



## 9.5 Township of Bordentown

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

### 9.5.1 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
Salvatore Guido OEM Coordinator 1 Municipal Drive, Bordentown, NJ 08505 609.291.2133 ext. 2407 SGuido@bordentowntownshipd.com	Michael Theokas, Administrator 1 Municipal Drive, Bordentown, NJ 08505 609.298.2800 ext. 2102 m.theokas@bordentowntwp.org

### 9.5.2 Municipal Profile

The Township of Bordentown is located in the northernmost portion of Burlington County. It is bordered to the north and northwest by the Delaware River and surrounds most of the City of Bordentown in the southwest portion of the Township. Additionally, the Township is bordered to the east and southeast by Chesterfield, to the south by Mansfield, and to the southwest by Fieldsboro. Unincorporated communities in the Township include Bossert Estates, Dunns Mill, and Newbold Island. According to the 2010 Census, the community's population was 11,367. The township has a total area of 9.334 square miles, including 8.515 square miles of land and 0.819 square miles of water.

The Township of Bordentown is governed by a Township Committee consisting of five members. The elections are partisan, and members serve in three year, staggered terms. This Township Committee, in turn, elects a mayor to serve for a one-year term. The Township Committee serves as the Legislative branch of government and establishes policies for the administration of various departments. The Committee appoints the Township Administrator who is responsible for carrying out those policies and overseeing day-to-day operations.

### 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 9.5.8 of this annex which illustrates the hazard areas along with the location of potential new development.

**Table 9.5-1. 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
<b>Recent Development from 2013 to present</b>					
Bordentown Waterfront	Res	250	Burlington Rd., 140/var	Flood: 1% Event: A-Zone; Wildfire: Very High; SLOSH: Category 1; Sea-Level Rise: 2 ft. SLR This project is on the Delaware River, therefore it	The next phases of this project will be starting in late 2018, including many of the infrastructure needs. There is a railroad crossing which is identified and dealt with.



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
				carries with it some flooding concerns, although most if not all of the buildings are on high ground	
Granger Warehouse	Comm	1	Hedding Rd., 130.12/5.01	Could not locate.	This project is complete and has been fully operational.
DCT Warehouse	Comm	1	Rising Sun Rd, 137.02/5.01	Wildfire: Very High	This project is currently under construction and should be complete by the end of 2018. The end user is unknown at this time
KJ Team Campus	Comm	5	Route 130, 57/3.01	Could not locate.	This project is complete.
<b>Known or Anticipated Development in the Next Five (5) Years</b>					
BWC, 0 II	Res	250	Burlington Rd., 140/var	Flood: 1% Event: A-Zone; SLOSH: Category 1 This project is on the Delaware River, therefore it carries with it some flooding concerns, although most if not all of the buildings are on high ground	The next phases of this project will be starting in late 2018.
Matrix Warehouse	Comm	1	Old York Rd., 130/2	Flood: 1% Event: A-Zone	Planning Board and County Planning Board approval has been attained. Construction should commence in 2018
Zeiger Property	Res/comm	226	Rising Sun Rd, 130.01/43	Could not locate.	Local approval attained. Construction should begin in 2018
Old York Rd. Business Park	Comm	2	Old York Road, 137.03/11.0	Could not locate.	Local approvals attained. Construction should begin in 2019
Nissin Property	Res	100	Route 206, 1.01/3	0.2% Event; Wildfire: High	Local approval attained. Construction should begin in 2018
Wawa	Comm	1	Route 130, 121/5	None	Local approval attained. Construction should begin in 2018

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

### 9.5.3 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 9.5-2. 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	N/A	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

### 9.5.4 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 Township 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 Township of Bordentown. During the review of the hazard/vulnerability risk ranking, the Township indicated the following:

- Flood was changed from a low hazard to a medium hazard.

**Table 9.5-3. Hazard Risk/Vulnerability Risk Ranking**

Hazard type	Estimate of Potential Dollar Losses to Structures Vulnerable to the Hazard <sup>a, c</sup>	Probability of Occurrence	Risk Ranking Score (Probability x Impact)	Hazard Ranking <sup>b</sup>
Coastal Erosion	RCV Exposed to CE Hazard Area: \$8,407,213	Occasional	12	Low
Drought	Damage estimate not available.	Frequent	30	Medium
Earthquake	100-Year GBS: \$0	Occasional	28	Medium





Hazard type	Estimate of Potential Dollar Losses to Structures Vulnerable to the Hazard <sup>a, c</sup>	Probability of Occurrence	Risk Ranking Score (Probability x Impact)	Hazard Ranking <sup>b</sup>
	500-Year GBS: \$2,175,582 2,500-Year GBS: \$32,445,046			
Flood*	1% Annual Chance: \$64,670,462	Frequent	18	Medium
Landslide	RCV Exposed to Landslide Hazard Area \$895,371,939	Occasional	36	High
Severe Storm	100-year MRP: \$506,809 500-year MRP: 5,817,204 Annualized: 74,182	Frequent	48	High
Severe Winter Weather	1% GBS: \$16,740,992 5% GBS: \$83,704,961	Frequent	51	High
Wildfire	Estimated Value in the Extreme, Very High, and High Hazard Areas: \$8,038,450	Occasional	12	Low

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.
- \* The Township of Bordentown changed the hazard ranking of flood from low to medium.

### National Flood Insurance Program (NFIP) Summary

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

Table 9.5-4. 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)
Township of Bordentown	42	12	\$119,313.25	1	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 9.5-5. 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
None identified.					

Source: FEMA 2017, Burlington County

**Other Vulnerabilities Identified**

The municipality has not identified any vulnerabilities within their community.

**9.5.5 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 Township of Bordentown.

**Table 9.5-6. 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.)
<b>Planning Capability</b>				
Master Plan	Yes	Local	CD	252-20A
Capital Improvements Plan	Yes	-	Administrator	2013-08
Floodplain Management / Basin Plan	Yes	Local	CD	Ch. 16 sec.36 pa 010 pg.109
Stormwater Management Plan	Yes	Local	CD	
Open Space Plan	Yes	Local	CD	Ch. 25 Sec 518 pg. LD 05:47
Stream Corridor Management Plan	Yes	-	Community Development	Ch. 16 sec 72 Para 13 pg. 173
Watershed Management or Protection Plan	No	-	Community Development	Ch. 25:903 para 4 pg. 12
Economic Development Plan	Yes	-	Community Development	2010-4
Comprehensive Emergency Management Plan	Yes	Local	OEM	Municipal Ordinance
Emergency Operation Plan	Yes	Local	OEM	Municipal Ordinance
Post-Disaster Recovery Plan	Yes	Local	OEM	Municipal Ordinance





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.)
Transportation Plan	No	-	-	-
Strategic Recovery Planning Report	No	-	-	-
Other Plans:	Yes	Local	DVRPC	Bordentown Township Coastal Vulnerability Assessment Report 2017
<b>Regulatory Capability</b>				
Building Code	Yes	State & Local	Building Inspector	State Uniform Construction Code Act (N.J.S. 52:27D-119 et seq.) Chapter 15.04
Zoning Ordinance	Yes	Local	Community Development	Chapter 25
Subdivision Ordinance	Yes	Local	Planning Board	Chapter 25
NFIP Flood Damage Prevention Ordinance	Yes	Federal, State, Local	OEM	Chapter 25.605
NFIP: Cumulative Substantial Damages	No	-	-	-
NFIP: Freeboard	Yes	State, Local	-	Chapter 25.605
Growth Management Ordinances	No	-	Community Development	Master Land Use Plan
Site Plan Review Requirements	Yes	Local	Engineer	Ch.25 sec 801 pg LD 3
Stormwater Management Ordinance	Yes	Local	DPW	Ordinance #2006-7
Municipal Separate Storm Sewer System (MS4)	Yes	Local	DPW	-
Stormwater Program Ordinances <ul style="list-style-type: none"> <li>• Pet waste</li> <li>• Litter Control</li> <li>• Improper Disposal of Waste</li> <li>• Wildlife Feeding</li> <li>• Yard Waste Collection</li> <li>• Illicit Connection</li> <li>• Private Storm Drain Retrofitting</li> <li>• Refuse Container / Dumpster (optional)</li> </ul>	Yes	Local	-	Ordinance No. 2005-20 Pet Waste; Chapter 12.36 Litter; Chapter 12.12.120 Industrial wastes and prohibited wastes; Ordinance 2005-21 Yard Waste Collection Program; Ordinance 2005-17 Illicit Connections; Ordinance 2011-12 Private Storm Drain Inlet Retrofitting; Ordinance 2011-11 Refuse Containers/Dumpsters
Natural Hazard Ordinance	Yes	Local/State	OEM	-
Post-Disaster Recovery Ordinance	Yes	Local/County	OEM/CD	-
Real Estate Disclosure Requirement	Yes	State	-	-
Other (Special Purpose Ordinances [i.e., sensitive areas, steep slope])	-	-	-	-

**Administrative and Technical Capability**

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





**Table 9.5-7. Administrative and Technical Capabilities**

Resources	Is this in place? (Yes or No)	Department/ Agency/Position
<b>Administrative Capability</b>		
Planning Board	Yes	Bordentown Township Planning Board
Mitigation Planning Committee	Yes	-
Environmental Board/Commission	Yes	Bordentown Township Environmental Commission
Open Space Board/Committee	Yes	-
Economic Development Commission/Committee	Yes	Bordentown Township Economic Development Advisory Committee
Maintenance programs to reduce risk	Yes	-
Mutual aid agreements	Yes	Police/Fire/Rescue/EMS
<b>Technical/Staffing Capability</b>		
Planner(s) or engineer(s) with knowledge of land development and land management practices	Yes	-
Engineer(s) or professional(s) trained in construction practices related to buildings and/or infrastructure	Yes	-
Planners or engineers with an understanding of natural hazards	Yes	-
NFIP Floodplain Administrator (FPA)	Yes	Community Development
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	OEM
Grant writer(s)	Yes	OEM/ Community Development
Staff with expertise or training in benefit/cost analysis	Yes	OEM/Engineer
Professionals trained in conducting damage assessments	Yes	OEM/Building Inspector/Engineer

**Fiscal Capability**

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

**Table 9.5-8. 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	No
Impact fees for homebuyers or developers of new development/homes	Yes
Stormwater utility fee	No
Incur debt through general obligation bonds	Yes
Incur debt through special tax bonds	Yes
Incur debt through private activity bonds	Yes
Withhold public expenditures in hazard-prone areas	No



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 Township of Bordentown.

**Table 9.5-9. 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)	Yes	9	2015
Public Protection (ISO Fire Protection Classes 1 to 10)	Yes	Districts 1 (5) & 2 (4)	2017
Storm Ready Certification	No	N/A	N/A
Firewise Communities classification	No	N/A	N/A
Natural disaster/safety programs in/for schools	Yes	-	-
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	Yes	-	-

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

**Table 9.5-10. 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
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)

Brian Johnson, Community Development Director

#### Flood Vulnerability Summary

The Township of Bordentown does not maintain lists or inventories of properties that have been damaged by flooding. During Hurricane Sandy, the drainage culvert located at the intersection of Glen Road and Orchard Avenue was damaged. Several storm water lines were damaged during Irene the year before. The FPA indicated that there are currently no residents interested in elevation or mitigation.

#### Resources

The FPA assumes the responsibilities of floodplain administration for the Township of Bordentown. NFIP administration services and functions provided to residents of Bordentown include permit review. At this time, there are no education or outreach programs 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 his responsibilities as the municipal floodplain administrator. The FPA would 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; however, the date of the most recent compliance audit is unknown.

#### Regulatory

The Township of Bordentown’s floodplain management ordinance meets the minimum set by FEMA and the State of New Jersey. The FPA indicated that there are other local ordinances, plans, or programs that support floodplain management. The Township is currently not in the CRS program but has considered joining in the past.



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

**Master Plan Reexamination 2008:** The Burlington Township Planning Board prepared the 2008 Comprehensive Master Plan to specifically provide for the following urgent community needs:

- Maintain strong, sustainable, equitable and balanced tax based community economics;
- Contain municipal service needs;
- Preserve and protect natural resources and appropriate remaining open space areas including wetlands, floodplains, aesthetic vistas, forests, stream corridors, wildlife habitats, special soils, groundwater supplies and aquifer recharge areas; and
- Simplify municipal land use and zoning regulations and processes.

### Regulatory and Enforcement (Ordinances)

The Township of Bordentown's codebook can be found online at <https://www.ecode360.com/BO3500>.

**Chapter 282: Flood Damage Prevention:** It is the purpose of this chapter to promote the public health, safety and general welfare and to minimize public and private losses due to flood conditions in specific areas by provisions designated:

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

In order to accomplish its purpose, this chapter includes methods and provisions for:

- Restricting or prohibiting uses which are dangerous to health, safety and property due to water or erosion hazards or which result in damaging increases in erosion or in flood heights or velocities;
- Requiring that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction;



- Controlling the alteration of natural floodplains, stream channels and natural protective barriers, which help accommodate and channel floodwaters;
- Controlling filling, grading, dredging and other development which may increase flood damage; and
- Preventing or regulating the construction of flood barriers which will unnaturally divert floodwaters or which may increase flood hazards in other areas.

**Land Development Ordinance:** The Land Development Ordinance is adopted in in order to promote and protect the public health, safety, morals and general welfare. Goals pertaining to hazard mitigation include:

- To secure safety from fire, flood, panic, and other natural and man-made disasters
- To encourage the location and design of transportation routes which will promote the free flow of traffic while discouraging location of facilities and routes which result in congestion or blight;
- To promote the conservation of historic sites and districts, open space, energy resources and valuable natural resources and to prevent urban sprawl and degradation of the environment through improper use of land.

The Ordinance established zoning and subdivision mapping and regulations.

**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 New Jersey Pollutant Discharge Elimination System (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](http://www.nj.gov/dep/dwq/msrp_home.htm). The Township of Bordentown is a Tier A municipality.

**Stormwater Management:** Chapter 25:502 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 Township 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 Township and establishes penalties for violations of the provisions of this chapter.

### Operational and Administration

**Mutual Aid Agreements:** The Township maintains mutual aid agreements with neighboring communities for continuity of operations.

**Vegetation Management:** The Township'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 Township promotes the participation of the Floodplain Administrator within the hazard mitigation planning process and other plans and activities.



**Planning Board:** The Bordentown Township Planning Board consists of a total of nine (9) members and two (2) alternates. Two (2) members are elected officials of the Township Committee and one (1) is another other Township official. They provide an important policy element to the Board. The remainder of the members are volunteer residents appointed by the Township Committee and consists of members designated as Chair, Vice-Chair and two Alternate members. A professional staff consisting of an Attorney, a Professional Planner, Township Engineer (s) an Administrative Officer and a Board Secretary assists the Planning Board. The powers, duties and regulations of the Planning Board are contained in the Municipal Land Use Law (*MLUL*).

**Environmental Commission:** The Environmental Commission is an official arm of the local government, established to protect the environment and conserve natural resources. Commissioners are appointed by the Mayor.

**Economic Development Commission/Committee:** The mission of Bordentown Township Economic Development Advisory Committee is to develop goals, strategies, and marketing plans for attracting and retaining an appropriate mix of businesses to Bordentown Township that will increase the tax base and employment opportunities while promoting Bordentown Township within the surrounding region. The Economic Development Advisory Committee consists of nine citizen members appointed by the Mayor with the approval of the Township Committee. These members are either a resident of the Township of Bordentown or the owner /principal manager of a business located within the Township of Bordentown. There are three ex-officio members comprised of a member of the Township Committee, the Chairman of the Planning Board and Zoning Boards of their designees. The Community Development Officer or other administrative officials also serve as ex-officio members.

The Economic Development Advisory Committee have the duty to advise the Township Committee with regard to the following; to conduct research into potential economic development of the township in areas appropriate for such development; development and recommend to the Township Committee a marketing plan for the Township of Bordentown; to advertise, prepare, print and distribute materials to support the economic development of the Township; to perform such other acts as are reasonably related to and designed to carry out the purpose and objectives of the committee; to keep records of the meetings and activities of the committee; and to perform such other duties as may be delegated and authorized by the Township Committee.

**Sustainable Jersey:** Bordentown Township is bronze certified in the Sustainable Jersey program. Sustainable Jersey certification is a prestigious designation for municipal governments in New Jersey. Municipalities that achieve the certification are considered by their peers, by state government and by the experts and civic organizations in New Jersey, to be among the leading municipalities. All actions taken by municipalities to score points toward certification must be accompanied by documentary evidence and is reviewed. The certification is free and completely voluntary. The Township has received points in the Emergency Management and Resiliency Category for its Emergency Communications Plan.

### Funding

---

**Operating Budget:** The Township operating budget contains minimal provisions for expected repairs like road repairs and maintenance. The budgets are available for review on the municipal website. The budget has a line item for mitigation project funding and the Township has provided funding in the past for mitigations projects that have been identified in the hazard mitigation plan.



### **Education and Outreach**

---

The Township of Bordentown offers training on best practices for hazard mitigation, grant applications, and hazard identification. The Township completes outreach related to hazards in the form of the municipal website, news alerts, outreach in local media, and a municipal Facebook and twitter page.

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 Township of Bordentown.

### **9.5.6 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 9.5-11. 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.
BTT-1	Jumble Gut Glen: Remove and replace the culvert at Glen Rd and Orchard Ave	FEMA Bordentown Twp.	In Progress	1. 10% complete. Design complete 2. N/A 3. FEMA funded	1. Include in 2019 HMP 2. See table 9.5-13 3. N/A
BTT-2	Stabilize streams and banks to restore the grade to stop bank collapse – example: Jumble Gut Glen	FEMA Bordentown Twp.	No Progress	1. 0% 2. Private Ownership Issues 3. N/A	1. Include in 2019 HMP 2. See table 9.5-13 3. N/A
BTT-3	Jumble Gut Run South Amboy: Remove & Replace storm sewer lines and culvert where necessary – example: Jumble Gut Glen	FEMA Bordentown Twp.	No Progress	1. Work starting downstream at the culvert 2. N/A 3. N/A	1. Include in 2019 HMP 2. See table 9.5-13 3. N/A
BTT-4	Supply power to essential municipal facilities by providing emergency generators.	FEMA Bordentown Twp.	Complete	1. Emergency Bi-Fuel generator completed at the DPW Yard 2. N/A 3. N/A	1. Discontinue 2. N/A 3. Complete
BTT-5	Municipal Engineer collateral duty as Flood Plain Administrator	Flood Plain Administrator	Complete	1. Flood plain manager in place 2. N/A 3. N/A	1. Discontinue 2. N/A 3. Complete
BTT-6	Promote on site groundwater recharge	Bordentown Township	Complete	1. Planning and Environmental committees 2. N/A 3. N/A	1. Discontinue 2. N/A 3. Complete
BTT-7	Elevate and document vulnerable structures in floodplain	Bordentown Township	Complete	1. Zoning and site review 2. N/A 3. N/A	1. Discontinue 2. N/A 3. Complete
BTT-8	Work with stakeholders and providers to harden utilities against power outages and other utility issues	Bordentown Township	Complete	1. PSE&G / and generators in place for essential facilities 2. N/A 3. N/A	1. Discontinue 2. N/A 3. Complete
BTT-9	Evaluate benefits of participating in CRS program	Twp. Committee; Planning	In Progress	1. Township continues to transform from rural to suburban characteristics 2. N/A 3. N/A	1. Include in 2019 HMP 2. See table 9.5-13 3. N/A



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.
BTT-10	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	In Progress	1. OEM / Police and Fire departments continue to promote and conduct training, NEXTEL and web sites facilitating Disaster Preparedness and Hazard mitigation 2. N/A 3. N/A	1. Include in 2019 HMP 2. See table 9.5-13 3. N/A
BTT-11	Improve municipal communications systems to include information sharing with county and surrounding municipalities.	Municipality with support from County, NJOEM and FEMA	In Progress	1. Up grading Register Ready – Initiating NEXTEL, DPW radios and base station in planning stages 2. N/A 3. N/A	1. Discontinue 2. N/A 3. Ongoing capability in conjunction with the county
BTT-12	Obtain and install backup power sources at critical facilities.	Municipality with support from County, NJOEM and FEMA	In Progress	1. Fire District #2 adjacent to the DPW standalone generator is planning to hook up to that system 2. N/A 3. N/A	1. Include in 2019 HMP 2. N/A 3. Complete
BTT-13	Create/Enhance/Maintain Mutual Aid agreements with neighboring communities for continuity of operations	Municipality with support from County, NJOEM, FEMA and surrounding communities	Complete	1. All Mutual Aid agreements in place 2. N/A 3. N/A	1. Discontinue 2. N/A 3. Ongoing capability
BTT-14	Continue to support the implementation, monitoring, maintenance, and updating of this Plan through participating in the 5 year Plan Update	Municipality with support from Planning Partners, County Planning, NJOEM, FEMA	Complete	1. Township is good standing 2. N/A 3. N/A	1. Discontinue 2. N/A 3. Ongoing capability
BTT-15	Promote the participation of Floodplain Administrator within the planning process and other activities.	Municipality with support from County, NJOEM and FEMA	Complete	1. Updated flood plain FIRM in place and implemented in all permits and significant renovations The Flood Plain manager is also the Director of Community Development 2. - 3. -	1. Discontinue 2. N/A 3. Ongoing capability



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.
BTT-16	Enhance resilience to severe storms by joining the NOAA "Storm Ready" program.	Municipality with support from County, NJOEM and FEMA	Complete	<ol style="list-style-type: none"> <li>NWS &amp; BCOEM provide direct feed to the OEM and all weather reports received are sent electronically to Police, Fire, Rescue, EMS, Public Schools, Utility operators and Public Officials</li> <li>N/A</li> <li>N/A</li> </ol>	<ol style="list-style-type: none"> <li>Discontinue</li> <li>N/A</li> <li>Complete</li> </ol>
BTT-17	Provide public education and outreach on proper installation and/or use of backup power	Municipal Clerk	Complete	<ol style="list-style-type: none"> <li>All essential Township buildings are now supplied with auxiliary generators</li> <li>N/A</li> <li>N/A</li> </ol>	<ol style="list-style-type: none"> <li>Discontinue</li> <li>N/A</li> <li>Complete</li> </ol>
BTT-18	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	<ol style="list-style-type: none"> <li>DPW schedules maintenance on trees. Contracting with tree service when necessary. PSE&amp;G maintains a yearly schedule to reduce the hazards of power lines down during major storm events</li> <li>N/A</li> <li>N/A</li> </ol>	<ol style="list-style-type: none"> <li>Discontinue</li> <li>N/A</li> <li>Ongoing capability</li> </ol>



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

The Township 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 Township 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 9.5-12 summarizes the comprehensive-range of specific mitigation initiatives the Township 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 9.5-13 provides a summary of the prioritization of all proposed mitigation initiatives for the Plan update.



Table 9.5-12. Proposed Hazard Mitigation Initiatives

Initiative	Mitigation Initiative	Hazard(s) Mitigated	Goals Met	Lead and Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category	CRS Category
T. Bordentown-1 (former BTT-1)	Jumble Gut Glen: Remove and replace the culvert at Glen Rd and Orchard Ave	Flood	2, 4	Bordentown Twp. with support from FEMA	High	High	HMA grant funding, Municipal budget	Short Term	High	SIP	SP
T. Bordentown-2 (former BTT-2)	Stabilize streams and banks to restore the grade to stop bank collapse – example: Jumble Gut Glen	Flood	2, 4	Bordentown Twp. with support from FEMA	High	High	HMA grant funding, Municipal budget	Long Term	High	NSP	NR
T. Bordentown-3 (former BTT-3)	Jumble Gut Run South Amboy: Remove & Replace storm sewer lines and culvert where necessary – example: Jumble Gut Glen	Flood	2, 4	Bordentown Twp. with support from FEMA	High	High	HMA grant funding, Municipal budget	Long Term	High	SIP	SP
T. Bordentown-4 (former BTT-9)	Evaluate benefits of participating in CRS program	All	1, 2, 3, 4, 5, 6	Twp. Committee; Planning	Medium	Low	Municipal budget	OG	Medium	LPR	PR
T. Bordentown-5 (former BTT-10)	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"> <li>Disaster preparedness</li> <li>Hazard mitigation</li> </ul>	All	5	Municipality with support from Planning Partners, County Planning, NJOEM, FEMA	Medium	Medium	Municipal Budget, HMA programs with local or county match	Short Term	High	EAP	PI
T. Bordentown-6 (former BTT-12)	Obtain and install backup power sources at critical facilities.	All	1, 3	Municipality with support from County, NJOEM and FEMA	Medium	Medium	Municipal Budget	Short Term	Medium	SIP	ES
T. Bordentown-7	The Township 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	Flood	1, 2	Municipality, Planning, Engineering	High	High	HMGP, PDM, Municipal Budget	Short Term DOF	High	SIP	PR PP



Initiative	Mitigation Initiative	Hazard(s) Mitigated	Goals Met	Lead and Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category	CRS Category
	feasibility. The parameters for this initiative would be: funding, benefits versus cost, and willing participation of property owners.										
T. Bordentown-8	Continue to regulate, through land use, zoning, and other restrictions, all uses and development in areas subject to potential flooding and require new development to comply with the State and FEMA standards.	All Hazards	1, 2, 3	Municipality with support from Planning, Code Enforcement	High	Low	Municipal budget	Short Term DOF	High	LRP	PR
T. Bordentown-9	Periodically evaluate the condition of bulkhead and conduct appropriate maintenance	Coastal Erosion, Flood	2	Municipality	Medium	Medium	Municipal budget	On-going	High	SIP	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:

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:





Costs:

- 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:

- 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 9.5-13. 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	Total	High / Medium / Low
T. Bordentown-1 (former BTT-1)	Jumble Gut Glen: Remove and replace the culvert at Glen Rd and Orchard Ave	1	1	0	1	1	1	1	1	1	1	1	0	1	1	12	High
T. Bordentown-2 (former BTT-2)	Stabilize streams and banks to restore the grade to stop bank collapse – example: Jumble Gut Glen	1	1	0	1	1	1	1	1	1	1	0	0	1	1	11	High
T. Bordentown-3 (former BTT-3)	Jumble Gut Run South Amboy: Remove & Replace storm sewer lines and culvert where necessary – example: Jumble Gut Glen	1	1	1	1	1	1	0	1	0	1	1	1	1	1	12	High
T. Bordentown-4 (former BTT-9)	Evaluate benefits of participating in CRS program	1	1	1	1	1	1	-1	1	1	-1	1	1	0	1	9	Medium
T. Bordentown-5 (former BTT-10)	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"> <li>Disaster preparedness</li> <li>Hazard mitigation</li> </ul>	1	1	1	1	1	1	1	1	1	1	1	1	1	0	13	High
T. Bordentown-6 (former BTT-12)	Obtain and install backup power sources at critical facilities.	1	0	1	1	1	1	-1	0	1	0	1	1	1	0	8	Medium
T. Bordentown-7	The Township 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	1	1	0	1	1	1	-1	0	1	1	1	0	1	0	7	Medium



Table 9.5-13. 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	Total	High / Medium / Low
	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.																
T. Bordentown-8	Continue to regulate, through land use, zoning, and other restrictions, all uses and development in areas subject to potential flooding and require new development to comply with the State and FEMA standards.	0	1	0	1	1	1	-1	0	1	1	1	0	1	0	6	Medium
T. Bordentown-9	Periodically evaluate the condition of bulkhead and conduct appropriate maintenance	0	1	1	1	1	1	1	1	1	1	1	1	1	1	13	High

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



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

---

None at this time.

### **9.5.8 Hazard Area Extent and Location**

---

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

### **9.5.9 Additional Comments**

---

None at this time.



Figure 9.5-1. Township of Bordentown Hazard Area Extent and Location Map 1

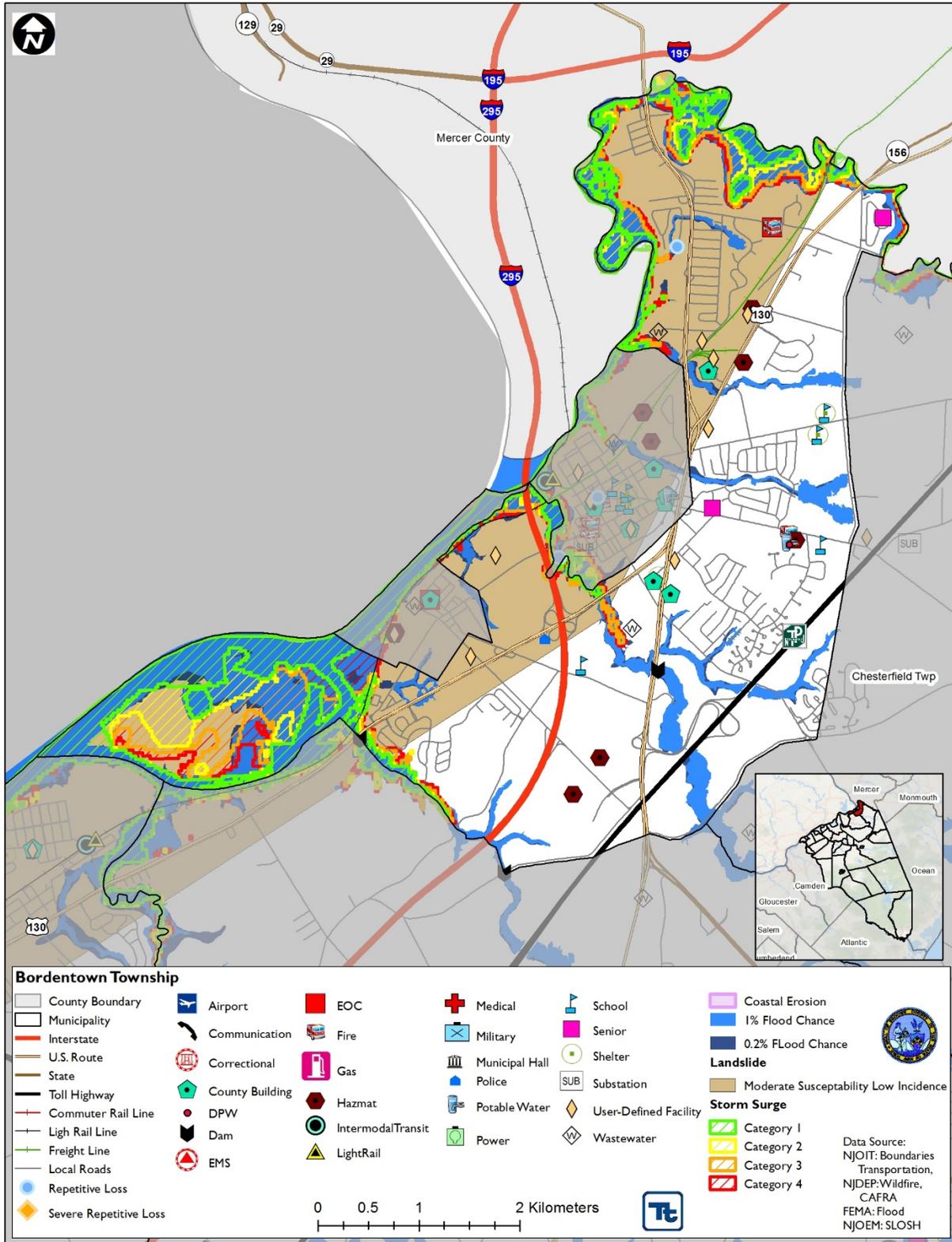
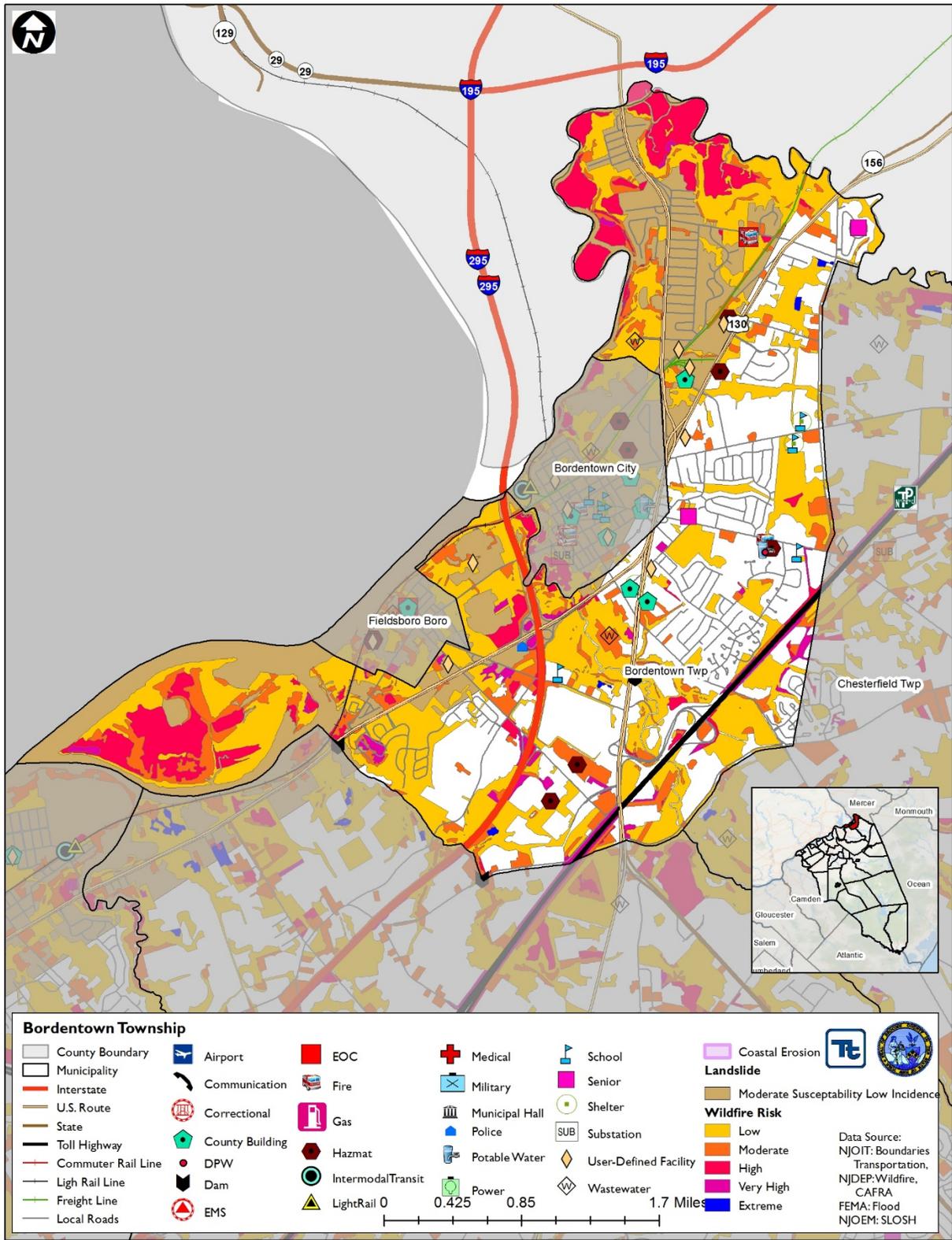




Figure 9.5-2. Township of Bordentown Hazard Area Extent and Location Map 2





**Action Number:** T. Bordentown - 1  
**Mitigation Action/Initiative:** Jumble Gut Glen: Remove and replace the culvert at Glen Rd and Orchard Ave

Assessing the Risk	
<b>Hazard(s) addressed:</b>	Flood
<b>Specific problem being mitigated:</b>	Culvert is outdated and no longer functional
Evaluation of Potential Actions/Projects	
<b>Actions/Projects Considered (name of project and reason for not selecting):</b>	<ol style="list-style-type: none"> <li>1. No action - Problem persists</li> <li>2. Relocate culvert location – Not technically feasible</li> <li>3. Retrofit culvert – Short-term fix, but not a long-term solution to address the insufficient capacity.</li> </ol>
Action/Project Intended for Implementation	
<b>Description of Selected Action/Project</b>	The culvert at Glen Road and Orchard Avenue for Jumble Gut Glen will be removed and replaced. If necessary, the culvert size will be increased.
<b>Action/Project Category</b>	SIP
<b>Goals Met</b>	2, 4
<b>Applies to existing and or new development, or not applicable</b>	Existing
<b>Benefits (losses avoided)</b>	High
<b>Estimated Cost</b>	High
<b>Priority*</b>	High
Plan for Implementation	
<b>Responsible Organization</b>	Bordentown Twp. with support from FEMA
<b>Local Planning Mechanism</b>	Hazard mitigation planning, stormwater management planning
<b>Potential Funding Sources</b>	HMA grants, municipal budget
<b>Timeline for Completion</b>	Short Term
Reporting on Progress	
<b>Date of Status Report/ Report of Progress</b>	



**Action Number:** T. Bordentown - 1

**Mitigation Action/Initiative:** Jumble Gut Glen: Remove and replace the culvert at Glen Rd and Orchard Ave

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
<b>Life Safety</b>	1	Reduce or eliminate the need to close roadway due to flooding and allow residents and emergency personnel to access this portion of the township
<b>Property Protection</b>	1	Increase size in culvert will allow culvert to function properly and reduce or eliminate damage to roadway and structures in this area
<b>Cost-Effectiveness</b>	0	
<b>Technical</b>	1	
<b>Political</b>	1	
<b>Legal</b>	1	
<b>Fiscal</b>	1	
<b>Environmental</b>	1	
<b>Social</b>	1	
<b>Administrative</b>	1	
<b>Multi-Hazard</b>	1	
<b>Timeline</b>	0	
<b>Agency Champion</b>	1	
<b>Other Community Objectives</b>	1	
<b>Total</b>	12	
<b>Priority (High/Med/Low)</b>	High	



**Action Number:** T. Bordentown - 2  
**Mitigation Action/Initiative:** Stabilize streams and banks to restore the grade to stop bank collapse – example: Jumble Gut Glen

Assessing the Risk	
<b>Hazard(s) addressed:</b>	Flood
<b>Specific problem being mitigated:</b>	Flooding events have cause bank erosion and collapse
Evaluation of Potential Actions/Projects	
<b>Actions/Projects Considered (name of project and reason for not selecting):</b>	<ol style="list-style-type: none"> <li>1. No action - Problem remains</li> <li>2. Relocate buildings and facilities near erosion zones - Cost prohibitive</li> <li>3. Line the stream with concrete to reduce erosion – Will interrupt stream ecosystem and will be cost prohibitive.</li> </ol>
Action/Project Intended for Implementation	
<b>Description of Selected Action/Project</b>	Stream banks have become undercut due to erosion during flooding events, causing bank collapse. Streams and banks will be stabilized through restoration methods and areas that have had collapse will be restored.
<b>Action/Project Category</b>	NSP
<b>Goals Met</b>	2, 4
<b>Critical Facility (Y/N)</b>	No
<b>Benefits (losses avoided)</b>	High
<b>Estimated Cost</b>	High
<b>Priority*</b>	High
Plan for Implementation	
<b>Responsible Organization</b>	Bordentown Twp. with support from FEMA
<b>Local Planning Mechanism</b>	Hazard mitigation planning
<b>Potential Funding Sources</b>	HMA grants, municipal budget
<b>Timeline for Completion</b>	Long Term
Reporting on Progress	
<b>Date of Status Report/ Report of Progress</b>	



**Action Number:** T. Bordentown - 2

**Mitigation Action/Initiative:** Stabilize streams and banks to restore the grade to stop bank collapse – example: Jumble Gut Glen

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	
Property Protection	1	
Cost-Effectiveness	0	
Technical	1	
Political	1	
Legal	1	
Fiscal	1	Municipal budget will be used to fund project; grant funding where applicable
Environmental	1	Reduce or eliminate runoff into streams; runoff can impact the quality of water
Social	1	
Administrative	1	
Multi-Hazard	0	Flood
Timeline	0	
Agency Champion	1	
Other Community Objectives	1	
<b>Total</b>	11	
<b>Priority (High/Med/Low)</b>	High	



**Action Number:**

T. Bordentown - 3

**Mitigation Action/Initiative:**

Jumble Gut Run South Amboy: Remove & Replace storm sewer lines and culvert where necessary – example: Jumble Gut Glen

Assessing the Risk	
<b>Hazard(s) addressed:</b>	Flood, Severe Storm
<b>Specific problem being mitigated:</b>	Storm sewer and culvert are in need of replacement
Evaluation of Potential Actions/Projects	
<b>Actions/Projects Considered (name of project and reason for not selecting):</b>	<ol style="list-style-type: none"> <li>1. No action: Problem continues</li> <li>2. Removal of stormwater system without replacement: Increased flooding</li> <li>3. Surround culverts and sewers with green infrastructure – May be insufficient space for green infrastructure to be effective.</li> </ol>
Action/Project Intended for Implementation	
<b>Description of Selected Action/Project</b>	Storm sewers and culverts at Jumble Gut Run South Amboy will be inspected. If necessary, components will be removed and replaced.
<b>Action/Project Category</b>	SIP
<b>Goals Met</b>	2, 4
<b>Critical Facility (Y/N)</b>	Yes
<b>Benefits (losses avoided)</b>	High
<b>Estimated Cost</b>	High
<b>Priority*</b>	High
Plan for Implementation	
<b>Responsible Organization</b>	Bordentown Twp. with support from FEMA
<b>Local Planning Mechanism</b>	Hazard mitigation planning, stormwater management planning
<b>Potential Funding Sources</b>	HMA grants, municipal budget
<b>Timeline for Completion</b>	Long Term
Reporting on Progress	
<b>Date of Status Report/ Report of Progress</b>	



**Action Number:** T. Bordentown - 3

**Mitigation Action/Initiative:** Jumble Gut Run South Amboy: Remove & Replace storm sewer lines and culvert where necessary – example: Jumble Gut Glen

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	
Property Protection	1	
Cost-Effectiveness	1	
Technical	1	
Political	1	
Legal	1	
Fiscal	0	Need funding to complete project
Environmental	1	
Social	0	
Administrative	1	
Multi-Hazard	1	Flood, Severe Storm
Timeline	1	
Agency Champion	1	
Other Community Objectives	1	
<b>Total</b>	12	
<b>Priority (High/Med/Low)</b>	High	



Action Number:

T. Bordentown - 6

Mitigation Action/Initiative:

Obtain and install backup power sources at critical facilities.

Assessing the Risk	
<b>Hazard(s) addressed:</b>	All
<b>Specific problem being mitigated:</b>	Critical facilities lack back up power sources
Evaluation of Potential Actions/Projects	
<b>Actions/Projects Considered (name of project and reason for not selecting):</b>	<ol style="list-style-type: none"> <li>1. No action - Current problem remains</li> <li>2. Solar panels - Weather dependent and cost prohibitive</li> <li>3. Utilize a mobile generator – Possibly insufficient capacity and inadequate run time.</li> </ol>
Action/Project Intended for Implementation	
<b>Description of Selected Action/Project</b>	Critical facilities will have backup power (generators) installed in order to maintain power and critical functions during electric outages.
<b>Action/Project Category</b>	SIP
<b>Goals Met</b>	1, 3
<b>Critical Facility (Y/N)</b>	Yes
<b>Benefits (losses avoided)</b>	Medium
<b>Estimated Cost</b>	Medium
<b>Priority*</b>	Medium
Plan for Implementation	
<b>Responsible Organization</b>	Municipality with support from County, NJOEM and FEMA
<b>Local Planning Mechanism</b>	Hazard mitigation planning, emergency management planning
<b>Potential Funding Sources</b>	Municipal budget
<b>Timeline for Completion</b>	Short Term
Reporting on Progress	
<b>Date of Status Report/ Report of Progress</b>	



**Action Number:** T. Bordentown - 6

**Mitigation Action/Initiative:** Obtain and install backup power sources at critical facilities.

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
<b>Life Safety</b>	1	Allow for continuity of operations at critical facilities that provide essential services to residents during a hazard event
<b>Property Protection</b>	0	
<b>Cost-Effectiveness</b>	1	
<b>Technical</b>	1	
<b>Political</b>	1	
<b>Legal</b>	1	
<b>Fiscal</b>	-1	Need funding to complete project
<b>Environmental</b>	0	
<b>Social</b>	1	
<b>Administrative</b>	0	
<b>Multi-Hazard</b>	1	All hazards
<b>Timeline</b>	1	
<b>Agency Champion</b>	1	
<b>Other Community Objectives</b>	0	
<b>Total</b>	8	
<b>Priority (High/Med/Low)</b>	Medium	