



9.4 City of Bordentown

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

9.4.1 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
James Lynch, Jr., Mayor / EMC 324 Farnsworth Avenue, Bordentown, NJ 08505 609.847.6051 mayorlynch@gmail.com btownch@cityofbordentown.com	Brian Maugeri, Sr., Deputy EMC 324 Farnsworth Avenue, Bordentown, NJ 08505 609.298.0450 bcoem60@comcast.net

9.4.2 Municipal Profile

The City of Bordentown is located on the northern portion of Burlington County and encompasses one square mile. It is bordered to the northwest by the Delaware River and surrounded by the Township of Bordentown. According to the 2010 Census, the community's population was 3,924. The city has a total area of 0.968 square miles, including 0.929 square miles of land and 0.039 square miles of water.

Bordentown has been governed under the Commission form of government (Walsh Act) since 1913, with a government consisting of three commissioners, one of whom is selected to serve as Mayor. Members are elected to four-year concurrent terms in office in non-partisan elections. Under this form, the Commissioners function as the legislative authority of the municipality.

Growth/Development Trends

The following table summarizes recent residential/commercial development since 2013 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 9.4.8 of this annex which illustrates the hazard areas along with the location of potential new development.

Table 9.4-1. Growth and Development

Property or Development Name	Type (e.g. Res., Comm.)	# of Units / Structures	Location (address and/or Parcel ID)	Known Hazard Zone(s)	Description/Status of Development
Recent Development from 2013 to present					
Home2Suites	Commercial	100 rms	905 Route 206, 1501/38	None	Expected Completion 12/26/2017
Car Wash	Commercial	1	905 Route 206, 1501/38	None	Expected Completion 12/26/2017
Known or Anticipated Development in the Next Five (5) Years					
Cranberry Park	Comm/Residential	Unknown	104 Park St, 1601/21	Flood: 1% Event: A-Zone	No Progress

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

9.4.3 Natural Hazard Event History Specific to the Municipality

Burlington 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 2013 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 9.4-2. Hazard Event History

Dates of Event	Event Type (Disaster Declaration if applicable)	Burlington County Designated?	Summary of Damages/Losses
April 30-May 1, 2014	Heavy Rain and Flooding	No	Heavy rain caused considerable poor drainage and creek flooding in the northern Burlington County. Rancocas Creek was hit the hardest by flooding. Many roads were flooded and closed. Approximately \$1 million in property damage in the County. While the event impacted the entire County, the Township did not experience significant losses or damages.
June 23, 2015	Severe Storm (DR-4231)	Yes	\$10 million in property damage in the County (\$8 million in Medford, \$1 million in Mt Laurel and \$1 million in Medford Lakes). While the event impacted the entire County, the Township did not experience significant losses or damages.
January 22-24, 2016	Severe Winter Storm (DR-4264)	Yes	Heavy snow fell throughout the County; snowfall totals ranged from 12 inches to 16.4 inches. While the event impacted the entire County, the Township did not experience significant losses or damages.

Notes:

- EM Emergency Declaration (FEMA)
- FEMA Federal Emergency Management Agency
- DR Major Disaster Declaration (FEMA)
- N/A Not applicable

9.4.4 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 following summarizes the hazard vulnerabilities and their ranking in the City of Bordentown. 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 Bordentown.

Table 9.4-3. 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
Coastal Erosion	RCV Exposed to CE Hazard Area: \$37,606,296	Occasional	12	Low
Drought	Damage estimate not available.	Frequent	36	High
Earthquake	100-Year GBS: \$0 500-Year GBS: \$1,492,383 2,500-Year GBS: \$21,157,418	Occasional	28	Medium
Flood	1% Annual Chance: \$328,406,175	Frequent	48	High





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
Landslide	RCV Exposed to Landslide Hazard Area \$0	Rare	6	Low
Severe Storm	100-year MRP: \$1,086,271 500-year MRP: 1,198,399 Annualized: 63,734	Frequent	48	High
Severe Winter Weather	1% GBS: \$5,924,797 5% GBS: \$29,623,983	Frequent	51	High
Wildfire	Estimated Value in the Extreme, Very High, and High Hazard Areas: \$266,341,415	Occasional	20	Medium

Notes:

- a. Building damage ratio estimates based on FEMA 386-2 (August 2001)
- b. The valuation of general building stock and loss estimates was based on custom inventory for the municipality.
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. Loss estimates for the severe storm and severe winter storm hazards are structural values only and do not include the value of contents.
- d. Loss estimates for the flood and earthquake hazards represent both structure and contents.
- e. The HAZUS-MH earthquake model results are reported by Census Tract.

National Flood Insurance Program (NFIP) Summary

The following table summarizes the NFIP statistics for the City of Bordentown.

Table 9.4-4. NFIP Summary

Municipality	# Policies (1)	# Claims (Losses) (1)	Total Loss Payments (2)	# Rep. Loss Prop. (1)	# Severe Rep. Loss Prop. (1)	# Policies in 100-year Boundary (3)
City of Bordentown	6	7	\$31,802.20	2	0	0

Source: FEMA Region 2 2017, 2018

- (1) Repetitive loss and severe repetitive loss statistics provided by FEMA Region 2 and are current as of 10/31/2017. Policy and claims statistics current as of 9/30/2018
Please note the total number of repetitive loss properties does not include the severe repetitive loss properties. The number of claims represents claims closed by 9/30/2018.
- (2) Total building and content losses from the claims file provided by FEMA Region 2.
- (3) The policies inside and outside of the flood zones are based on the addresses geocoded from the FEMA Region 2 policy file - 10/31/2017.

Notes: 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.
A zero percentage denotes less than 1/100th percentage and not zero damages or vulnerability as may be the case.

Critical Facilities

The table below presents Hazards United States (HAZUS) – Multi-Hazards (MH) estimates of the damage and loss of use to critical facilities in the community as a result of a 1-percent annual chance flood event.



Table 9.4-5. Potential Flood Losses to Critical Facilities

Name	Type	Exposure		Potential Loss from 1% Flood Event	
		1% Event	0.2% Event	Percent Structure Damage	Percent Content Damage
Bordentown	Intermodal Transit	X	X	38.3	52.3
Bordentown Sewerage Authority	Wastewater Pump	X	X	-	-

Source: FEMA 2017, Burlington County

Note: - = Damages not calculated by HAZUS-MH v4.0

Other Vulnerabilities Identified

The municipality has not identified any vulnerabilities within their community.

9.4.5 Capability Assessment

This section identifies the following capabilities of the local jurisdiction:

- Planning and regulatory capability
- Administrative and technical capability
- Fiscal capability
- Community classification
- 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 Bordentown.

Table 9.4-6. Planning and Regulatory Tools

Tool / Program (code, ordinance, plan)	Do you have this? (Yes/No) If Yes, date of adoption or update	Authority (local, county, state, federal)	Dept. /Agency Responsible	Code Citation and Comments (Code Chapter, name of plan, explanation of authority, etc.)
Planning Capability				
Master Plan	Yes (2011)	Local	P/Z Board	-
Capital Improvements Plan	No	-	-	-
Floodplain Management / Basin Plan	Yes (2017)	Local	P/Z Board	Flood Damage Prev Ord.
Stormwater Management Plan	Yes (2010)	Local	Public Works	Chapter 244 of Code
Open Space Plan	Yes	Local	Public Works	Chapter 300 of Code
Stream Corridor Management Plan	No	-	-	-
Watershed Management or Protection Plan	No	-	-	-
Economic Development Plan	No	-	-	-
Comprehensive Emergency Management Plan	No	-	-	-





Tool / Program (code, ordinance, plan)	Do you have this? (Yes/No) If Yes, date of adoption or update	Authority (local, county, state, federal)	Dept. /Agency Responsible	Code Citation and Comments (Code Chapter, name of plan, explanation of authority, etc.)
Emergency Operation Plan	Yes	County	Burlington County OEM	-
Post-Disaster Recovery Plan	No	-	-	-
Transportation Plan	No	-	-	-
Strategic Recovery Planning Report	No	-	-	-
Other Plans:	No	-	-	-
Regulatory Capability				
Building Code	Yes	State & Local	-	State Uniform Construction Code Act (N.J.S. 52:27D-119 et seq.)
Zoning Ordinance	Yes	Local	-	Chapter 300 of Code
Subdivision Ordinance	Yes	Local	-	Chapter 300 of Code
NFIP Flood Damage Prevention Ordinance	Yes	Federal, State, Local	-	Chapter 166 of Code, Ordinance 2017-17
NFIP: Cumulative Substantial Damages	No	-	-	-
NFIP: Freeboard	Yes	State, Local	-	Chapter 166 of Code
Growth Management Ordinances	No	-	-	-
Site Plan Review Requirements	Yes	Local	-	Chapter 244 of Code
Stormwater Management Ordinance	Yes (2004)	Local	-	Chapter 237 of Code
Municipal Separate Storm Sewer System (MS4)	No	-	-	-
Stormwater Program Ordinances <ul style="list-style-type: none"> • Pet waste • Litter Control • Improper Disposal of Waste • Wildlife Feeding • Yard Waste Collection • Illicit Connection • Private Storm Drain • Retrofitting • Refuse Container / Dumpster (optional) 	Yes	Local	-	Chapter 237, Part 1: Disposal, Pet Waste, Wildlife Feeding, Yard Waste, and Illicit Connections; Part 5: Private Storm Drain Inlets; Part 6: Dumpsters
Natural Hazard Ordinance	No	-	-	-
Post-Disaster Recovery Ordinance	No	-	-	-
Real Estate Disclosure Requirement	No	-	-	-
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 City of Bordentown.





Table 9.4-7. Administrative and Technical Capabilities

Resources	Is this in place? (Yes or No)	Department/ Agency/Position
Administrative Capability		
Planning Board	Yes	City of Bordentown Planning and Zoning Board
Mitigation Planning Committee	Yes	County
Environmental Board/Commission	Yes	Bordentown City Environmental Commission
Open Space Board/Committee	No	-
Economic Development Commission/Committee	Yes	City of Bordentown Economic Development
Maintenance programs to reduce risk	No	-
Mutual aid agreements	Yes	Local
Technical/Staffing Capability		
Planner(s) or engineer(s) with knowledge of land development and land management practices	Yes	Local
Engineer(s) or professional(s) trained in construction practices related to buildings and/or infrastructure	Yes	Local
Planners or engineers with an understanding of natural hazards	Yes	Local
NFIP Floodplain Administrator (FPA)	Yes	Planning Board Secretary
Surveyor(s)	No	-
Personnel skilled or trained in GIS and/or Hazards United States (HAZUS) – Multi-Hazards (MH) applications	No	-
Scientist familiar with natural hazards	No	-
Emergency Manager	Yes	Emergency Management Coordinator – Local
Grant writer(s)	No	-
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 City of Bordentown.

Table 9.4-8. Fiscal Capabilities

Financial Resources	Accessible or Eligible to Use (Yes/No)
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	Yes/Water Utility
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



Financial Resources	Accessible or Eligible to Use (Yes/No)
Other federal or state Funding Programs	Yes
Open Space Acquisition funding programs	Yes
Other	-

Community Classifications

The table below summarizes classifications for community program available to the City of Bordentown.

Table 9.4-9. Community Classifications

Program	Do you have this? (Yes/No)	Classification (if applicable)	Date Classified (if applicable)
Community Rating System (CRS)	No	N/A	N/A
Building Code Effectiveness Grading Schedule (BCEGS)	No	N/A	N/A
Public Protection (ISO Fire Protection Classes 1 to 10)	Yes	PPC 4	March 2015
Storm Ready Certification	No	N/A	N/A
Firewise Communities classification	No	N/A	N/A
Natural disaster/safety programs in/for schools	No	-	-
Organizations with mitigation focus (advocacy group, non-government)	No	-	-
Public education program/outreach (through website, social media)	Yes	-	-
Public-private partnership initiatives addressing disaster-related issues	No	-	-

Note:

- N/A Not applicable
- NP Not participating
- Unavailable

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 CRS class applies to flood insurance while the 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 1000 feet of a creditable fire hydrant and is within 5 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 <https://www.isomitigation.com/ppc/>
- The National Weather Service Storm Ready website at <http://www.stormready.noaa.gov/index.html>
- The National Firewise Communities website at <http://firewise.org/>

Self-Assessment of Capability





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

Table 9.4-10. Self-Assessment Capability for the Municipality

Area	Degree of Hazard Mitigation Capability		
	Limited (If limited, what are your obstacles?)*	Moderate	High
Planning and regulatory capability	X – due to minimal staff		
Administrative and technical capability	X – due to minimal staff		
Fiscal capability		X	
Community political capability	X – due to minimal staff		
Community resiliency capability	X – due to minimal staff		
Capability to integrate mitigation into municipal processes and activities	X – due to minimal staff		

National Flood Insurance Program

NFIP Floodplain Administrator (FPA)

Jennifer Smith, Planning Board Secretary

Flood Vulnerability Summary

The City of Bordentown does not maintain lists/inventories of properties that have been flood damaged or identify property owners who are interested mitigation. The FPA did not indicate if any structures have been damaged by flooding in recent events. The FPA does not make Substantial Damage estimates. The FPA indicated that there are currently no residents interested in elevation or mitigation and has not identified potential funding sources for mitigation projects for residents.

Resources

The FPA assumes the responsibilities of floodplain administration for the City of Bordentown. NFIP administration services and functions provided to residents of Bordentown include application review, permit review, and record keeping. The City does not provide education to the community regarding flood hazards/risk or flood risk reduction. The FPA stated there are currently no barriers to running an effective floodplain management program and feels adequately supported and trained to fulfill her responsibilities as the municipal floodplain administrator. The FPA would not consider attending continuing education and certification training on floodplain management if it were offered in the future.

Compliance History

The Township is in good compliance with the NFIP. The FPA indicated that a Community Assistance Visit has not been conducted.

Regulatory

The City of Bordentown’s floodplain management ordinance meets the minimum set by FEMA and the State of New Jersey. The FPA indicated that the new Flood Damage Prevention Ordinance supports floodplain management. The FPA indicated that the City of Bordentown is not interested in joining the CRS program or attending seminars on the 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

Hazard Mitigation: The City of Bordentown actively participated in the 5-year update of the Burlington County Hazard Mitigation Plan. The Borough continues to support the implementation, monitoring, maintenance, and updating of the plan.

Master Plan: The FPA indicated that the current Master Plan does not incorporate hazard risk/mitigation but future updates will incorporate this topic. The Master Plan includes safe growth practices.

Fire Plan: The City plans on pursuing a Fire Plan within the next 5 years.

Regulatory and Enforcement (Ordinances)

The City of Bordentown's codebook can be found online at:

<https://www.ecode360.com/documents/BO1079/source/LF1005525.pdf>.

Flood Damage Prevention Ordinance: The purpose of the Flood Damage Prevention Ordinance (Chapter 166 of the Municipal Code, Ordinance 2017-17) is to promote the public health, safety, and general welfare and to minimize public and private losses due to flood conditions in specific area by provisions designed to:

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

Zoning Ordinance: The purpose of the Zoning Ordinance is to promote the orderly growth of lands within the City, taking into consideration the character of each district and its peculiar suitability for particular uses, and to encourage the most appropriate use of land through the police power generally. It is further the purpose of the City in adopting this chapter to limit and restrict buildings and structures to specified districts and to regulate buildings and structures according to their type and nature and the extent of their use and to regulate the nature and extent of use of land for trade, industry, residence, open space or other purposes in order to avoid undue concentration of population and to conserve the value of property in order to protect the public health, safety and morals and promote the general welfare throughout the entire community.

NJDEP Municipal Stormwater Regulation Program: New Jersey Department of Environmental Protection issued the statewide municipal stormwater permits that became effective January 1, 2018 and authorizes



stormwater discharges from municipal separate storm sewer systems (MS4s) to the waters of the state. Municipalities that have been issued a Notice of Authorization (NOA) to discharge under the Tier A (urban and coastal municipalities) or Tier B (more rural municipalities) master general permit must develop and implement a stormwater program. The first NJPDES permit authorizing discharges from MS4 municipalities became effective in 2004 (subsequently renewed in 2009 and now in 2018), so most municipalities have developed stormwater programs; however, the 2018 permit requires municipalities to maintain a stormwater management plan and enforce stormwater ordinances to address development and redevelopment consistent with the Stormwater Management rules at N.J.A.C 7:8, as well as implementation of additional requirements. For more information on the municipal stormwater regulation program, see http://www.nj.gov/dep/dwq/msrp_home.htm. The City of Bordentown is a Tier A municipality.

Stormwater Management: Chapter 237 of the municipal code discusses stormwater management. The chapter is intended to regulate the feeding of wildlife, disposal of waste, including pet solid waste, yard waste collection, litter, and other waste and pollution that may find its way into stormwater runoff in order to improve, preserve and protect the water quality of waters and streams within the City and surrounding communities that may be downstream from the Township so as to protect the health safety and welfare of the public. This chapter also regulates connections to the municipal separate storm sewer system (MS4) operated by the City and establishes penalties for violations of the provisions of this chapter.

Operational and Administration

Vegetation Management: The City's DPW, in conjunction with the Shade Tree Commission, maintains a tree maintenance and clearing program along roadways in high hazard areas.

Floodplain Administrator: The City promotes the participation of the Floodplain Administrator within the hazard mitigation planning process and other plans and activities.

Planning and Zoning Board: The City of Bordentown Planning and Zoning Board functions as a combined Board and consists of a total of nine (9) members including the Mayor and two (2) alternates. Members of the Board are volunteer residents appointed by the Mayor and consist of members designated as Chair, Vice-Chair and two Alternate members. A Board Attorney, Township Engineer and Board Secretary make up the professional staff who assist the members of the Planning and Zoning Board. The powers, duties and regulations of the Planning and Zoning Board are contained in the Municipal Land Use Law (MLUL). Planning Board meetings are held the first Monday of the March 2019 at 7:00 pm in the Carlslake Community Center, 207 Crosswicks Street.

Economic Development Advisory Committee: The Economic Development Advisory Committee assists in the development and maintenance of a positive business environment in the City of Bordentown, fosters an appropriate mix of business types throughout the City, and works to avoid a proliferation of vacant or underused commercial properties and the nuisances inherited with such conditions. The Economic Development Advisory Committee is appointed by the Mayor.

Environmental Commission: The Bordentown City Environmental Commission (BCEC) is comprised of volunteers who are residents of Bordentown City and are appointed by the Mayor. The BCEC advises local officials and the Planning Board regarding environmental issues and acts as a watchdog for environmental problems and opportunities. The BCEC informs elected officials and the public, serves on other committees, researches issues, develops educational programs, and advocates for sound environmental policies. The BCEC also is able to form subcommittees run by non-appointed volunteers to pursue issues of local importance. Presently, one committee, the Green Team, runs a Green Fair, organizes the City's weekly Farmers' Market, and facilitates the City's participation in the Sustainable Jersey program. Local issues include preservation of open



space, promoting walking and bicycling trails and the RiverLINE, protection of wetlands and water quality, recycling and energy conservation, and environmental education. The Commission holds regular public meetings on the second Wednesday of every March 2019 at the Carslake Community Center, 207 Crosswicks Street.

Parks and Recreation Commission: The Parks and Recreation Commission acts as an advisory board for all parks, recreational, historical or leased properties owned by the City of Bordentown.

Historic Preservation Commission: The Historic Preservation Commission appointments are made by the Mayor. The Commission meets on the fourth Thursday of each March 2019 at 7:30 PM at the Carslake Community Center, 207 Crosswicks Street.

Shade Tree Commission: The Shade Tree Commission holds its meetings on the third Thursday of the March 2019 at Carslake Community Center, 207 Crosswicks Street.

Funding

The City of Bordentown currently does not have a line item for mitigation project funding and has not provided funding for mitigations projects that have been identified in the hazard mitigation plan or protection for buildings and infrastructure in high hazard areas.

Education and Outreach

The City maintains a municipal website (<https://cityofbordentown.com/>) where they post information regarding upcoming community events, important municipal decisions, and information about the municipality. Residents can also sign up for email alerts.

The City of Bordentown does not offer training on hazard identification or conduct outreach related to hazards but does provide training related to hazard mitigation.

Burlington County utilizes the Swift911 Emergency Notification system. Swift911 is used in order to keep residents informed during fires, outages, floods, hurricanes, evacuations, road closures and more. All notifications are delivered for the sole purpose of delivering emergency messages and public notifications that are time sensitive in order to increase the safety and security. This service is also extended to the 40 municipalities within Burlington County, including the City of Bordentown.

9.4.6 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 2013 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 9.4-11. Status of Previous Mitigation Actions

Action Number	2013 Mitigation Action	Responsible Party	Status (In progress, No progress, Complete)	Describe Status 1. Please describe what was accomplished and indicate % complete. 2. If there was no progress, indicate what obstacles/delays encountered? 3. If there was progress, how is/was the action being funded (e.g., FEMA HMGP grant, local budget)?	Next Steps 1. Project to be included in 2019 HMP or Discontinue 2. If including action in the 2019 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
BoC-1	Evaluate benefits of participating in CRS program	Twp. Committee, Planning, OEM, Floodplain Adm.	No Progress	1. 0% 2. N/A 3. N/A	1. Include in 2019 HMP 2. N/A 3. N/A
BoC-2	Conduct and facilitate community and public education and outreach for residents and businesses to promote natural hazard risk reduction to include: • Disaster preparedness • Hazard mitigation	Municipality with support from Planning Partners, County Planning, NJOEM, FEMA	No Progress	1. 0% 2. N/A 3. N/A	1. Include in 2019 HMP 2. N/A 3. N/A
BoC-3	Improve municipal communications systems to include information sharing with county and surrounding municipalities.	OEM with support from County, NJOEM and FEMA	In Progress	1. In Progress 2. N/A 3. N/A	1. Discontinue 2. N/A 3. Ongoing capability in conjunction with County
BoC-4	Obtain and install backup power sources at all critical facilities to include shelters	Municipality engineering, OEM with support from County, NJOEM and FEMA	No Progress	1. 0% 2. No Funding Secured 3. N/A	1. Include in 2019 HMP 2. See table 9.4-13 3. Looking to purchase portable and/or permanent generator for emergency facilities
BoC-5	Create/Enhance/Maintain Mutual Aid agreements with neighboring communities for continuity of operations	Municipal Government, OEM with support from County, NJOEM, FEMA and surrounding communities	Complete	1. 100% 2. N/A 3. N/A	1. Discontinue 2. N/A 3. Complete



Action Number	2013 Mitigation Action	Responsible Party	Status (In progress, No progress, Complete)	Describe Status 1. Please describe what was accomplished and indicate % complete. 2. If there was no progress, indicate what obstacles/delays encountered? 3. If there was progress, how is/was the action being funded (e.g., FEMA HMGP grant, local budget)?	Next Steps 1. Project to be included in 2019 HMP or Discontinue 2. If including action in the 2019 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
BoC-6	Continue to support the implementation, monitoring, maintenance, and updating of this Plan through participating in the 5 year Plan Update	Municipal Government, OEM with support from Planning Partners, County Planning, NJOEM, FEMA	Complete	1. 100% 2. N/A 3. N/A	1. Discontinue 2. N/A 3. Complete
BoC-7	Continue to promote the participation of Floodplain Administrator within the planning process and other related activities.	Municipal Government with support from County, NJOEM and FEMA	Complete	1. 100% 2. N/A 3. N/A	1. Discontinue 2. N/A 3. Ongoing capability
BoC-8	Enhance community resilience to severe storms (incl. severe winter storms) by joining the NOAA "Storm Ready" program.	OEM with support from County, NJOEM and FEMA	No Progress	1. 0% 2. N/A 3. N/A	1. Include in 2019 HMP 2. N/A 3. N/A
BoC-9	Provide public education and outreach on proper installation and/or use of backup power	Municipal Clerk, OEM and government	No Progress	1. 0% 2. N/A 3. N/A	1. Include in 2019 HMP 2. N/A 3. N/A
BoC-10	Address dangerous trees threatening people and property through proactive tree-trimming (vegetation management) programs in conjunction with property owners and utility companies.	Municipal DPW	In Progress	1. In Progress 2. N/A 3. N/A	1. Discontinue 2. Ongoing tree maintenance with assistance of Shade Tree Commission 3. Ongoing capability
BoC-11	Retrofit the Water Treatment Plant and wells located in Hamilton Township, Mercer County to address flooding issues	Municipality, Planning and Engineer	No Progress	1. 50% 2. Several Upgrades and Improvements completed; 2 new wells drilled and well house well above ground level 3. N/A	1. Include in 2019 HMP 2. N/A 3. N/A



Completed Mitigation Initiatives Not Identified in the Previous Mitigation Strategy

The City of Bordentown has identified the following mitigation projects/activities that have also been completed but were not identified in the previous mitigation strategy in the 2013 Plan:

- None identified

Proposed Hazard Mitigation Initiatives for the Plan Update

The City of Bordentown participated in a mitigation action workshop in March 2018 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 9.4-12 summarizes the comprehensive-range of specific mitigation initiatives the City of Bordentown would like to pursue in the future to reduce the effects of hazards. Some of these initiatives may be previous actions carried forward for this plan update. These initiatives are dependent upon available funding (grants and local match availability) and may be modified or omitted at any time based on the occurrence of new hazard events and changes in municipal priorities. Both the four FEMA mitigation action categories and the six CRS mitigation action categories are listed in the table below to further demonstrate the wide-range of activities and mitigation measures selected.

As discussed in Section 6, 14 evaluation/prioritization criteria are used to complete the prioritization of mitigation initiatives. For each new mitigation action, a numeric rank is assigned (-1, 0, or 1) for each of the 14 evaluation criteria to assist with prioritizing your actions as ‘High’, ‘Medium’, or ‘Low.’ The table below summarizes the evaluation of each mitigation initiative, listed by Action Number.

Table 9.4-13 provides a summary of the prioritization of all proposed mitigation initiatives for the Plan update.



Table 9.4-12. Proposed Hazard Mitigation Initiatives

Initiative	Mitigation Initiative	Critical Facility (Yes/No)	Hazard(s) Mitigated	Goals Met	Lead and Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category	CRS Category
C. Bordentown-1 (former BoC-1)	Evaluate benefits of participating in CRS program	N/A	Flood	1, 2, 3, 4, 5, 6	Twp. Committee, Planning, OEM, Floodplain Adm.	Medium	Medium	Municipal budget	Short Term	High	LPR	All
C. Bordentown-2 (former BoC-2)	Conduct and facilitate community and public education and outreach for residents and businesses to promote natural hazard risk reduction to include: <ul style="list-style-type: none"> • Disaster preparedness • Hazard mitigation 	N/A	All Hazards	1, 2, 3, 4, 5, 6	Municipality with support from Planning Partners, County Planning, NJOEM, FEMA	High	Low	Municipal budget	Short Term	High	EAP	PI
C. Bordentown-3 (former BoC-4)	Obtain and install backup power sources at all critical facilities to include shelters	Yes	All Hazards	1, 3, 6	Municipality engineering, OEM with support from County, NJOEM and FEMA	Medium	Medium	Municipal Budget	Short Term	Medium	SIP	PR, ES
C. Bordentown-4 (former BoC-11)	Retrofit the Water Treatment Plant and wells located in Hamilton Township, Mercer County to address flooding issues	Yes	Flood	1, 4, 6	Municipality with support from Planning and Engineer	High	High	HMA Grants, Municipal Budget	Short Term DOF	High	SIP	SP, PP
C Bordentown-5	Coordinate with the facilities manager at the Bordentown Intermodal Transit facility to support the mitigation of vulnerable structures via retrofit (e.g. elevation, flood-proofing) or relocation to protect structures from future damage. Phase 1: Identify most cost-effective mitigation option Phase 2: Work with facility manager to implement selected		All Hazards	1, 2, 3, 6	Municipality with support from Planning, Intermodal Transit facility	High	High	HMA Grants, Municipal Budget	Short Term DOF	Medium	SIP	SP, PP



Initiative	Mitigation Initiative	Critical Facility (Yes/No)	Hazard(s) Mitigated	Goals Met	Lead and Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category	CRS Category
	action based on available funding and local match ability.											
C. Bordentown-6	Coordinate with the facilities manager at the Bordentown Sewerage Authority to support the mitigation of the Wastewater Pump via retrofit (e.g. elevation, flood-proofing) or relocation to protect structures from future damage. Phase 1: Identify most cost-effective mitigation option Phase 2: Work with facility manager to implement selected action based on available funding and local match ability.	Yes	All Hazards	1, 2, 4, 6	Municipality with support from Planning, Bordentown Sewerage Authority	High	High	HMA Grants, Municipal Budget	Short Term DOF	High	SIP	SP, PP
C. Bordentown-7	During the update of the municipal master plan, hazard mitigation principles will be integrated into the different elements of the master plan. This ensures that hazard assessment information is incorporated into future land use for the City and the other elements of the plan.	N/A	All Hazards	1, 2, 3, 4, 5, 6	Municipality with support from Planning	High	Low	Municipal Budget	Short Term DOF	High	LRP	PR
C. Bordentown-8	The City will continue to promote and support non-structural flood hazard mitigation alternatives for at risk properties within the floodplain, including those that have been identified as Repetitive Loss (RL) and Severe Repetitive Loss (SRL), such as acquisition/relocation or elevation depending on feasibility. The parameters for this initiative would be: funding, benefits versus cost, and willing participation of property owners.	No	Flood	1, 2	Municipality with support from Planning, Engineering	High	High	HMGP, PDM, Municipal Budget	Short Term DOF	High	SIP	PR PP

Notes:





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

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

Acronyms and Abbreviations:

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 in 2015)
SRL	Severe Repetitive Loss Grant Program (discontinued in 2015)

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

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 9.4-13. 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
C. Bordentown-1 (former BoC-1)	Evaluate benefits of participating in CRS program	1	1	1	1	1	1	1	1	1	1	0	1	1	1	13	High
C. Bordentown-2 (former BoC-2)	Conduct and facilitate community and public education and outreach for residents and businesses to promote natural hazard risk reduction to include: • Disaster preparedness Hazard mitigation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	High
C. Bordentown-3 (former BoC-4)	Obtain and install backup power sources at all critical facilities to include shelters	1	1	1	1	1	1	0	0	1	1	1	0	1	0	10	High
C. Bordentown-4 (former BoC-11)	Retrofit the Water Treatment Plant and wells located in Hamilton Township, Mercer County to address flooding issues	0	1	1	1	1	1	0	0	1	1	1	0	1	1	10	High
C. Bordentown-5	Coordinate with the facilities manager at the Bordentown Intermodal Transit facility to support the mitigation of vulnerable structures via retrofit (e.g. elevation, flood-proofing) or relocation to protect structures from future damage. Phase 1: Identify most cost-effective mitigation option Phase 2: Work with facility manager to implement selected action based on available funding and local match ability.	0	1	0	1	1	1	-1	0	1	1	1	0	1	0	6	Medium
C. Bordentown-6	Coordinate with the facilities manager at the Bordentown Sewerage Authority to	0	1	0	1	1	1	-1	0	1	1	1	0	1	0	6	Medium



Table 9.4-13. 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
	support the mitigation of the Wastewater Pump via retrofit (e.g. elevation, flood-proofing) or relocation to protect structures from future damage. Phase 1: Identify most cost-effective mitigation option Phase 2: Work with facility manager to implement selected action based on available funding and local match ability.																
C. Bordentown-7	During the update of the municipal master plan, hazard mitigation principles will be integrated into the different elements of the master plan. This ensures that hazard assessment information is incorporated into future land use for the City and the other elements of the plan.	0	1	0	1	1	1	-1	0	1	1	1	0	1	0	6	Medium
C. Bordentown-8	The City will continue to promote and support non-structural flood hazard mitigation alternatives for at risk properties within the floodplain, including those that have been identified as Repetitive Loss (RL) and Severe Repetitive Loss (SRL), such as acquisition/relocation or elevation depending on feasibility. The parameters for this initiative would be: funding, benefits versus cost,	1	1	0	1	1	1	-1	0	1	1	1	0	1	0	7	Medium



Table 9.4-13. 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
	and willing participation of property owners.																

Note: Refer to Section 6, which conveys guidance on prioritizing mitigation actions.



9.4.7 Future Needs To Better Understand Risk/Vulnerability

None at this time.

9.4.8 Hazard Area Extent and Location

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

9.4.9 Additional Comments

None at this time.



Figure 9.4-1. City of Bordentown Hazard Area Extent and Location Map 1

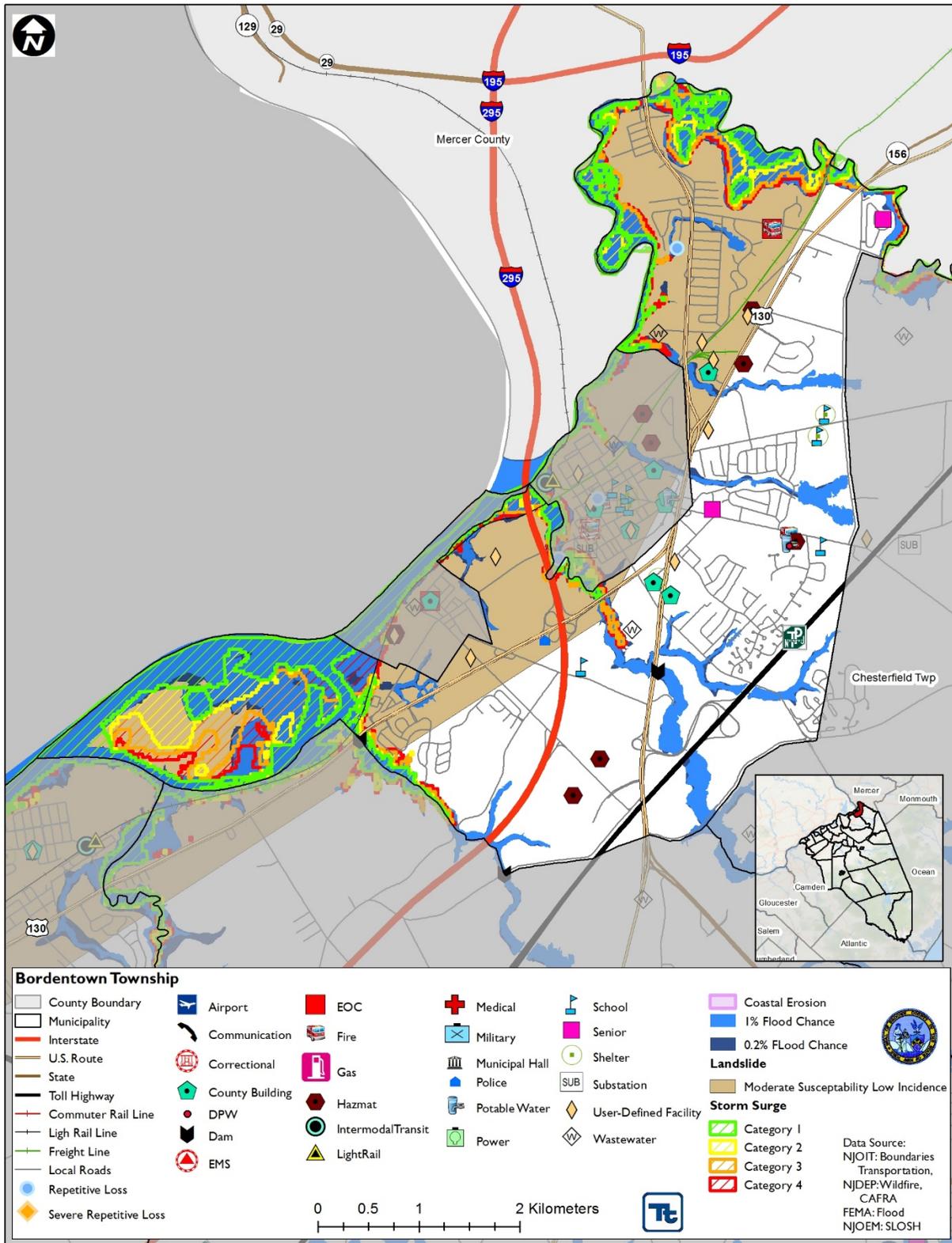
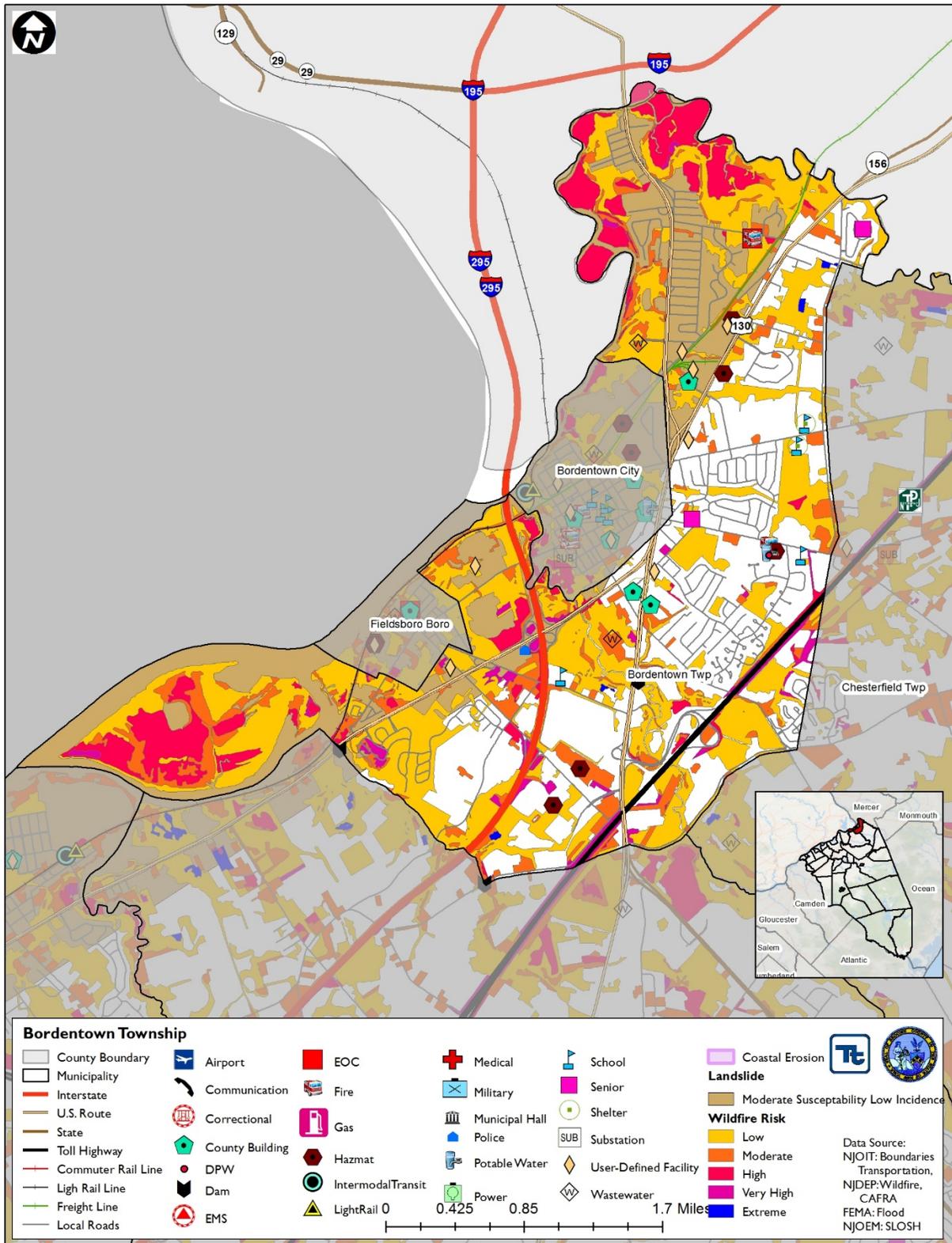




Figure 9.4-2. City of Bordentown Hazard Area Extent and Location Map 2





Action Number: C. Bordentown - 3
Mitigation Action/Initiative: Obtain and install backup power sources at all critical facilities to include shelters.

Assessing the Risk	
Hazard(s) addressed:	All Hazards
Specific problem being mitigated:	Critical facilities lack back up power
Evaluation of Potential Actions/Projects	
Actions/Projects Considered (name of project and reason for not selecting):	<ol style="list-style-type: none"> 1. No action - Problem continues 2. Install solar panels - This could be a costly option 3. Purchase a portable generator – May not have sufficient power or adequate run time.
Action/Project Intended for Implementation	
Description of Selected Action/Project	Purchase and install backup power sources (generators) at critical facilities (with an emphasis on shelter facilities) to ensure sustained function during power loss.
Action/Project Category	SIP
Goals Met	1, 3, 6
Applies to existing and or new development, or not applicable	Existing
Benefits (losses avoided)	Medium
Estimated Cost	Medium
Priority*	Medium
Plan for Implementation	
Responsible Organization	Municipality engineering, OEM with support from County, NJOEM and FEMA
Local Planning Mechanism	Hazard mitigation planning, emergency management planning
Potential Funding Sources	Municipal budget
Timeline for Completion	Short Term
Reporting on Progress	
Date of Status Report/ Report of Progress	



Action Number: C. Bordentown - 3
Mitigation Action/Initiative: Obtain and install backup power sources at all critical facilities to include shelters.

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	
Property Protection	1	Allow continuity of operations at critical facilities during power outages
Cost-Effectiveness	1	
Technical	1	
Political	1	
Legal	1	
Fiscal	0	Need funding to purchase generators
Environmental	0	
Social	1	
Administrative	1	
Multi-Hazard	1	All hazards
Timeline	0	
Agency Champion	1	
Other Community Objectives	0	
Total	10	
Priority (High/Med/Low)	High	



Action Number: C. Bordentown - 4
Mitigation Action/Initiative: Retrofit the Water Treatment Plant and wells located in Hamilton Township, Mercer County to address flooding issues

Assessing the Risk	
Hazard(s) addressed:	Flood, Severe Storm
Specific problem being mitigated:	Flooding threatens Water Treatment Plant and wells
Evaluation of Potential Actions/Projects	
Actions/Projects Considered (name of project and reason for not selecting):	1. No action - Problem continues 2. Relocate facilities - Not feasible and most likely cost prohibitive 3. Install floodwalls and levees around the treatment plant and wells to prevent flooding. – Not feasible and not cost effective.
Action/Project Intended for Implementation	
Description of Selected Action/Project	The Water Treatment Plant and wells in neighboring Mercer County are considered at risk for flooding. Facilities will be retrofitted with wet and dry floodproofing methods to protect from flooding damage.
Action/Project Category	SIP
Goals Met	1, 4, 6
Applies to existing and or new development, or not applicable	Existing
Benefits (losses avoided)	High
Estimated Cost	High
Priority*	High
Plan for Implementation	
Responsible Organization	Municipality with support from Planning and Engineer
Local Planning Mechanism	Hazard mitigation planning
Potential Funding Sources	HMA Grants, Municipal Budget
Timeline for Completion	Short Term DOF
Reporting on Progress	
Date of Status Report/ Report of Progress	



Action Number: C. Bordentown - 4

Mitigation Action/Initiative: Retrofit the Water Treatment Plant and wells located in Hamilton Township, Mercer County to address flooding issues

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	0	
Property Protection	1	Protect facility from extensive flood damages; continuity of operations
Cost-Effectiveness	1	
Technical	1	
Political	1	
Legal	1	
Fiscal	0	Need funding to complete project
Environmental	0	
Social	1	
Administrative	1	
Multi-Hazard	1	Flood, Severe Storm
Timeline	0	
Agency Champion	1	
Other Community Objectives	1	
Total	10	
Priority (High/Med/Low)	High	