



## 9.18 BOROUGH OF SWEDESBORO

This section presents the jurisdictional annex for the Borough of Swedesboro and includes resources and information to assist public and private sectors with reducing losses from future hazard events. This annex is not intended as guidance for actions to take during a disaster. Rather, this annex provides actions that can be implemented prior to a disaster to reduce or eliminate damage to property and people. The annex includes a general overview of the municipality and who in the Borough participated in the planning process, an assessment of the Borough of Swedesboro’s risk and vulnerability, the different capabilities used in the Borough, and an action plan that will be implemented to achieve a more resilient community.

### 9.18.1 Hazard Mitigation Planning Team

The Borough of Swedesboro followed the planning process described in Section 2 (Planning Process) in Volume I of this plan update and developed the annex over the course of several months with input from many Borough departments as summarized in the table below. The primary and alternate points of contact represented the community on the Planning Partnership and supported the local planning process requirements by securing input from persons with specific knowledge to enhance the plan. All departments were asked to contribute to the annex development through reviewing and contributing to the capability assessment, reporting on the status of previously identified actions, and participating in action identification and prioritization.

The coronavirus pandemic resulted in a strain on local resources that limited some participation, but every effort was made to connect with staff and stakeholders and gain diverse input. Due to safety precautions, all meetings were held virtually.

The following table summarizes municipal officials that participated in the development of the annex and in what capacity, including the Borough of Swedesboro’s hazard mitigation plan primary and alternate points of contact. Additional documentation on the municipality’s planning process through Planning Partnership meetings is included in Section 2 (Planning Process) and Appendix C (Meeting Documentation).

*Table 9.18-1. Hazard Mitigation Planning Team*

Primary Point of Contact		Alternate Point of Contact	
Name/Title: Eric Voight, Emergency Management Coordinator Address: 1500 Kings Highway Swedesboro, NJ 08085 Phone Number: 1-856-304-2706 Email: <a href="mailto:evoight@connerstrong.com">evoight@connerstrong.com</a>		Name/Title: Lois M. Elder, Borough Clerk Address: 1500 Kings Highway Swedesboro, NJ 08085 Phone Number: 856-467-0202 Email: <a href="mailto:lelder@swedesboro-nj.us">lelder@swedesboro-nj.us</a>	
NFIP Floodplain Administrator			
Name/Title: Eric Voight, Emergency Management Coordinator Address: 1500 Kings Highway Swedesboro, NJ 08085 Phone Number: 1-856-304-2706 Email: <a href="mailto:evoight@connerstrong.com">evoight@connerstrong.com</a>			
Name	Title	Method of Participation	



Keith Lamb	Public Works	Attended meetings, reviewed annex, identified mitigation actions
Eric Voight	Emergency Management Coordinator	Attended meetings, reviewed annex, identified mitigation actions
Lois Elder	Borough Clerk	Attended meetings, reviewed annex, identified mitigation actions

## 9.18.2 Municipal Profile

This Southern New Jersey town was settled by a small group of Swedes and Finns in the mid-1600s. Originally named Raccoon, the quiet settlement soon transformed into a town with churches, taverns and shoppes for trade. Under a Lease System, unique to New Jersey, the settlement developed south from Raccoon Creek to the present center of town at Borough Hall on King’s Highway. In 1765, the borough’s name was changed to Swedesboro; it was incorporated in 1903.

According to the United States Census Bureau, the borough had a total area of 0.77 square miles, including 0.73 square miles of land and 0.04 square miles of water. The municipality is surrounded by Raccoon Creek and has Lake Narraticon that is partially within the Borough. Unincorporated communities, localities and place names located partially or completely within the Borough include Ivyside.

The municipality is governed under the borough form of municipal government. The governing body is comprised of the Mayor and the Borough Council, with all positions elected at-large on a partisan basis. The Mayor is elected directly by the voters to a four-year term of office. The Borough Council is comprised of six members elected to serve three-year terms on a staggered basis.

According to the U.S. Census, the 2010 population for the Borough of Swedesboro was 2,584. The estimated 2019 population was 2,579, a 0.2 percent decrease from the 2010 Census. Data from the 2019 U.S. Census American Community Survey indicate that 6.7 percent of the population is 5 years of age or younger and 7.4 percent is 65 years of age or older. Communities must deploy a support system that enables all populations to safely reach shelters or to quickly evacuate a hazard area.

## 9.18.3 Jurisdictional Capability Assessment and Integration

The Borough of Swedesboro performed an inventory and analysis of existing capabilities, plans, programs, and policies that enhance its ability to implement mitigation strategies. Section 5 (Capability Assessment) describes the components included in the capability assessment and their significance for hazard mitigation planning. This section summarizes the following findings of the assessment:

- An assessment of planning, legal and regulatory capabilities.
- Development and permitting capabilities.
- An assessment of administrative and technical capabilities
- An assessment of fiscal capabilities.



- An assessment of education and outreach capabilities.
- Classification under various community mitigation programs.
- The community's adaptive capacity to withstand hazard events.

For a community to succeed in reducing long-term risk, hazard mitigation must be integrated into the day-to-day local government operations. Annex development included reviewing planning and policy documents and surveying each jurisdiction to obtain a better understanding of their progress in plan integration and how risk reduction is supported. Areas with current mitigation integration are summarized in this jurisdictional Capability Assessment (Section 9.18.3). The updated mitigation strategy includes opportunities the Borough of Swedesboro identified for integration of mitigation concepts to be incorporated into municipal procedures.

### 9.18.3.1 Planning, Legal, and Regulatory Capability

Section 5 (Capability Assessment) provides an overview of the planning, legal, and regulatory capabilities. The table below summarizes the regulatory tools that are available to the Borough of Swedesboro, what is present in the jurisdiction, and code citation and date.

*Table 9.18-2. Planning, Legal, and Regulatory Capability*

	Jurisdiction has this? (Yes/No)	Required by State? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
<b>Codes, Ordinances, &amp; Regulations</b>					
<b>Building Code</b>	Yes	Yes	Chapter 120 (Uniform Construction Codes)	State and Local	Construction Code Official
<i>How does this reduce risk?</i> The Borough adopted the State Uniform Construction Code and the Construction Code Official enforces this code.					
<b>Zoning/Land Use Code</b>	Yes	Yes, if the jurisdiction has a planning board	Chapter 340 (Zoning)	Local	Zoning Administrative Officer
<i>How does this reduce risk?</i> This chapter is enacted for the following purposes: to promote the health, morals and general welfare of the inhabitants of the Borough of Swedesboro; to lessen congestion in the streets; to secure safety from fire, panic and other dangers; to provide adequate light and air; to prevent the overcrowding of land or buildings; to avoid undue concentration of population; and to conserve the value of property and encourage the most appropriate use of land.					
<b>Subdivision Ordinance</b>	Yes	Yes, if the jurisdiction has a planning board	Chapter 290 (Subdivision of Land)	Local	Planning Board
<i>How does this reduce risk?</i> The purpose of this chapter shall be to provide rules, regulations and standards to guide land subdivision in the Borough of Swedesboro, in order to promote the public health, safety, convenience and general welfare of the municipality. It shall be administered to ensure the orderly growth and development, the conservation, protection and proper use of land and adequate provision for circulation, utilities and services.					
<b>Stormwater Management Ordinance</b>	Yes	Yes	Chapter 280 (Stormwater Control)	Local	
<i>How does this reduce risk?</i> The purpose of this chapter to establish minimum stormwater management requirements and controls for major development, consistent with the statewide stormwater requirements at N.J.A.C. 7:8 and the provisions of the adopted Master Plan and land use ordinances of the Borough of Swedesboro.					
<b>Post-Disaster Recovery/ Reconstruction Ordinance</b>	No	-	-	-	-
<i>How does this reduce risk?</i>					



	Jurisdiction has this? (Yes/No)	Required by State? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
<b>Real Estate Disclosure</b>	No	Yes	-	-	-
<i>How does this reduce risk?</i>					
In New Jersey, a seller must disclose whether or not the property is located in a flood hazard area.					
<b>Growth Management</b>	No	Yes, if the jurisdiction has a planning board	-	-	-
<i>How does this reduce risk?</i>					
<b>Site Plan Ordinance</b>	Yes	Yes, if the jurisdiction has a planning board	Chapter 268 (Site Plan Review)	Local and County	Planning Board
<i>How does this reduce risk?</i>					
In order to protect and preserve the road network of the Borough, to ensure the movement of traffic, to promote the development of a beautiful and well-ordered community, to further the comprehensive planning and to best serve the interests of the public health, safety and general welfare, no public, professional, commercial, industrial or other nonresidential use and no multifamily dwelling use shall be permitted, nor shall any building permit or occupancy permit be issued for such uses, until the procedure outlined in this chapter has been complied with.					
<b>Environmental Protection Ordinance</b>	No	-	-	-	-
<i>How does this reduce risk?</i>					
<b>Flood Damage Prevention Ordinance</b>	Yes	Yes	Chapter 162 (Flood Damage Prevention), Adopted 6/20/2016	Federal, State, County and Local	Building Inspector
<i>How does this reduce risk?</i>					
The purpose of this chapter is to promote the public health, safety, and general welfare, and to minimize public and private losses due to flood conditions. The building inspector is the appointed floodplain administrator and responsible for reviewing permits, using base flood and floodway data, maintaining information, completing substantial damage reviews, and interpreting flood maps. New construction or substantial improvements in the flood hazard area must have the bottom of the first elevated at or above the base flood elevation.					
<b>Wellhead Protection</b>	No	-	-	-	-
<i>How does this reduce risk?</i>					
<b>Emergency Management Ordinance</b>	No	-	-	-	-
<i>How does this reduce risk?</i>					
<b>Climate Change Ordinance</b>	No	-	-	-	-
<i>How does this reduce risk?</i>					
<b>Disaster Recovery Ordinance</b>	No	-	-	-	-
<i>How does this reduce risk?</i>					
<b>Disaster Reconstruction Ordinance</b>	No	-	-	-	-
<i>How does this reduce risk?</i>					
<b>Other</b>	No	-	-	-	-
<b>Codes, Ordinances, &amp; Regulations Connection to Mitigation and Safe Growth</b>					
<ul style="list-style-type: none"> <li>• Prior to, zoning changes, or development permitting, does the jurisdiction review the hazard mitigation plan and other hazard analyses to ensure consistent and compatible land use? Yes</li> <li>• Does the zoning ordinance discourage development or redevelopment within natural areas including wetlands, floodways, and floodplains? Yes</li> <li>• Does it contain natural overlay zones that set conditions? No</li> <li>• Does the ordinance require developers to take additional actions to mitigate natural hazard risk? Yes</li> <li>• Do rezoning procedures recognize natural hazard areas as limits on zoning changes that allow greater intensity or density of use? Yes</li> <li>• Do the ordinances prohibit development within, of filling of, wetlands, floodways, and floodplains? Yes</li> </ul>					



	Jurisdiction has this? (Yes/No)	Required by State? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
<ul style="list-style-type: none"> <li>Do the subdivision regulations restrict the subdivision of land within or adjacent to natural hazard areas? Unknown</li> <li>Do the regulations provide for conservation subdivisions or cluster subdivisions in order to conserve environmental resources? Yes</li> <li>Do the regulations allow density transfers where hazard areas exist? No</li> <li>When updating ordinances, is hazard mitigation considered? Yes</li> </ul>					
<b>Planning Documents</b>					
<b>Master Plan</b>	Yes	Yes - County Yes - municipality	Master Plan General Reexamination Report, 2008	Local	Planning Board
<p><i>How does this reduce risk?</i> The purpose of this reexamination is to ensure conformity of the Master Plan with the current Municipal Land Use Law and determine if the Master Plan, in particular the Land Use Plan Element, the Housing Plan Element, and the Goals and Objectives, are or are not current and whether they require updating. Several of the goals of the master plan align with those of the HMP include protect life and safety.</p>					
<b>Capital Improvement Plan</b>	Yes	Allowed	Part of the yearly budget	Local	Administration
<p><i>How does this reduce risk?</i> There is a capital improvement plan as part of the yearly budget. The capital improvement plan can be used to allocate funding for mitigation projects.</p>					
<b>Disaster Debris Management Plan</b>	No	-	-	-	-
<p><i>How does this reduce risk?</i></p>					
<b>Floodplain Management or Watershed Plan</b>	No	-	-	-	-
<p><i>How does this reduce risk?</i></p>					
<b>Stormwater Management Plan</b>	Yes	Yes	Watershed Based Municipal Stormwater Management Plan, February 2006; updated May 2018	Local	Planning Board
<p><i>How does this reduce risk?</i> The MSWMP provides strategies for Swedesboro Borough to follow in addressing stormwater management. The plan is required by N.J.A.C. 7:14A-25, the Municipal Stormwater Regulations, and contains the elements required by N.J.A.C. 7:8, the Stormwater Management Rules.  The MSWMP addresses groundwater recharge and stormwater quantity and quality, by incorporating the stormwater design and performance standards for new major development (defined as projects that disturb one or more acres of land or increase the amount of impervious surface by one-quarter acre or more). These standards are intended to minimize the adverse impact of stormwater runoff on water quality, and to address water quantity and the loss of groundwater recharge that provides base flow in receiving water bodies.</p>					
<b>Stormwater Pollution Prevention Plan</b>	Yes	Yes	Stormwater Pollution Prevention Plan; December 17, 2018	Local	Planning Board and Public Works
<p><i>How does this reduce risk?</i> Provides education and outreach programs to residents regarding stormwater and things they can do to assist the Borough.</p>					
<b>Urban Water Management Plan</b>	No	-	-	-	-
<p><i>How does this reduce risk?</i></p>					
<b>Habitat Conservation Plan</b>	No	-	-	-	-
<p><i>How does this reduce risk?</i></p>					
<b>Economic Development Plan</b>	No	-	-	-	-
<p><i>How does this reduce risk?</i></p>					
<b>Shoreline Management Plan</b>	No	-	-	-	-
<p><i>How does this reduce risk?</i></p>					
<b>Community Wildfire Protection Plan</b>	No	-	-	-	-
<p><i>How does this reduce risk?</i></p>					



	Jurisdiction has this? (Yes/No)	Required by State? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
<b>Community Forest Management Plan</b>	No	-	-	-	-
<i>How does this reduce risk?</i>					
<b>Transportation Plan</b>	No	-	-	-	-
<i>How does this reduce risk?</i>					
<b>Agriculture Plan</b>	No	-	-	-	-
<i>How does this reduce risk?</i>					
<b>Climate Action/ Resiliency Plan</b>	No	-	-	-	-
<i>How does this reduce risk?</i>					
<b>Tourism Plan</b>	No	-	-	-	-
<i>How does this reduce risk?</i>					
<b>Business/ Downtown Development Plan</b>	No	-	-	-	-
<i>How does this reduce risk?</i>					
<b>Other</b>	Yes	No	Environmental Resource Inventory (March 2012)	Local	Environmental Commission
<i>How does this reduce risk?</i>					
The purpose of an Environmental Resource Inventory (ERI) is to identify and describe the natural resources of a community. A community's natural resources – its soil, water, air, forests, fields, and waterways – are fundamental to its character. The protection and wise use of those resources is essential to the public health, safety, and welfare of current and future residents. The ERI provides the basis for the development of methods and steps to preserve, conserve, and utilize those resources, although it does not include specific recommendations to those ends. It is, instead, a compendium of all the existing information that can be found about a municipality's natural resources, presented in a form that is useful to a broad audience. The Inventory reflects a particular moment in time and should be updated as new data becomes available. The ERI includes discussions on floodplains and floodprone areas in the Borough.					
<b>Planning Connection to Mitigation and Safe Growth</b>					
<ul style="list-style-type: none"> <li>Do budgets limit expenditures on projects that would encourage development in areas vulnerable to natural hazards? Yes</li> <li>Do infrastructure policies limit extension of existing facilities and services that would encourage development in areas vulnerable to natural hazards? No</li> <li>Do budgets provide funding for hazard mitigation projects identified in the County HMP? Yes</li> <li>Does the future land use map clearly identify natural hazard areas? Yes</li> <li>Do the land use policies discourage development or redevelopment with natural hazard areas? Yes</li> <li>Does the plan provide adequate space for expected future growth in areas located outside natural hazard areas? Yes</li> <li>Are environmental systems that protect development from hazards identified and mapped? GIS Mapping in Progress</li> <li>Do environmental policies maintain and restore protective ecosystems? Yes</li> <li>Do environmental policies provide incentives to development that is located outside protective ecosystems? No</li> </ul>					
<b>Response/Recovery Planning</b>					
<b>Emergency Operations Plan</b>	Yes	Yes	Emergency Operations Plan, May 2018	Local	OEM
<i>How does this reduce risk?</i>					
The EOP is designed to provide guidance during an event. It outlines duties and responsibilities to minimize damage and additional loss. The EOP is state approved.					
<b>Strategic Recovery Planning Report</b>	No	No	No	No	No
<i>How does this reduce risk?</i>					
<b>Threat &amp; Hazard Identification &amp; Risk Assessment (THIRA)</b>	No	No	No	No	No
<i>How does this reduce risk?</i>					



	Jurisdiction has this? (Yes/No)	Required by State? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
<b>Post-Disaster Recovery Plan</b>	No	No	No	No	No
<i>How does this reduce risk?</i>					
<b>Continuity of Operations Plan</b>	No	No	No	No	No
<i>How does this reduce risk?</i>					
<b>Public Health Plan</b>	No	No	No	No	No
<i>How does this reduce risk?</i>					
<b>Other</b>	No	-	-	-	-
<b>Response/Recovery Planning Connection to Mitigation and Safe Growth</b>					
<ul style="list-style-type: none"> <li>Does your EOP cover short-term response and long-term recovery to address communications, evacuation, and housing necessary for identified hazards? The EOP addresses agencies and resources that will cover long and short-term recovery.</li> </ul>					

### 9.18.3.2 Development and Permitting Capability

The table below summarizes the capabilities of the Borough of Swedesboro to oversee and track development.

*Table 9.18-3. Development and Permitting Capability*

Indicate if your jurisdiction implements the following	Yes/No	Comment
Do you issue development permits? <ul style="list-style-type: none"> <li>If yes, what department is responsible?</li> <li>If no, what is your process for development?</li> </ul>	Yes	Swedesboro issues permits & Approvals from Planning and Zoning Boards.
Are permits tracked by hazard area? (For example, floodplain development permits.)	No	N/A
Do you have a buildable land inventory? <ul style="list-style-type: none"> <li>If yes, describe.</li> <li>If no, quantitatively describe the level of buildout in the jurisdiction.</li> </ul>	Yes	Construction permits are issued thru Woolwich Township Construction Department.

### 9.18.3.3 Administrative and Technical Capability

The table below summarizes potential staff and personnel resources available to the Borough of Swedesboro and their current responsibilities which contribute to hazard mitigation.

*Table 9.18-4. Administrative and Technical Capabilities*

Resources	Available? (Yes/No)	Comments (available staff, responsibilities, support of hazard mitigation)
<b>Administrative Capability</b>		
Planning Board	Yes	The Planning & Zoning Board is a Joint Board that has the power to hear and vote upon land development applications.
Zoning Board of Adjustments	Yes	The Planning & Zoning Board is a Joint Board that has the power to hear and vote upon land development applications.



Resources	Available? (Yes/No)	Comments (available staff, responsibilities, support of hazard mitigation)
Planning Department	No	-
Mitigation Planning Committee	No	-
Environmental Board/Commission	Yes	Environmental Commission. In 2013, the Swedesboro Commission joined with the Woolwich Township Environmental Commission to form the Swedesboro/Woolwich Joint Environmental Commission. The joint commission was established to better protect the development and/or use of natural resources including water sources, located within the territorial limits of the Borough of Swedesboro and Woolwich Township. Shade Tree Commission
Open Space Board/Committee	Yes	Parks and Recreation Committee
Economic Development Commission/Committee	Yes	Economic Development Committee. The Committee was established in order to advertise the advantages of the Borough of Swedesboro, to analyze the economic potential and development in the Borough of Swedesboro and to mobilize and assist in the development of potential resource and economic conditions of the borough. The committee seeks to create a positive push towards more economic opportunities, to revitalize the downtown district through streetscape, and to promote more pedestrian traffic in town. The committee seeks to ensure that the town maintains a focus on the smaller shops and work towards a pedestrian friendly downtown area.
Public Works/Highway Department	Yes	Department of Public Works
Construction/Building/Code Enforcement Department	Yes	Shared service agreement with Woolwich Township
Emergency Management/Public Safety Department	Yes	Emergency Management Coordinator
Warning Systems / Services (mass notification system, outdoor warning signals)	Yes	Borough website and social media accounts; Gloucester County Alert
Maintenance programs to reduce risk (stormwater maintenance, tree trimming, etc.)	Yes	The Borough of Swedesboro has a program to clean and request maintenance records of private basins. Inspect outfalls and inspect and clean drainage basins on at least a yearly basis. Cleanup activity for stormwater inlets is increased during the fall months to minimize clogging by leaf debris.
Mutual aid agreements	Yes	Mutual Aid agreements are in place with the County for Department of Health and EMS Services.
Human Resources Manual	Yes	Stormwater Culvert inspections/Cleaning/Inventory
Other	Yes	The Shade Tree Commission is comprised of resident volunteers. Its primary mission is to sustain and expand the presence of trees along Swedesboro's streets and public places. The Commission undertakes planting and maintenance of trees, in the public right of way, all over town to benefit the community.
<b>Technical/Staffing Capability</b>		
Planners or engineers with knowledge of land development and land management practices	Yes	Outside Contractor Professional Services



Resources	Available? (Yes/No)	Comments (available staff, responsibilities, support of hazard mitigation)
Engineers or professionals trained in building or infrastructure construction practices	Yes	Outside Contractor Professional Services
Planners or engineers with an understanding of natural hazards	Yes	Outside Contractor Professional Services
Staff with expertise or training in benefit/cost analysis	Yes	Outside Contractor Professional Services
Professionals trained in conducting damage assessments	Yes	Outside Contractor Professional Services
Personnel skilled or trained in GIS and/or Hazards United States (HAZUS) – Multi-Hazards (MH) applications	No	Outside Contractor Professional Services
Scientist familiar with natural hazards	No	-
Surveyor(s)	Yes	Outside Contractor Professional Services
Emergency Manager	Yes	Emergency Management Coordinator
Grant writer(s)	No	-
Resilience Officer	No	-
Other (this could include stormwater engineer, environmental specialist, etc.)	Yes	Outside Contractor Professional Services

### 9.18.3.4 Fiscal Capability

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

*Table 9.18-5. Fiscal Capabilities*

Financial Resources	Are these accessible or eligible to use for mitigation? (Yes/No) If yes, please describe. If no, can this be used to support in the future?
Community development Block Grants (CDBG, CDBG-DR)	Yes – Limited Areas
Capital improvements project funding	Yes – line item in the annual budget
Authority to levy taxes for specific purposes	Yes – If needed
User fees for water, sewer, gas or electric service	Yes – If needed
Impact fees for homebuyers or developers of new development/homes	Unknown
Stormwater utility fee	No
Incur debt through general obligation bonds	Yes – If needed
Incur debt through special tax bonds	Yes – If needed
Incur debt through private activity bonds	Unknown
Withhold public expenditures in hazard-prone areas	Unknown
Other federal or state funding programs	Yes – NJDOT, NJDEP, etc.
Open Space Acquisition funding programs	Yes – Green Acres
Other (for example, Clean Water Act 319 Grants [Nonpoint Source Pollution])	Yes – NJDEP Clean Communities, NJDOT Municipal Aid
<b>Fiscal Connection to Mitigation and Safe Growth</b>	
<ul style="list-style-type: none"> <li>Do budgets limit expenditures on projects that would encourage development in areas vulnerable to natural hazards? No</li> <li>Do infrastructure policies limit extension of existing facilities and services that would encourage development in areas vulnerable to natural hazards? No</li> </ul>	



Financial Resources	Are these accessible or eligible to use for mitigation? (Yes/No) If yes, please describe. If no, can this be used to support in the future?
<ul style="list-style-type: none"> <li>Do budgets provide funding for hazard mitigation projects identified in the County HMP? No</li> </ul>	

### 9.18.3.5 Education and Outreach Capability

The table below summarizes the education and outreach resources available to the Borough of Swedesboro.

*Table 9.18-6. Education and Outreach Capabilities*

Outreach Resources	Available? (Yes/No)	Comments (available staff, responsibilities, etc.)
Public information officer or communications office	No	-
Personnel skilled or trained in website development	No	-
Hazard mitigation information available on your website	Yes	The Borough's website has preparedness information and emergency alerts.
Social media for hazard mitigation education and outreach	Yes	The Borough maintains social media accounts that provides alerts, upcoming meetings and events, and preparedness information.
Citizen boards or commissions that address issues related to hazard mitigation	No	-
Other programs already in place that could be used to communicate hazard-related information	No	-
Warning systems for hazard events	Yes	Borough website and social media accounts; Gloucester County Alert
Natural disaster/safety programs in place for schools	Yes	Kingsway BOE and Swedesboro Woolwich BOE
Other	No	-
<b><i>Does the jurisdiction have any public outreach mechanisms / programs in place to inform citizens on natural hazards, risk, and ways to protect themselves during such events? If yes, please describe.</i></b> <ul style="list-style-type: none"> <li>Information uploaded to the website</li> </ul>		

### 9.18.3.6 Community Classifications

The table below summarizes classifications for community programs available to the Borough of Swedesboro.

*Table 9.18-7. Community Classifications*

Program	Participating? (Yes/No)	Classification (if applicable)	Date Classified (if applicable)
Community Rating System (CRS)	No	-	-
Building Code Effectiveness Grading Schedule (BCEGS)	No	-	-
Public Protection (ISO Fire Protection Classes 1 to 10)	No	-	-
Sustainable Jersey	No	-	-
StormReady Certification	No	-	-



Program	Participating? (Yes/No)	Classification (if applicable)	Date Classified (if applicable)
Firewise Communities classification	No	-	-

Note:

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

### 9.18.3.7 Adaptive Capacity

Adaptive capacity is defined as “the ability of systems, institutions, humans and other organisms to adjust to potential damage, to take advantage of opportunities, or respond to consequences” (IPCC 2014). In other words, it describes a jurisdiction’s current capabilities to adjust to, protect from, or withstand a future hazard event, future conditions, and changing risk. The table below summarizes the adaptive capacity for each hazard of concern and the jurisdiction’s rating.

Table 9.18-8. Adaptive Capacity

Hazard	Adaptive Capacity - Strong/Moderate/Weak*
Coastal Erosion	Moderate
Dam/ Levee Failure	Moderate
Disease Outbreak	Moderate
Drought	Moderate
Earthquake	Moderate
Extreme Temp	Moderate
Flood	Moderate
Geologic	Moderate
Hazmat	Moderate
Hurricane / Tropical Storm	Moderate
Invasive and Nuisance Species	Moderate
Nor'Easter	Moderate
Severe Weather	Moderate
Severe Winter Weather	Strong
Wildfire	Moderate
Utility Failure	Moderate

\*Strong = Capacity exists and is in use, Moderate = Capacity may exist; but is not used or could use some improvement, Weak = Capacity does not exist or could use substantial improvement.

## 9.18.4 National Flood Insurance Program (NFIP) Compliance

The table below provides specific information on the management and regulation of the regulatory floodplain, including current and future compliance with the NFIP.



Table 9.18-9. NFIP Summary

NFIP Topic	Comments
<b>Flood Vulnerability Summary</b>	
<ul style="list-style-type: none"> <li># NFIP Policies: 2</li> <li># RL properties: 0</li> <li># SRL properties: 0</li> <li>#RL/SRL mitigated: 0</li> </ul>	<ul style="list-style-type: none"> <li>Total premium in force: \$934.00</li> <li># claims filed: 3</li> <li>Total loss payments: \$2,699.14</li> </ul>
Describe areas prone to flooding in your jurisdiction.	Minor flooding around the lake; experience stormwater flooding on occasion (depends on the type of storm event coming in)
Do you maintain a list of properties that have been damaged by flooding?	No
Do you maintain a list of property owners interested in flood mitigation, and if so, how many are interested in (elevation or acquisition)?	No
How do you make Substantial Damage determinations? <ul style="list-style-type: none"> <li>How many were declared for recent flood events in your jurisdiction?</li> </ul>	Borough would base on the county's plan and damage assessments; have not had to conduct them in the last 10 years
Detail any RiskMAP projects currently underway in your jurisdiction.	No
Do your flood hazard maps adequately address the flood risk within your jurisdiction? <ul style="list-style-type: none"> <li>If not, state why.</li> </ul>	Yes
<b>NFIP Administration</b>	
What local department is responsible for floodplain management?	Emergency Management Coordinator
Are any staff certified floodplain managers (CFMs) or is a consultant retained?	No
Provide an explanation of who in your municipality provides NFIP administration services (permit review, GIS, education/outreach, inspections, engineering capability).	Less than one square mile; services are limited.
What specific training or support does your floodplain management staff need to support its floodplain management program?	Yes
How do you determine if proposed development on an existing structure would qualify as a substantial improvement?	Not done
Do you have access to resources to determine possible future flooding conditions from climate change?	Yes
<b>NFIP Compliance</b>	
List any outstanding NFIP compliance violations.	No
When was the most recent Community Assistance Visit (CAV) or Community Assistance Contact (CAC)?	December 14, 1994
What is the local law number or municipal code of your flood damage prevention ordinance? What is the date that your flood damage prevention ordinance was last amended?	<ul style="list-style-type: none"> <li>Chapter 162</li> <li>2016</li> </ul>
Does your floodplain management program meet or exceed minimum requirements? <ul style="list-style-type: none"> <li>If exceeds, in what ways?</li> </ul>	Meets
Are there other local ordinances, plans, or programs (site plan review, consideration of flood risk reduction when granting	No



NFIP Topic	Comments
height variances) that support floodplain management and meeting the NFIP requirements?	
Does your jurisdiction participate in CRS? <ul style="list-style-type: none"> <li>If yes, is your jurisdiction interested in improving its CRS Classification?</li> <li>If no, is your jurisdiction interested in joining the CRS program?</li> </ul>	No – not interested at this time

Source: FEMA September 16, 2019; NJDEP - 2021

Notes:

RL—Repetitive Loss; SRL—Severe Repetitive Loss; NA—Not applicable

## 9.18.5 Growth/Development Trends

Understanding how past, current, and projected development patterns have or are likely to increase or decrease risk in hazard areas is a key component to understanding a jurisdiction’s overall risk to its hazards of concern. The table below summarizes recent and expected future development trends, including major residential/commercial development and major infrastructure development.

Table 9.18-10. Recent and Expected Future Development

Type of Development	2016		2017		2018		2019		2020		2021	
Number of Building Permits for New Construction Issued Since the Previous HMP* (within regulatory floodplain/ outside regulatory floodplain)												
	Total	Within SFHA	Total	Within SFHA	Total	Within SFHA	Total	Within SFHA	Total	Within SFHA	Total	Within SFHA
Single Family	1	-	1	-	0	-	2	-	0	-	1	-
Multi-Family	0	-	0	-	0	-	0	-	0	-	0	-
Other (commercial, mixed-use, etc.)	0	-	0	-	0	-	0	-	0	-	0	-
<b>Total Permits Issued*</b>	1	-	1	-	0	-	2	-	0	-	1	-
Property or Development Name	Type of Development	# of Units / Structures		Location (address and/or block and lot)		Known Hazard Zone(s)*		Description / Status of Development				
<b>Recent Major Development and Infrastructure from 2015 to Present</b>												
None identified												
<b>Known or Anticipated Major Development and Infrastructure in the Next Five (5) Years</b>												
The business district of the Borough is in the early stages of redevelopment; however, there are no details on types of development to occur.												

SFHA Special Flood Hazard Area (1% annual chance flood event)

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

\*\*Total number of construction permits issued includes any construction that requires permitting.



## 9.18.6 Jurisdictional Risk Assessment

The hazard profiles in Section 4 (Risk Assessment) provide detailed information regarding each plan participant's vulnerability to the identified hazards. Section 4.1 (Identification of Hazards of Concern), Section 4.2 (Methodology and Tools), and Section 4.4 (Hazard Ranking) provide a detailed summary for the Borough of Swedesboro's risk assessment results, and data used to determine the hazard ranking are discussed later in this section.

Hazard area extent and location maps provided below illustrate the probable areas impacted within the jurisdiction. These maps are based on the best available data at the time of the preparation of this plan and are adequate for planning purposes. Maps were only generated for those hazards that can be clearly identified using mapping techniques and technologies and for which the Borough of Swedesboro has significant exposure. The maps also show the location of potential new development, where available.

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Figure 9.18-1. Borough of Swedesboro Hazard Area Extent and Location Map 1

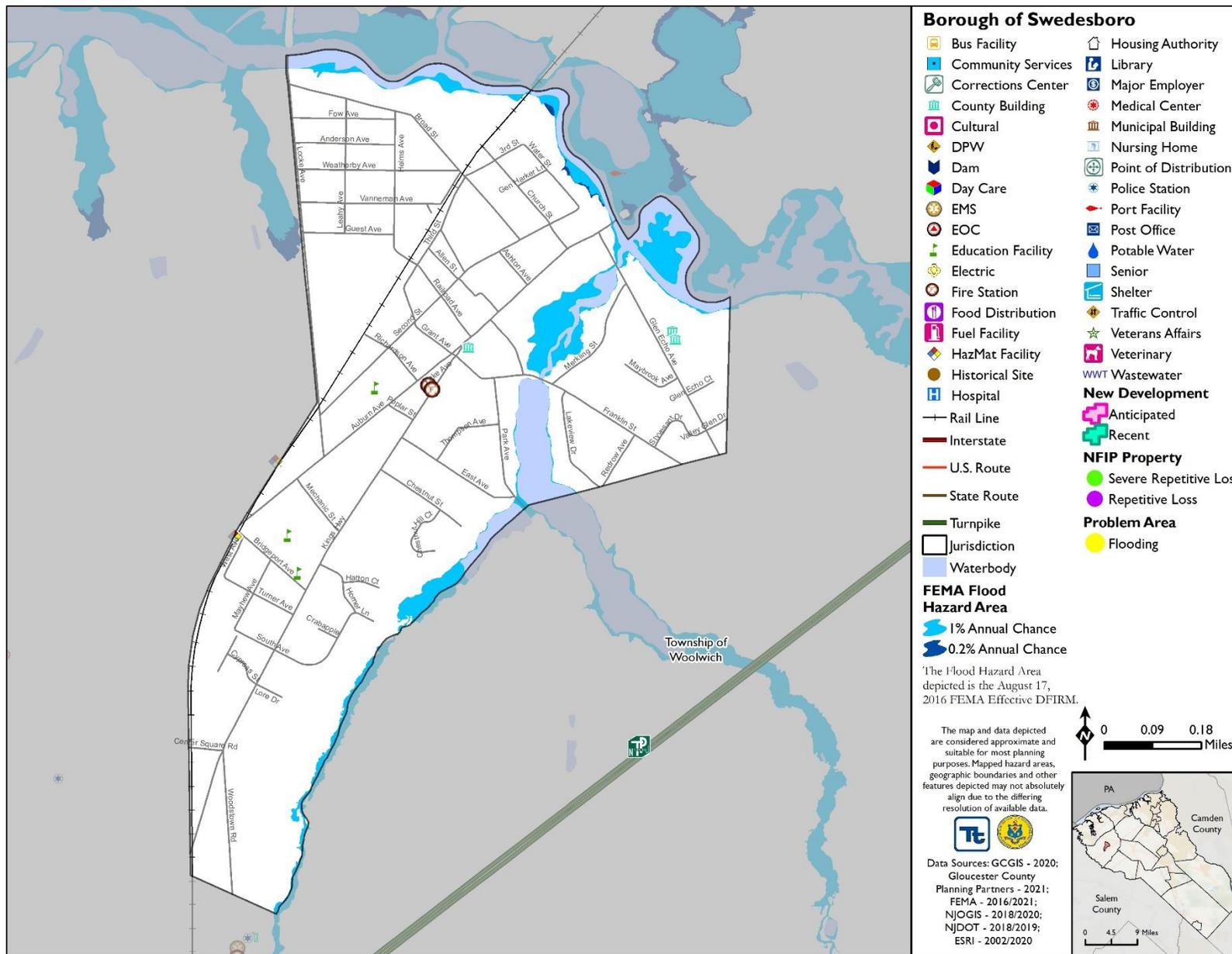




Figure 9.18-2. Borough of Swedesboro Hazard Area Extent and Location Map 2

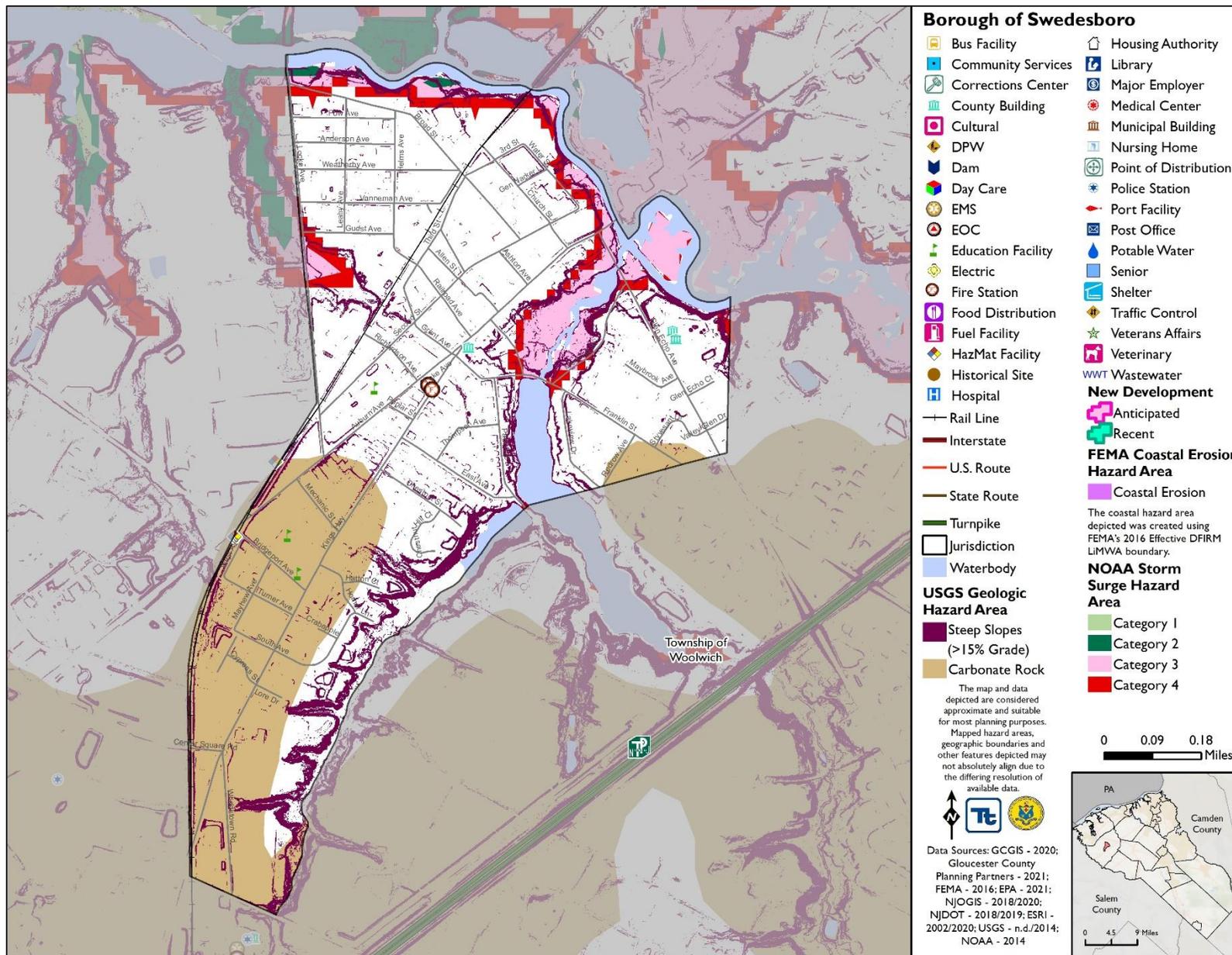
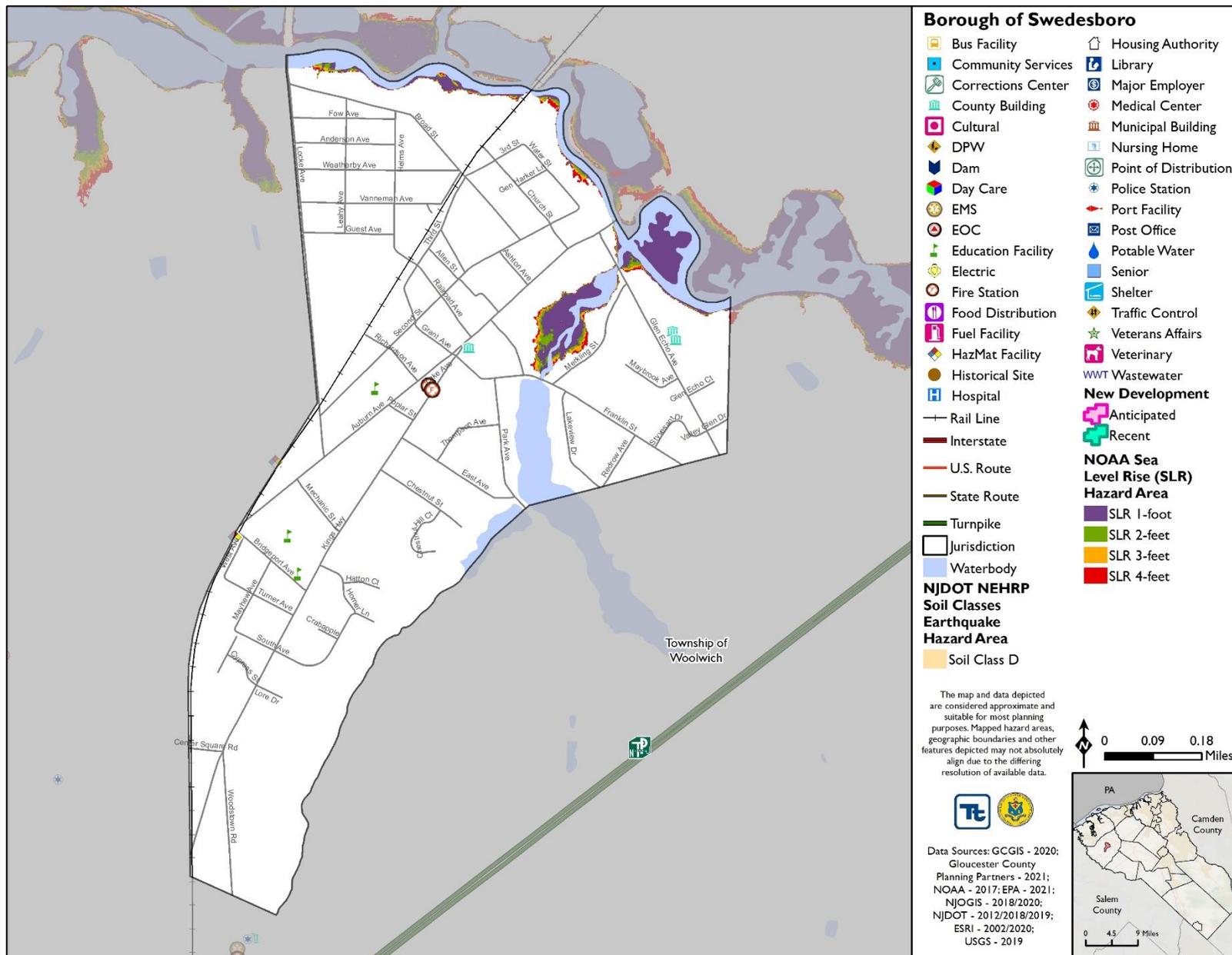




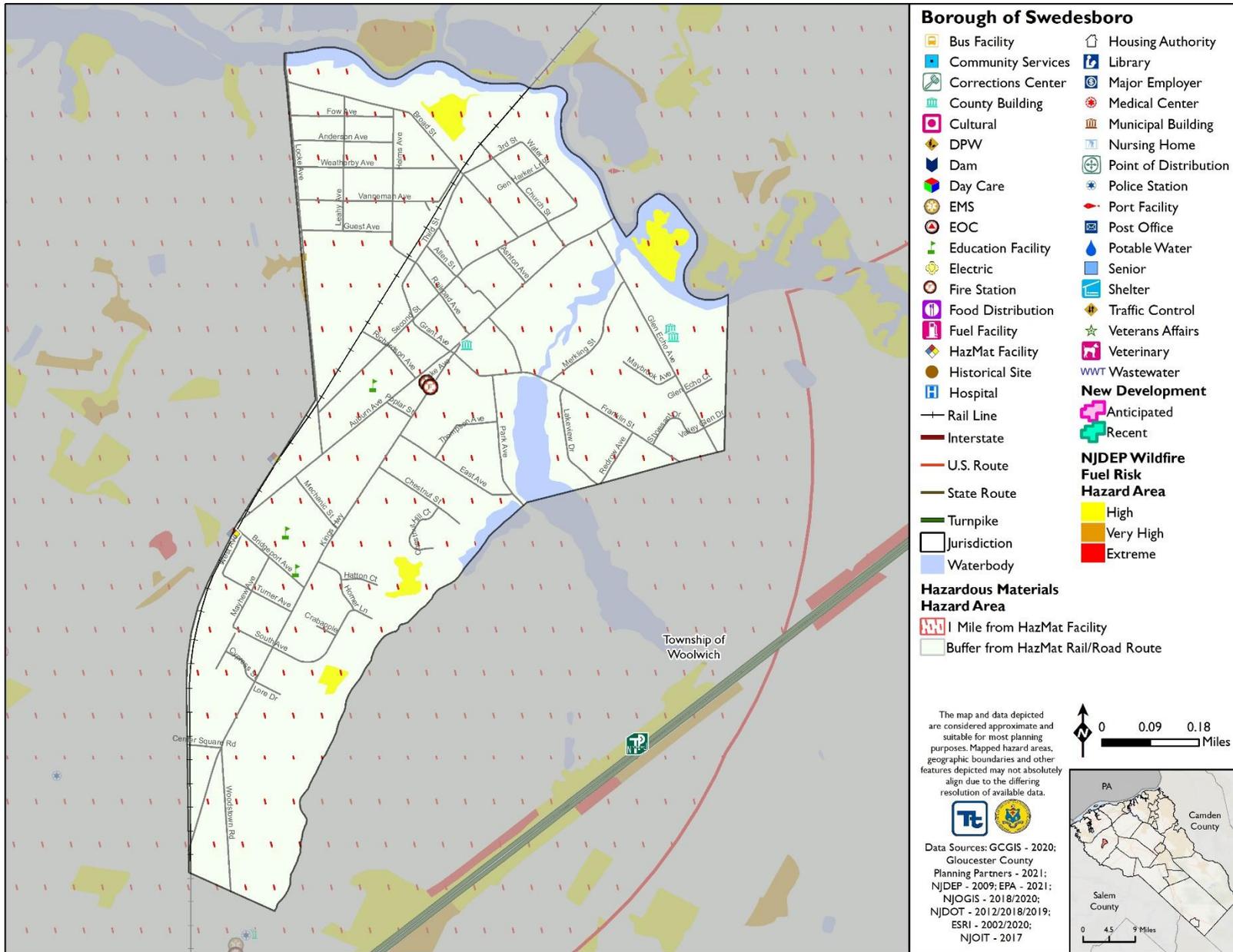
Figure 9.18-3. Borough of Swedesboro Hazard Area Extent and Location Map 3



Section 9.18 | Borough of Swedesboro



Figure 9.18-4. Borough of Swedesboro Hazard Area Extent and Location Map 4





### 9.18.6.1 Hazard Event History

Gloucester County has a history of natural hazard events as detailed in Section 4 (Risk Assessment) 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.

The Borough of Swedesboro’s history of federal declarations (as presented by FEMA) and significant hazard events (as presented in NOAA-NCEI) is consistent with that of Gloucester County. The table below provides details regarding municipal-specific loss and damages the Borough experienced during hazard events since the last hazard mitigation plan update. Information provided in the table below is based on reference material or local sources.

*Table 9.18-11. Hazard Event History*

Dates of Event	Event Type (Disaster Declaration if applicable)	County Designated?	Summary of Event	Municipal Summary of Damages and Losses
February 15, 2015	Cold/Wind Chill	No	The center of an arctic air mass brought some of the lowest wind chills and temperatures of the winter season to New Jersey. Wind chill factors were recorded as low as 22 degrees below zero, with actual temperatures reaching -2°F.	No significant damages or losses associated with this event
June 23, 2015	Severe Storm (DR-4231-NJ)	Yes	In Gloucester County, the Red Cross opened two comfort stations. Wind damage was most severe between Greenwich Township and Mantua Township. Lightning struck a refinery in Paulsboro, causing a loss of power and off-gas. In Wenonah, wind damage knocked down several massive oak trees. In Mantua, the microburst knocked down an estimated 2,800 trees and 100 poles. The Township’s Fire Department building was severely damaged. Wind also knocked down power poles in East Greenwich along Kings Highway. Roads throughout East Greenwich were impassable. Damage was estimated at \$10 million.	No significant damages or losses associated with this event
January 22 – 24, 2016	Severe Winter Storm and Snowstorm (DR-4264-NJ)	Yes	Snow totals in Gloucester County included 21 inches in Deptford, 20.9 inches in Pitman, 17.5 inches in Turnersville, 14.5 inches in Williamstown, and one foot in Mullica Hill.	No significant damages or losses associated with this event
March 6, 2018	Winter Storm	No	Gloucester County was hit with isolated heavy snow, with totals ranging from five inches in Pitman to 6.5 inches in West Deptford.	No significant damages or losses associated with this event
January 20, 2020 – Present	Covid-19 Pandemic (EM-3451-NJ) (DR-4488-NJ)	Yes	Between March 1, 2020 and March 15, 2021, Gloucester County reported 21,065 confirmed cases of COVID-19, and 530 total fatalities.	No significant damages or losses associated with this event
September 1-3, 2021	Remnants of Hurricane Ida (DR-4614)	Yes	On September 1st, Gloucester County and surrounding areas received a tornado warning issued by the NWS telling people to move indoors, to stay away from windows and avoid traveling. Shortly after, the tornado touched down in Mullica Hills, Woodbury Heights, Deptford, and West Deptford. It was a	Some storm damage – downed trees



Dates of Event	Event Type (Disaster Declaration if applicable)	County Designated?	Summary of Event	Municipal Summary of Damages and Losses
			confirmed EF-3 tornado with winds of up to 150 mph. Over 90,000 residents were without power statewide. In addition to the devastating tornado, the County experienced rainfall totals ranging from 1.6 inches to 2 inches. The Delaware River at Washington Street (just north of Gloucester County) crested 9.69 feet on September 1st (moderate flood stage).	

### 9.18.6.2 Hazard Ranking and Vulnerabilities

The hazard profiles in Section 4.1 (Identification of Hazards of Concern) of this plan have detailed information regarding each plan participant’s vulnerability to the identified hazards. The following summarizes the Borough of Swedesboro’s risk assessment results and data used to determine the hazard ranking.

#### Hazard Ranking

This section provides the community specific identification of the primary hazard concerns based on identified problems, impacts and the results of the risk assessment as presented in Section 4 (Risk Assessment) of the plan. The ranking process involves an assessment of the likelihood of occurrence for each hazard, along with its potential impacts on people, property, and the economy as well as community capability and changing future climate conditions. This input supports the mitigation action development to target those hazards with highest level of concern.

As discussed in Section 4.4 (Hazard Ranking), each participating jurisdiction can have differing degrees of risk exposure and vulnerability compared with Gloucester County as a whole. The table below summarizes the hazard risk/vulnerability rankings of potential natural hazards for the Borough of Swedesboro. The Borough of Swedesboro reviewed the county hazard risk/vulnerability risk ranking table, including municipal-specific results, to reflect the relative risk of the hazards of concern to the community.

During the review of the hazard/vulnerability risk ranking, the Borough indicated the following:

- The Borough modified the ranking for dam/levee failure from low to medium. There is a dam located in the Borough that is currently being remediated in according to NJDEP regulations.
- The Borough agreed with the remainder of the calculated hazard rankings.

Table 9.18-12. Hazard Ranking Input

Coastal Erosion / Sea Level Rise	Dam / Levee Failure	Disease Outbreak	Drought	Earthquake	Extreme Temperature	Flood	Geologic	Hazardous Materials
Low	Medium	Low	Low	Low	Low	Low	Low	Low



Hurricane / Tropical Storm	Invasive and Nuisance Species	Nor'Easter	Severe Weather	Severe Winter Weather	Wildfire	Utility Failure
Low	Low	Low	High	Medium	Low	Medium

Note: The scale is based on the hazard rankings established in Section 4.4 (Hazard Ranking) and modified as appropriate during review by the jurisdiction.

## Critical Facilities

The table below identifies critical facilities in the community located in the 1-percent and 0.2-percent floodplain and presents Hazus estimates of the damage and loss of use to critical facilities as a result of a 1-percent annual chance flood event.

Table 9.18-13. Potential Flood Losses to Critical Facilities

Name	Type	Lifeline?	Exposure		Comment
			1% Event	0.2% Event	
No critical facilities in the floodplain.					

Source: Gloucester County Planning Partners - 2021; HIFLD - 2020; EPA - 2021; FEMA 2016

### 9.18.6.3 Identified Issues

After review of the Borough of Swedesboro's hazard event history, hazard rankings, jurisdiction specific vulnerabilities, hazard area extent and location, and current capabilities, the Borough of Swedesboro has identified the following vulnerabilities within their community:

- The Broad Street Pump Station is located in the northern portion of the Borough and provides services to the northwest area. During a power outage, the pump cannot function properly and causes disruption in services.
- The Franklin Street Pump Station is located downstream from the dam and experiences flooding during periods of heavy rain. The pump station does not have backup power and cannot function during power outages.
- The Borough lacks an adopted Disaster Debris Management Plan.
- The Narraticon Lake Dam is a significant hazard dam owned by the Borough. It is a recreational dam located on Church Run. The Borough has begun rehabilitating the dam and in the permit process.
- The current flood damage prevention ordinance does not meet the state's recommendation for a code-coordinated flood damage prevention ordinance.
- The Borough does not have portable backup pumps. In the event a pump fails, the Borough does not have the ability to transfer services using a portable system to make the repairs to the permanent pump. This leads to disruption of services and limited water and sewer services to residents.
- The Borough's current stormwater system consists of aging infrastructure and becomes overwhelmed during periods of heavy rain, particularly near Broad Street.



## 9.18.7 Mitigation Strategy and Prioritization

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

### 9.18.7.1 Past Mitigation Initiative Status

The following table indicates progress on the community's mitigation strategy identified in the 2016 HMP. 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 are discussed in the 'Capability Assessment' presented previously in this annex.

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Table 9.18-14. Status of Previous Mitigation Actions

#	2016 Action Description	Responsible Party	What is the status? (e.g., In Progress, No Progress, Ongoing Capability, or Completed) If in progress or completed, please describe the funding source, cost and who is implementing.	If you did not complete the action, should the action be included in the 2022 HMP (i.e., there is still a need, this is still a priority)?		
				Yes/No	If Yes, please describe the original problem (i.e., hazard, location, historic losses)	If Yes, identify the responsible department/person to implement the project.
M-01	Identify and pursue outreach and education opportunities	Municipal OEM	Ongoing Capability	No	-	-
M-02	Prioritize critical facilities and complete site and facility surveys to identify vulnerabilities and potential mitigation measures.	Municipal OEM and Facility Managers	Ongoing Capability	No	-	-
M-03	Conduct Regular Municipal Working Group Meetings	Municipal OEM and Municipal Working Group	Ongoing Capability	No	-	-
M-04	Install permanent backup emergency power generator at pump station (CF-9).	Municipal OEM	In Progress – the Borough ordered a generator for their Broad Street pump station	Yes	The Broad Street Pump Station is located in the northern portion of the Borough and provides services to the northwest area. During a power outage, the pump cannot function properly and causes disruption in services.	Purchase and install a permanent generator at the Broad Street Pump Station to provide continuity of operations during power outages.



### 9.18.7.2 Additional Mitigation Efforts

In addition to the mitigation initiatives completed in Table 9.18-14, the Borough of Swedesboro identified the following mitigation efforts completed over the last five years:

- The Borough has the ability to move equipment if needed prior to events
- Shared services with Woolwich Township
- Gloucester County and Salem County are creating an integrated wastewater infrastructure. As part of the project, 11 existing wastewater treatment plants will divert flows to the new facility. The plant in Swedesboro will be closed and all flows diverted to the DuPont Wastewater Treatment Plant in Pennsville, NJ.

### 9.18.7.3 Proposed Hazard Mitigation Initiatives for the HMP Update

The Borough of Swedesboro participated in a mitigation action workshop in May 2021 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).

The table below indicates the range of proposed mitigation action categories.

*Table 9.18-15. Analysis of Mitigation Actions by Hazard and Category*

Hazard	FEMA				CRS					
	LPR	SIP	NSP	EAP	PR	PP	PI	NR	SP	ES
Coastal Erosion	X									X
Dam/ Levee Failure	X	X							X	X
Disease Outbreak	X									X
Drought	X									X
Earthquake	X									X
Extreme Temp	X									X
Flood	X	X			X				X	X
Geologic	X									X
Hazmat	X									X
Hurricane / Tropical Storm	X									X
Invasive and Nuisance Species	X									X
Nor'Easter	X	X							X	X
Severe Weather	X	X							X	X
Severe Winter Weather	X									X
Wildfire	X									X
Utility Failure	X	X							X	X

Note: Section 6 (Mitigation Strategy) provides for an explanation of the mitigation categories.

The table below (Table 9.18-16) summarizes the comprehensive range of specific mitigation initiatives the Borough of Swedesboro 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 (Mitigation Strategy), 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 9.18-17 provides a summary of the prioritization of all proposed mitigation initiatives for the HMP update.

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Table 9.18-16. Proposed Hazard Mitigation Initiatives and Associated Priority

Project Number	Mitigation Initiative Name	Description of Problem and Solution	New or Existing Assets?	Hazard(s) to be Mitigated	Goals Met	Estimated Timeline	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Costs	Priority	Mitigation Category	CRS Category
2022-Swedesboro-001	Broad Street Pump Station Generator	<p><b>Problem:</b> The Broad Street Pump Station is located in the northern portion of the Borough and provides services to the northwest area. During a power outage, the pump cannot function properly and causes disruption in services.</p> <p><b>Solution:</b> Purchase and install a permanent generator and necessary electrical components at the Broad Street Pump Station to provide continuity of operations during power outages. Public Works will be responsible for maintenance and testing of the generator following installation.</p>	Existing	Utility Failure	1, 2, 6	Within 6 months	Borough Water & Sewer	Municipal Budget	Continuity of operations	\$45,000	High	SIP	SP, ES
2022-Swedesboro-002	Franklin Street Pump Station Generator	<p><b>Problem:</b> The Franklin Street Pump Station is located downstream from the dam and experiences flooding during periods of heavy rain. The pump station does not have backup power and cannot function during power outages.</p> <p><b>Solution:</b> Purchase and install a permanent generator and necessary electrical components. When installed, the generator will be elevated six to eight feet</p>	Existing	Utility Failure	1, 2, 6	Within 6 months	Borough Water & Sewer	FEMA HMGP and BRIC, Municipal Budget	Protect public health and safety, and ensure continued operation of critical facility and essential functions during power outages.	\$65,000	High	SIP	SP, ES



Project Number	Mitigation Initiative Name	Description of Problem and Solution	New or Existing Assets?	Hazard(s) to be Mitigated	Goals Met	Estimated Timeline	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Costs	Priority	Mitigation Category	CRS Category
		to protect from flooding. Water & Sewer will be responsible for maintenance and testing of the generator following installation.											
2022-Swedesboro-004	Develop Disaster Debris Management Plan	<b>Problem:</b> The Borough lacks an adopted Disaster Debris Management Plan. <b>Solution:</b> The Borough will complete and adopt the in-progress Disaster Debris Management Plan.	New and Existing	All Hazards	5	6 months	Public Works, OEM	Municipal budget	Increased planning for post-disaster response and cleanup.	Staff time	High	LPR	ES
2022-Swedesboro-005	Narraticon Lake Dam	<b>Problem:</b> The Narraticon Lake Dam is a significant hazard dam owned by the Borough. It is a recreational dam located on Church Run. The Borough has begun rehabilitating the dam and in the permit process. <b>Solution:</b> The Borough will construct a temporary cofferdam, extension of existing reinforced concrete walls, install reno-mats, and install crushed stone fill gabions.	Existing	Dam Failure	1, 2, 5, 7	Within 2 years	Engineer, Borough Council, NJDEP	BRIC, HMGP, High Hazard Potential Dams Grant Program, Municipal budget	Increase protection; improve dam	\$500,000	High	SIP	SP
2022-Swedesboro-006	Update Flood Damage Prevention Ordinance	<b>Problem:</b> The current flood damage prevention ordinance does not meet the state's recommendation for a code-coordinated flood damage prevention ordinance. <b>Solution:</b> The Borough will update the flood damage	Existing	Flood	1, 2, 5	6 months	Floodplain Administrator; Administration	Municipal budget	Meet state and FEMA standards for flood damage prevention, reduce flood risk on new development	Staff Time	High	LPR	PR



Project Number	Mitigation Initiative Name	Description of Problem and Solution	New or Existing Assets?	Hazard(s) to be Mitigated	Goals Met	Estimated Timeline	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Costs	Priority	Mitigation Category	CRS Category
		prevention ordinance using the NJ DEP's model code coordinated ordinance to create better coordination between NFIP implementation by the floodplain administrator, the New Jersey Flood Hazard Area Control Act (FHACA) implemented at the State level by the NJDEP, and the Uniform Construction Code (UCC) implemented by the Construction Official.											
2022-Swedesboro-007	Portable Pumping Systems	<p><b>Problem:</b> The Borough does not have portable backup pumps. In the event a pump fails, the Borough does not have the ability to transfer services using a portable system to make the repairs to the permanent pump. This leads to disruption of services and limited water and sewer services to residents.</p> <p><b>Solution:</b> Purchase two portable pumping systems to use in the Borough in the event permanent pumps fail. This will provide continuity of operations and limit disruption of services.</p>	Existing	Utility Failure, Severe Weather	1, 2, 6	Within 2 years	Borough Water & Sewer	Municipal Budget	Continuity of operations	\$30,000	High	SIP	SP, ES
2022-Swedesboro-008	Stormwater Feasibility Study	<p><b>Problem:</b> The Borough's current stormwater system consists of aging infrastructure and becomes overwhelmed during</p>	New and Existing	Flood, Nor'Easter, Severe Weather, Hurricane	1, 2, 5, 6	Within 3 years	Borough Water & Sewer, Borough Engineer	NJDEP Environmental Infrastructure, Municipal	Increase capacity, reduce stormwater flooding,	\$30,000	High	LPR, SIP	SP, ES



Project Number	Mitigation Initiative Name	Description of Problem and Solution	New or Existing Assets?	Hazard(s) to be Mitigated	Goals Met	Estimated Timeline	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Costs	Priority	Mitigation Category	CRS Category
		<p>periods of heavy rain, particularly near Broad Street.</p> <p><b>Solution:</b> The Borough will conduct a stormwater improvement feasibility study to find the source of problems in the Borough and identify solutions to improve the stormwater system in the Borough. This will include an inventory of existing stormwater components and equipment. Once the study is completed, the Borough will begin implementing the identified cost-effective solutions.</p>						Budget, FEMA HMGP	continuity of operations				

**Notes:**

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

**Acronyms and Abbreviations:**

- CAV Community Assistance Visit
- CRS Community Rating System
- DPW Department of Public Works
- EHP Environmental Planning and Historic Preservation
- 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
- BRIC Building Resilient Infrastructure and Communities Program

**Timeline:**

The time required for completion of the project upon implementation

**Cost:**

The estimated cost for implementation.

**Benefits:**

A description of the estimated benefits, either quantitative and/or qualitative.



**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 9.18-17. Summary Evaluation and Action Priority

Project Number	Project Name	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
2022-Swedesboro-001	Broad Street Pump Station Generator	1	1	1	1	1	1	1	1	1	1	0	1	1	1	13	High
2022-Swedesboro-002	Franklin Street Pump Station Generator	1	1	1	1	1	1	0	1	1	1	0	1	1	1	12	High



Project Number	Project Name	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
2022-Swedesboro-004	Develop Disaster Debris Management Plan	1	0	1	1	1	1	1	1	1	1	1	1	1	1	13	High
2022-Swedesboro-005	Narraticon Lake Dam	1	1	1	1	1	0	0	1	1	1	0	1	1	1	11	High
2022-Swedesboro-006	Update Flood Damage Prevention Ordinance	0	1	1	1	1	1	1	1	1	1	0	1	1	1	12	High
2022-Swedesboro-007	Portable Pumping Systems	1	1	1	1	1	1	1	1	1	1	1	1	1	0	13	High
2022-Swedesboro-008	Stormwater Feasibility Study	1	1	1	0	1	1	0	1	1	0	1	0	1	1	10	High

Note: Section 6 (Mitigation Strategy), which conveys guidance on prioritizing mitigation actions.  
Low (0-4), Medium (5-8), High (9-14).

**▲** This action has been identified as being of highest importance to the municipality and an action that the municipality would like to complete as soon as funding is received.

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## 9.18.8 Action Worksheets

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The following action worksheets have been developed by the Borough of Swedesboro to aid in the submittal of grant applications to support the funding of high priority proposed actions. The State of New Jersey requires at least two projects be developed with action worksheets.

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Action Worksheet			
<b>Project Name:</b>	Franklin Street Pump Station Generator		
<b>Project Number:</b>	2022-Swedesboro-002		
<b>Risk / Vulnerability</b>			
<b>Hazard(s) of Concern:</b>	Utility Failure		
<b>Description of the Problem:</b>	The Franklin Street Pump Station is located downstream from the dam and experiences flooding during periods of heavy rain. The pump station does not have backup power and cannot function during power outages.		
<b>Action or Project Intended for Implementation</b>			
<b>Description of the Solution:</b>	Purchase and install a permanent generator and necessary electrical components. When installed, the generator will be elevated six to eight feet to protect from flooding. Water & Sewer will be responsible for maintenance and testing of the generator following installation.		
<b>Is this project related to a Critical Facility?</b>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
<b>Level of Protection:</b>	N/A	<b>Estimated Benefits (losses avoided):</b>	Protect public health and safety, and ensure continued operation of critical facility and essential functions during power outages.
<b>Useful Life:</b>	20 years	<b>Goals Met:</b>	1, 2, 6
<b>Estimated Cost:</b>	\$65,000	<b>Mitigation Action Type:</b>	Structure and Infrastructure Projects (SIP)
<b>Plan for Implementation</b>			
<b>Prioritization:</b>	High	<b>Desired Timeframe for Implementation:</b>	Within 6 months
<b>Estimated Time Required for Project Implementation:</b>	1 year	<b>Potential Funding Sources:</b>	FEMA HMGP and BRIC, Municipal Budget
<b>Responsible Organization:</b>	Borough Water & Sewer	<b>Local Planning Mechanisms to be Used in Implementation if any:</b>	Hazard Mitigation, Emergency Management
<b>Three Alternatives Considered (including No Action)</b>			
<b>Alternatives:</b>	<b>Action</b>	<b>Estimated Cost</b>	<b>Evaluation</b>
	No Action	\$0	Problem continues.
	Install solar panels	\$100,000	Weather dependent; need large amount of space for installation; expensive if repairs needed
	Install wind turbine	\$100,000	Weather dependent; poses a threat to wildlife; expensive repairs if needed
<b>Progress Report (for plan maintenance)</b>			
<b>Date of Status Report:</b>			
<b>Report of Progress:</b>			
<b>Update Evaluation of the Problem and/or Solution:</b>			



Action Worksheet		
<b>Project Name:</b>	Franklin Street Pump Station Generator	
<b>Project Number:</b>	2022-Swedesboro-002	
Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
<b>Life Safety</b>	1	Project will protect critical services of critical facilities
<b>Property Protection</b>	1	Project will protect pump station from power loss.
<b>Cost-Effectiveness</b>	1	
<b>Technical</b>	1	The project is technically feasible
<b>Political</b>	1	
<b>Legal</b>	1	The Borough has the legal authority to complete the project.
<b>Fiscal</b>	0	Project requires funding support.
<b>Environmental</b>	1	
<b>Social</b>	1	
<b>Administrative</b>	1	
<b>Multi-Hazard</b>	0	Utility Failure
<b>Timeline</b>	1	Within 6 months
<b>Agency Champion</b>	1	Borough Water & Sewer
<b>Other Community Objectives</b>	1	
<b>Total</b>	12	
<b>Priority (High/Med/Low)</b>	High	



Action Worksheet			
<b>Project Name:</b>	Narraticon Lake Dam		
<b>Project Number:</b>	2022-Swedeseboro-005		
Risk / Vulnerability			
<b>Hazard(s) of Concern:</b>	Dam Failure		
<b>Description of the Problem:</b>	The Narraticon Lake Dam is a significant hazard dam owned by the Borough. It is a recreational dam located on Church Run. The Borough has begun rehabilitating the dam and in the permit process.		
Action or Project Intended for Implementation			
<b>Description of the Solution:</b>	The Borough will construct a temporary cofferdam, extension of existing reinforced concrete walls, install reno-mats, and install crushed stone fill gabions.		
<b>Is this project related to a Critical Facility or Lifeline?</b>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
<b>Level of Protection:</b>	500-year flood	<b>Estimated Benefits (losses avoided):</b>	Increase protection; improve dam
<b>Useful Life:</b>	50 years	<b>Goals Met:</b>	1, 2, 5, 7
<b>Estimated Cost:</b>	\$500,000	<b>Mitigation Action Type:</b>	Structure and Infrastructure Project
Plan for Implementation			
<b>Prioritization:</b>	High	<b>Desired Timeframe for Implementation:</b>	Within 2 years
<b>Estimated Time Required for Project Implementation:</b>	2 years	<b>Potential Funding Sources:</b>	BRIC, HMGP, High Hazard Potential Dams Grant Program, Municipal budget
<b>Responsible Organization:</b>	Engineer, Borough Council, NJDEP	<b>Local Planning Mechanisms to be Used in Implementation if any:</b>	Hazard Mitigation Planning
Three Alternatives Considered (including No Action)			
<b>Alternatives:</b>	<b>Action</b>	<b>Estimated Cost</b>	<b>Evaluation</b>
	No Action	\$0	Current problem continues
	Buyout properties downstream of dam	Very High	High cost, high social impact
	Remove dam	\$1.5 million	Dam cannot be removed for safety reason.
Progress Report (for plan maintenance)			
<b>Date of Status Report:</b>			
<b>Report of Progress:</b>			
<b>Update Evaluation of the Problem and/or Solution:</b>			



Action Worksheet		
<b>Project Name:</b>	Narraticon Lake Dam	
<b>Project Number:</b>	2022-Swedesboro-005	
Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Project protects life from dam failure
Property Protection	1	Project protects property from dam failure
Cost-Effectiveness	1	
Technical	1	
Political	1	There is public support for the project
Legal	0	The project may require permitting
Fiscal	0	The project requires funding support
Environmental	1	
Social	1	
Administrative	1	
Multi-Hazard	0	Dam Failure
Timeline	1	Within 2 years
Agency Champion	1	Engineer
Other Community Objectives	1	
<b>Total</b>	11	
<b>Priority (High/Med/Low)</b>	High	



Action Worksheet			
<b>Project Name:</b>	Stormwater Feasibility Study		
<b>Project Number:</b>	2022-Swedesboro-008		
Risk / Vulnerability			
<b>Hazard(s) of Concern:</b>	Flood		
<b>Description of the Problem:</b>	The Borough's current stormwater system consists of aging infrastructure and becomes overwhelmed during periods of heavy rain, particularly near Broad Street.		
Action or Project Intended for Implementation			
<b>Description of the Solution:</b>	The Borough will conduct a stormwater improvement feasibility study to find the source of problems in the Borough and identify solutions to improve the stormwater system in the Borough. This will include an inventory of existing stormwater components and equipment. Once the study is completed, the Borough will begin implementing the identified cost-effective solutions.		
<b>Is this project related to a Critical Facility or Lifeline?</b>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
<b>Level of Protection:</b>	TBD by feasibility study	<b>Estimated Benefits (losses avoided):</b>	Flood risk identified and reduced by actions
<b>Useful Life:</b>	TBD by feasibility study	<b>Goals Met:</b>	1, 2, 6
<b>Estimated Cost:</b>	\$30,000 for feasibility study	<b>Mitigation Action Type:</b>	Local Plans and Regulations, Structure and Infrastructure Projects
Plan for Implementation			
<b>Prioritization:</b>	High	<b>Desired Timeframe for Implementation:</b>	Within 3 years
<b>Estimated Time Required for Project Implementation:</b>	5 years	<b>Potential Funding Sources:</b>	NJDEP Environmental Infrastructure, Municipal Budget, FEMA HMGP
<b>Responsible Organization:</b>	Borough Water & Sewer, Borough Engineer	<b>Local Planning Mechanisms to be Used in Implementation if any:</b>	Hazard mitigation planning, stormwater planning
Three Alternatives Considered (including No Action)			
<b>Alternatives:</b>	<b>Action</b>	<b>Estimated Cost</b>	<b>Evaluation</b>
	No Action	\$0	Current problem continues
	Elevate roadways	\$500,000	Costly and may not solve problem
	Buyout homes	High	Costly, negative social impacts
Progress Report (for plan maintenance)			
<b>Date of Status Report:</b>			
<b>Report of Progress:</b>			
<b>Update Evaluation of the Problem and/or Solution:</b>			



Action Worksheet		
<b>Project Name:</b>	Stormwater Feasibility Study	
<b>Project Number:</b>	2022-Swedesboro-008	
Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
<b>Life Safety</b>	1	Reduction in risk to life from flooding.
<b>Property Protection</b>	1	Reduction in flooding risk to roadways and residential properties.
<b>Cost-Effectiveness</b>	1	
<b>Technical</b>	0	Technically feasibility of solutions unknown
<b>Political</b>	1	
<b>Legal</b>	1	The Borough has the legal authority to conduct the project.
<b>Fiscal</b>	0	Project will require grant funding.
<b>Environmental</b>	1	
<b>Social</b>	1	Project would reduce flooding impacts.
<b>Administrative</b>	0	
<b>Multi-Hazard</b>	1	Flood, Nor'Easter, Severe Weather, Hurricane
<b>Timeline</b>	0	Within 3 years
<b>Agency Champion</b>	1	Borough Water & Sewer, Borough Engineer
<b>Other Community Objectives</b>	1	
<b>Total</b>	10	
<b>Priority (High/Med/Low)</b>	High	