



9.5 Township of Byram

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

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
Joseph Sabatini, Township Manager 10 Mansfield Drive, Stanhope, NJ 07874 Phone: (973) 347-2500 x129 Email: jsabatini@byramtwp.org	James Oscovitch, Mayor 10 Mansfield Drive, Stanhope, NJ 07874 Phone: (973) 347-2500 x127 Email: joscovitch@byramtwp.org

9.5.2 Municipal Profile

Byram Township is located in southern Sussex County. The Township is bordered to the north by the Townships of Andover and Sparta, to the east by the Borough of Hopatcong, to the west by Green and Andover Townships and to the south by Stanhope and Warren County. Numerous unincorporated communities are found within the Township and include: Roseville, Whitehall, Cranberry Lake, Waterloo, and Lockwood. Andover Junction Brook, Musconetcong River, and Lubbers Run all flow through the Township. The Township is known as "The Township of Lakes" because of the two dozen lakes and ponds located throughout. Byram covers more than 22.48 square miles and according to the U.S. Census, the 2010 population for the Township of Byram was 8,350. Additionally, the Township is located within the New Jersey Highlands Region.

Growth/Development Trends

The following table summarizes recent residential/commercial development since 2010 to present and any known or anticipated major residential/commercial development and major infrastructure development that has been identified in the next five years within the municipality. Refer to the map in Section 9.5.8 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 Block & Lot)	Known Hazard Zone(s)	Description/Status of Development
Recent Development from 2010 to present					
CVS Pharmacy (redevelopment)	Comm.	One	77 Route 206	None at this time	CVS Pharmacy, demolition of old bldg. underway in prep. to build new CVS underway
JTK Construction	Comm.	One + outside equipment storage	9 Lackawanna Drive	Flood: 1% Chance; Carbonate Hazard	No date for construction of new building; heavy equip. stored on site
Venture II (redevelopment)	Comm.	Small strip mall	9 Route 206	None at this time	Site work begun; project to be revised.
Known or Anticipated Development in the Next Five (5) Years					
Village Center Zone	Mixed use	c. 130 homes; c.90,000sf comm.	Corner of Route 206 and Lackawanna Dr.	None at this time	In Master Plan and governed by Village Center and Smart Growth ordinances; no developer yet.





Property or Development Name	Type (e.g. Res., Comm.)	# of Units / Structures	Location (address and/or Block & Lot)	Known Hazard Zone(s)	Description/Status of Development
Jones Lane Recreational Fields within Tamarack Park	On Twp. open space.	Ballfields; parking.	12 Jones Lane	Flood: 1% Chance	Planning complete; construction planned for fall 2015.

* Only location-specific hazard zones or vulnerabilities identified.

9.5.3 Natural Hazard Event History Specific to the Municipality

Sussex 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 2008 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

Date(s) of Event	Event Type	FEMA Declaration # (If Applicable)	County Designated?	Summary of Damages/Losses
February 12-13, 2008	Winter Storm	N/A	N/A	Plowing/salting both days; 15.5 hours DPW overtime.
February 1-2, 2011	Winter Storm	N/A	N/A	Plowing/salting both days; 16.5 hours DPW overtime.
August 26 – September 5, 2011	Hurricane Irene	DR-4021	Yes	Roadways flooded and were closed in the Township. Stag Pond Road washed out and needed repairs. The Township conducted tree and debris removal and had police, fire and DPW overtime. Costs and damages to the Township were over \$29,000.
September 28 – October 6, 2011	Remnants of Tropical Storm Lee	DR-4039	Yes	Several roads were closed in the Township and there was downstream flooding below the Lake Lackawanna dam which caused private property damage. Other damages in the Township included: flooding from Big to Little Johnson Lake and over the road at Tamarack/Indian Springs; severe stream bank erosion at drainage pipe under Indian Springs; Little Paint Way flooded and closed; Culvert washout at Roger Trail; washouts of sides of roadways at Amity, Roseville, Woodland. Washout of Mansfield Bike Trail; flooding of roads at Glenside South, East Shore Trail and Birch Parkway including flooding into or around 6 homes. There were also complaints of flooding from 37 homes in Forest Lakes, Cranberry Lake and Brookwoods. The DPW had to conduct road repairs.
October 29, 2011	Severe Storm	DR-4048	Yes	The storm caused road closures of several roads in the Township and there were power outages for nearly a week in certain areas. The Township plowed and salted roads, removed debris, and conducted curbside debris cleanup throughout the Township. The Township had costs and damages totaling over \$51,000.
October 26 – November 8, 2012	Hurricane Sandy	DR-4086	Yes	The Township had over \$150,000 in costs and damages from Hurricane Sandy.



Date(s) of Event	Event Type	FEMA Declaration # (If Applicable)	County Designated?	Summary of Damages/Losses
September 12, 2013	Heavy Rain and Flash Flooding	N/A	N/A	Loss of service: Road closures on North Crescent, Old Stage Coach, Harbor View. 30 hours total OT for six employees to clear trees and open roads.

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 risk ranking methodology is presented in Section 5.3. However, each municipality had the opportunity to adjust the final ranking based on municipal feedback. The following summarizes the hazard vulnerabilities and their ranking in the Township of Byram. 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 Byram.

Table 9.5-1. Hazard Risk/Vulnerability Risk Ranking

Hazard type	Estimate of Potential Dollar Losses to Structures Vulnerable to the Hazard ^{a, c}	Probability of Occurrence	Risk Ranking Score (Probability x Impact)	Hazard Ranking ^b
Dam Failure	Damage estimate not available	Occasional	24	High*
Drought	Damage estimate not available	Frequent	30	Medium
Earthquake	100-Year GBS: \$0 500-Year GBS: \$697,588 2,500-Year GBS: \$11,494,316	Occasional	28	Medium
Flood	1% Annual Chance: \$36,586,230	Frequent	18	Flood**
Geologic	Exposed to Carbonate Rock Areas: \$99,500,701	Occasional	12	Low
Hurricane	100-year MRP: \$291,015 500-year MRP: \$2,056,285 Annualized: \$17,303	Frequent	48	High
Nor'Easter	Damage estimate not available	Frequent	48	High
Severe Weather	100-Year MRP: \$291,015 500-year MRP: \$2,056,285 Annualized: \$17,303	Frequent	48	High
Severe Winter Weather	1% GBS: \$10,011,399 5% GBS: \$50,056,993	Frequent	51	High
Wildfire	Estimated Value in the Extreme, Very High, and High Hazard Areas: \$10,536,361	Frequent	24	Medium
Hazardous Materials	Damage estimate not available	Frequent	36	High

Notes:

* The hazard ranking was changed due to the location of high hazard dams in the municipality





** The municipality identified that flood is a significant concern for the Township; therefore, the hazard ranking was changed from medium to high.

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

- a. The general building stock valuation is based on the custom inventory generated for the municipality and based on improved value.
- b. High = Total hazard priority risk ranking score of 31 and above
Medium = Total hazard priority risk ranking of 15-30+
Low = Total hazard risk ranking below 15
- c. Loss estimates for the severe storm and severe winter storm hazards are structural values only and do not include the estimated value of contents. Loss estimates for the flood and earthquake hazards represent both structure and contents. Potential flood loss estimates were generated using Hazus-MH 3.0 and the 2011 FEMA DFIRM for the 1-percent annual chance event. For the geologic and wildfire hazards, the improved value and estimated contents of buildings located within the identified hazard zones is provided.

National Flood Insurance Program (NFIP) Summary

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

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 1% Flood Boundary (3)
Township of Byram	34	10	\$129,878	1	0	3

Source: FEMA, 2014

Note (1) Policies, claims, repetitive loss and severe repetitive loss statistics provided by FEMA and are current as of November 31, 2014 and are summarized by Community Name. Please note the total number of repetitive loss properties excludes the severe repetitive loss properties. The number of claims represents claims closed by 11/31/2014.

Note (2) Total building and content losses from the claims file provided by FEMA Region 2.

Note (3) The policies inside and outside of the flood zones is based on the latitude and longitude provided by FEMA Region 2 in the policy file.

Note (4) FEMA noted that where there is more than one entry for a property, there may be more than one policy in force or more than one GIS possibility.

Critical Facilities

The table below presents the number of critical facilities, by type, in the community located in the effective FEMA flood zones (1% and 0.2% annual chance boundaries).

Table 9.5-4. Number of Critical Facilities in the DFIRM 1% and 0.2% Annual Chance Flood Boundaries

Municipality	1% Annual Chance		0.2% Annual Chance	
	Shelter	Wastewater Pump	Shelter	Wastewater Pump
Byram, Township of	2	2	2	2

Source: Sussex County; FEMA, 2011

Other Vulnerabilities Identified by Municipality

The hazard profiles in Section 5.0 of this plan have detailed information regarding each plan participant’s vulnerability to the identified hazards. Further, mitigation projects have been identified that may more specifically detail vulnerabilities in the community. There are no additional vulnerabilities identified at this time.



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
- Education/Outreach and Community classification
- Self-Assessment of Capability
- National Flood Insurance Program
- Integration of Mitigation Planning into Existing and Future Planning Mechanisms

Planning and Regulatory Capability

The table below summarizes the regulatory tools that are available to the Township of Byram.

Table 9.5-5. Planning and Regulatory Tools

Tool/Program (code, ordinance, plan)	Do you have this? (Yes/No) If Yes, date of adoption or update	Authority (local, county, state, federal)	Dept./Agency Responsible	Code Citation and Comments (Code Chapter, name of plan, explanation of authority, etc.)
Planning Capability				
Master Plan	12/16/04; re-exam Mar.2012	Local	Planning Board	Byram Twp. Master Plan 2004; Master Plan Re-examination Report 2012
Capital Improvements Plan	Yes	Local	Township Council	2015 Municipal Budget—3-yr. Plan
Floodplain Management/Basin Plan	No			
Stormwater Management Plan	Municipal Ord. 211 (4/3/06)	Local	Township Council	Municipal Stormwater Mgt. Plan (Sept.2005); Ordinance Chapter 211, Stormwater Control
Open Space Plan	Oct. 2000; update Nov. 2010	Local	Township Open Space Committee	Open Space and Recreation Plan (2000); OS and Recreation Plan Update (2010)
Stream Corridor Management Plan	June 1997; update 12/18/2000	Local	Township Environmental Commission	Lubbers Run Greenway Project: A Stream Corridor Study (1997 and 2000)
Watershed Management or Protection Plan	Yes	State, Local	Planning Board/Council	Lakefront Development Plan 2003; Highlands Conformance Process (underway)
Economic Development Plan	No			
Comprehensive Emergency Management Plan	Municipal Ord. Chapter 32 (10/2/74); amended 11/19/90	Local	Township Council	Municipal Ordinance Chapter 32: Emergency Management
Emergency Response Plan	2011-2014	Local	Township Council/Emergency Mgt. Coord.	2015 EOP update underway
Post-Disaster Recovery Plan	Yes	State/Regional		Delaware River Water Basin



Table 9.5-5. 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.)
				Disaster Recovery Plan
Transportation Plan	Master Plan Circulation Element 2004	Local	Planning Board	Master Plan Circulation Element
Strategic Recovery Planning Report	No			
Other Plans:	Smart Growth Plan 2002	Local	Planning Board	Byram Township Smart Growth Plan (2002)
Regulatory Capability				
Building Code	Yes	State, Local		State Uniform Construction Code Act (N.J.S. 52:27D-119 et seq.)
Zoning Ordinance	Municipal Ord. Chapter 240 (4/5/79) and various amendments	Local	Planning Board and Township Council	Chapter 240: Zoning
Subdivision Ordinance	Municipal Ord. Chapter 215 (4/5/79) and various amendments	Local	Planning Board and Township Council	Chapter 215: Subdivision and Site Plan
NFIP Flood Damage Prevention Ordinance	Yes	Federal, State, Local		Township Ord. Chapt.135: Flood Damage Prevention
NFIP: Cumulative Substantial Damages	no			
NFIP: Freeboard	Yes	State, Local		
Growth Management Ordinances	2002 to present	Local, State	Planning Board/Township Council/Highlands Council	2002 Township Smart Growth Plan; 2004 Township Master Plan; 2006 zoning ordinances based on 2004 Township Master Plan; Master Plan Highlands Element 10/12/14; full Highlands Conformance now underway
Site Plan Review Requirements	Municipal Ord. Chapt.215 (4/5/79) and various amendments	Local	Planning Board and Township Council	Chapter 215: Subdivision and Site Plan
Stormwater Management Ordinance	Municipal Ord. Chapt. 211 (4/3/06); annual NJDEP Tier 1 Stormwater Permit	Local, State	Township Council/NJDEP	Chapter 211: Stormwater Control; Tier 1 Stormwater Permit (annual)
Municipal Separate Storm Sewer System (MS4)	Municipal Ord. Chapter	Local	Township Council	Chapter 203: Separate Storm Sewer System



Table 9.5-5. 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.)
	203 (12/19/05)			
Natural Hazard Ordinance	no			
Post-Disaster Recovery Ordinance	no			
Real Estate Disclosure Requirement	No	State	Division of Consumer Affairs	N.J.A.C. 13:45A-29.1
Other [Special Purpose Ordinances (i.e., sensitive areas, steep slope)]	Municipal Ord. 240-29.2 amended 11/15/04	Local	Planning Board and Township Council	Ord. 240-29.2: Tract Disturbance; also Master Plan Highlands Element (10/2/14) and full Highlands Conformance (now underway)

Administrative and Technical Capability

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

Table 9.5-6. Administrative and Technical Capabilities

Resources	Is this in place? (Yes or No)	Department/Agency/Position
Administrative Capability		
Planning Board	Yes	Municipal Ord. Chapt. 45: 1/19/77, 11/19/90; Amendment 5/4/95
Mitigation Planning Committee	Yes	Hazard Mitigation Planning Team: Township Council And Municipal Department Heads
Environmental Board/Commission	Yes	Municipal Ord. Chapt. 19 (10/2/74)
Open Space Board/Committee	Yes	Municipal Ord. Chapt. 42 (1/20/2000)
Economic Development Commission/Committee	Yes	Municipal Ord. Chapt. 16 (10/21/85)
Maintenance Programs to Reduce Risk	Yes	Superintendent Of Dept. Of Public Works
Mutual Aid Agreements	Yes	Lakeland Emergency Squad & Byram Twp. Fire Dept.
Technical/Staffing Capability		
Planner(s) or Engineer(s) with knowledge of land development and land management practices	Yes	Municipal And Planning Board Engineer; Consulting Land Use Planner
Engineer(s) or Professional(s) trained in construction practices related to buildings and/or infrastructure	Yes	Construction Official And Sub-Code Officials
Planners or engineers with an understanding of natural hazards	Yes	Construction Official And Sub-Code Officials
NFIP Floodplain Administrator	Yes	Construction Official
Surveyor(s)	Yes	Within Office Of Township Engineer.
Personnel skilled or trained in GIS and/or HAZUS-MH applications	Yes	Municipal/Planning Board Engineer
Scientist familiar with natural hazards	No	
Emergency Manager	Yes	Emergency Management Coordinator



Table 9.5-6. Administrative and Technical Capabilities

Resources	Is this in place? (Yes or No)	Department/Agency/Position
Grant Writer(s)	Yes	Municipal Staff
Staff with expertise or training in benefit/cost analysis	Yes	Township Manager; Township Engineer, Township Risk Manager
Professionals trained in conducting damage assessments	Yes	Construction Official; Municipal Engineer

Fiscal Capability

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

Table 9.5-7. Fiscal Capabilities

Financial Resources	Accessible or Eligible to Use (Yes/No/Don't Know)
Community Development Block Grants (CDBG, CDBG-DR)	Don't Know
Capital Improvements Project Funding	Yes—Township Council
Authority to levy taxes for specific purposes	Yes—Township Council
User fees for water, sewer, gas, or electric service	Yes (sewer fees); Township Council
Impact Fees for homebuyers or developers of new development/homes	No?
Stormwater Utility Fee	No?
Incur debt through general obligation bonds	Yes; Township Council
Incur debt through special tax bonds	No
Incur debt through private activity bonds	No
Withhold public expenditures in hazard-prone areas	Yes; Township Planning Board and Council.
Other Federal or State Funding Programs	Yes; Township Council.
Open Space Acquisition Funding Programs	Yes; Township Council and Open Space Committee
Other	

Education/Outreach and Community Classifications

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

Table 9.5-8. Education/Outreach and Community Classifications

Program	Do you have/participate in this? (Yes/No)	Classification (if applicable)	Date Classified (if applicable)
Community Rating System (CRS)	No	N/A	N/A
Building Code Effectiveness Grading Schedule (BCEGS)	Yes	3 – 1 and 2 family residential properties 3 – commercial and industrial properties	2009
Public Protection (ISO Fire Protection Classes 1 to 10)	Yes	Class 06/6X	June 2014
Storm Ready	No	N/A	N/A





Table 9.5-8. Education/Outreach and Community Classifications

Program	Do you have/participate in this? (Yes/No)	Classification (if applicable)	Date Classified (if applicable)
Firewise	No	N/A	N/A
Disaster/Safety Programs in/for Schools	Yes	Fire Prevention, Safety Drill/Lock Downs, District Website for Public Outreach	N/A
Organizations with Mitigation Focus (advocacy group, non-government)	Yes	Private communities with dams that have worked with dams; water companies working in the community to install generators at the pump stations (since Sandy)	N/A
Public Education Program/Outreach (through website, social media)	Yes	Through municipal website and social media; E-Gov is used for residents to sign up for notifications	N/A
Public-Private Partnerships	Yes	Private communities working to reduce risk within their established area	N/A

N/A = Not applicable; NP = Not participating

The classifications listed above relate to the community’s ability to provide effective services to lessen its vulnerability to the hazards identified. These classifications can be viewed as a gauge of the community’s capabilities in all phases of emergency management (preparedness, response, recovery, and mitigation) and are used as an underwriting parameter for determining the costs of various forms of insurance. The Community Rating System (CRS) class applies to flood insurance while the Building Code Effectiveness Grading Schedule (BCEGS) and Public Protection classifications apply to standard property insurance. CRS classifications range on a scale of 1 to 10 with class 1 being the best possible classification, and class 10 representing no classification benefit. Firewise classifications include a higher classification when the subject property is located beyond 1,000 feet of a creditable fire hydrant and is within five road miles of a recognized fire station.

Criteria for classification credits are outlined in the following documents:

- The Community Rating System Coordinators Manual
- The Building Code Effectiveness Grading Schedule
- The ISO Mitigation online ISO’s Public Protection website at <http://www.isomitigation.com/ppc/0000/ppc0001.html>
- The National Weather Service Storm Ready website at <http://www.weather.gov/stormready/howto.htm>
- The National Firewise Communities website at <http://firewise.org/>

Self-Assessment of Capability

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





Table 9.5-9. Self-Assessment of Capability

Area	Degree of Hazard Mitigation Capability		
	Limited (If limited, what are your obstacles?)	Moderate	High
Planning and Regulatory Capability		X	
Administrative and Technical Capability		X	
Fiscal Capability	X Limited funding/staff		
Community Political Capability	X Limited funding/staff		
Community Resiliency Capability	X Limited funding/staff		
Capability to Integrate Mitigation into Municipal Processes and Activities.	X Limited funding/staff		

National Flood Insurance Program

NFIP Floodplain Administrator (FPA)

Richard O'Connor, Construction Official

Flood Vulnerability Summary

The Township does not currently maintain lists/inventories of properties that have been damaged by floods. The Township has not been notified by property owners; the Township will keep this list in the future, based on notifications by homeowners through the Construction Office permitting process. During recent storm events, several homes were damaged by falling trees; several homes subject to flooding, particularly along Lubbers Run, south of Lake Lackawanna dam. No reports of commercial/industrial buildings damaged. The Township does not conduct substantial damage estimates and they have not received this information from homeowners. There is currently one home, identified in the current hazard mitigation plan, which is interested in mitigation; however, there has been no mitigation conducted to date. Sources of potential mitigation funding for this home include private funding, private home/flood insurance, grant funding, but no municipal funding.

Resources

In accordance with Township ordinance Chapter 136 (Flood Damage Prevention), the Construction Official is the local administrator; also involved are the Land Use Board, Zoning Officer, Township Engineer, and Township Consulting Planner. As described in Township ordinance Chapter 136 and also as addressed under various other local ordinances (required distances to water bodies, prohibitions against disturbing sensitive natural features that may affect flooding) and as reflected in information required on site plan/subdivision checklists for the Land Use board (wetlands or riparian features/regulations). Although Byram has numerous lakes/streams, flood prone areas are typically found in only isolated areas of the Township.

The only education/outreach to the community regarding flood hazards and risk in the Township is only through the permit/development application process. There is no general education/outreach program. Other than the lack of a general education/outreach program regarding flood hazards and risk, the Township lacks funding and resources to conduct a broader floodplain management program. The Township would welcome any opportunities to improve training and support for the FPA and Township staff to identify and mitigate floodprone areas.



Compliance History

To the best of the Township's knowledge, the Township is currently in good standing with the NFIP.

Regulatory

The Township's floodplain management regulations and ordinances meet the FEMA and State minimum requirements. Additionally, the Township's local ordinances include Chapter 136 (Flood Damage Prevention), site-plan/subdivision checklists requiring information about wetlands/riparian features, various local ordinances (requiring certain distances from water bodies or non-disturbance of sensitive environmental features that could affect flooding). The Township has considered joining CRS and would attend a CRS seminar if offered locally.

Community Rating System

The Township of Byram does not participate in the Community Rating System (CRS) program.

Integration of Hazard Mitigation into Existing and Future Planning Mechanisms

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

Planning

Byram Township has proactively undertaken a number of planning initiatives geared towards developing planning documents that both guide policy and work towards aligning regional and county planning goals, objectives, and recommendations. Byram is located in the New Jersey Highlands Region and is part of both the Highlands Planning and Preservation Areas. As such, the Township is one of 88 municipalities protected by and subject to the provisions of the Highlands Water Protection and Planning Act that protects, enhances and restores Highland's natural resources. The Highlands Act requires that future land use in the Highlands Region be guided by the Regional Master Plan's Land Use Capability Map (LUCM) Series which includes tools to identify and protect the natural, scenic and other resources of the region. In supporting and complying with the Highlands Act, the Township enacted amendments and updates to local zoning and development ordinances that ensure the protection of important resources and areas. The Highland Act creates three primary zones: a Protection Zone, a Conservation Zone and an Existing community Zone. Protection Zones are areas with the highest quality resources with extreme limitations on allowable development while Conservation Zones have significant agricultural lands and associated woodlands and environmental features with allowable development consisting primarily of agricultural uses. Existing Community Zones consist of areas of concentrated development with limited environmental constraints. These zones are overlaid with existing local zoning maps to identify and address issues of public interest including watershed management, open space preservation, historic preservation, flood protection among others.

Byram Township recently complete the Highlands Master Plan Element in 2014 that consolidated a number of the planning documents goals objective, and recommendations into a single document. This included the following goals applicable to mitigation:

- To locate and maintain community facilities and services that support compact development patterns and shared services, and provide a high level of service.



- To identify existing and planned community facilities and to encourage shared service opportunities, whether at intra- or inter-municipal levels.
- To identify for all such facilities, realistic options to enhance energy efficiencies, incorporate “green” building materials and technologies, reduce pollutant emissions, and minimize “carbon footprints;” and to develop a community strategy for implementing them.
- To consider and incorporate all feasible Low Impact Development techniques in the design, development, operation and management of existing and proposed community facilities. (For description and discussion of LID techniques, see Conservation Plan Element.)
- To implement Riparian Area restoration practices on Preserved Lands that give priority to ecological and watershed protection measures.
- To identify and preserve opportunities for outdoor recreation, including a variety of active and passive recreation options, in such locations and in such manner as to ensure environmental resource protections, while addressing the needs of the local population for physical activity, social interaction, connection with nature and the natural environment, and enjoyment of the outdoors.
- To require that development supported by new or expanded public water supply systems and/or wastewater collection and treatment systems occur at a density and intensity that ensures efficiency and cost-effectiveness of the public infrastructure.
- To ensure that Carbonate Rock Areas and Wellhead Protection Areas are considered and appropriately protected in the design and construction of any new or expanded wastewater collection/treatment system.
- To ensure that on-site wastewater system discharges do not exceed the natural capacity of ground water to attenuate loadings, exacerbate existing nitrate impairment, or contribute to potential nitrate impairment for subwatersheds of the Highlands Area.
- To ensure that all development in areas not served by public water supply or wastewater collection and treatment systems is at a density that can be supported by on-site wells and subsurface septic systems, respectively. With respect to septic systems, to determine such densities on the basis of median nitrate concentrations in ground water and nitrate dilution modeling.
- To continuously update and improve maps and delineations of karst features within Carbonate Rock Areas as better information becomes available (i.e., through enhanced mapping technologies) and/or as new areas are identified through project reviews pertaining to individual sites and properties.
- To develop maps identifying all lands that drain into Carbonate Rock Areas determined to contain karst features, for easy reference by applicants, reviewing officials, and Land Use Boards. This will ensure that consideration is given to the protection of affected Carbonate Rock Areas (whether on- or off-site) during the course of development reviews.
- To carefully examine land development applications for potential impacts to Carbonate Rock Areas containing karst features, whether by direct disturbance, or by indirect means such as introduction of additional stormwater runoff.
- Maps and delineations of Steep Slope Protection Areas should continue to be updated and improved as better information becomes available and/or as new areas are identified through project reviews pertaining to individual sites and properties.
- Land disturbance within all Steep Slope Protection Areas should incorporate Low Impact Development (see Section K) techniques to minimize the extent of such disturbance and the potential negative impacts resulting from it.
- Land disturbance within areas of Severely and Moderately Constrained Slopes should be prohibited altogether, with exceptions only for linear development meeting the requirements of NJDEP Preservation Area Rules.
- To develop a Stream Corridor Protection and Restoration Management Plan.



The Highlands Master Plan Element included a section of Low Impact Development [LID]. LID encompasses a broad array of development and management techniques that can minimize or mitigate the potential adverse impacts of land use and development on the natural environment. LID is used in stormwater management, resource management, “green” building, and sustainable site design. In stormwater management for example, LID techniques can be employed to capture rainfall, filter it through existing vegetation, and maximize its absorption by on-site soils in order to recharge ground water supplies. In site design, LID would incorporate strategies to reduce site disturbance, limit impervious coverage, and integrate existing natural features affecting the site and/or its immediate surroundings into the proposed layout and design.

Numerous additional geographic areas of importance and related objectives were identified through an Environmental Resource Inventory completed in 2011. Specific areas of importance were delineated to protect specific forest resources, open water and riparian areas, steep slopes, critical habitats, agricultural areas, water resources and prime groundwater recharge areas. The Township’s Master Plan Element also recommends the utilization of development practices that limit or prevent negative impacts to the environment including an inventory of contaminated sites to identify areas with potential negative impacts on important resources, promotion of cluster development to protect open spaces and natural areas, and utility and infrastructure planning among others. The Environmental Resource Inventory and Highlands Master Plan Element together help the Township to guide land use and development to protect critical resources and ensure they continue to provide services to the community. These services include potential hazard mitigation improvements through water filtration, flood protection, shade and cooling, clean drinking water among many others.

Regulatory and Enforcement (Ordinances)

The Township has multiple chapters pertaining to the mitigation of hazards. These ordinances include the Flood Damage Prevention Chapter, Stormwater Control Chapter, and an Environmental Impact Statement requirement included in the Site Plan Review Chapter.

Chapter 136: Flood Damage Prevention <http://ecode360.com/6651595>

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 designed:

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

Chapter 150: Stormwater Control <http://www.ecode360.com/7156337>

The purposed of the Stormwater Control Chapter is to implement best management practices for stormwater management designed to promote the public health, safety and general welfare of the Townships’ citizens and businesses.



Chapter 215-45 Environmental Impact Statement <http://www.ecode360.com/7155777>

The purpose of this section of the Chapter is to allow the Township to assess the impact of a proposed development upon the natural environment. Before approving any major subdivision or any site plan that involves a nonresidential use in which there is proposed a new structure, an addition or alteration to an existing structure, a change of use or an expansion of an existing use, the Planning Board shall take into consideration the effect of the proposal for development upon the natural environment, particularly with respect to potable water, pollution of all kinds, flooding, waste disposal, soil erosion and the preservation of trees and other vegetation. The Planning Board, as a part of its administrative review of environmental factors, shall give careful consideration to the review and recommendations of the New Jersey Department of Environmental Protection and Energy and the Sussex County Soil Conservation District, when applicable, as well as the Byram Township Board of Health, the Byram Township Environmental Commission and all other reports that may be prepared on behalf of the Township.

In addition, the Highlands Water Protection and Planning Act provides additional regulatory control over development within the Township. While Major Highlands Development projects, as defined by the Highlands Act, still require local approvals, they must first receive a Highlands Resource Applicability Determination and be evaluated for consistency with the provisions of the Highlands Act. Major Highlands Development projects include a variety of projects such as any non-residential development, any residential development that disturbs one or more acres of land, any development that disturbs ¼ acres or more of forest among others. This process identifies any potential Highlands Resources on the site and if found requires adherence to relevant development standards and restrictions.

Operational and Administration

The Township has established a Planning Board, Architectural Review Committee, Environmental Commission, and an Open Space Committee, that aid in planning decisions to support the conservation and preservation of the Township's critical environmental features. Beyond that the Township employs and Planning Board Secretary and contracts out for professional legal, planning, and engineering services for development review. The Township also employs several part time employees for the enforcement of zoning, construction, and environmental commission liaison employee.

Funding

The Township has received funding from the NJDOT, New Jersey State Forestry Grant, Sustainable Jersey, The Garden State Preservation Trust Fund, and Clean Communities grant programs for the completion of mitigation and emergency response. The Township's 2015 Capital Budget includes line items for the purchase of a standby generator, as well as a number of drainage and roadway improvements.

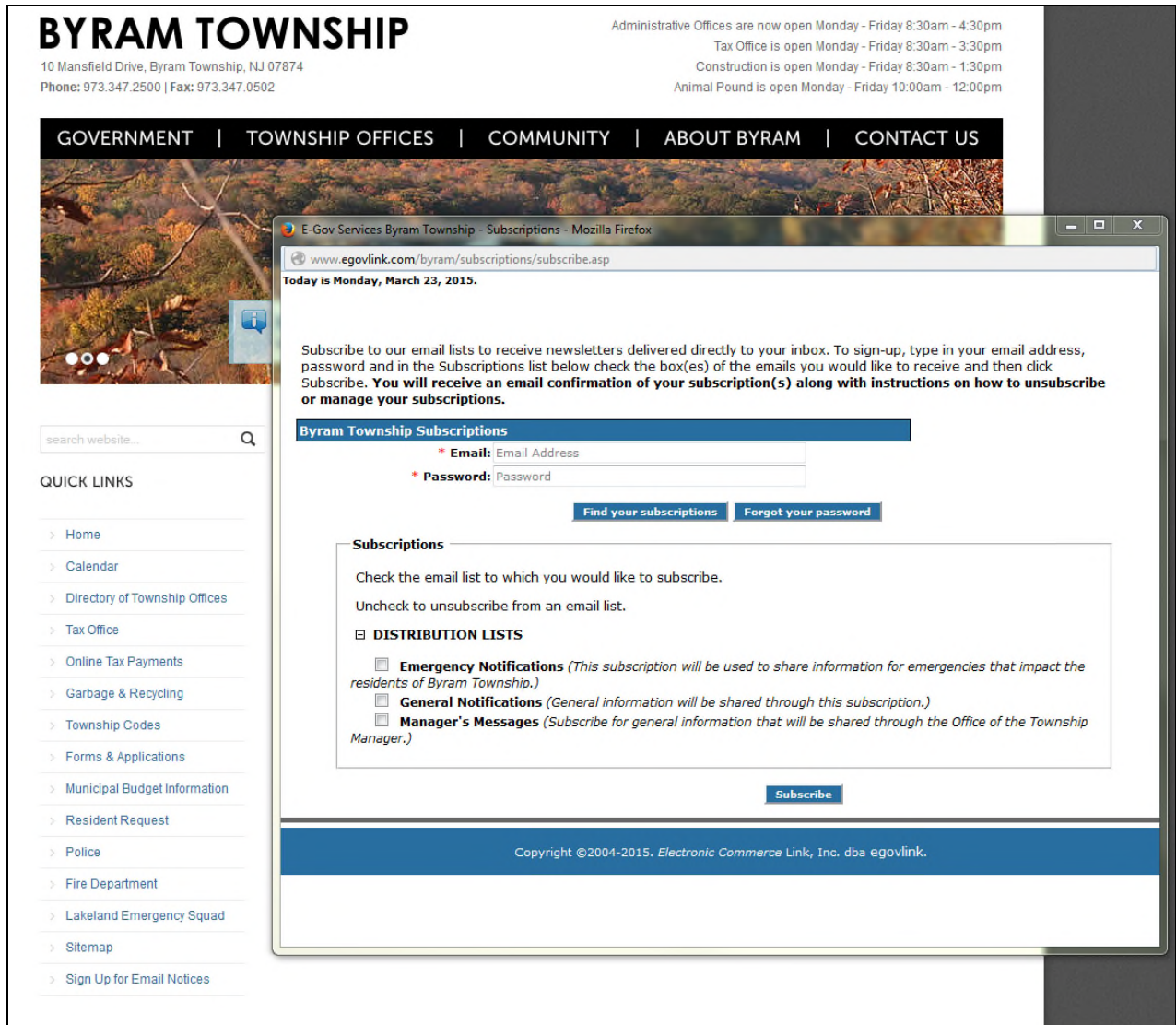
Education and Outreach

The Township's website posts information regarding upcoming community events and important municipal decisions. Byram's website includes the option to sign up for emergency notifications under "Quick Links". The website also has all the local contacts for emergencies and critical facilities including police, fire, EMS and hospitals. The Environmental Commission web page includes a link to a document on the assessment of tree hazards which could help residents understand, identify and reduce their risk of storm caused tree hazards.

The Township identified a new mitigation initiative to have several Township staff obtain their Certified Floodplain Manager certification. In addition, the Township would like to conduct an all-hazards public outreach and education program for hazard mitigation and preparedness. Refer to Table 9.5-11 for further information.



Figure 9.5-1. Screenshot of Township Website with Examples of their Emergency Information Notification



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 2011 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 9.5-10. Past Mitigation Initiative Status

Initiative Number	2011 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 Step (Include in 2016 HMP? or Discontinue)	Describe Next Step 1. If including action in the 2016 HMP, revise/reword to be more specific (as appropriate). 2. If discontinue, explain why.
Byram Township 1	Acquisition/Elevation, of one Repetitive Loss property on Lackawanna Drive.	OEM Coordinator	No Progress	1. 0% complete 2. Budget and personnel constraints have restricted this action from moving forward 3. No funding secured	Include in 2016 HMP	1. Expand to include areas throughout town with flood-prone homes, including below Lackawanna dam, Birch/Glenside/East Shore, Brookwood Dr. etc. Educate homeowners about mitigation to help prevent/lessen future problems. 2. Obtain information from FEMA about homeowner policies/claims.
Byram Township 2	Retrofit roof to meet current high wind standards on Byram Township Lackawanna Fire Department building located on Lackawanna Drive.	Station Commander	No Progress	1. 0% complete 2. Budget and personnel constraints have restricted this action from moving forward 3. No funding secured	Discontinue	Not a priority and not part of Township immediate or long-term planning.
Byram Township 3	Retrofit roof to meet current snow load standards on Byram Township Fire Department Cranberry Lake building located on Route 206.	Station Commander	No Progress	1. 0% complete 2. Budget and personnel constraints have restricted this action from moving forward 3. No funding secured	Discontinue	Not a priority and not part of Township immediate or long-term planning.
Byram Township 4	Backup generator for shelter at Byram Township Fire Department Cranberry Lake located on Route 206.	Station Commander	Complete	A generator has been purchased for this building.	Discontinue	A generator has been purchased for this building; therefore, this action will not be included in the 2015 HMP Update.
Byram Township 5	Retrofit roof to meet current snow load and high wind standards on Byram Civic Center located on Mansfield Drive.	N/A	No Progress	The Township no longer owns this building or property.	Discontinue	The Township no longer owns the building identified; therefore, this action will not be included in the 2016 HMP.
Byram Township 6	Retrofit roof to meet current snow load standards on Byram Municipal Building located on Mansfield Drive.	Township Manager	No Progress	1. 0% complete 2. Budget and personnel constraints have restricted this action from moving forward 3. No funding secured	Discontinue	Not a priority and not part of Township immediate or long-term planning.
Byram Township 7	Flood proofing two pump stations located on Mansfield Drive.	Township Manager	No Progress	1. 0% complete 2. Budget and personnel constraints have restricted this action from moving forward 3. No funding secured	Discontinue	Not a priority and not part of Township immediate or long-term planning.



<u>Initiative Number</u>	<u>2011 Mitigation Action</u>	<u>Responsible Party</u>	<u>Status</u> (In progress, No progress, Complete)	<u>Describe Status</u> 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)?	<u>Next Step</u> (Include in 2016 HMP? or Discontinue)	<u>Describe Next Step</u> 1. If including action in the 2016 HMP, revise/reword to be more specific (as appropriate). 2. If discontinue, explain why.
Byram Township 8	Harden Lee Hill Road EMS station located on Lee Hill Road to FEMA 361 standards.	Station Commander	No Progress	1. 0% complete 2. Budget and personnel constraints have restricted this action from moving forward 3. No funding secured	Discontinue	Not a priority and not part of Township immediate or long-term planning.
Byram Township 9	Retrofit roof to meet current snow load standards on Intermediate School located on Mansfield Drive.	School Board Administrator	No Progress	1. 0% complete 2. Budget and personnel constraints have restricted this action from moving forward 3. No funding secured	Discontinue	Not a priority and not part of Township immediate or long-term planning.
Byram Township 10	Upgrade and improve culverts on Little Paint Way.	DPW Supervisor	In Progress	Township has grant application pending with FEMA. Township has provided responses to requests for more information on the FEMA grant application and has allocated its 10% funding requirement (\$12,500 of the total estimated \$125,000 cost).	Include in 2016 HMP	Continue process of seeking FEMA grant; this project will be included in the 2016 HMP.
Byram Township 11	Lackawanna Dam inundation study.	Byram Township, Lake Lackawanna Investment Corp.	No Progress	1. 0% complete 2. Budget and personnel constraints have restricted this action from moving forward 3. No funding secured	Discontinue	Not a priority and not part of Township immediate or long-term planning.
Byram Township 12	Forrest Lakes Dam analysis and inundation study.	Forest Lakes Community Club	Complete	1. 100%--Tier 1 dam; FLCC completed repairs 2013.	Discontinue	Not a priority and not part of Township immediate or long-term planning.
Byram Township 13	Implement Fire Wise Program in the Township.	Township Engineer	No Progress	1. No program at this point.	Include in 2016 HMP	The Township currently does not participate in Firewise; this action will be included in the 2016 HMP.
Byram Township 14	Conduct all-hazards public education and outreach program for hazard mitigation and preparedness.	OEM Coordinator, in coordination with SCDEM	No Progress	1. No program at this point.	Include in 2016 HMP	There is currently no program at this point; this action will be included in the 2016 HMP.



Completed Mitigation Initiatives not Identified in the Previous Mitigation Strategy

There are no additional completed mitigation projects/activities identified since the adoption of the 2011 HMP.

Proposed Hazard Mitigation Initiatives for the Plan Update

The Township participated in a mitigation action workshop in April 2015 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). In May 2015, the Township participated in a second workshop led by FEMA Region 2 and NJOEM and was provided the results to the risk assessment to further assist with the identification of mitigation actions.

Table 9.5-11 summarizes the comprehensive-range of specific mitigation initiatives the Township 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 9.5-12 provides a summary of the prioritization of all proposed mitigation initiatives for the Plan update.





Table 9.5-11. Proposed Hazard Mitigation Initiatives

Initiative	Mitigation Initiative	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Goals Met	Lead and Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category	CRS Category
Byram-1	Engineering study of East Brookwood Estates drainage issues.	Existing	Flood	1, 2, 5, 6	Township Engineer, DPW, Planning Board	Medium to High	Low	Capital Improvement	Short Term	High	SIP	PP
Byram-2	Have designated NFIP Floodplain Administrator (FPA), and the Town's Emergency Management Council, become a Certified Floodplain Manager (CFM) through the Association of State Floodplain Managers (ASFPM) and New Jersey Association for Floodplain Management (NJAFM), and pursue relevant continuing education training such as FEMA Benefit-Cost Analysis (BCA) and Substantial Damage Estimation (SDE).	N/A	Flood	1, 2, 3, 4	NFIP FPA, Emergency Management Coordinator, Emergency Management Council	Medium	Low	Municipal Budget	Short Term / DOF	High	LPR, EAP	PR, PI
Byram-3	Ensure continuity of operations at critical facilities: Purchase and install a generator for critical facility (radio communications for police/fire/emergency departments).	Existing	All	1, 2, 5, 6	Township, Engineer, DPW	High	Medium	FEMA grant with local cost share	Short Term	High	SIP	PP
Byram-4	Upgrade and improve culverts on Little Paint Way.	Existing	Flood	1, 2, 5	DPW Supervisor	High	High	FEMA grant with local cost share	Short Term	High	SIP, NSP	PP, NR
Byram-5	Implement Fire Wise Program in the Township.	New and Existing	Wildfire	All	Township Engineer	High Avoid potential damage/loss to property and homes.	Low	Funding from NJDEP Forest Fire Service, with in-kind from Byram	Long Term then ongoing	Low	EAP	PI
Byram-6	Conduct all-hazards public education and outreach program for hazard mitigation and preparedness.	New and Existing	All	All	Township	Medium	Low	Seeking outside funding or grants	Long Term and Ongoing	Medium	EAP	PI
Byram-7	Educate floodprone property	Existing	Flood	All	Township	High	Medium to	Grant	Short Term	High	EAP,	PI,



Table 9.5-11. Proposed Hazard Mitigation Initiatives

Initiative	Mitigation Initiative	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Goals Met	Lead and Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category	CRS Category
	owners; pursue acquisition/elevation of one repetitive loss property						High	funding; no local funding available			NSP, SIP	PP, NR
Byram-8	Review status of all 17 dams in Township and identify if inundation studies for these dams needs to be conducted.	Existing	Dam Failure	All	Township of Byram; NJDEP Dam Safety	High Physical property damage, possible risk to life	High	NJDEP Dam Safety	Long Term	Medium	LPR, EAP	PR, NR
Byram-9	Support the mitigation of vulnerable structures via retrofit (e.g. elevation, flood-proofing) or acquisition/relocation to protect structures from future damage, with repetitive loss and severe repetitive loss properties as a priority when applicable. Phase 1: Identify appropriate candidates and determine most cost-effective mitigation option. Phase 2: Work with the property owners to implement selected action based on available funding and local match availability.											
	See above.	Existing	Flood, Severe Weather Wildfire, Severe Winter Weather		Engineering via NFIP FPA with NJOEM, FEMA support	High	High	FEMA Mitigation Grant Programs and local budget (or property owner) for cost share	Ongoing (outreach and specific project identification); Long term DOF (specific project application and implementation)	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:

- 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
- NJDEP New Jersey Department of Environmental Protection
- NJOEM New Jersey Office of Emergency Management
- 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
- HMA Hazard Mitigation Assistance Program

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

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:





Costs:

Medium \$10,000 to \$100,000
High > \$100,000

Where actual project costs cannot reasonably be established at this time:

Low Possible to fund under existing budget. Project is part of, or can be part of an existing on-going program.
Medium Could budget for under existing work plan, but would require a reappropriation 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= < \$10,000
Medium \$10,000 to \$100,000
High > \$100,000

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

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

Mitigation Category:

- Local Plans and Regulations (LPR) – These actions include government authorities, policies or codes that influence the way land and buildings are being developed and built.
- Structure and Infrastructure Project (SIP)- These actions involve modifying existing structures and infrastructure to protect them from a hazard or remove them from a hazard area. This could apply to public or private structures as well as critical facilities and infrastructure. This type of action also involves projects to construct manmade structures to reduce the impact of hazards.
- Natural Systems Protection (NSP) – These are actions that minimize damage and losses, and also preserve or restore the functions of natural systems.
- Education and Awareness Programs (EAP) – These are actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. These actions may also include participation in national programs, such as StormReady and Firewise Communities

CRS Category:

- Preventative Measures (PR)-Government, administrative or regulatory actions, or processes that influence the way land and buildings are developed and built. Examples include planning and zoning, floodplain local laws, capital improvement programs, open space preservation, and storm water management regulations.
- Property Protection (PP)-These actions include public activities to reduce hazard losses or actions that involve (1) modification of existing buildings or structures to protect them from a hazard or (2) removal of the structures from the hazard area. Examples include acquisition, elevation, relocation, structural retrofits, storm shutters, and shatter-resistant glass.
- Public Information (PI)-Actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. Such actions include outreach projects, real estate disclosure, hazard information centers, and educational programs for school-age children and adults.
- Natural Resource Protection (NR)-Actions that minimize hazard loss and also preserve or restore the functions of natural systems. These actions include sediment and erosion control, stream corridor restoration, watershed management, forest and vegetation management, and wetland restoration and preservation.
- Structural Flood Control Projects (SP)-Actions that involve the construction of structures to reduce the impact of a hazard. Such structures include dams, setback levees, floodwalls, retaining walls, and safe rooms.
- Emergency Services (ES)-Actions that protect people and property during and immediately following a disaster or hazard event. Services include warning systems, emergency response services, and the protection of essential facilities



Table 9.5-12. Summary of Prioritization of Actions

Mitigation Action / Project Number	Mitigation Action/Initiative	Life Safety	Property Protection	Cost-Effectiveness	Technical	Political	Legal	Fiscal	Environmental	Social	Administrative	Multi-Hazard	Timeline	Agency Champion	Other Community Objectives	Total	High / Medium / Low
Byram-1	Engineering study of East Brookwood Estates Drainage issues.	1	1	1	0	1	0	0	0	1	1	1	0	1	1	9	High
Byram-2	Have designated NFIP Floodplain Administrator (FPA), and the Town's Emergency Management Council, become a Certified Floodplain Manager (CFM).	1	1	1	1	1	1	1	0	0	1	0	1	1	0	10	High
Byram-3	Generator for critical facility (radio communications for police/fire/emergency departments).	1	1	1	1	1	0	0	1	1	1	1	1	1	1	12	High
Byram-4	Upgrade and improve culverts on Little Paint Way.	1	1	1	1	1	1	0	1	1	1	1	1	1	1	13	High
Byram-5	Implement Fire Wise Program in the Township.	1	1	1	0	1	0	0	1	1	1	1	-1	0	1	9	Low
Byram-6	Conduct all-hazards public education and outreach program for hazard mitigation and preparedness.	1	1	1	0	1	0	0	1	1	0	1	-1	0	1	8	Medium
Byram-7	Educate floodprone property owners; pursue acquisition/elevation of one repetitive loss property	1	1	1	1	0	0	0	1	1	0	-1	1	1	1	8	High
Byram-8	Review status of all 17 dams in Township and identify if inundation studies for these dams needs to be conducted.	1	1	0	0	0	0	-1	1	1	0	0	0	0	1	4	Medium
Byram-9	Support the mitigation of vulnerable structures via retrofit (e.g. elevation, flood-proofing) or acquisition/relocation to protect structures from future damage, with repetitive loss and severe repetitive loss properties as a priority when applicable.	1	1	1	1	1	1	0	0	0	1	1	1	1	0	10	High

Note: Refer to Section 6 which contains the guidance on conducting the prioritization of 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 Byram 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 Byram 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.

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Figure 9.5-2. Township of Byram Hazard Area Extent and Location Map 1

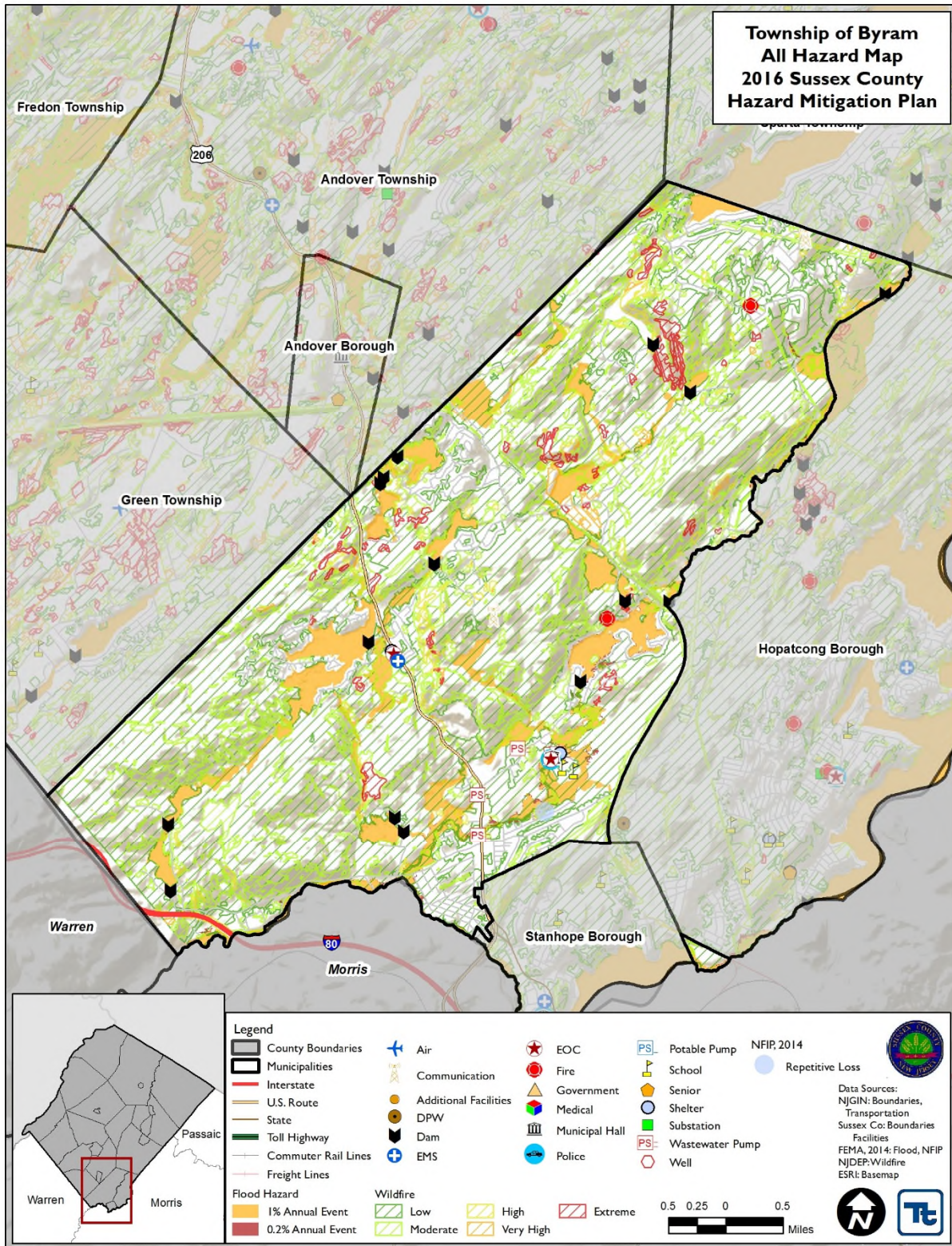
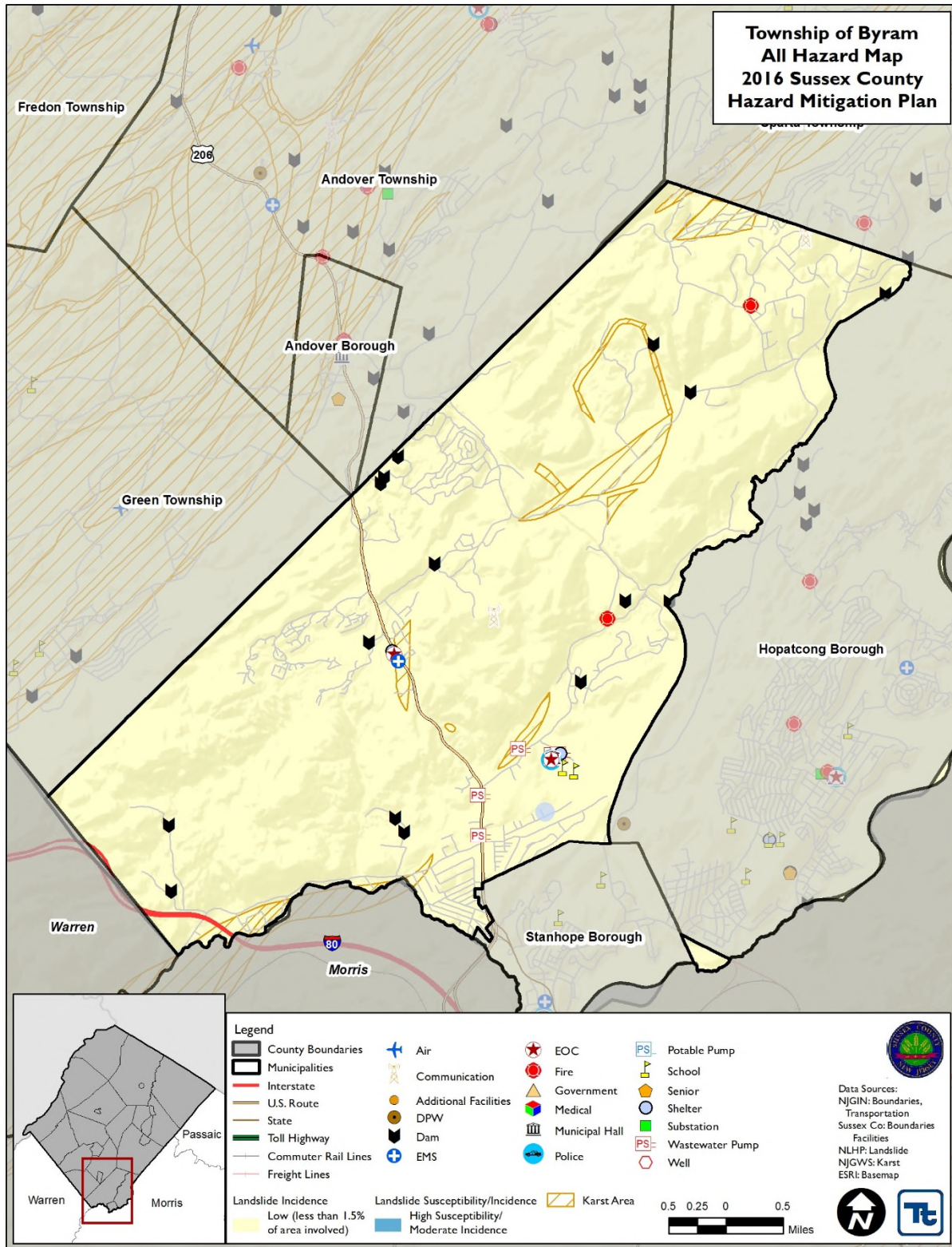




Figure 9.5-3. Township of Byram Hazard Area Extent and Location Map 2





Action Number: Byram-2
Mitigation Action/Initiative: Generator for critical facility (radio communications for police/fire/emergency departments).

Assessing the Risk	
Hazard(s) addressed:	All hazards that have the potential to cause power outages
Specific problem being mitigated:	Interrupted radio communications for police/fire/emergency services.
Evaluation of Potential Actions/Projects	
Actions/Projects Considered (name of project and reason for not selecting):	1. Install permanent generator at radio tower
	2. Continue using a portable generator
	3. Do nothing – current problem continues
Action/Project Intended for Implementation	
Description of Selected Action/Project	Reliable, uninterrupted radio communications are an absolute necessity. Currently a portable generator is trucked to this site if necessary, which needs constant re-fueling and also needs constant oversight. The Township is proposing to install permanent new generator at radio tower. Generator for critical facility (radio communications for police/fire/emergency departments).
Action/Project Category	SIP
Goals Met	1, 2, 5, 6
Applies to existing and or new development, or not applicable	All development in Byram (and parts of some surrounding towns) and all future development
Benefits (losses avoided)	Difficult to estimate, as secure radio communications are essential to rapid emergency response.
Estimated Cost	\$36,000
Priority	High
Plan for Implementation	
Responsible Organization	Township of Byram
Local Planning Mechanism	Township Engineer and DPW Superintendent
Potential Funding Sources	FEMA grant, plus \$11,000 set aside in Township capital planning budget
Timeline for Completion	Short
Reporting on Progress	
Date of Status Report/ Report of Progress	Date: 5/26/2015 Progress on Action/Project: The Township has applied for a FEMA grant S#338, under DR 4086 NJ, and has supplied additional information on this grant application in 2015.



Action Number:

Byram-2

Mitigation Action/Initiative:

Generator for critical facility (radio communications for police/fire/emergency departments).

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	
Property Protection	1	
Cost-Effectiveness	1	There were substantial costs involved in trucking a generator to this site when necessary, re-fueling and overseeing it, as well as the potential costs from poor response times to emergencies.
Technical	1	The Township Engineer and Fire/Police Departments have already provided expertise on this project.
Political	1	
Legal	0	No legal issues are expected.
Fiscal	0	The Township has set aside \$11,000 for this project but needs the FEMA grant to fully fund the work.
Environmental	1	No environmental permits required.
Social	1	
Administrative	1	The Township has already dedicated the hours to prepare the FEMA grant application; obtaining the grant and installing the generator are manageable aspects of this project.
Multi-Hazard	1	Reliable radio communications are key to all hazard management planning and implementation in the Township.
Timeline	1	Short
Agency Champion	1	This problem has the full support of the Township Council, Fire/Police/Emergency Services departments.
Other Community Objectives	1	Helps protect lives, property, and also natural resources in the Township.
Total	12	
Priority (High/Med/Low)	High	



Action Number: Byram-3
 Mitigation Action/Initiative: Upgrade and improve culverts on Little Paint Way

Assessing the Risk	
Hazard(s) addressed:	Repetitive roadway flooding, which blocks access to 26-home neighborhood.
Specific problem being mitigated:	Insufficient capacity in drainage culverts under Little Paint Way, which is the sole access to this neighborhood; road must be elevated to provide room for larger pipes.
Evaluation of Potential Actions/Projects	
Actions/Projects Considered (name of project and reason for not selecting):	<ol style="list-style-type: none"> 1. Take no action---not acceptable because flooding blocks access to 26-home neighborhood. 2. Try to improve existing drainage conditions—not feasible as culverts cannot handle moderate-major precipitation events. 3. Elevate roadway and install larger drainage culverts
Action/Project Intended for Implementation	
Description of Selected Action/Project	Elevate roadway and install larger drainage culverts.
Action/Project Category	SIP and NRP
Goals Met	Goals 1, 2, 5
Applies to existing and or new development, or not applicable	Existing development
Benefits (losses avoided)	Repetitive emergency situation, calling upon Township DPW / police / emergency services; homeowners stranded in the neighborhood or unable to get back home; no access for potential emergency service needs.
Estimated Cost	\$125,000
Priority	High
Plan for Implementation	
Responsible Organization	Township of Byram
Local Planning Mechanism	Byram Township engineering/administrative staff, as well as Department of Public Works.
Potential Funding Sources	\$112,500 FEMA grant applied for; \$12,500 (10%) set aside in Township budgets.
Timeline for Completion	Short
Reporting on Progress	
Date of Status Report/ Report of Progress	Date: 5/26/2015 Progress on Action/Project: Township applied for FEMA grant S#337, under HR-4086-NJ and has responded to two request for additional information this year.



Action Number: Byram-3

Mitigation Action/Initiative: Upgrade and improve culverts on Little Paint Way

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	Township has applied for FEMA grant and has budgeted for 10% local share.
Environmental	1	
Social	1	
Administrative	1	
Multi-Hazard	1	
Timeline	1	
Agency Champion	1	
Other Community Objectives	1	In line with Township Capital Funding Plan; supports protection of natural/environmental resources, a key element in the Township Master Plan.
Total	13	
Priority (High/Med/Low)	High	