haven has been elevated and drainage pipe upgraded to handle 10 year storm.	Project Completed
OC-19: Replace GeoTube at Waverly Beach that was damaged/destroyed during the September 11, 2009 Nor'Easter	Complete. Project completed in March 2011.	Project Completed
OC-20: Beach Replenishment of Waverly Beach	Complete. Project completed in May 2010, but area eroded again. Beach replenishment started February 2013	Project Completed
OC-21: Continue program to upgrade bulkheads to 9.45'. They are currently working on permitting for Revere Place, Bayberry Street, Tennessee Avenue (3), and 520 Bay (Bayside Center, boat ramp).	In progress. Error in elevation in initiative, elevation should be 8.20' NGVD. Work on bulkheads noted have been completed. Work at (2) bulkheads in Tennessee Avenue along with 16 th Street, 12 th Street, 7 th Street, Walton Place property, Cove Walk, North Street, Battersea Road	Bulkheads completed along with 11 th and 17 th Street Bulkheads completed in 2015/2016. The street side boat ramps at Tennessee Avenue are planned for 2016 and 2017.



Table 9.9-11. Past Mitigation Initiative Status

Description	Status	Review Comments
	and Landing Roads completed. Tennessee Avenue boat ramp bulkhead in design to be replaced.	
OC-22: Elevate the 35 th Street Ballfield	Completed June 2011	
OC-23: Elevate Haven from 9 th to 10 th Street. State to raise 9 th Street 18” as part of bridge project.	Completed June 2012.	
OC-24: Drainage improvements at OC airport.	Completed June 2010.	
OC-25: Install new emergency broadcast/communications equipment on new ATT/Verizon lighthouse tower at OC Airport.	Complete.	Lighthouse cell tower was never constructed by ATT/Verizon. Repeaters installed on top of utility poles.
OC-26: Consolidation of the Drainage Systems and Construction of a Pump Station to service drainage areas from 1 st St. and 8 th St. between West Ave, and the bayfront.	In progress. City obtained FEMA hazard mitigation grant for project. Design in progress. Construction anticipated for 2016-17 offseason.	Include in 2016 HMP Update.
OC-27: Construction of a protective floodwall with stone reinforcement around the historic Music Pier. Location is on the beachfront at Moorlyn Terrace.	No progress due to lack funding.	Include in 2016 HMP Update.
OC-28: Construction of a Pump Station to service drainage areas from 26 th St. and 34 th St. between West Ave. and the bayfront.	No progress. City applied for FEMA hazard mitigation grant for project. Benefit cost analysis was unfavorable so project was cancelled.	In progress of applying for grant funds under the Flood Hazard Risk Reduction and Resiliency Grant Program for the area from 26 th St. and 32 nd St. between West Ave. and the bayfront.
OC-29: Road elevation of Haven Ave. between 26 th St. and 34 th St.; and Simpson Ave. between 31 st Street and 34 th Street (this is an alternative to OC-28 above).	In progress. OC-28 was not viable. Sidewalks on west side of 2900 block elevated. Additional road elevation will be pursued when road conditions warrant reconstruction. No funding available at this time.	Include in 2016 HMP Update. In progress of applying for grant funds under the Flood Hazard Risk Reduction and Resiliency Grant Program for the area from 26 th St. and 32 nd St. between West Ave. and the bayfront.
OC-30: Stone Revetment Protection at Waverly Beach and Surf Road Beach.	No progress. City elected to install geotubes instead as outline in OC-19.	Discontinue.
OC-31: Install shore protection along Ocean Drive (CR619) at Corson’s Inlet in Upper Township and Ocean City	In progress. Same as OC-13. See above for progress.	Discontinue.
OC-32 (CMC-69): Work directly with residents of the community located in a classic wildland-urban interface next to	In progress. The City has acquired a vehicle for the purpose of	The City’s Fire Department has a storm truck that has the ability to put fires out in Corson’s Inlet State Park should a fire occur.



Table 9.9-11. Past Mitigation Initiative Status

Description	Status	Review Comments
Corson’s Inlet State Park to 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).	fighting fires in Corson’s Inlet State Park. Public outreach occurred by October of 2014 in conjunction with National Fire Prevention Week.	
The following initiatives have been added by the City, subsequent to the approval of the 2010 HMP, as part of their annual plan review and update process.		
OC-33: South End Ocean From Bulkhead Replacement – Bulkhead was installed after the 1962 storm from 58 th Street to 29 th Street. Bulkhead is nearing the end of its useable life.	No progress due to lack of funding.	Include in 2016 HMP Update.
OC-34: Develop Ocean Front Bulkhead Standards – Standards exist for the alignment of the bulkhead but no standard exists for the height and depth of the bulkhead. Recommended height should equal the elevation of the seaward V-zone elevation and depth should be -10 NAVD.	Complete. Ordinance passed in 2014.	
OC-35: Standards for the Construction Adjacent to Bulkheads – FEMA recommends that all construction within 30 feet of a bulkhead should be built to V-zone standards.	No progress as ordinance, lacks public support.	
OC-36: Route 152 Shore Protection and Elevation – Hurricane Sandy destroyed the dunes seaward of Route 152 leaving this evacuation route exposed to ocean waves. Support Atlantic and Cape May Counties in efforts to elevate Route 152 to the base flood elevation and install shore protection for this area.	No progress due to lack of funding.	Include in 2016 HMP Update.
OC-37: Elevation of Roosevelt Boulevard from Bay Avenue to the Garden State Parkway – Support Cape May County in efforts to elevate Roosevelt Boulevard to the base flood elevation.	No progress due to lack of funding.	Include in 2016 HMP Update.
OC-38: Bulkhead Merion Park and Install Pump Station – Install a bulkhead around Merion Park at the base flood elevation. Then install a pump station to discharge stormwater when sea level elevations do not permit gravity flow.	In progress. Pump stations were installed in the summer of 2014. No funding available at this time for bulkheads.	Include in 2016 HMP Update. Merion Park has a pump station installed to help mitigate the area.
OC-39: Elevate Merion Park – elevate the roads, yards and homes in this section of town to reduce flooding.	In progress. Minor elevation changes to the roads. Large scale elevations of the roads lacks public support.	Include in 2016 HMP Update.
OC-40: Bulkhead Ocean City Homes and Install Pump Station – Install a bulkhead	No progress due to lack of funding.	Include in 2016 HMP Update.



Table 9.9-11. Past Mitigation Initiative Status

Description	Status	Review Comments
around the Ocean City Homes section of town at the base flood elevation. Then install a pump station to discharge stormwater when sea level elevations do not permit gravity flow.		
OC-41: Elevate Ocean City Homes – elevate the roads, yards and homes in this section of town to reduce flooding.	No progress due to lack of funding.	Include in 2016 HMP Update.
OC-42: Beach nourishment and dune reconstruction for beaches south of 36 th street.	In progress. Army Corps of Engineers conducted beach fill for this area in the fall of 2014. Periodic nourishments will continue.	Include in 2016 HMP Update. Completed a beach replenishment in 2015 and on a three (3) cycle to replenish the beach with the U.S. Army Corp of Engineers.
OC-43: Adopt Coastal A construction standards.	No progress. Once new flood maps are finalized, city will be able to discuss this ordinance intelligently.	
OC-44: Review and revise zoning standards to promote construction standards that embrace new higher base flood elevations.	No progress. Once new flood maps are finalized, city will be able to discuss this ordinance intelligently.	
OC-45: Require installation of placards in commercial buildings alerting show owners of flood insurance coverage and not covered items.	No progress as ordinance lacks public support.	
OC-46: Flood Mitigation Assistance Program for City property owners considered to be Repetitive Loss (RL) or Severe Repetitive Loss (SRL)	In progress of working with Cape May County to put together an FMA application.	Working towards an application submission in June, 2016.



Completed Mitigation Initiatives not Identified in the Previous Mitigation Strategy

The City 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:

- There have been several beach nourishment projects completed in the City through federal, state and local programs. For details regarding these projects, refer to the NJBPN annual reports for Cape May County: <http://intraweb.stockton.edu/eyos/page.cfm?siteID=149&pageID=9> and <http://www.ocnj.us/Capital-Projects-Beach/>

Proposed Hazard Mitigation Initiatives for the Plan Update

The City participated in a mitigation action workshop in May 2016 and was provided the following FEMA publications to use as a resource as part of their comprehensive review of all possible activities and mitigation measures to address their hazards: FEMA 551 ‘Selecting Appropriate Mitigation Measures for Floodprone Structures’ (March 2007) and FEMA ‘Mitigation Ideas – A Resource for Reducing Risk to Natural Hazards’ (January 2013).

Table 9.9-12 summarizes the comprehensive-range of specific mitigation initiatives the City 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 9.9-13 provides a summary of the prioritization of all proposed mitigation initiatives for the Plan update.



Table 9.9-12. 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
OC-1a (former OC-1a; new CMC-1)	<p>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.</p> <p>The City has done extensive public education and outreach regarding available mitigation opportunities, including workshops on August 12, 2015 and again on April 9, 2016 for property owners in the City interested in mitigation their flood prone properties. The City has formally been an active participant in the “Enhanced RL/SRL Initiative” within this plan update process, as described further in Section 6.</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	Coastal Storm, Flood, Severe Weather	1, 2, 4, 6	City (likely through NFIP Floodplain Administrator)	High	High	See above.	Ongoing	M-H*	EAP, SIP	PI, PP
OC-1b (former OC-1b)	<p>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 relocation is determined to be a viable option, consider implementation of that action based on available funding.</p> <p>The City notes that while this acquisition initiative is being included in this 2016 HMP update, it is unlikely that acquisition/relocation is a viable mitigation strategy for the City as the entire City is located within a floodplain, so relocation away from the flood hazard is not a viable alternative.</p> <p>The City has done extensive public education and outreach regarding available mitigation opportunities, including workshops on August 12, 2015 and again on April 9, 2016 for property owners in the City interested in mitigation their flood prone properties. The City has formally been an active participant in the “Enhanced RL/SRL Initiative” within this plan update process, as described further in Section 6.</p> <p>Funding sources: Green Acres/Blue Acres Grant(s) and local share Open Space Fund; 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	Coastal Storm, Flood,	1, 2, 4, 6	City (likely through NFIP)	High	High	See above.	Ongoing	M-H*	EAP, SIP	PI, PP



Table 9.9-12. 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
			Severe Weather		Floodplain Administrator)							
OC-2 (former OC-5)	Complete the development of the City's Strategic Recovery Plan.	New & Existing	All Hazards	1, 3, 4, 6	Municipal Emergency Manager with support from County OEM and NJOEM	High	Low - Medium	Local Budget	Ongoing	M	LPR	PR
OC-3 (former OC-6)	Create/enhance/maintain mutual aid agreements with neighboring communities.	New & Existing	All Hazards	1, 3, 4, 6	City	Medium	Low - Medium	Local Budget	Ongoing	M	EM*	ES
OC-4 (former OC-7)	Support County-wide initiatives identified in Section 9.1 of the County Annex.	New & Existing	All Hazards	All Goals	Local departments (as applicable for specific initiative)	M-H	Low - High	Existing programs and grant funding where applicable	Ongoing – Long-term depending on initiative	M-H (dependent)	LPR, EAP, EM*	PR, PI, ES
OC-5 (former OC-8)	Complete the development and adoption of an additional ordinance requiring a minimum elevation for garages, pursuant to the City's adoption of Ordinance #12-19 requiring 2 feet of freeboard.											
	See above.	New & Existing	Coastal Storms, Flooding, Severe Weather	1, 2	Planning and Engineering	M	Low	Local Budget	Short-term (1-2 years)	H	LPR	PR
OC-6 (former OC-11)	Post expanded information on the website about more flood vulnerable sections of the	N/A	All Hazards	1, 2	Local Departments	L	Low	Local Budgets	Short-term	H	EAP	PI



Table 9.9-12. 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
	City (e.g. low elevation areas) – affects CRS credits.											
OC-7 (former OC-12)	Promote public awareness of local flood risk (e.g. put BFE’s on telephone poles using yellow spikes or painted bands; identify flood levels at all critical facilities). 111 historic markers have been put in place. The City will continue to add markers as survey work is completed.											
	See above.	N/A	Coastal Storms, Flooding	1, 2	Emergency Management, Planning and Engineering	M	Low-Medium	Local Budget	In progress.	H	EAP	PI
OC-8 (former OC-13)	Upgrade existing revetment wall (needs to be extended to the south and existing sections upgraded) and provide additional road protection to CR-619 in Strathmere to Ocean City, and elevate sections of road as needed. Portions were destroyed during Hurricane Sandy. County installed bulkhead and additional road protection for CR 619 for portions. The City will continue to support the County to complete project.											
	See above.	N/A	Coastal Storms, Severe Weather, Flooding	1, 4	County Engineering with municipal support	H	High	HMA and federal programs with local match	In progress.	M	SIP	PP
OC-9 (former OC-14, CMC-36)	Upgrade storm drainage in Ocean City, which are currently designed to handle only a 2-year storm event. City continues work to increase drainage capacity to 10-year storm. Projects include Merion Park, 1 st Street to 8 th Street west of West Avenue, 10 th Street and Palen Avenue, Arkansas Road, Bayshore Drive, 11 th Street from Haven Avenue to Bay Avenue. Current outfalls at 11 th Street, West 17 th Street, and Surf Road had been upgraded.											
	See above.	Existing	Coastal Storms, Flooding, Severe Weather	1, 3, 4	County Engineering with municipal support	H	High	HMA and federal programs with local match	Long Term DOF	M	SIP	PP
OC-10 (former OC-16)	Relocate or elevate firehouse at 29 th and West which was severely damaged during Sandy. Currently evaluating options and funding to reconstruct with living quarters above ABFE. 29 th and West is located in a particularly floodprone area.											
	See above.	Existing	Coastal Storms,	1, 3, 4	City	H	High	Applied for under	In progress.	M	SIP	PP



Table 9.9-12. 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
			Severe Weather, Flooding					Federal Stimulus program				
OC-11	Perform drainage improvements in Bayland Drive and Bay Avenue to address recurrent flooding (from Master Plan Re-exam)											
	See above.	Existing	Coastal Storms, Flooding, Severe Weather	1, 3, 4	Engineering	High	High	Local	Long Term DOF	Medium	SIP	PP
OC-12	Use dredge material as a beneficial reuse for wetlands restoration in the City.											
	See above.	N/A	Coastal Storms, Flooding, Severe Storms	1,2,3,4,5 and 6	Planning, Engineering, Administration	High	High	NFWF	In progress	High	LPR, NSP, EAP	PR, PI, NR, SP
OC-13 (former OC-21)	Continue program to upgrade bulkheads to 8.20' NGVD. Work at (2) bulkheads in Tennessee Avenue along with 16 th Street, 12 th Street, 7 th Street, Walton Place property, Cove Walk, North Street, Battersea Road and Landing Roads completed. The street side boat ramps at Tennessee Avenue are planned for 2016 and 2017.											
	See above.	New and Existing	Coastal Storms, Coastal Erosion; Flooding	1, 4	Planning and Engineering Department	H	Medium - High	Local CIP and FEMA HMA grants	In progress.	M	SIP	PP
OC-14 (former OC-26)	Consolidation of the Drainage Systems and Construction of a Pump Station to service drainage areas from 1 st St. and 8 th St. between West Ave, and the bayfront. City obtained FEMA hazard mitigation grant for project. Design in progress. Construction anticipated for 2014-15 offseason.											
	See above.	Existing	Coastal Storm, Flooding, Severe Weather	1, 3, 4	Planning and Engineering Departments	H	\$6 Million	FEMA HMA grant programs with local match	In progress.	H	SIP	PP
OC-15 (former OC-27)	Construction of a protective floodwall with stone reinforcement around the historic Music Pier. Location is on the beachfront at Moorlyn Terrace.											
	See above.	Existing	Coastal Storm, Coastal Erosion, Flooding,	1, 3	Planning and Engineering Departments	M-H	\$1.2 Million	FEMA HMA grant programs	Long Term (Completion by 2018)	M	SIP	SP



Table 9.9-12. 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
			Severe Weather					with local match				
OC-16 (former OC-28 and 29)	Road elevation of Haven Ave. between 26 th St. and 34 th St.; and Simpson Ave. between 31 st Street and 34 th Street. Sidewalks on west side of 2900 block elevated. Additional road elevation will be pursued when road conditions warrant reconstruction. No funding available at this time. In progress of applying for grant funds under the Flood Hazard Risk Reduction and Resiliency Grant Program for the area from 26 th St. and 32 nd St. between West Ave. and the bayfront.											
	See above.	Existing	Coastal Storm, Flooding, Severe Weather	1, 3, 4	Planning and Engineering Departments	H	\$5.5 Million	FEMA HMA grant programs with local match	Short-term	H	SIP	PP
OC-17 (former OC-32, CMC-69)	Work directly with residents of the community located in a classic wildland-urban interface next to Corson’s Inlet State Park to 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 County Fire Coordinator and identified residents	M	L-M	Existing Budgets	In progress.	H	EAP	PI
OC-18 (former OC-33)	South End Ocean From Bulkhead Replacement – Bulkhead was installed after the 1962 storm from 58 th Street to 29 th Street. Bulkhead is nearing the end	Existing	Coastal Storms, Coastal Erosion; Flooding	1, 4	Planning and Engineering Department	High	Medium - High	Local CIP and FEMA HMA grants	Long Term DOF	Medium	SIP	PP



Table 9.9-12. 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
	of its useable life.											
OC-19 (former OC-35)	Standards for the Construction Adjacent to Bulkheads – FEMA recommends that all construction within 30 feet of a bulkhead should be built to V-zone standards. Ordinance lacks public support.	New & Existing	Coastal Storms, Flooding, Severe Weather	1, 2	Planning and Engineering	Medium	Low	Local Budget	Short-term (1-2 years)	High	LPR	PR
OC-20 (former OC-36)	Route 152 Shore Protection and Elevation – Hurricane Sandy destroyed the dunes seaward of Route 152 leaving this evacuation route exposed to ocean waves. Support Atlantic and Cape May Counties in efforts to elevate Route 152 to the base flood elevation and install shore protection for this area.											
	See above.	Existing	Coastal Storms, Severe Weather, Flooding	1, 4	County Engineering with municipal support	High	High	HMA and federal programs with local match	Long Term DOF	Medium	SIP	PP
OC-21 (former OC-37)	Elevation of Roosevelt Boulevard from Bay Avenue to the Garden State Parkway – Support Cape May County in efforts to elevate Roosevelt Boulevard to	Existing	Coastal Storms, Severe Weather, Flooding	1, 4	County Engineering with municipal support	High	High	HMA and federal programs with local match	Long Term DOF	Medium	SIP	PP



Table 9.9-12. 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
	the base flood elevation.											
OC-22 (former OC-38)	Bulkhead Merion Park and Install Pump Station – Install a bulkhead around Merion Park at the base flood elevation. Then install a pump station to discharge stormwater when sea level elevations do not permit gravity flow.											
	Pump stations were installed in the summer of 2014. No funding available at this time for bulkheads.											
	See above.	Existing	Coastal Storms, Coastal Erosion; Flooding	1, 4	Planning and Engineering Department	High	Medium - High	Local CIP and FEMA HMA grants	In progress	Medium	SIP	PP
OC-23 (former OC-39)	Elevate Merion Park – elevate the roads, yards and homes in this section of town to reduce flooding. Minor elevation changes to the roads. Large scale elevations of the roads lacks public support.											
	See above.	Existing	Coastal Storm, Flooding, Severe Weather	1, 3, 4	Planning and Engineering Departments	High	High	Local CIP and FEMA HMA grants	In progress	Medium	SIP	PP
OC-24 (former OC-40)	Bulkhead Ocean City Homes and Install Pump Station – Install a bulkhead around the Ocean City Homes section of town at the base flood elevation. Then install a pump station to discharge stormwater when sea level elevations do not permit gravity flow.											
	See above.	Existing	Coastal Storms, Coastal Erosion; Flooding	1, 4	Planning and Engineering Department	High	High	Local CIP and FEMA HMA grants	In progress	Medium	SIP	PP
OC-25 (former OC-41)	Elevate Ocean City Homes – elevate the roads, yards and homes in this section of town to reduce flooding.	Existing	Coastal Storm, Flooding, Severe Weather	1, 3, 4	Planning and Engineering Departments working with property owners	High	High	FEMA HMA grants; property owner for local share	Long Term DOF	Medium	SIP	PP
OC-26 (former OC-42)	Beach nourishment and dune reconstruction for beaches south of 36 th street.											
	Army Corps of Engineers conducted beach fill for this area in the fall of 2014. Periodic nourishments will continue.											



Table 9.9-12. 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
	See above.	N/A	Coastal Storms, Coastal Erosion, Severe Weather	1, 3, 5	USACE with municipal support	High	High	ACOE and NJDEP	In progress. Completed in 2015 and on a three (3) year replenishment cycle.	High	NSP	NRP
OC-27 (former OC-43, -44)	Once new flood maps are finalized, the City will begin the process to: <ul style="list-style-type: none"> • Adopt Coastal A-Zone construction standards. • Review and revise zoning standards to promote construction standards that embrace new higher base flood elevations. 											
	See above	New & Existing	Coastal Storms, Flooding, Severe Weather	1, 2	Planning and Engineering	Medium	Low	Local Budget	Short-term (1-2 years)	High	LPR	PR
OC-28	Implement outreach projects as described in the City's PPI.	N/A	All Hazards	1, 2, 4	Planning, Engineering, Administration	Medium	Low	Local Budget	Short Term	High	EAP	PI
OC-29	Promote protection of open space, important habitats, and environmentally sensitive areas through public and private action in order to maintain and improve the City's biodiversity, and improve protection from sea level rise and Severe Weather events. (from Open Space Plan)											
	See above.	N/A	Coastal Storms, Flooding, Severe Weather; Coastal Erosion; CC/SLR	1, 2, 5	Planning, Engineering, Administration	Medium	High	Local Budget	In Progress/ Long Term	High	NSP	NRP
OC-30	Establish design and performance standards that will protect environmentally sensitive and critical habitat lands including floodplains, wetlands, sand dunes and beaches. (from Open Space Plan)											
	See above.	N/A	Coastal Storms, Flooding, Severe Weather; Coastal	1, 2, 5	Planning, Engineering, Administration	Medium	High	Local Budget	Long Term	Medium	LPR, NSP	NRP



Table 9.9-12. 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
			Erosion; CC/SLR									

Notes:

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

* This initiative has a "Medium" priority based on the prioritization scheme used in this planning process (implementation dependent on grant funding), however it is recognized that addressing repetitive and severe repetitive loss properties is considered a high priority by FEMA and NJOEM (as expressed in the State HMP), and thus shall be considered a "High" priority for all participants in this planning process.

(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
HMGP	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 9.9-13. 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
OC-1a (former OC-1a)	Support retrofitting (e.g. elevation) of floodprone structures, with repetitive loss and severe repetitive loss properties as priority.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	M-H*
OC-1b (former OC-1b)	Support acquisition and/or relocation of floodprone structures, with repetitive loss and severe repetitive loss properties as priority.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	M-H*
OC-2 (former OC-5)	Complete the development of the City's Strategic Recovery Plan.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	M
OC-3 (former OC-6)	Create/enhance/ maintain mutual aid agreements with neighboring communities.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	M
OC-4 (former OC-7)	Support County-wide initiatives identified in Section 9.1 of the County Annex.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	M-H (dependent)
OC-5 (former OC-8)	Complete the development and adoption of an additional ordinance requiring a minimum elevation for garages, pursuant to the City's adoption of Ordinance #12-19 requiring 2 feet of freeboard.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	H
OC-6 (former OC-11)	Post expanded information on the website about more flood vulnerable sections of the City (e.g. low elevation areas) – affects CRS credits.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	H
OC-7 (former OC-12)	Promote public awareness of local flood risk (e.g. put BFE's on telephone poles using yellow spikes or painted bands; identify flood levels at all critical facilities).	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	H
OC-8 (former OC-13)	Upgrade existing revetment wall (needs to be extended to the south and existing sections upgraded) and provide additional road protection to CR-619 in Strathmere to Ocean City, and elevate sections of road as needed.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	M
OC-9 (former OC-14, CMC-36)	Upgrade storm drainage in Ocean City, which are currently designed to handle only a 2-year storm event. Various projects.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	M



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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
OC-10 (former OC-16)	Relocate or elevate firehouse at 29 th and West which was severely damaged during Sandy.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Medium
OC-11	Perform drainage improvements in Bayland Drive and Bay Avenue to address recurrent flooding (from Master Plan Re-exam)	1	1	0	1	1	1	0	1	1	1	1	1	1	1	12	High
OC-12	Use dredge material as a beneficial reuse for wetlands restoration in the City.	1	1	0	1	1	0	-1	1	0	1	1	1	1	1	9	High
OC-13 (former OC-21)	Continue program to upgrade bulkheads to 8.20' NGVD.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Medium
OC-14 (former OC-26)	Consolidation of the Drainage Systems and Construction of a Pump Station to service drainage areas from 1 st St. and 8 th St. between West Ave, and the bayfront.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	High
OC-15 (former OC-27)	Construction of a protective floodwall with stone reinforcement around the historic Music Pier. Location is on the beachfront at Moorlyn Terrace.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Medium
OC-16 (former OC-29)	Road elevation of Haven Ave. between 26 th St. and 34 th St.; and Simpson Ave. between 31 st Street and 34 th Street.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	High
OC-17 (former OC-32, CMC-69)	Fire protection education and National Fire Protection Association (NFPA) "Firewise" initiative.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	High
OC-18 (former OC-33)	South End Ocean From Bulkhead Replacement	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Medium
OC-19 (former OC-35)	Standards for the Construction Adjacent to Bulkheads	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	High
OC-20 (former OC-36)	Route 152 Shore Protection and Elevation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Medium



Table 9.9-13. 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
OC-21 (former OC-37)	Elevation of Roosevelt Boulevard from Bay Avenue to the Garden State	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Medium
OC-22 (former OC-38)	Bulkhead Merion Park and Install Pump Station	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Medium
OC-23 (former OC-39)	Elevate Merion Park	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Medium
OC-24 (former OC-40)	Bulkhead Ocean City Homes and Install Pump Station	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Medium
OC-25 (former OC-41)	Elevate Ocean City Homes – elevate the roads, yards and homes in this section of town to reduce flooding.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Medium
OC-26 (former OC-42)	Beach nourishment and dune reconstruction for beaches south of 36 th street.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	High
OC-27 (former OC-43, -44)	Once new flood maps are finalized, the City will begin the process to: <ul style="list-style-type: none"> Adopt Coastal A-Zone construction standards. Review and revise zoning standards to promote construction standards that embrace new higher base flood elevations. 	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	High
OC-28	Implement outreach projects as described in the City’s PPI.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	High
OC-29	Promote protection of open space, important habitats, and environmentally sensitive areas through public and private action in order to maintain and improve the City’s biodiversity, and improve protection from sea level rise and severe storm events. (from Open Space Plan)	0	1	1	1	0	0	1	1	1	1	1	1	1	1	11	High



Table 9.9-13. 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
OC-30	Establish design and performance standards that will protect environmentally sensitive and critical habitat lands including floodplains, wetlands, sand dunes and beaches. (from Open Space Plan)	0	1	1	1	0	0	0	1	1	0	1	1	1	1	9	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.



9.9.7 Future Needs To Better Understand Risk/Vulnerability

None at this time.

9.9.8 Hazard Area Extent and Location

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

9.9.9 Additional Comments

None at this time.



Figure 9.9-1. City of Ocean City Hazard Area Extent and Location Map 1

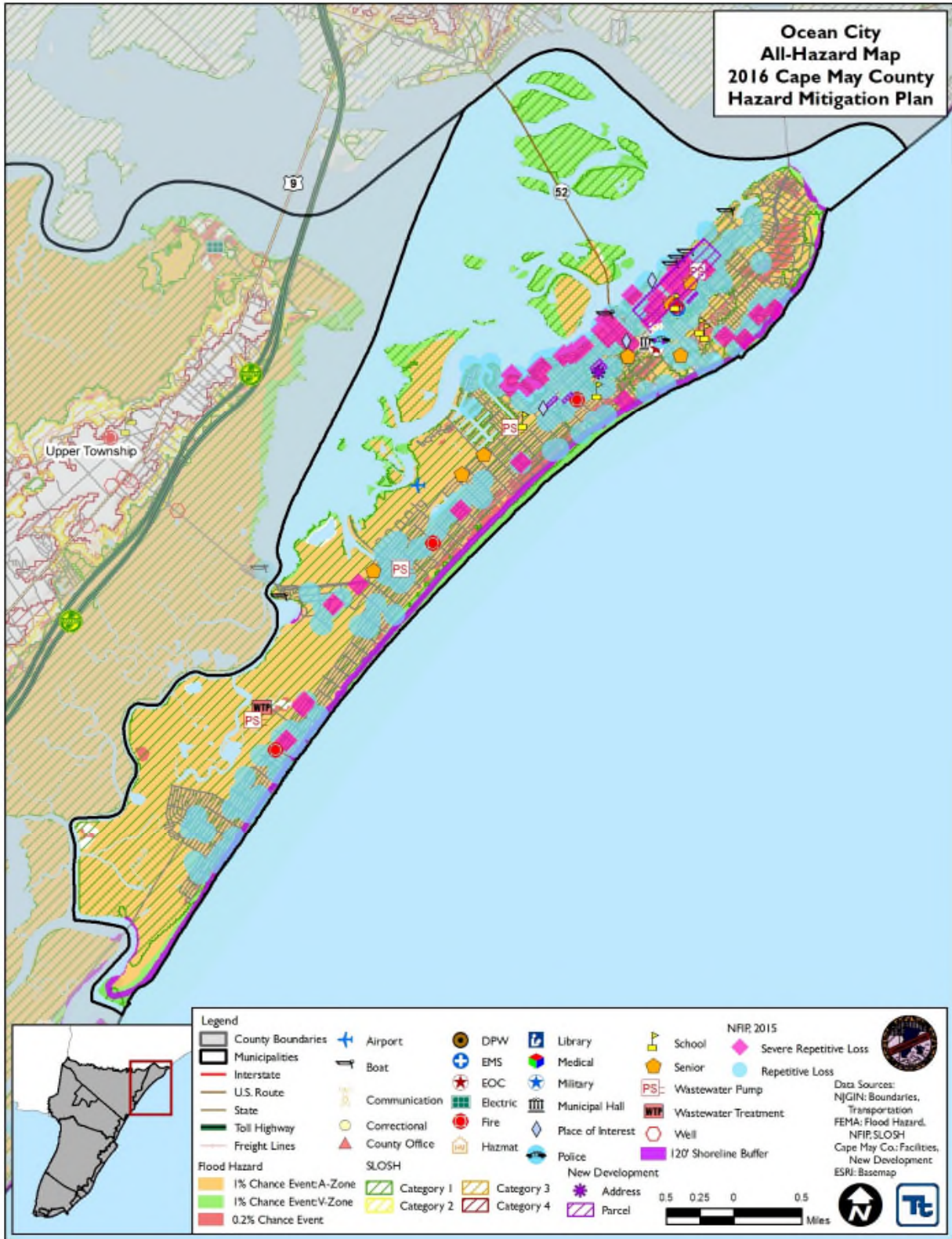




Figure 9.9-2. City of Ocean City Hazard Area Extent and Location Map 2

