



## 6. TOWNSHIP OF BYRAM

This jurisdictional annex to the Sussex County Hazard Mitigation Plan (HMP) provides information to assist public and private sectors in the Township of Byram with reducing losses from future hazard events. This annex is not guidance of what to do when a disaster occurs; its focus is on actions that can be implemented prior to a disaster to reduce or eliminate damage to property and people. The annex presents a general overview of Byram, describes who participated in the planning process, assesses Byram's risk, vulnerability, and capabilities, and outlines a strategy for achieving a more resilient community.

### 6.1 HAZARD MITIGATION PLANNING TEAM

The Township of Byram identified primary and alternate HMP points of contact and developed this plan over the course of several months, with input from many Township departments. The Emergency Management Coordinator represented the community on the Sussex County HMP Planning Partnership and supported the local planning process 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.

Table 6-1 summarizes Township officials who participated in the development of the annex and in what capacity. Additional documentation of the Township's planning activities through Planning Partnership meetings is included in Volume I.

Table 6-1. Hazard Mitigation Planning Team

Primary Point of Contact	Alternate Point of Contact
Name/Title: Joseph Sabatini, Township Manager Address: 10 Mansfield Drive, Stanhope, NJ 07874 Phone Number: 973-347-2500 X129 Email: jsabatini@byramtwp.org	Name/Title: Phil Crosson, Deputy Township Manager Address: 10 Mansfield Drive, Stanhope, NJ 07874 Phone Number: 973-347-2500 X161 Email: pcrosson@byramtwp.org
<b>National Flood Insurance Program Floodplain Administrator</b>	
Name/Title: Cory Stoner, P.E., P.P., C.M.E, Floodplain Administrator / Herold E. Pellow & Associated, Inc. Address: 17 Plains Rd. Augusta, NJ 07822 Phone Number: (973) 948-6463 Email: -	
<b>Additional Contributors</b>	
Name/Title: Michael Orgera, Superintendent of Public Works Method of Participation: Attended Planning Partnership meetings. Completed final review of the draft annex and completed sign-off sheet.	
Name/Title: Todd Rudloff, Fire Chief Method of Participation: Attended the Planning Partnership meetings. Provided information on previous events, Township capabilities, and NFIP information.	
Name/Title: Joseph Sabatini, Township Manager Method of Participation: Attended Planning Partnership meetings and Mitigation Strategy Workshop. Completed final review of the draft annex and completed sign-off sheet.	
Name/Title: Phil Crosson, Deputy Township Manager Method of Participation: Attended Planning Partnership meetings and Mitigation Strategy Workshop. Provided information on previous events, Township capabilities, and NFIP information. Completed final review of the draft annex and completed sign-off sheet.	



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Name/Title: Peter Karcher, Construction Official/former Floodplain Administrator  
Method of Participation: Completed final review of the draft annex and completed sign-off sheet.

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Name/Title: Daniel DeWald, Emergency Manager/Police Chief  
Method of Participation: Completed final review of the draft annex and completed sign-off sheet.

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Name/Title: Cory Stoner, P.E., P.P., C.M.E, Floodplain Administrator  
Method of Participation: Completed final review of the draft annex and completed sign-off sheet.

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Name/Title: Cynthia Church, Township Clerk  
Method of Participation: Completed final review of the draft annex and completed sign-off sheet.

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## 6.2 COMMUNITY PROFILE

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Township of Byram 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. Additionally, the Township is located within the New Jersey Highlands Region. According to the U.S. Census, the 2020 population for Byram was 8,028, a 3.8-percent decrease from the 2010 Census.

Research has shown that some populations are at greater risk from hazard events because of decreased resources or physical abilities. These populations can be more susceptible to hazard events based on a number of factors including their physical and financial ability to react or respond during a hazard, and the location and construction quality of their housing. Data from the 2021 American Community Survey 5-Year Population Estimates indicates that 6.8-percent of the population is 5 years of age or younger, 4.4-percent is 65 years of age or older, 5.3-percent is non-English speaking, 2.4-percent is below the poverty threshold, and 3.9-percent is considered disabled (ALICE 2023).

The Steering Committee also identified households that are above the Federal Poverty Level, but earn less than the basic cost of living as socially vulnerable. For the Township of Byram, 19-percent of households earn less than the basic cost of living and are considered socially vulnerable.

Communities must deploy a support system that enables all populations to safely reach shelters or to quickly evacuate a hazard area.

## 6.3 JURISDICTIONAL CAPABILITY ASSESSMENT AND INTEGRATION

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Byram performed an inventory and analysis of existing capabilities, plans, programs, and policies that enhance its ability to implement mitigation strategies. Volume I describes the components included in the capability assessment and their significance for hazard mitigation planning. The jurisdictional assessment for this annex includes analyses of the following:

- Planning and regulatory capabilities
- Development and permitting capabilities
- Administrative and technical capabilities
- Fiscal capabilities



- Education and outreach capabilities
- Classification under various community mitigation programs
- Adaptive capacity to withstand hazard events

For a community to succeed in reducing long-term risk, hazard mitigation must be integrated into day-to-day local government operations. As part of the hazard mitigation analysis, planning and /policy documents were reviewed and each jurisdiction was surveyed to obtain a better understanding of their progress toward plan integration. Development of an updated mitigation strategy provided an opportunity for Byram to identify opportunities for integrating mitigation concepts into ongoing Township procedures.

### 6.3.1 Planning and Regulatory Capability and Integration

Table 6-2 summarizes the planning and regulatory tools that are available to Byram.

Table 6-2. Planning and Regulatory Capability and Integration

	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Responsible Person, Department or Agency
<b>CODES, ORDINANCES, &amp; REGULATIONS</b>				
<b>Building Code</b>	Yes	International Building Code – New Jersey Edition, 2018, NJAC 5:24-3.14 Adopted 9/3/2019; State Uniform Construction Code Act (N.J.S. 52:27D-119 et seq.).	State & Local	Construction Official
How has or will this be integrated with the HMP and how does this reduce risk? <i>The building code provides guidance on how to design, build, and operate buildings. Modern building codes lead to major reductions in property losses from natural disasters.</i>				
<b>Zoning/Land Use Code</b>	Yes	State of NJ Municipal Land Use Law (MLUL) L. 1975, s. 2, Effective 8/1/1976, 40-55D-62: 49; Municipal Ordinance Chapter 240 (4/5/79).	Local	Planning Board & Township Council
How has or will this be integrated with the HMP and how does this reduce risk? <i>Power to zone, requires all jurisdictions to have current zoning and other land development ordinances after the planning board has adopted the land use element and master plan. The Township Code does not permit the disturbance of steep slopes, environmentally sensitive areas, or areas in close proximity to water ways. The preservation of these sensitive areas limits the potential of significant risk during hazard events.</i>				
<b>Subdivision Code</b>	Yes	P.L.1975, c.291 (C.40:55D-47): 40:55D-37; Municipal Ordinance Chapter 215 (4/5/79).	Local	Planning Board & Township Council

How has or will this be integrated with the HMP and how does this reduce risk?  
*The governing body may by ordinance require approval of subdivision plats by resolution of the planning board as a condition for the filing of such plats with the county recording officer and approval of site plans by resolution of the planning board as a condition for the issuance of a permit for any development, except that subdivision or individual lot applications for detached one or two dwelling-unit buildings shall be exempt from such site plan review and approval;*



	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Responsible Person, Department or Agency
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*provided that the resolution of the board of adjustment shall substitute for that of the planning board whenever the board of adjustment has jurisdiction over a subdivision or site plan pursuant to subsection 63b. of this act . Dictated by the Municipal Land Use Law. NJ Statute 40:27-6.2 - the board of commissioners of any county having a county planning board shall provide for the review of all subdivisions of land within the county by said county planning board and for the approval of those subdivisions affecting county road or drainage facilities as set forth and limited hereinafter in this section.*

*The Township Code does not permit the disturbance of steep slopes, environmentally sensitive areas or areas in close proximity to water ways. The preservation of these sensitive areas limit the potential of significant risk during hazard events. The Township Code also includes provisions for the protection of areas located within the Highlands Preservation Area that makes up the majority of the land areas within the Township, development of these areas are severely limited in size and scope.*

<b>Site Plan Code</b>	No	-	-	-
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How has or will this be integrated with the HMP and how does this reduce risk?

<b>Stormwater Management Code</b>	Yes	Title 7 of the NJ Administrative Code, N.J.A.C. 7:8; Chapter 211 (4/3/06); Annual NJDEP Tier I Stormwater Permit.	State & Local	Township Council & NJDEP
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How has or will this be integrated with the HMP and how does this reduce risk?

*The Township Code has adopted a Stormwater Management Ordinance with NJDEP rules and regulations that serve to mitigate any impacts from stormwater runoff from development projects within the municipality.*

<b>Post-Disaster Recovery/ Reconstruction Code</b>	No	-	-	-
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How has or will this be integrated with the HMP and how does this reduce risk?

<b>Real Estate Disclosure Requirements</b>	Yes	Senate Bill 3110; P. L. 2023, c. 93, July 3, 2023	State	Sellers and Landlords of commercial or residential property
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How has or will this be integrated with the HMP and how does this reduce risk?

*For leases, the law amends the New Jersey Truth-in-Renting Act, N.J.S.A. 46:8-43 et seq., to require every landlord to notify in writing each of the landlord's tenants, prior to lease signing or renewal, whether the property is located in the Federal Emergency Management Agency (FEMA) Special Flood Hazard Area ("100-year floodplain") or Moderate Risk Flood Hazard Area ("500-year floodplain") and if the landlord has actual knowledge that the rental premises or any portion of the parking areas of the real property containing the rental premises has been subjected to flooding. The law does not apply to (1) landlords who lease commercial space or residential dwellings for less than one month, (2) residential dwellings in a premises containing not more than two units, (3) owner-occupied premises containing not more than three units, or (4) hotels, motels, or other guest houses serving transient or seasonal guests for a period of less than 120 days.*

*The model notice is to contain the heading "Flood Risk" and questions for the landlord to answer regarding the landlord's actual knowledge of past flooding of the property. The questions regarding the property being in a FEMA Special or Moderate Risk Flood Hazard Area shall not contain the option for "unknown." To determine how the questions are to be answered, FEMA's current flood insurance rate maps for the leased premises area must be consulted. The landlord will be required to answer whether the rental premises or any portions of the parking areas of the real property containing the rental premises ever experienced any flood damage, water seepage, or pooled water due to a natural flood event and, if so, the number of times that has occurred.*



	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Responsible Person, Department or Agency
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*The notice to residential tenants must also indicate that flood insurance may be available to renters through FEMA's National Flood Insurance Program to cover their personal property and contents in the event of a flood and that standard renter's insurance does not typically cover flood damage.*

*For sales, the law also amends the New Jersey Consumer Fraud Act, N.J.S.A. 56:8-1 et seq., to require sellers of real property to disclose, on the property condition disclosure statement, whether the property is located in the FEMA Special or Moderate Risk Flood Hazard Area and any actual knowledge of the seller concerning flood risks of the property to the purchaser before the purchaser becomes obligated under any contract for the purchase of the property.*

*The disclosure statement must contain the heading "Flood Risk" and ask the seller the following questions:*

- Is any or all of the property in the Special Flood Hazard Area ("100-year floodplain") or a Moderate Risk Flood Hazard Area ("500-year floodplain") according to FEMA's current flood insurance rate maps?*
- Is the property subject to any requirement under federal law to obtain and maintain flood insurance on the property? Properties in the Special Flood Hazard Area with mortgages from federally regulated or insured lenders are required to obtain and maintain flood insurance.*
- Have you ever received assistance from, or are you aware of any previous owners receiving assistance from FEMA, the U.S. Small Business Administration, or any other federal disaster flood assistance for flood damage on the property? For properties that have received flood disaster assistance, the requirement to obtain flood insurance passes down to all future owners.*
- Is there flood insurance on the property? A standard homeowner's insurance policy typically does not cover flood damage.*
- Is there a FEMA elevation certificate available for the property? If so, it must be shared with the buyer. An elevation certificate is a FEMA form, completed by a licensed surveyor or engineer, that provides critical information about the flood risk of the property and is used by flood insurance providers to determine the appropriate insurance rating for the property.*
- Have you ever filed a claim for flood damage to the property with any insurance provider? If the claim was approved, what was the amount received?*
- Has the property experienced any flood damage, water seepage, or pooled water due to a natural flood event, such as heavy rainfall, coastal storm surge, tidal inundation, or river overflow? If so, how many times?*

*Not all provisions of this law have become effective at the time of the writing of this plan.*

<b>Growth Management</b>	Yes	Township Smart Growth Plan (2002); Township Master Plan (2004); Zoning Ordinances (2006); Master Plan Highlands Element 10/12/14	State & Local	Planning Board, Township Council, and Highlands Council
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*How has or will this be integrated with the HMP and how does this reduce risk?*

*Use of the endorsed plans in the implementation of state environmental regulations makes the Plan Endorsement process a growth management strategy.*

<b>Environmental Protection Ordinance(s)</b>	Yes	Chapter 19 Environmental Commission; Chapter 167 Littering and Dumping; Chapter 169 Hazardous Materials; Chapter 208 Soil Removal	State & Local	DEP
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*How has or will this be integrated with the HMP and how does this reduce risk?*

*The Township Code does not permit the disturbance of steep slopes, environmentally sensitive areas or areas in close proximity to water ways. The preservation of these sensitive areas limit the potential of significant risk during hazard events. The Township Code also includes provisions for the protection of areas located within the Highlands*



	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Responsible Person, Department or Agency
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*Preservation Area that makes up the majority of the land areas within the Township, Development of these areas are severely limited in size and scope.*

<b>Flood Damage Prevention Ordinance</b>	Yes	Township Ordinance 135- Flood Damage Prevention.	Federal, State & Local	Construction Official
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How has or will this be integrated with the HMP and how does this reduce risk?

*It is the purpose of chapter 135 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 to:*

- *Protect human life and health; B. Minimize expenditure of public money for costly flood-control projects;*
- *Minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public;*
- *Minimize prolonged business interruptions;*
- *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;*
- *Help maintain a stable tax base by providing for the second use and development of areas of special flood hazard so as to minimize future flood blight areas;*
- *Ensure that potential buyers are notified that property is in an area of special flood hazard;*
- *Ensure that those who occupy the areas of special flood hazard assume responsibility for their actions.*
- *The ordinance currently lacks the state's 1-foot freeboard requirement.*

<b>Wellhead Protection</b>	Yes	Zoning Ordinance: article Highlands Area Land Use	Local	Land Use Board
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How has or will this be integrated with the HMP and how does this reduce risk?

*The article on Highlands Area Land use discusses wellhead protection areas.*

<b>Emergency Management Ordinance</b>	Yes	Chapter 32 Emergency Management adopted 10/2/1974. Amended on 11/19/1990.	State & Local	Emergency Management Council
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How has or will this be integrated with the HMP and how does this reduce risk?

*Chapter 32 established the Emergency Management Council, which consists of the Emergency Management Coordinator and Deputy Emergency Management Coordinator.*

<b>Climate Change Ordinance</b>	No	-	-	-
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How has or will this be integrated with the HMP and how does this reduce risk?

Municipal Separate Storm Sewer System (MS4)	Yes	Separate Storm Sewer System; Municipal Ordinance Chapter 203 (12/19/05).	Local	Township Council
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How has or will this be integrated with the HMP and how does this reduce risk?

*The purpose of Chapter 203 is to prohibit the spilling, dumping or disposal of materials other than stormwater to the municipal separate stormwater sewer system (MS4) operated by the Township of Byram, so as to protect the health, safety and welfare, and to prescribe penalties for the failure to comply.*





	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Responsible Person, Department or Agency
Other: Special Purpose Ordinances (i.e., sensitive areas, steep slope)	Yes	Ordinance 240-29.2: Tract Disturbance; Master Plan Highlands Element (10/2/14); Highlands Conformance (currently underway), Amended 11/15/2004	Local	Planning Board and Township Council

How has or will this be integrated with the HMP and how does this reduce risk?

*The Township Code does not permit the disturbance of steep slopes, environmentally sensitive areas or areas near waterways. The preservation of these sensitive areas limits the potential of significant risk during hazard events. The Township Code also includes provisions for the protection of areas located within the Highlands Preservation Area that makes up most of the land areas within the Township. Development of these areas are severely limited in size and scope.*

#### PLANNING DOCUMENTS

<b>General/Comprehensive Plan</b>	Yes	Byram TWP Master Plan adopted 12/16/2004, re- examined March 2012.	Local	Land Use Board
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How has or will this be integrated with the HMP and how does this reduce risk?

*The Master Plan outlines the goals of the Township which is to retain natural features and environmental resources the give the Township it's character and provide open space and recreation while protecting water quality and wildlife habitat; Develop a village center which combines residential, commercial and civic spaces for controlled growth and community hub; Maintain tradition character of each lake community by preservation of environmentally sensitive and undeveloped forests surrounding the communities (Township District Land Use Pattern); Establish transportation infrastructure to provide safe and easy travel for all residents of all ages; Support and promote economic development in the Township by creating opportunities for retail and service businesses, eco-tourism, and commercial enterprises; and use Smart Growth to provide mix housing opportunities for affordable places to live for Byram's families.*

<b>Capital Improvement Plan</b>	Yes	2015 Municipal Budget (3- year plan).	Local	Township Council
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How has or will this be integrated with the HMP and how does this reduce risk?

*The Township Capital Improvement Plan focuses on the maintenance and preservation of the current infrastructure within the Township. The improvements that are part of this plan include roadways, parks, drainage and other improvements meant to properly serve the residents of the Township.*

<b>Disaster Debris Management Plan</b>	No	-	-	-
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How has or will this be integrated with the HMP and how does this reduce risk?

<b>Floodplain Management or Watershed Plan</b>	No	-	-	-
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How has or will this be integrated with the HMP and how does this reduce risk?

<b>Stormwater Management Plan</b>	Yes	Municipal Stormwater Management Plan (September 2005); Stormwater Management Plan adopted 4/3/2006.	Local	Township Council
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How has or will this be integrated with the HMP and how does this reduce risk?

*The Township Stormwater Management Plan has been adopted per the Township's NJDEP MS4 Municipal Stormwater General Permit and includes recommended Best Management Practices to promote the recharge of stormwater into the ground and limit runoff from all major development projects.*



	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Responsible Person, Department or Agency
<b>Stormwater Pollution Prevention Plan</b>	Yes	Stormwater Pollution Prevention Plan, March 2024	Local	Department of Public Works
How has or will this be integrated with the HMP and how does this reduce risk? <i>The Stormwater Pollution Prevention Plan for the Township was just updated in March of 2024. It includes the procedures and process for post construction stormwater management for new development and redevelopment, stormwater ordinances for the township, street sweeping process, municipal maintenance of yards, and a Watershed Improvement Plan element.</i>				
<b>Open Space Plan</b>	Yes	Open Space and Recreation Plan, Adopted October 2000, Updated June 2020.	Local	Land Use Board
How has or will this be integrated with the HMP and how does this reduce risk? <i>The Township Open Space Plan promotes the preservation of undeveloped land and the promotion of passive recreation trails within the Township. With all of Byram Township being located within the Highlands Preservation or Planning Areas, limited development potential exists and open space preservation of all large tracks of undeveloped land is promoted.</i>				
<b>Urban Water Management Plan</b>	No	-	-	-
How has or will this be integrated with the HMP and how does this reduce risk?				
<b>Habitat Conservation Plan</b>	No	-	-	-
How has or will this be integrated with the HMP and how does this reduce risk?				
<b>Economic Development Plan</b>	Yes	Sustainable Economic Development Plan, May 2016.	Local	Township Council
How has or will this be integrated with the HMP and how does this reduce risk? <i>This Sustainable Economic Development Plan is designed to provide Byram Township, its decision makers, its business community, and its citizens with tools and guidance in crafting a way forward based on detailed market analysis and comprehensive public input. Recommendations in this Plan will include public actions, such as revisions to land use ordinances, private initiatives, such as events run by the Business Owners Association, and development of up-to-date data to share with potential developers and investors revealing opportunities and demonstrating that Byram is Open for Business.</i>				
<b>Shoreline Management Plan</b>	No	-	-	-
How has or will this be integrated with the HMP and how does this reduce risk?				
<b>Community Wildfire Protection Plan</b>	No	-	-	-
How has or will this be integrated with the HMP and how does this reduce risk?				
<b>Community Forest Management Plan</b>	Yes	Community Forestry Management Plan (2020- 2024)	Local	Mayor & Council; Township Manager; Public Works; Environmental Commission
How has or will this be integrated with the HMP and how does this reduce risk?				





	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Responsible Person, Department or Agency
<i>This plan outlines the programs, policies, and procedures by which shade tree resources within the Township will be managed during the period January 2020 – December 2024.</i>				
<b>Transportation Plan</b>	Yes	Master Plan Circulation Element 2004.	Local	Planning Board
<p>How has or will this be integrated with the HMP and how does this reduce risk?</p> <p><i>The Township has focused considerable attention on addressing safety concerns during hazardous events. An example of this is the project that raised Little Paint Way and constructed a new drainage culvert to allow more water to run under the roadway and allow residents of that neighborhood to safely evacuate in a time of emergency. The Township has also focused resources on tree clearing, roadway and drainage, and other improvements to assure that residents can safely maneuver through the Township during a time of emergency.</i></p>				
<b>Agriculture Plan</b>	Yes	Township of Byram Master Plan, December 16, 2004	Local	Land Use Board
<p>How has or will this be integrated with the HMP and how does this reduce risk?</p> <p><i>The Township includes an agriculture element within their Master Plan.</i></p>				
<b>Climate Action/ Resilience/Sustainability Plan</b>	Yes	Climate Change Resilience Strategy and Plan, last updated in 2021.	State	NJDEP
<p>How has or will this be integrated with the HMP and how does this reduce risk?</p> <p><i>New Jersey's first Statewide Climate Change Resilience Strategy provides a suite of forward-looking policy options to promote the long-term resilience of New Jersey to climate change. As a framework for policy, regulatory, and operational changes, the Resilience Strategy presents actions that New Jersey's Executive Branch can take to support the resilience of the state's communities, economy, and infrastructure. The Resilience Strategy includes 125 recommended actions across six priority areas.</i></p>				
<b>Tourism Plan</b>	Yes	Open Space Recreation Plan (2010).	Local	Land Use Board
<p>How has or will this be integrated with the HMP and how does this reduce risk?</p> <p><i>The Township Eco Tourism Plan is incorporated as an element in the Open Space Recreation Plan.</i></p>				
<b>Business/ Downtown Development Plan</b>	Yes	Byram Township Village Center Plan, 2022	Local	Zoning Department
<p>How has or will this be integrated with the HMP and how does this reduce risk?</p> <p><i>Byram's Village Center Ordinance establishes an Architectural Review Committee (ARC). The ARC is called upon to establish design guidelines, which are to illustrate and supplement the vision and standards described in the Ordinance, in Article XIII (Smart Growth Regulations and Standards), and in the Township's 2002 Smart Growth Plan.</i></p>				
<b>Other: Stream Corridor Management Plan</b>	Yes	Stream Corridor Management Plan adopted in June 1997, updated 12/18/2000	Local	Township Environmental Commission
<p>How has or will this be integrated with the HMP and how does this reduce risk?</p> <p><i>In compliance with Lubbers Run Greenway project: A Stream Corridor Study (1997;2000).</i></p>				
<b>Other: Watershed Management/Protection Plan</b>	Yes	Municipal Stormwater Management Report, created in March 2005 and updated August 2019.	Local	NJ Highlands Water Protection & Planning Council
<p>How has or will this be integrated with the HMP and how does this reduce risk?</p> <p><i>In compliance with Lakefront Development Plan (2003); Highlands Conformance Process (currently underway).</i></p>				



	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Responsible Person, Department or Agency
<b>Other: Wastewater Management Plan</b>	Yes	Byram Township Chapter of the Sussex County Wastewater Management Plan, June 2022. Amending the Areawide Water Quality Management Plan	State & Local	NJ Highlands Water Protection & Planning Council

How has or will this be integrated with the HMP and how does this reduce risk?

*Supports of Byram Township's approved Petition for Plan Conformance and the Water Quality Management Planning Rules, N.J.A.C. 7:15.*

#### RESPONSE/RECOVERY PLANNING

<b>Emergency Operations Plan</b>	Yes	Township of Byram EOP, May 5, 2023	Local	Emergency Management
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How has or will this be integrated with the HMP and how does this reduce risk?

*The Emergency Operations Plan defines the scope of preparedness and emergency management activities necessary in the Township. This document assigns responsibility to organizations and individuals for carrying out specific actions that exceed routine responsibility at projected times and places during an emergency; sets lines of authority and organizational relationships and shows how all actions will be coordinated; identifies how people and property are protected; and identifies personnel, equipment, facilities, supplies, and other resources available within the jurisdiction or by agreement with other jurisdictions.*

<b>Continuity of Operations Plan</b>	No	-	-	-
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How has or will this be integrated with the HMP and how does this reduce risk?

<b>Substantial Damage Response Plan</b>	No	-	-	-
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How has or will this be integrated with the HMP and how does this reduce risk?

<b>Threat and Hazard Identification and Risk Assessment</b>	No	-	-	-
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How has or will this be integrated with the HMP and how does this reduce risk?

<b>Post-Disaster Recovery Plan</b>	No	-	-	-
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How has or will this be integrated with the HMP and how does this reduce risk?

<b>Public Health Plan</b>	No	-	-	-
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How has or will this be integrated with the HMP and how does this reduce risk?

<b>Other</b>	Yes	Smart Growth Plan (2002)	Yes	Planning Board
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How has or will this be integrated with the HMP and how does this reduce risk?

*In compliance with Byram Township Smart Growth Plan (2002). This Plan presents a strategy to correct current development trends by directing growth to population centers while protecting rural resources and environmentally sensitive areas of the Township. By focusing development in the Village Center, the rural landscape will remain largely intact. Limited development in the environs will preliminarily take the form of hamlet scaled lake communities.*



### 6.3.2 Development and Permitting Capability

Table 6-3 summarizes the capabilities of Byram to oversee and track development.

Table 6-3. Development and Permitting Capability

	Yes/No	Comment
Do you issue development permits?	Yes	The Building Department is responsible for issuing development permits.
<ul style="list-style-type: none"> <li>If you issue development permits, what department is responsible?</li> <li>If you do not issue development permits, what is your process for tracking new development?</li> </ul>		
Are permits tracked by hazard area? (For example, floodplain development permits.)	Yes	Floodplain development
Do you have a buildable land inventory?	No	-
<ul style="list-style-type: none"> <li>If you have a buildable land inventory, please describe</li> </ul>		
Describe the level of buildout in your jurisdiction.	N/A	There is available space for build-out within the Township.

### 6.3.3 Administrative and Technical Capability

Table 6-4 summarizes potential staff and personnel resources available to Byram and their current responsibilities that contribute to hazard mitigation.

Table 6-4. Administrative and Technical Capabilities

Resources	Available? (Yes/No)	Comment (available staff, responsibilities, support of hazard mitigation)
<b>ADMINISTRATIVE CAPABILITY</b>		
Planning Board	Yes	The Board shall adopt such rules and regulations as may be necessary to carry into effect the provisions and purposes of this chapter (Municipal Ordinance Chapter 45: 1/19/77, 11/19/90; Amendment 5/4/95). The Planning Board consists of nine members divided into four classes: Mayor; one official of the municipality other than a member of the governing body, appointed by the mayor; a member of the governing body to be appointed by it; and six other citizens of the municipality to be appointed by the Council.
Zoning Board of Adjustment	No	-
Planning Department	Yes	The Office of Planning and Development is responsible for land use planning, zoning, and code enforcement.
Mitigation Planning Committee	Yes	Hazard Mitigation Planning Team: Township Council and Municipal Department Heads
Environmental Board/Commission	Yes	The Commission shall consist of seven members and two alternates appointed by the mayor. One member of the Commission shall be a member of the Municipal Planning Board and all members shall be residents of the municipality (Municipal Ordinance Chapter 19 (10/2/74)).



Resources	Available? (Yes/No)	Comment (available staff, responsibilities, support of hazard mitigation)
		Responsibilities of the EC include conduct research into the use of open land areas, coordinate activities of unofficial bodies organized for the purpose of promoting conservation; advertise, prepare, and distribute books/media necessary for its purposes; keep an index of all open areas publicly or privately owned; and generally, have the power to do all things necessary to promote the conservation and development of the township's resources.
Open Space Board/Committee	Yes	The committee consists of seven members: Manager of the Township; one member of the Planning Board; one member of the Environmental Commission; One member of the Recreation Commission; one citizen of the Township holding no other elected/appointed position; one member of the Council; one citizen of the Township who may hold another elected appointed position. The Open Space Committee shall hold public meetings, prepare an Open Space and Recreation Plan, decide of properties which it recommends that the Township acquire and submit a prioritized list of those properties to the Township Council (Municipal Ordinance Chapter 42 (1/20/2000)).
Economic Development Commission/Committee	Yes	The committee consists of seven members: Manager of the Township; one member of the Planning Board; one member of the Environmental Commission; One member of the Recreation Commission; one citizen of the Township holding no other elected/appointed position; one member of the Council; one citizen of the Township who may hold another elected appointed position. The Open Space Committee shall hold public meetings, prepare an Open Space and Recreation Plan, make a determination of properties which it recommends that the Township acquire and submit a prioritized list of those properties to the Township Council (Municipal Ordinance Chapter 42 (1/20/2000)).Municipal Ordinance Chapter 42 (1/20/2000)
Public Works/Highway Department	Yes	The Department of Public Works (DPW) includes the following divisions: Roads, Sewers, Recycling, Buildings and Grounds, Park Maintenance, and Fleet Maintenance. DPW responsibilities include trash and recycling programs; maintenance of approximately 80 miles of roadways, 6 sewer pumping stations and 2 miles of sewer mains; snow and ice removal; maintenance of storm drains and basins; maintenance of township buildings; maintenance of township parks, playgrounds and athletic fields; coordination of annual roadway resurfacing program; fleet maintenance of township owned vehicles, including fire and police; removal of downed trees on township properties; cutting grass on township properties; traffic sign installation and repair; coordination of events such as curbside leaf pick-ups, Christmas tree pick-ups, limited bulk disposal and disposal days for e-waste, rigid plastics, etc.; and supporting township committees and grant efforts
Construction/Building/Code Enforcement Department	Yes	The Byram Building Department performs code enforcement, inspections, and issues permits.



Resources	Available? (Yes/No)	Comment (available staff, responsibilities, support of hazard mitigation)
Emergency Management/Public Safety Department	Yes	The Office of Emergency Management is located within the Township Police Department.
Maintenance programs to reduce risk (stormwater maintenance, tree trimming, etc.)	Yes	Superintendent of Department of Public Works is responsible for construction, maintenance and renovation of streets, roads, parks, parking lots and drainage; motor vehicle maintenance and cost recordkeeping; preparation of vehicle specifications; Installation, repair and maintenance of traffic devices; collection, recycling and disposal of refuse and leaves; street cleaning and snow and ice control; and care and maintenance of public buildings, grounds and trees.
Mutual aid agreements	Yes	Lakeland Emergency Squad & the Byram Township Volunteer Fire Department which is composed of the "Cranberry Lake Volunteer Fire Department, Inc."
Human Resources Manual - Do any job descriptions specifically include identifying or implementing mitigation projects or other efforts to reduce natural hazard risk?	No	-
Other	No	-
<b>TECHNICAL/STAFFING CAPABILITY</b>		
Planners or engineers with knowledge of land development and land management practices	Yes	Municipal and Planning Board Engineer is responsible for surveys of Township improvements, lots, curbs, sewers, sidewalks, flood zones, drainage, and lines/grades. The Engineer also prepares maps and construction reports. The Consulting Land Use Planner also has knowledge and may assist in the land management practices.
Engineers or professionals trained in building or infrastructure construction practices	Yes	The Construction Official is responsible for carrying out the NJ Uniform Construction Code (UCC) and develops and executes appropriate procedures and policies. The Sub-Code Officials consist of the Electrical Sub Code Official, Plumbing Sub Code Official, and the Fire Protection Sub Code Official. The Electrical Sub Code Official reviews and approves proposed structures as provided by the NJ UCC in conformity with electrical and energy subcodes. The Plumbing Sub Code Official reviews and approves proposed structures as provided by the NJ UCC in conformity with plumbing and energy subcodes. The Fire Protection Sub Code Official reviews and approves proposed structures as provided by the NJ UCC in conformity with fire protection subcodes.
Planners or engineers with an understanding of natural hazards	Yes	The Construction Official is responsible for carrying out the NJ Uniform Construction Code (UCC) and develops and executes appropriate procedures and policies. The Sub-Code Officials consist of the Electrical Sub Code Official, Plumbing Sub Code Official, and the Fire Protection Sub Code Official. The Electrical Sub Code Official reviews and approves proposed structures as provided by the NJ UCC in conformity with electrical and energy subcodes. The Plumbing Sub Code Official reviews and approves proposed structures as provided by the NJ UCC in conformity with plumbing and energy subcodes. The Fire



Resources	Available? (Yes/No)	Comment (available staff, responsibilities, support of hazard mitigation)
		Protection Sub Code Official reviews and approves proposed structures as provided by the NJ UCC in conformity with fire protection subcodes.
Staff with expertise or training in benefit/cost analysis	Yes	Township Risk Manager is a consultant with Skylands Risk Management and is responsible for assisting and working with the Township Manager and Township Engineer on benefit cost ratios.
Professionals trained in conducting damage assessments	Yes	The Construction Official is responsible for carrying out the NJ Uniform Construction Code (UCC) and develops and executes appropriate procedures and policies. The Municipal Engineer assists the Construction Official with conducting damage assessments
Personnel skilled or trained in GIS and/or Hazus applications	Yes	Municipal and Planning Board Engineer is responsible for surveys of Township improvements, lots, curbs, sewers, sidewalks, flood zones, drainage, and lines/grades. The Engineer also prepares maps and construction reports.
Staff that work with socially vulnerable populations or underserved communities	Yes	Board of Health Secretary and Clerk connect socially vulnerable residents to available services locally or in the County as needed.
Environmental scientists familiar with natural hazards	No	-
Surveyors	Yes	Within Office of Township Engineer. Municipal and Planning Board Engineer is responsible for surveys of Township improvements, lots, curbs, sewers, sidewalks, flood zones, drainage, and lines/grades. The Engineer also prepares maps and construction reports.
Emergency manager	Yes	Emergency Management Coordinator is the emergency manager for the Township.
Grant writers	Yes	Municipal Staff
Resilience Officer	No	-
Other (this could include stormwater engineer, environmental specialist, etc.)	Yes	Stormwater Engineer – Cory Stoner – Harold E. Pellow & associates  Environmental Specialist – Environmental Commission – Forester is Gracie & Harrigan Consulting Foresters

### 6.3.4 Fiscal Capability

Table 6-5 summarizes financial resources available to Byram.

Table 6-5. Fiscal Capabilities

Financial Resources	Accessible or Eligible to Use? (Yes/No)
Community Development Block Grants (CDBG, CDBG-DR)	No
Capital improvement project funding	Yes
Authority to levy taxes for specific purposes	Yes





Financial Resources	Accessible or Eligible to Use? (Yes/No)
User fees for water, sewer, gas, or electric service	Yes
Impact fees for homebuyers or developers of new development/homes	No
Stormwater utility fee	No
Incur debt through general obligation bonds	Yes
Incur debt through special tax bonds	No
Incur debt through private activity bonds	No
Withhold public expenditures in hazard-prone areas	Yes
Other federal or state funding programs	Yes
Open Space Acquisition funding programs	Yes
Other (for example, Clean Water Act 319 Grants [Nonpoint Source Pollution])	No

### 6.3.5 Education and Outreach Capability

Table 6-6 summarizes the education and outreach resources available to Byram.

Table 6-6. Education and Outreach Capabilities

Outreach Resources	Available? (Yes/No)	Comment
Public information officer or communications office	Yes	The Township Manager is the public information officer.
Personnel skilled or trained in website development	No	-
Hazard mitigation information available on your website	No	-
Social media for hazard mitigation education and outreach	No	-
Citizen boards or commissions that address issues related to hazard mitigation	No	-
Warning systems for hazard events	Yes	Everbridge – Nixle, which keeps citizens up to date with relevant information.
Natural disaster/safety programs in place for schools	Yes	Byram Township School District Emergency Response Template and Emergency Information Plan is available in the Office of the Chief of Police.
Organizations that conduct outreach to socially vulnerable populations and underserved populations	Yes	Waterloo Neighborhood Food Pantry, Byram Township Affordable Housing Rehabilitation program, County of Sussex.
Public outreach mechanisms / programs to inform citizens on natural hazards, risk, and ways to protect themselves during such events	No	-

### 6.3.6 Community Classifications

Table 6-7 summarizes classifications for community programs available to Byram.



Table 6-7. Community Classifications

Program	Participating? (Yes/No)	Classification	Date Classified
Community Rating System (CRS)	No	-	-
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
National Weather Service StormReady Certification	No	-	-
Firewise Communities classification	No	-	-
New Jersey Sustainable Jersey Community	Yes	Not certified	Joined program 5/4/2009
Other: Organizations with mitigation focus (advocacy group, non-government)	No	-	-

N/A = Not applicable

— = Unavailable

### 6.3.7 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 2022). Each jurisdiction has a unique combination of capabilities to adjust to, protect from, and withstand a future hazard event, future conditions, and changing risk. Table 6-8 summarizes the adaptive capacity for each identified hazard of concern and the Township’s capability to address related actions using the following classifications:

- Strong: Capacity exists and is in use.
- Moderate: Capacity might exist; but is not used or could use some improvement.
- Weak: Capacity does not exist or could use substantial improvement

Table 6-8. Adaptive Capacity

Hazard	Adaptive Capacity - Strong/Moderate/Weak
Dam Failure	Moderate – The Township has equipment/trucks/pumps.
Disease Outbreak	Moderate – Local resources combined with Sussex County Board of Health.
Drought	Moderate – Ability to pump water from the many lakes in the Township if needed.
Earthquake	Moderate – Heavy equipment/trucks/machinery.
Flood	Moderate – Heavy equipment/trucks/machinery.
Geological Hazards	Moderate – Heavy equipment/trucks/machinery.
Hazardous Materials	Moderate – Byram Fire Department and Sussex County Hazardous Material Unit
Hurricane	Moderate - Heavy equipment/trucks/machinery.



Hazard	Adaptive Capacity - Strong/Moderate/Weak
Infestation	Moderate – Sussex County Board of Health.
Nor'easter	Moderate - Heavy equipment/trucks/machinery/plows/salt spreaders.
Severe Weather	Moderate - Heavy equipment/trucks/machinery/plows/salt spreaders.
Severe Winter Weather	Moderate - Heavy equipment/trucks/machinery/plows/salt spreaders.
Wildfire	Moderate – Byram Fire Department, NJ Fire Forest Service – Heavy equipment.

## 6.4 NATIONAL FLOOD INSURANCE PROGRAM COMPLIANCE

This section provides specific information on the management and regulation of the regulatory floodplain, including current and future compliance with the National Flood Insurance Program (NFIP). The floodplain administrator listed in Table 6-1 is responsible for maintaining this information.

### 6.4.1 NFIP Statistics

Table 6-9 summarizes the NFIP policy and claim statistics for Byram.

Table 6-9. Byram NFIP Summary of Policy and Claim Statistics

# Policies	13
# Claims (Losses)	14
Total Loss Payments	\$129,877.78
# Repetitive Loss Properties (NFIP definition)	3
# Repetitive Loss Properties (FMA definition)	0
# Severe Repetitive Loss Properties	0

*NFIP Definition of Repetitive Loss: The NFIP defines a repetitive loss property as any insurable building for which two or more claims of more than \$1,000 were paid by the NFIP within any rolling 10-year period since 1978.*

*FMA Definition of Repetitive Loss: FEMA's Flood Mitigation Assistance (FMA) program defines a repetitive loss property as any insurable building that has incurred flood-related damage on two occasions, in which the cost of the repair, on average, equaled or exceeded 25 percent of the market value of the structure at the time of each such flood event.*

*Definition of Severe Repetitive Loss: A residential property covered under an NFIP flood insurance policy and: (a) That has at least four NFIP claim payments over \$5,000 each, and the cumulative amount of such claims payments exceeds \$20,000; or (b) For which at least two separate claims payments have been made with the cumulative amount of the building portion of such claims exceeding the market value of the building. At least two of the claims must have occurred within any 10-year period, more than 10 days apart.*

Source: FEMA 2024

### 6.4.2 Flood Vulnerability Summary

Table 6-10 provides a summary of the NFIP program in Byram.



Table 6-10. NFIP Summary

NFIP Topic	Comments
<b>Flood Vulnerability Summary</b>	
Describe areas prone to flooding in your jurisdiction.	Heminover Street is low lying area due to topography and lakes which contribute to Lubbers Run and pose future flood concerns. Lubbers Run causes flooding on Richmond Road and surrounding areas when it backs up. Lake communities in general have a large potential for drainage issues and flooding due to lake overflow.
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?	No
How many homeowners and/or business owners are interested in mitigation (elevation or acquisition)?	Unknown
Are any RiskMAP projects currently underway in your jurisdiction? If so, state what projects are underway.	No
How do you make Substantial Damage determinations?	Substantial damage is done on an individual basis should they occur.
How many Substantial Damage determinations were declared for recent flood events in your jurisdiction?	None declared to date.
How many properties have been mitigated (elevation or acquisition) in your jurisdiction? If there are mitigation properties, how were the projects funded?	None, to date.
Do your flood hazard maps adequately address the flood risk within your jurisdiction? If not, state why.	Yes, FEMA flood hazard maps for the Township.
<b>NFIP Compliance</b>	
What local department is responsible for floodplain management?	Construction Official/Building Department
Are any certified floodplain managers on staff in your jurisdiction?	Yes
Do you have access to resources to determine possible future flooding conditions from climate change?	Yes
Does your floodplain management staff need any assistance or training to support its floodplain management program? If so, what type of assistance/training is needed?	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 flood prone areas.
Provide an explanation of NFIP administration services you provide (e.g., permit review, GIS, education/outreach, inspections, engineering capability)	The Township does not provide NFIP services.
How do you determine if proposed development on an existing structure would qualify as a substantial improvement?	N/A
What are the barriers to running an effective NFIP program in the community, if any?	N/A



NFIP Topic	Comments
Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? If so, state the violations.	No
When was the most recent Community Assistance Visit (CAV) or Community Assistance Contact (CAC)?	January 12, 1994
What is the local law number or municipal code of your flood damage prevention ordinance?	Chapter 136 Flood Damage Prevention.
What is the date that your flood damage prevention ordinance was last amended?	Adopted by Township Council 12/7/1983, amended on 6/21/2011
Does your floodplain management program meet or exceed minimum requirements? If exceeds, in what ways?	The program meets minimum requirements
Are there other local ordinances, plans or programs (e.g., site plan review) that support floodplain management and meeting the NFIP requirements? For instance, does the planning board or zoning board consider efforts to reduce flood risk when reviewing variances such as height restrictions?	Chapter 136 Flood Damage Prevention, 136-7 Basis for establishing areas of special flood hazard.
Does your community plan to join the CRS program or is your community interested in improving your CRS classification?	The Township has considered joining CRS and would attend a CRS seminar if offered locally.

## 6.5 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 appreciating a jurisdiction's overall risk to its hazards of concern. Recent and expected future development trends, including major residential/commercial development and major infrastructure development, are summarized in Table 6-11 through Table 6-13.

Table 6-11. Number of Building Permits for New Construction Issued Since the Previous HMP

	New Construction Permits Issued			
	Single Family	Multi-Family	Other (commercial, mixed-use, etc.)	Total
<b>2019</b>				
Total Permits	0	0	0	0
Permits within SFHA	0	0	0	0
<b>2020</b>				
Total Permits	0	0	0	0
Permits within SFHA	0	0	0	0
<b>2021</b>				
Total Permits	3	0	5	8
Permits within SFHA	0	0	0	0
<b>2022</b>				
Total Permits	2	0	10	12
Permits within SFHA	0	0	0	0
<b>2023</b>				
Total Permits	1	0	8	9



	New Construction Permits Issued			
	Single Family	Multi-Family	Other (commercial, mixed-use, etc.)	Total
Permits within SFHA	0	0	0	0

SFHA = Special Flood Hazard Area (1% flood event)

Table 6-12. Recent Major Development and Infrastructure from 2019 to Present

Property or Development Name	Type of Development	# of Units / Structures	Location (address and/or block and lot)	Known Hazard Zones*	Description / Status of Development
None Identified.					

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

Table 6-13. Known or Anticipated Major Development and Infrastructure in the Next Five Years

Property or Development Name	Type of Development	# of Units / Structures	Location (address and/or block and lot)	Known Hazard Zones*	Description / Status of Development
None Anticipated.					

## 6.6 JURISDICTIONAL RISK ASSESSMENT

The hazard profiles in Volume I provide detailed information regarding each planning partner's vulnerability to the identified hazards, including summaries of Byram's risk assessment results and data used to determine the hazard ranking. Key local risk assessment information is presented below.

### 6.6.1 Hazard Area

Hazard area maps provided below illustrate the probable hazard areas impacted within the Township are shown in Figure 6-1 through Figure 6-3. 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 are provided only for hazards that can be identified clearly using mapping techniques and technologies and for which Byram has significant exposure. The maps show the location of potential new development, where available.



Figure 6-1. Byram Flood and Sinkhole Hazard Area Extent and Location Map

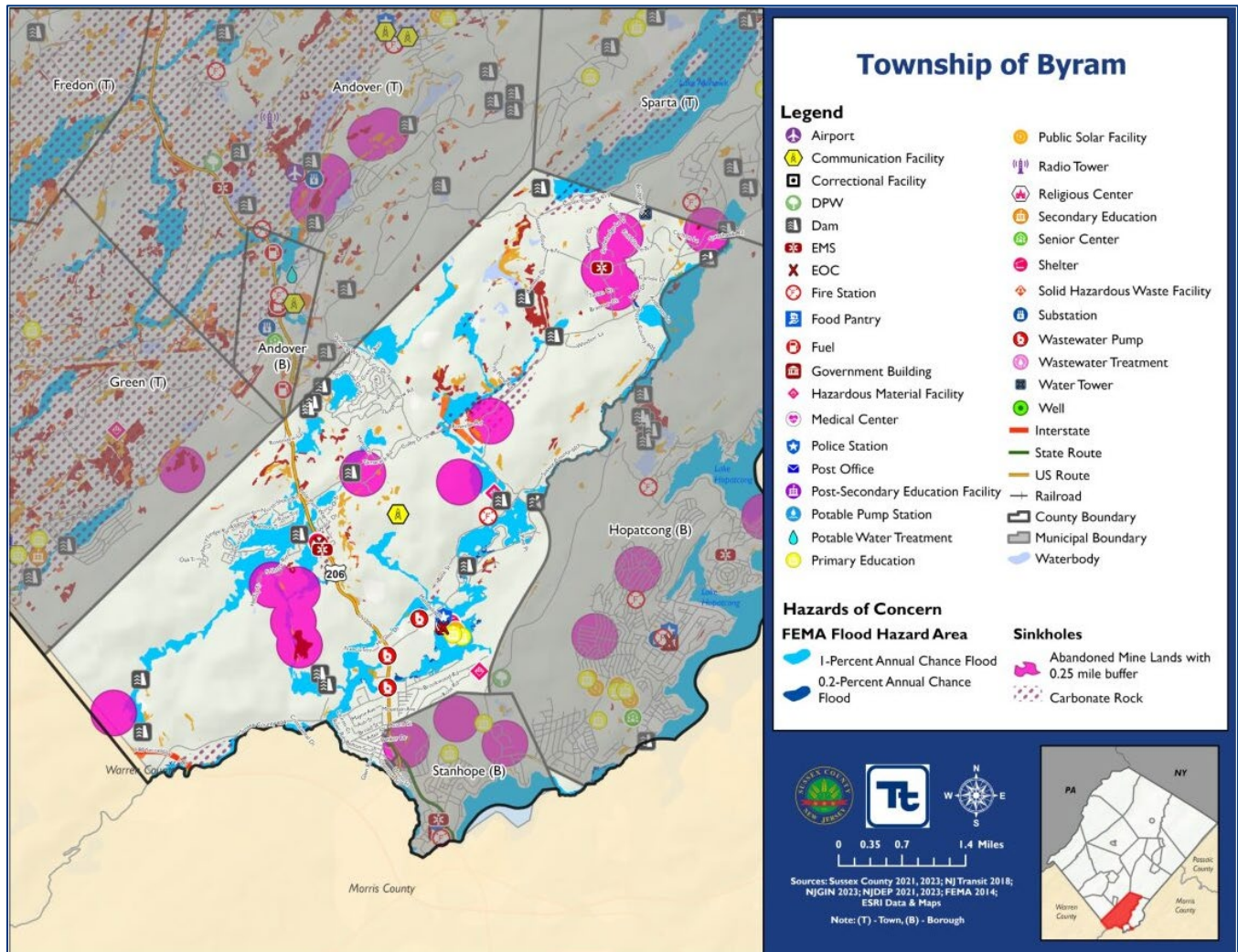


Figure 6-2. Byram Wildfire and HAZMAT Hazard Area Extent and Location Map

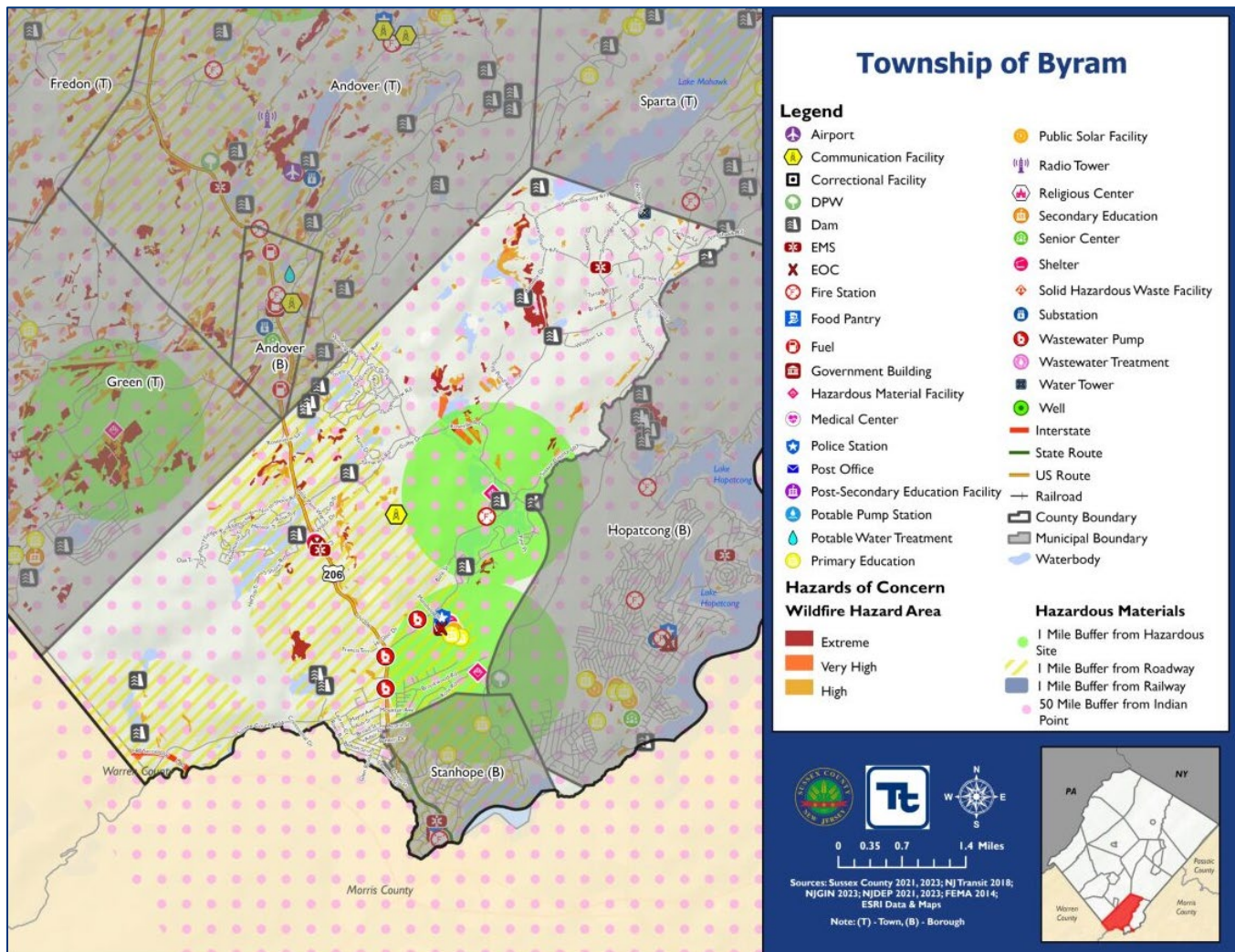
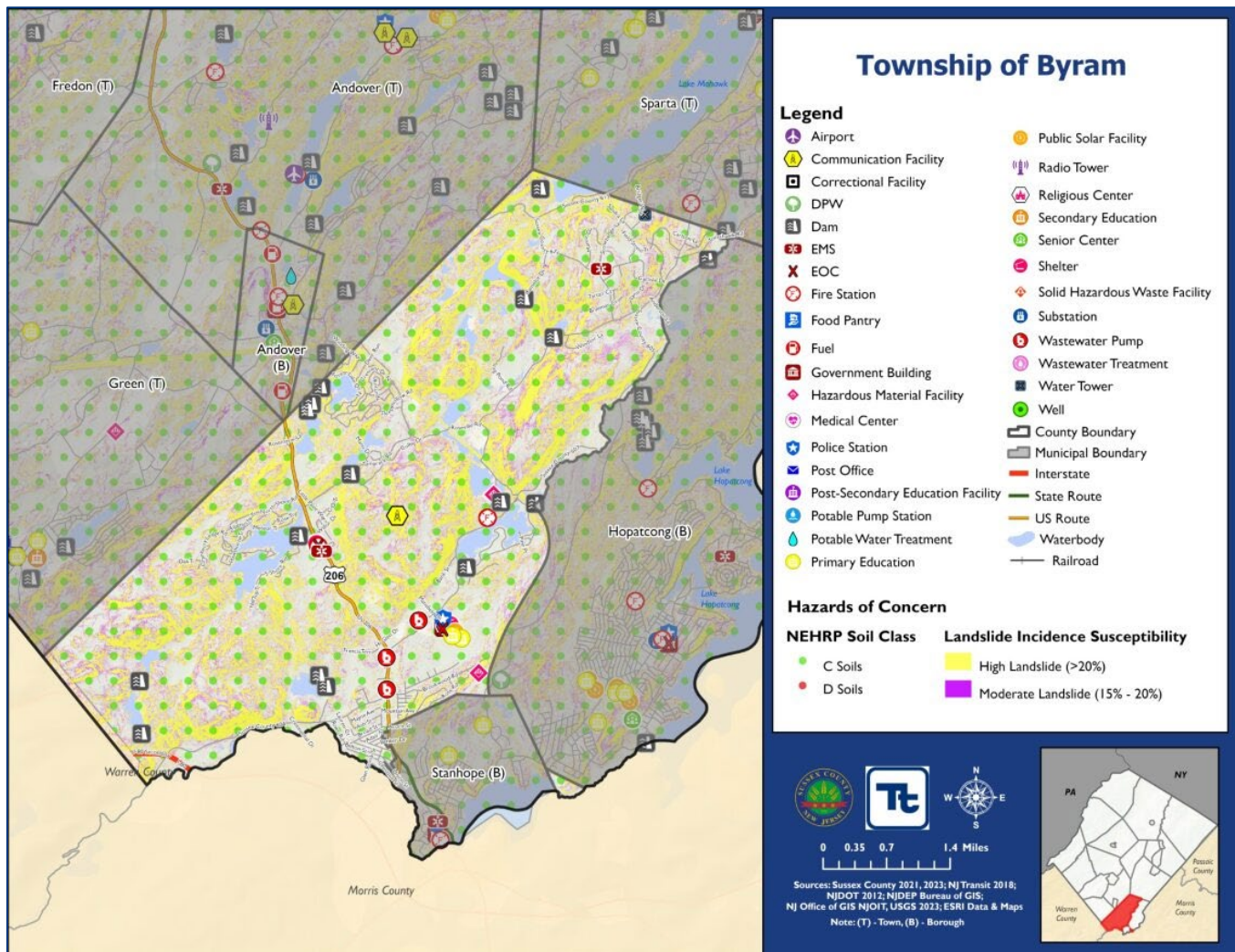




Figure 6-3. Byram NEHRP and Landslide Hazard Area Extent and Location Map





## 6.6.2 Hazard Event History

The history of natural and non-natural hazard events in Byram is detailed in Volume I, where each hazard profile includes a chronology of historical events that have affected the County and its municipalities. Table 6-14 provides details on loss and damage in Byram during hazard events since the last hazard mitigation plan update.

Table 6-14. Hazard Event History in Byram

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in Byram
January 20, 2020 – May 11, 2023	Covid-19 Pandemic (EM-3451-NJ, DR-4488-NJ)	Yes	Sussex County accounted for 37,642 positive cases of COVID-19 in the State of New Jersey, and 425 of the reported deaths. A total of 277,542 vaccinations were delivered in the County to both residents and non-residents.	Mandatory mask and social distancing was implemented throughout the Township.
August 4, 2020	Tropical Storm Isaias (DR-4574-NJ)	Yes	Tropical Storm Isaias brought high winds and heavy rain to Sussex County; there were numerous reports of downed trees and power lines. Observations from surrounding areas suggest sustained tropical storm force winds likely occurred.	No damages, debris clean-up only was reported in the Township.
January 31 – February 2, 2021	Severe Winter Storm (DR-4597-NJ)	Yes	Heavy precipitation developed producing areas of extreme snowfall rates of 2 to 4 inches per hour in northern New Jersey. Numerous reports of 24 to 32 inches were received from across the County.	Damaged snowplows and plow parts were reported in the Township.
September 1-3, 2021	Remnants of Hurricane Ida (EM-3573-NJ, DR-4614-NJ)	Yes	The remnants of Hurricane Ida produced heavy rainfall and flash floods. Widespread flash flooding occurred in Sussex County with numerous road closures.	Although the County was impacted, no damages were recorded within the Township.

EM = Emergency Declaration (FEMA)

FEMA = Federal Emergency Management Agency

DR = Major Disaster Declaration (FEMA)

N/A = Not applicable

## 6.6.3 Hazard Ranking and Vulnerabilities

The hazard profiles in Volume I have detailed information regarding each planning partner's vulnerability to the identified hazards. The following presents key risk assessment results for Byram .



## Hazard Ranking

The participating jurisdictions have differing degrees of vulnerability to the hazards of concern, so each jurisdiction ranked its own degree of risk to each hazard. The community-specific hazard ranking is based on problems and impacts identified by the risk assessment presented in Volume I. The ranking process involves an assessment of the likelihood of occurrence for each hazard; the potential impacts of the hazard on people, property, and the economy; community capabilities to address the hazard; and changing future climate conditions. Byram reviewed the County hazard ranking and individual results to assess the relative risk of the hazards of concern to the community. During the review of the hazard ranking, the Township indicated the following:

- The Township agrees with the calculated hazard rankings in Table 6-15.

Table 6-15 shows Byram's final hazard rankings for identified hazards of concern. Mitigation action development uses the ranking to target hazards with the highest risk.

Table 6-15. Hazard Ranking

Hazard	Rank
Dam Failure	Medium
Disease Outbreak	Low
Drought	Low
Earthquake	Low
Flood	Low
Geological Hazards	Medium
Hazardous Materials	Medium
Hurricane	Medium
Infestation	Low
Nor'easter	High
Severe Weather	High
Severe Winter Weather	High
Wildfire	Medium

*Note: The scale is based on the hazard rankings established in Volume I, modified as appropriate based on review by the jurisdiction*

## Critical Facilities

Table 6-16 identifies critical facilities in the community located in the 1 percent and 0.2 percent annual chance floodplains.



Table 6-16. Critical Facilities Flood Vulnerability

Name	Type	Vulnerability		Addressed by Proposed Action	Already Protected to 0.2% Flood Level (describe protections)
		1% Annual Chance Event	0.2% Annual Chance Event		
Byram Lakes Elementary School	Shelter	Yes	Yes	2025-ByramTwp-10	-
Pump Station 5	Wastewater Pump	Yes	Yes	2025-ByramTwp-10	-
Pump Station 6	Wastewater Pump	Yes	Yes	2025-ByramTwp-10	-
Byram Twp Intermediate School	Shelter	Yes	Yes	2025-ByramTwp-10	-
Cub Lake Dam	Dam	Yes	Yes	2025-ByramTwp-06; 2025-ByramTwp-11	-
Frenches Pond Dam	Dam	Yes	Yes	2025-ByramTwp-06; 2025-ByramTwp-11	-
Johnson Lake Dam	Dam	Yes	Yes	2025-ByramTwp-06; 2025-ByramTwp-11	-
Kofferls Pond Dam	Dam	Yes	Yes	2025-ByramTwp-06; 2025-ByramTwp-11	-
Lake Lackawanna Dam	Dam	Yes	Yes	2025-ByramTwp-06; 2025-ByramTwp-11	-
Panther Lake Dam	Dam	Yes	Yes	2025-ByramTwp-06; 2025-ByramTwp-11	-
Reservoir Lake Dam	Dam	Yes	Yes	2025-ByramTwp-06; 2025-ByramTwp-11	-
Tomahawk Lake Dam	Dam	Yes	Yes	2025-ByramTwp-06; 2025-ByramTwp-11	-
Wolf Lake Dam	Dam	Yes	Yes	2025-ByramTwp-06; 2025-ByramTwp-11	-

Source: Sussex County 2021, 2023; NJGIN 2023

In addition to critical facilities that are exposed to flooding, the following high hazard dams are located in or nearby the Township of Byram:

- Cranberry Lake Dam
- Frenches Pond Dam
- Reservoir Lake Dam

### 6.6.4 Identified Issues

After review of Byram's hazard event history, hazard rankings, hazard location, and current capabilities, Byram identified the following vulnerabilities within the community:

- Dams with poor or unsatisfactory safety ratings have deficiencies that could potentially make dam failure more likely to occur or the consequences of dam failure more significant. The following dams are located





in the municipality and have been found to have either a poor or unsatisfactory safety rating based on their most recent inspections:

- West Shore Trail Dam (poor)
- Jefferson Lake Dam (poor)
- Cranberry Lake Dam (poor)
- There is only one egress located at East Brookwood to help mitigate flooding concerns for over 200 homes. There is also extensive flooding issues on Brookwood Road at intersection of Route 206 nearby due to blockage. Flooded roadways can cause traffic congestion and interrupt the potential evacuation of residents and visitors.
- Frequent flooding events have resulted in damages to residential properties. These properties have been repetitively flooded as documented by paid NFIP claims. The Township has three repetitive loss properties, but other properties may be impacted by flooding as well. Flood prone property owners lack the education and resources to mitigate flood impacts. The Township would like to pursue acquisition/elevation of at least one repetitive loss property.
- The Township faces increasing flood risks due to more intense precipitation events. Incorporating best practices and the most up-to-date NFIP guidance will better protect the Township, its residents, and their properties from potential damage. However, some of the Township staff are not adequately trained to enforce NFIP regulations and/or floodplain management ordinances.
- There is extensive stormwater runoff going through private properties which means the existing culverts are not working properly. The Township needs more information on the existing culverts and how to mitigate the stormwater runoff.
- There is an insufficient amount of data surrounding dam inundation and the resulting flooding within the Township. These structures have the potential to impact those living near and downstream of dams in the jurisdiction and cause damages to property, infrastructure, the environment, and lives.
- Major disaster events can result in large amounts of debris that overwhelm normal trash collection operations. Depending on the amount generated, temporary staging areas for debris collection may be needed. The municipality does not have a disaster debris management plan in place. During a disaster that results in debris, a plan with outlined responsibilities is needed to adequately address post-disaster cleanup operations.
- A recent audit of New Jersey's model ordinances by FEMA for conformance with NFIP, resulted in a review of existing local flood damage prevention ordinances. Based upon FEMA's review, specific language related to NFIP regulations was not consistent. Additionally, it was determined that better coordination was needed between the three sets of regulations that regulate development and construction in the floodplain. These regulations are the NFIP implemented by local floodplain administrators, 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 local Construction Official. NJDEP used this feedback to develop a model Code Coordinated Ordinance and continues to work with municipalities to update flood damage prevention ordinances to the Code Coordinated Ordinance.
- The Township does not have a formalized list of damaged properties or property owners which may be interested in flood mitigation measures, such as elevation or acquisition. Maintaining these lists can assist the Township in identifying and prioritizing properties to mitigate.
- Critical facilities located in the floodplain are not only susceptible to flood damage but also create unnecessary complications for the municipality during an emergency event and post-disaster recovery. The Township has a number of critical facilities in the floodplain including Byram Lakes Elementary School, Pump Station 5, Pump Station 6, And Byram Twp Intermediate School.



- Cub Lake Dam, Frenches Pond Dam, Johnson Lake Dam, Kofferls Pond Dam, Lake Lackawanna Dam, Panther Lake Dam, Reservoir Lake Dam, Tomahawk Lake Dam, and Wolf Lake Dam, all critical infrastructures, are located in the 1- and 0.2-percent flood hazard areas. The Township also has three high-hazard potential dams, the Cranberry Lake Dam, Frenches Pond Dam, and Reservoir Lake Dam, within its jurisdiction. These structures have the potential to impact those living nearby.
- Reservoir Lake Dam is a Class I High Hazard Dam that is located on Chemy Creek. The dam is owned by the Patriots' Path Council, B.S.A. Failure of the dam could result in inundation of forested areas, recreational areas, and local roadways including Wheller Road. Tiny Creek leads from Chemy Creek to Frenches Pond where another High Hazard Potential Dam, Frenches Pond Dam, is situated. The failure of this dam could lead to a compounded failure of Frenches Pond Dam due to the weight of the influx of water. Although the Reservoir Lake Dam was last inspected in 2022 and found to be in satisfactory condition, the risk of dam failure warrants an engineering evaluation to determine if retrofits of the dam would result in safer conditions.
- Cranberry Lake Dam is a Class I High Hazard Dam that is located on Cranberry Lake. The dam is owned by the New Jersey Division of Parks and Forestry. Failure of the dam could result in inundation of forested area, densely populated areas, commercial properties, recreational area, South Shore Road, and State Route 206. The dam was last inspected in 2022 and found to be in poor condition, meaning the risk of dam failure warrants an engineering evaluation to determine if retrofits of the dam would result in safer conditions.
- Frenches Pond Dam is a Class I High Hazard Dam that is located on Frenches Pond. The dam is owned by the Patriots' Path Council, B.S.A. Failure of the dam could result in inundation of forested areas, recreational areas, and local roadways including Wheller Road and Camp Allamuchy Road, and potentially Interstate-80. Another High Hazard Potential Dam, the Reservoir Lake Dam, is connected to Frenches Pond upstream by Tiny Creek. Although the Frenches Pond Dam was last inspected in 2022 and found to be in satisfactory condition, the risk of dam failure warrants an engineering evaluation to determine if retrofits of the dam would result in safer conditions.

## 6.7 MITIGATION STRATEGY AND PRIORITIZATION

This section discusses the status of mitigation actions from the previous HMP, describes proposed hazard mitigation actions, and prioritizes actions to address over the next five years.

### 6.7.1 Past Mitigation Action Status

Table 6-17 indicates progress on the Township's mitigation strategy identified in the 2021 HMP. Actions that are still recommended but not completed or that are in progress are carried forward and combined with new actions as part of the mitigation strategy for this plan update. Previous actions that are now ongoing programs and capabilities are indicated as such and are presented in the capability assessment earlier in this annex.

### 6.7.2 Additional Mitigation Efforts

Byram did not identify any additional mitigation efforts in progress since the last HMP. Since the adoption of the County's first HMP, Byram has made significant mitigation progress in the following areas:

- Public education and outreach.
- Stormwater Management



- Dam Failure Mitigation and Maintenance.



Table 6-17. Status of Previous Mitigation Actions

Project Number	Project Name	Hazard(s) Addressed	Responsible Party	Brief Summary of the Original Problem and the Solution (Project)	Action Review 1. Status (In Progress, Ongoing Capability, No Progress, Complete) 2. Provide a narrative to describe progress or obstacles that have prevented implementation	Next Steps 1. Project to be included in the 2025 HMP or Discontinue 2. If including action in the 2025 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
2021-Byram-001	East Brookwood Alternative Emergency Ingress/Egress	All Hazards	Engineer, Public Works, OEM	<b>Problem:</b> There is no ingress/egress to East Brookwood in the event of an issue that would block Brookwood Road at the intersection of Route 206.  <b>Solution:</b> The Township will develop an alternate ingress/egress to East Brookwood in the event of an issue that would block Brookwood Road at the intersection of Rout 206.	1. No Progress 2. The Township is reviewing options for this project. All options require access to private property or bridge replacement.	1. Keep in the 2025 HMP. 2. The Township will explore funding options to conduct an engineering study of East Brookwood Estate drainage issues and implement the most cost-effective mitigation actions identified. 3. Not applicable
2021-Byram-002	East Brookwood Estates Drainage	Flood, Severe Weather	Township Engineer, DPW, Planning Board	<b>Problem:</b> East Brookwood Estates experiences drainage issues.  <b>Solution:</b> The Township will conduct an engineering study of East Brookwood Estate drainage issues and pursue identified cost-effective mitigation actions identified by the study.	1. No Progress 2. Township has not progressed on this project due to lack of funding and staff.	1. Keep in the 2025 HMP. 2. The Township will explore funding options to conduct an engineering study of East Brookwood Estate drainage issues and implement the most cost-effective mitigation actions identified. 3. Not applicable
2021-Byram-003	Floodplain Management Capabilities	Flood	NFIP FPA, Emergency Management Coordinator, Emergency	<b>Problem:</b> The Township has flood risk. Staff could benefit from additional training.  <b>Solution:</b> Have designated NFIP Floodplain Administrator	1. Ongoing Capabilities 2. Floodplain Administrator needs the required training.	1. Keep in the 2025 HMP. 2. The Township will explore NFIP training opportunities for the Floodplain Administrator to pursue acquisition of RL properties. As well, the Floodplain Administer will



Project Number	Project Name	Hazard(s) Addressed	Responsible Party	Brief Summary of the Original Problem and the Solution (Project)	Action Review 1. Status (In Progress, Ongoing Capability, No Progress, Complete) 2. Provide a narrative to describe progress or obstacles that have prevented implementation	Next Steps 1. Project to be included in the 2025 HMP or Discontinue 2. If including action in the 2025 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
			Management Council	(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).		implement educational opportunities and outreach administer to repetitive loss property owners to explore flood mitigation actions and funding available. 3. Not applicable
2021-Byram-004	Upgrade and Improve Culverts on Little Paint Way	Flood, Severe Weather	Engineer, DPW Supervisor	<b>Problem:</b> Little Paint Way experiences slow drainage and flooding issues, attributed to undersized culverts.  <b>Solution:</b> The Engineer will survey the existing culverts and determine what culvert improvements are necessary. The DPW Supervisor will then carry out the identified culvert improvements.	1. Completed 2. New culvert was installed in 2022 to improve flooding conditions along Little Paint Way.	1. Discontinue 2. N/A 3. Completed – flood prevention project constructed in 2022.
2021-Byram-005	Dam Inundation	Dam Failure	Township of Byram; NJDEP Dam Safety	<b>Problem:</b> The Township has 17 dams which may pose a risk to life and property.  <b>Solution:</b> Review status of all 17 dams in Township and identify if inundation studies for these dams needs to be conducted.	1.In Progress 2. Inspections are ongoing.	1.Keep in the 2025 HMP. 2. The Township will conduct dam inundation modeling in high-risk areas, prioritizing those dams and their downstream areas that are classified as a high or significant hazard. 3. Not applicable



Project Number	Project Name	Hazard(s) Addressed	Responsible Party	Brief Summary of the Original Problem and the Solution (Project)	Action Review 1. Status (In Progress, Ongoing Capability, No Progress, Complete) 2. Provide a narrative to describe progress or obstacles that have prevented implementation	Next Steps 1. Project to be included in the 2025 HMP or Discontinue 2. If including action in the 2025 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
2021-Byram-006	Repetitive Loss Mitigation	Flood, Severe Weather	NFIP Floodplain Administrator, supported by homeowners	<p><b>Problem:</b> Frequent flooding events have resulted in damages to residential properties. These properties have been repetitively flooded as documented by paid NFIP claims. The Township has 3 repetitive loss properties but other properties may be impacted by flooding as well.</p> <p><b>Solution:</b> Conduct outreach to 10 flood-prone property owners, including RL/SRL properties owners and provide information on mitigation alternatives. After preferred mitigation measures are identified, collect required property-owner information and develop a FEMA grant application and BCA to obtain funding implement acquisition/purchase/moving/elevating residential homes in the flood prone areas that experience frequent flooding (high risk areas).</p>	1. In Progress 2. Falls into the repetitive loss properties.	1. Keep in the 2025 HMP. 2. The Township will explore NFIP training opportunities for the Floodplain Administrator to pursue acquisition of RL properties. As well, the Floodplain Administrator will implement educational opportunities and outreach administer to repetitive loss property owners to explore flood mitigation actions and funding available. 3. Not applicable





Project Number	Project Name	Hazard(s) Addressed	Responsible Party	Brief Summary of the Original Problem and the Solution (Project)	Action Review 1. Status (In Progress, Ongoing Capability, No Progress, Complete) 2. Provide a narrative to describe progress or obstacles that have prevented implementation	Next Steps 1. Project to be included in the 2025 HMP or Discontinue 2. If including action in the 2025 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
2021-Byram-007	Disaster Debris Management Plan	All Hazards	OEM, Public Works	<b>Problem:</b> The Township will develop and adopt a standalone Disaster Debris Management Plan.  <b>Solution:</b> The Township will develop and adopt a standalone Disaster Debris Management Plan.	1. In Progress 2. Slowed progress due to other Township priorities	1. Keep in the 2025 HMP. 2. The Township will continue to work on developing and adoption of a standalone Disaster Debris Management Plan. 3. Not applicable
2021-Byram-008	Flood Damage Prevention Ordinance Update	Flood	FPA, Administration	<b>Problem:</b> The Township will update the Ordinance to include freeboard.  <b>Solution:</b> The Township will update the Ordinance to include freeboard.	1. No Progress 2. No progress due to other Township priorities	1. Include in the 2025 HMP. 2. The Township will update its flood damage prevention ordinance to meet the New Jersey requirement of one foot of freeboard. 3. Not applicable



### 6.7.3 Proposed Hazard Mitigation Actions for the HMP Update

Byram participated in the mitigation strategy workshop for this HMP to identify appropriate actions to include in a local hazard mitigation strategy. Its comprehensive consideration of all possible activities to address hazards of concern included review of the following FEMA documents:

- FEMA 551 “Selecting Appropriate Mitigation Measures for Floodprone Structures” (March 2007)
- FEMA “Mitigation Ideas—A Resource for Reducing Risk to Natural Hazards” (January 2013).

The action worksheets included at the end of this annex list the mitigation actions that Byram would like to pursue in the future to reduce the effects of hazards. The actions 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 Township priorities.

Table 6-18 indicates the range of proposed mitigation action categories. The four FEMA mitigation action categories and the six CRS mitigation action categories are listed in the table to further demonstrate the wide range of activities and mitigation measures selected.

Volume I identifies 14 evaluation criteria for prioritizing the mitigation actions. To assist with rating each mitigation action as high, medium, or low priority, a numeric rank is assigned (-1, 0, or 1) for each of the evaluation criteria. Table 6-19 provides a summary of the prioritization of all proposed mitigation actions for the HMP update.



Table 6-18. Analysis of Mitigation Actions by Hazard and Category

Hazard	Actions That Address the Hazard, by Action Category									
	FEMA				CRS					
	LPR	SIP	NSP	EAP	PR	PP	PI	NR	SP	ES
Dam Failure	X	X		X	X		X		X	X
Disease Outbreak										
Drought										
Earthquake	X				X					X
Flood	X	X		X	X	X	X		X	X
Geological Hazards	X				X					X
Hazardous Materials	X				X					X
Hurricane	X	X			X				X	X
Infestation										
Nor'easter	X	X			X				X	X
Severe Weather	X	X			X				X	X
Severe Winter Weather	X				X					X
Wildfire	X				X					X

**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 structures to reduce the impact of hazards.

**Natural Systems Protection (NSP)**—These are actions that minimize damage and losses and 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

**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 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 6-19. Summary of Prioritization of Actions

Project Number	Project Name	Scores for Evaluation Criteria															High / Medium / Low
		Life Safety	Property Protection	Cost-Effectiveness	Political	Legal	Fiscal	Environmental	Social Vulnerability	Administrative	Hazards of Concern	Climate Change	Timeline	Community Lifelines	Other Local Objectives	Total	
2025-ByramTwp-01	NJDEP Dam Repair	1	1	1	0	0	1	1	1	1	1	1	1	1	1	12	High
2025-ByramTwp-02	East Brookwood Engineering Study	1	1	1	0	0	1	1	1	1	1	1	1	1	1	12	High
2025-ByramTwp-03	Repetitive Loss Properties	1	1	1	1	1	0	1	1	1	1	1	1	0	1	12	High
2025-ByramTwp-04	NFIP Training	1	1	1	1	1	1	0	1	1	1	1	1	0	1	12	High
2025-ByramTwp-05	Culvert Assessment and Upgrades	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	High
2025-ByramTwp-06	Dam Failure Inundation Mapping	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	High
2025-ByramTwp-07	Disaster Debris Management Plan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	High
2025-ByramTwp-08	Code Coordinated Ordinance	0	1	1	1	1	1	0	1	1	1	1	1	1	1	12	High
2025-ByramTwp-09	Flood Mitigation Interest	1	1	1	1	1	1	1	1	1	0	1	1	1	1	13	High
2025-ByramTwp-10	Critical Facilities in the Floodplain	0	1	1	1	1	0	0	0	1	0	1	1	1	0	8	Medium
2025-ByramTwp-11	Dam Owner Partnership	1	1	1	1	1	1	0	1	1	0	1	1	1	0	11	High
2025-ByramTwp-12	Reservoir Lake Dam Rehab	1	1	1	1	0	0	1	1	1	0	1	1	1	1	11	High
2025-ByramTwp-13	Cranberry Lake Dam Rehab	1	1	1	1	0	0	1	1	1	0	1	1	1	1	11	High



Project Number	Project Name	Scores for Evaluation Criteria														Total	High / Medium / Low
		Life Safety	Property Protection	Cost-Effectiveness	Political	Legal	Fiscal	Environmental	Social Vulnerability	Administrative	Hazards of Concern	Climate Change	Timeline	Community Lifelines	Other Local Objectives		
2025-ByramTwp-14	Frenches Pond Dam Rehab	1	1	1	1	0	0	1	1	1	0	1	1	1	1	11	High

*Note: Volume I, Section 21 (Mitigation Strategy) conveys guidance on prioritizing mitigation actions. Low (0-6), Medium (7-10), High (11-14).*



## Action 2025-ByramTwp-01. NJDEP Dam Repair

<b>Lead Agency:</b>	Engineer						
<b>Supporting Agencies:</b>	Dam Manager, NJDEP Bureau of Dam Safety, County Engineer						
<b>Hazard(s) of Concern:</b>	<table><tr><td><input checked="" type="checkbox"/> Dam Failure <input type="checkbox"/> Disease Outbreak <input type="checkbox"/> Drought <input type="checkbox"/> Earthquake <input checked="" type="checkbox"/> Flood <input type="checkbox"/> Geological Hazards <input type="checkbox"/> Hazardous Materials</td><td><input type="checkbox"/> Hurricane <input type="checkbox"/> Infestation <input type="checkbox"/> Nor'easter <input type="checkbox"/> Severe Weather <input type="checkbox"/> Severe Winter Weather <input type="checkbox"/> Wildfire</td></tr></table>			<input checked="" type="checkbox"/> Dam Failure <input type="checkbox"/> Disease Outbreak <input type="checkbox"/> Drought <input type="checkbox"/> Earthquake <input checked="" type="checkbox"/> Flood <input type="checkbox"/> Geological Hazards <input type="checkbox"/> Hazardous Materials	<input type="checkbox"/> Hurricane <input type="checkbox"/> Infestation <input type="checkbox"/> Nor'easter <input type="checkbox"/> Severe Weather <input type="checkbox"/> Severe Winter Weather <input type="checkbox"/> Wildfire		
<input checked="" type="checkbox"/> Dam Failure <input type="checkbox"/> Disease Outbreak <input type="checkbox"/> Drought <input type="checkbox"/> Earthquake <input checked="" type="checkbox"/> Flood <input type="checkbox"/> Geological Hazards <input type="checkbox"/> Hazardous Materials	<input type="checkbox"/> Hurricane <input type="checkbox"/> Infestation <input type="checkbox"/> Nor'easter <input type="checkbox"/> Severe Weather <input type="checkbox"/> Severe Winter Weather <input type="checkbox"/> Wildfire						
<b>Description of the Problem:</b>	<p>Dams with poor or unsatisfactory safety ratings have deficiencies that could potentially make dam failure more likely to occur or the consequences of dam failure more significant. The following dams are located in the municipality and have been found to have either a poor or unsatisfactory safety rating based on their most recent inspections:</p> <ul style="list-style-type: none"><li>• West Shore Trail Dam (poor)</li><li>• Jefferson Lake Dam (poor)</li><li>• Cranberry Lake Dam (poor)</li></ul>						
<b>Description of the Solution:</b>	<p>The municipal engineer will work with dam managers, the NJDEP Bureau of Dam Safety, and the County Engineer to review the most recent inspections of dams in the municipality that have resulted in a poor or unsatisfactory safety rating, identify the deficiencies, determine the necessary repairs and improvements necessary to address the deficiencies, identify available funding sources for the identified repairs/improvements, and implement the cost-effective repairs/improvements.</p>						
<b>Estimated Cost:</b>	Low for initial assessment of options, TBD for total cost based on mitigation actions selected						
<b>Potential Funding Sources:</b>	NJDEP, Annual Budget						
<b>Implementation Timeline:</b>	Within 5 years						
<b>Goals Met:</b>	1, 2, 3						
<b>Benefits:</b>	<p>Dam failure will be avoided, which will reduce the risk of harm to people and property downstream. Certain safety requirements will be met that can allow for funding to be received for further mitigation projects.</p>						
<b>Impact on Socially Vulnerable Populations:</b>	<p>The most vulnerable populations may live directly downstream of the dam and lack the ability to receive notifications of dam failure or evacuate when notified. Preventing dam failure allows those communities to remain intact and reduces the risk of loss of life and property in those areas.</p>						
<b>Impact on Future Development:</b>	Future development downstream of dams will also be protected from dam failure.						
<b>Impact on Critical Facilities/Lifelines:</b>	Critical roads and utilities will be protected from potential damage or loss from unintended dam releases.						
<b>Impact on Capabilities:</b>	Not applicable						
<b>Climate Change Considerations:</b>	<p>Climate change is resulting in an increase to annual precipitation. Much of this increase is in the form of heavy rainfall events. Consideration should be taken for increases in frequency and severity of rainfall events to ensure that the dam is designed to withstand these increases.</p>						
<b>Mitigation Category</b>	<table><tr><td><input type="checkbox"/> Local Plans and Regulations (LPR) <input checked="" type="checkbox"/> Structure and Infrastructure Project (SIP)</td><td><input type="checkbox"/> Natural Systems Protection (NSP) <input checked="" type="checkbox"/> Education and Awareness Programs (EAP)</td></tr></table>			<input type="checkbox"/> Local Plans and Regulations (LPR) <input checked="" type="checkbox"/> Structure and Infrastructure Project (SIP)	<input type="checkbox"/> Natural Systems Protection (NSP) <input checked="" type="checkbox"/> Education and Awareness Programs (EAP)		
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<b>CRS Category</b>	<table><tr><td><input type="checkbox"/> Preventative Measures (PR) <input type="checkbox"/> Property Protection (PP) <input checked="" type="checkbox"/> Public Information (PI)</td><td><input type="checkbox"/> Natural Resource Protection (NR) <input checked="" type="checkbox"/> Structural Flood Control Projects (SP) <input type="checkbox"/> Emergency Services (ES)</td></tr></table>			<input type="checkbox"/> Preventative Measures (PR) <input type="checkbox"/> Property Protection (PP) <input checked="" type="checkbox"/> Public Information (PI)	<input type="checkbox"/> Natural Resource Protection (NR) <input checked="" type="checkbox"/> Structural Flood Control Projects (SP) <input type="checkbox"/> Emergency Services (ES)		
<input type="checkbox"/> Preventative Measures (PR) <input type="checkbox"/> Property Protection (PP) <input checked="" type="checkbox"/> Public Information (PI)	<input type="checkbox"/> Natural Resource Protection (NR) <input checked="" type="checkbox"/> Structural Flood Control Projects (SP) <input type="checkbox"/> Emergency Services (ES)						
<b>Priority</b>	<input checked="" type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low				
<b>Alternatives:</b>	<table><thead><tr><th>Action</th><th>Evaluation</th></tr></thead><tbody><tr><td>No Action</td><td>Risk of dam failure remains or increases over time</td></tr></tbody></table>			Action	Evaluation	No Action	Risk of dam failure remains or increases over time
Action	Evaluation						
No Action	Risk of dam failure remains or increases over time						





	Work without County Engineer involvement	Improvements made but may lack appropriate support from County, including data and potential funding access
	Remove all dams	Without proper analysis, dam removal may increase flooding risk



## Action 2025-ByramTwp-02. East Brookwood Engineering Study

<b>Lead Agency:</b>	Engineer																
<b>Supporting Agencies:</b>	Public Works, OEM																
<b>Hazard(s) of Concern:</b>	<table><tr><td><input type="checkbox"/> Dam Failure</td><td><input type="checkbox"/> Hurricane</td></tr><tr><td><input type="checkbox"/> Disease Outbreak</td><td><input type="checkbox"/> Infestation</td></tr><tr><td><input type="checkbox"/> Drought</td><td><input type="checkbox"/> Nor'easter</td></tr><tr><td><input type="checkbox"/> Earthquake</td><td><input checked="" type="checkbox"/> Severe Weather</td></tr><tr><td><input checked="" type="checkbox"/> Flood</td><td><input type="checkbox"/> Severe Winter Weather</td></tr><tr><td><input type="checkbox"/> Geological Hazards</td><td><input type="checkbox"/> Wildfire</td></tr><tr><td><input type="checkbox"/> Hazardous Materials</td><td></td></tr></table>			<input type="checkbox"/> Dam Failure	<input type="checkbox"/> Hurricane	<input type="checkbox"/> Disease Outbreak	<input type="checkbox"/> Infestation	<input type="checkbox"/> Drought	<input type="checkbox"/> Nor'easter	<input type="checkbox"/> Earthquake	<input checked="" type="checkbox"/> Severe Weather	<input checked="" type="checkbox"/> Flood	<input type="checkbox"/> Severe Winter Weather	<input type="checkbox"/> Geological Hazards	<input type="checkbox"/> Wildfire	<input type="checkbox"/> Hazardous Materials	
<input type="checkbox"/> Dam Failure	<input type="checkbox"/> Hurricane																
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<input type="checkbox"/> Drought	<input type="checkbox"/> Nor'easter																
<input type="checkbox"/> Earthquake	<input checked="" type="checkbox"/> Severe Weather																
<input checked="" type="checkbox"/> Flood	<input type="checkbox"/> Severe Winter Weather																
<input type="checkbox"/> Geological Hazards	<input type="checkbox"/> Wildfire																
<input type="checkbox"/> Hazardous Materials																	
<b>Description of the Problem:</b>	There is only one egress located at East Brookwood to help mitigate flooding concerns for over 200 homes. There is also extensive flooding issues on Brookwood Road at intersection of Route 206 nearby due to blockage. Flooded roadways can cause traffic congestion and interrupt the potential evacuation of residents and visitors.																
<b>Description of the Solution:</b>	The Township will explore funding options to conduct an engineering study of East Brookwood drainage issues and implement the most cost-effective mitigation actions identified. Once the preferred alternative is identified, the Township will carry out the implementation of this project. The Township will develop an alternate ingress/egress to East Brookwood in the event of an issue that would block Brookwood Road at the intersection of Rout 206.																
<b>Estimated Cost:</b>	High																
<b>Potential Funding Sources:</b>	Township budget, staff time, HMGP																
<b>Implementation Timeline:</b>	Within 5 years																
<b>Goals Met:</b>	1, 2, 3, 4																
<b>Benefits:</b>	Residents in East Brookwood will be protected against flood events.																
<b>Impact on Socially Vulnerable Populations:</b>	Socially vulnerable populations, such as the elderly, disabled, or children, which reside in East Brookwood may not have the capabilities to respond or evacuate from severe flood events. This action would mitigate flood events and lessen the impacts to these people in the community.																
<b>Impact on Future Development:</b>	Future development planned for East Brookwood, like additional housing, will be protected from future flood concerns.																
<b>Impact on Critical Facilities/Lifelines:</b>	Route 206 is a critical roadway for the Township as a whole. This action will protect this roadway from flood impacts.																
<b>Impact on Capabilities:</b>	EMS and first responders need access to East Brookwood in times of emergency events. This action will ensure they are able to still access this neighborhood during flood events and are able to use Route 206 during deployment.																
<b>Climate Change Considerations:</b>	Climate change will increase the severity and frequency of flood and sever storm events. This action considers this increase and will mitigate future flood concerns.																
<b>Mitigation Category</b>	<table><tr><td><input checked="" type="checkbox"/> Local Plans and Regulations (LPR)</td><td><input type="checkbox"/> Natural Systems Protection (NSP)</td></tr><tr><td><input type="checkbox"/> Structure and Infrastructure Project (SIP)</td><td><input type="checkbox"/> Education and Awareness Programs (EAP)</td></tr></table>			<input checked="" type="checkbox"/> Local Plans and Regulations (LPR)	<input type="checkbox"/> Natural Systems Protection (NSP)	<input type="checkbox"/> Structure and Infrastructure Project (SIP)	<input type="checkbox"/> Education and Awareness Programs (EAP)										
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<b>Priority</b>	<input checked="" type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low														
<b>Alternatives:</b>	<table><tr><th>Action</th><th>Evaluation</th></tr><tr><td>No Action</td><td>The problem persists.</td></tr><tr><td>Remove neighborhood</td><td>Not feasible to remove 200 homes, and there will be a large, displaced population.</td></tr><tr><td>Relocated neighbor and roadway</td><td>Not feasible, there is not available space elsewhere to relocate 200 homes and it is costly to do so</td></tr></table>	Action	Evaluation	No Action	The problem persists.	Remove neighborhood	Not feasible to remove 200 homes, and there will be a large, displaced population.	Relocated neighbor and roadway	Not feasible, there is not available space elsewhere to relocate 200 homes and it is costly to do so								
Action	Evaluation																
No Action	The problem persists.																
Remove neighborhood	Not feasible to remove 200 homes, and there will be a large, displaced population.																
Relocated neighbor and roadway	Not feasible, there is not available space elsewhere to relocate 200 homes and it is costly to do so																



## Action 2025-ByramTwP-03. Repetitive Loss Properties

<b>Lead Agency:</b>	Floodplain Administrator		
<b>Supporting Agencies:</b>	Sussex County		
<b>Hazard(s) of Concern:</b>	<input type="checkbox"/> Dam Failure <input type="checkbox"/> Disease Outbreak <input type="checkbox"/> Drought <input type="checkbox"/> Earthquake <input checked="" type="checkbox"/> Flood <input type="checkbox"/> Geological Hazards <input type="checkbox"/> Hazardous Materials <input type="checkbox"/> Hurricane <input type="checkbox"/> Infestation <input type="checkbox"/> Nor'easter <input type="checkbox"/> Severe Weather <input type="checkbox"/> Severe Winter Weather <input type="checkbox"/> Wildfire		
<b>Description of the Problem:</b>	Frequent flooding events have resulted in damages to residential properties. These properties have been repetitively flooded as documented by paid NFIP claims. The Township has three repetitive loss properties, but other properties may be impacted by flooding as well. Flood prone property owners lack the education and resources to mitigate flood impacts. The Township would like to pursue acquisition/elevation of at least one repetitive loss property.		
<b>Description of the Solution:</b>	The Township will promote and support non-structural flood hazard mitigation alternatives for at risk properties within the floodplain, including those that have been identified as Repetitive Loss (RL), such as acquisition/relocation or elevation depending on feasibility. The parameters for this initiative would be funding, benefits versus cost, and willing participation of property owners.		
<b>Estimated Cost:</b>	Medium		
<b>Potential Funding Sources:</b>	FEMA FMA, FMA SWIFT, Municipal Budget, County Budget, Property Owners		
<b>Implementation Timeline:</b>	3 years		
<b>Goals Met:</b>	2, 3		
<b>Benefits:</b>	This action would foster comprehensive floodplain management by removing at risk properties from the flood hazard area or elevating properties to reduce the flood risk.		
<b>Impact on Socially Vulnerable Populations:</b>	Socially vulnerable populations may be able to have houses elevated or acquired when it would otherwise be unaffordable.		
<b>Impact on Future Development:</b>	Increased outreach to homeowners within a flood prone area will limit construction in areas that are prone to hazard events. Homes may be acquired, which will remove those structures from the floodplain and prevent future development on those sites.		
<b>Impact on Critical Facilities/Lifelines:</b>	Removing structures from the floodplain decreases the demand on utilities and emergency services including health and medical, law enforcement, and search and rescue.		
<b>Impact on Capabilities:</b>	This action will enhance the Township's current NFIP capabilities.		
<b>Climate Change Considerations:</b>	A warmer atmosphere means storms have the potential to be more intense and occur more often, including increased periods of intense rain events.		
<b>Mitigation Category</b>	<input type="checkbox"/> Local Plans and Regulations (LPR) <input checked="" type="checkbox"/> Structure and Infrastructure Project (SIP) <input type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)		
<b>CRS Category</b>	<input type="checkbox"/> Preventative Measures (PR) <input checked="" type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI) <input type="checkbox"/> Natural Resource Protection (NR) <input checked="" type="checkbox"/> Structural Flood Control Projects (SP) <input type="checkbox"/> Emergency Services (ES)		
<b>Priority</b>	<input checked="" type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low
<b>Alternatives:</b>	<b>Action</b>		<b>Evaluation</b>
	No action		Current problem continues
	Construct flood walls/barriers around vulnerable areas		Costly and can divert floodwaters to other areas
	Deployable flood barriers for vulnerable areas		Requires a great deal of work to implement prior to each event



## Action 2025-ByramTwp-04. NFIP Training

<b>Lead Agency:</b>	Floodplain Administrator										
<b>Supporting Agencies:</b>	Building Department, Township Administration										
<b>Hazard(s) of Concern:</b>	<div><input type="checkbox"/> Dam Failure</div> <div><input type="checkbox"/> Disease Outbreak</div> <div><input type="checkbox"/> Drought</div> <div><input type="checkbox"/> Earthquake</div> <div><input checked="" type="checkbox"/> Flood</div> <div><input type="checkbox"/> Geological Hazards</div> <div><input type="checkbox"/> Hazardous Materials</div> <div><input type="checkbox"/> Hurricane</div> <div><input type="checkbox"/> Infestation</div> <div><input type="checkbox"/> Nor'easter</div> <div><input type="checkbox"/> Severe Weather</div> <div><input type="checkbox"/> Severe Winter Weather</div> <div><input type="checkbox"/> Wildfire</div>										
<b>Description of the Problem:</b>	The Township faces increasing flood risks due to more intense precipitation events. Incorporating best practices and the most up-to-date NFIP guidance will better protect the Township, its residents, and their properties from potential damage. However, some of the Township staff are not adequately trained to enforce NFIP regulations and/or floodplain management ordinances.										
<b>Description of the Solution:</b>	Where feasible, the Township will have staff attend trainings at FEMA's EMI in Emmitsburg Maryland for NFIP Basics and the Intermediate Floodplain management course (E0273). Where not feasible, officials will attend virtual trainings and review available resources from FEMA and ASFPM at the ASFPM ( <a href="https://www.floods.org/">https://www.floods.org/</a> ) website.										
<b>Estimated Cost:</b>	Medium										
<b>Potential Funding Sources:</b>	Municipal Budget										
<b>Implementation Timeline:</b>	3 years										
<b>Goals Met:</b>	1, 2, 3										
<b>Benefits:</b>	Providing an opportunity for County and municipal staff and officials to become further educated on floodplain management practices and standards can aid in the development of plans and procedures in a way that is conscious of the flood hazard.										
<b>Impact on Socially Vulnerable Populations:</b>	Officials that are up to date on flood risk are more likely to encourage development outside areas of high flood risk, which is where socially vulnerable populations have historically resided. Safer dwellings may be developed in a less vulnerable location.										
<b>Impact on Future Development:</b>	Officials that understand best practices in floodplain management will have the opportunity to influence future development and prevent unsafe building in flood hazard areas.										
<b>Impact on Critical Facilities/Lifelines:</b>	The opportunity will exist for leaders and operators of utilities and other essential services to attend training and provide direction on ways the prepare for, plan for, and prevent interruptions in service as a result of a flood.										
<b>Impact on Capabilities:</b>	Officials that attend trainings will have a more confident understanding of floodplain management principles and the basics of NFIP requirements and standards.										
<b>Climate Change Considerations:</b>	Climate change is likely to result in stronger and more frequent rainfall events that will contribute to increased flood risk										
<b>Mitigation Category</b>	<div><input type="checkbox"/> Local Plans and Regulations (LPR)</div> <div><input type="checkbox"/> Structure and Infrastructure Project (SIP)</div> <div><input type="checkbox"/> Natural Systems Protection (NSP)</div> <div><input checked="" type="checkbox"/> Education and Awareness Programs (EAP)</div>										
<b>CRS Category</b>	<div><input type="checkbox"/> Preventative Measures (PR)</div> <div><input checked="" type="checkbox"/> Property Protection (PP)</div> <div><input checked="" type="checkbox"/> Public Information (PI)</div> <div><input type="checkbox"/> Natural Resource Protection (NR)</div> <div><input type="checkbox"/> Structural Flood Control Projects (SP)</div> <div><input type="checkbox"/> Emergency Services (ES)</div>										
<b>Priority</b>	<input checked="" type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low								
<b>Alternatives:</b>	<table><tr><th>Action</th><th>Evaluation</th></tr><tr><td>No action</td><td>Current problem continues</td></tr><tr><td>Hire outside contractors for floodplain administration</td><td>Costly</td></tr><tr><td>Establish shared service agreements for floodplain administration from neighboring municipalities</td><td>Neighboring municipalities are unlikely to have the staff capacity to take on this role</td></tr></table>	Action	Evaluation	No action	Current problem continues	Hire outside contractors for floodplain administration	Costly	Establish shared service agreements for floodplain administration from neighboring municipalities	Neighboring municipalities are unlikely to have the staff capacity to take on this role		
Action	Evaluation										
No action	Current problem continues										
Hire outside contractors for floodplain administration	Costly										
Establish shared service agreements for floodplain administration from neighboring municipalities	Neighboring municipalities are unlikely to have the staff capacity to take on this role										



## Action 2025-ByramTwp-05. Culvert Assessment and Upgrades

<b>Lead Agency:</b>	Engineer, DPW Supervisor		
<b>Supporting Agencies:</b>	Public Works		
<b>Hazard(s) of Concern:</b>	<div> <input type="checkbox"/> Dam Failure         <input type="checkbox"/> Disease Outbreak         <input type="checkbox"/> Drought         <input type="checkbox"/> Earthquake         <input checked="" type="checkbox"/> Flood         <input type="checkbox"/> Geological Hazards         <input type="checkbox"/> Hazardous Materials       </div> <div> <input checked="" type="checkbox"/> Hurricane         <input type="checkbox"/> Infestation         <input checked="" type="checkbox"/> Nor'easter         <input checked="" type="checkbox"/> Severe Weather         <input type="checkbox"/> Severe Winter Weather         <input type="checkbox"/> Wildfire       </div>		
<b>Description of the Problem:</b>	There is extensive stormwater runoff going through private properties which means the existing culverts are not working properly. The Township needs more information on the existing culverts and how to mitigate the stormwater runoff.		
<b>Description of the Solution:</b>	The Engineer will survey the existing culverts and determine what culvert improvements are necessary. Public Works will then carry out the identified culvert improvements.		
<b>Estimated Cost:</b>	Low		
<b>Potential Funding Sources:</b>	Township budget, staff time		
<b>Implementation Timeline:</b>	Short		
<b>Goals Met:</b>	1, 2		
<b>Benefits:</b>	Residents in the Township will be protected against severe stormwater runoff during severe storm events.		
<b>Impact on Socially Vulnerable Populations:</b>	Areas that were previously vulnerable to frequency or severe flooding events will be less likely to be impacted by flooding events. Socially vulnerable populations, such as the elderly or disabled will be protected from increase stormwater runoff and severe flooding.		
<b>Impact on Future Development:</b>	Future development in the impacted area will be less likely to be flooded due to maintained culvert systems.		
<b>Impact on Critical Facilities/Lifelines:</b>	Evacuation routes and access to health and medical facilities will be maintained, both for healthcare workers and the population who requires treatment for injuries and illness.		
<b>Impact on Capabilities:</b>	Identifying the culverts that are at greatest risk of damage or failure can allow for resource staging to take place where the need is greatest ahead of a flood event.		
<b>Climate Change Considerations:</b>	Climate change is likely to result in more frequent and severe rainfall events. This action upsizes culvert sizes to meet changing stormwater needs as the result of climate change.		
<b>Mitigation Category</b>	<input type="checkbox"/> Local Plans and Regulations (LPR) <input checked="" type="checkbox"/> Structure and Infrastructure Project (SIP) <input type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)		
<b>CRS Category</b>	<input type="checkbox"/> Preventative Measures (PR) <input type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI) <input type="checkbox"/> Natural Resource Protection (NR) <input checked="" type="checkbox"/> Structural Flood Control Projects (SP) <input type="checkbox"/> Emergency Services (ES)		
<b>Priority</b>	<input checked="" type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low
<b>Alternatives:</b>	<b>Action</b>	<b>Evaluation</b>	
	No Action	Problem persists	
	Remove roadway	Roadway cannot be removed	
	Raingardens	Raingardens are unlikely to be able to absorb enough stormwater to prevent flooding during severe rainfall events.	



## Action 2025-ByramTwp-06. Dam Failure Inundation Mapping

<b>Lead Agency:</b>	Emergency Management																
<b>Supporting Agencies:</b>	Floodplain Administrator, Township Administration, NJDEP, Sussex County																
<b>Hazard(s) of Concern:</b>	<table><tr><td><input checked="" type="checkbox"/> Dam Failure</td><td><input type="checkbox"/> Hurricane</td></tr><tr><td><input type="checkbox"/> Disease Outbreak</td><td><input type="checkbox"/> Infestation</td></tr><tr><td><input type="checkbox"/> Drought</td><td><input type="checkbox"/> Nor'easter</td></tr><tr><td><input type="checkbox"/> Earthquake</td><td><input type="checkbox"/> Severe Weather</td></tr><tr><td><input checked="" type="checkbox"/> Flood</td><td><input type="checkbox"/> Severe Winter Weather</td></tr><tr><td><input type="checkbox"/> Geological Hazards</td><td><input type="checkbox"/> Wildfire</td></tr><tr><td><input type="checkbox"/> Hazardous Materials</td><td></td></tr></table>			<input checked="" type="checkbox"/> Dam Failure	<input type="checkbox"/> Hurricane	<input type="checkbox"/> Disease Outbreak	<input type="checkbox"/> Infestation	<input type="checkbox"/> Drought	<input type="checkbox"/> Nor'easter	<input type="checkbox"/> Earthquake	<input type="checkbox"/> Severe Weather	<input checked="" type="checkbox"/> Flood	<input type="checkbox"/> Severe Winter Weather	<input type="checkbox"/> Geological Hazards	<input type="checkbox"/> Wildfire	<input type="checkbox"/> Hazardous Materials	
<input checked="" type="checkbox"/> Dam Failure	<input type="checkbox"/> Hurricane																
<input type="checkbox"/> Disease Outbreak	<input type="checkbox"/> Infestation																
<input type="checkbox"/> Drought	<input type="checkbox"/> Nor'easter																
<input type="checkbox"/> Earthquake	<input type="checkbox"/> Severe Weather																
<input checked="" type="checkbox"/> Flood	<input type="checkbox"/> Severe Winter Weather																
<input type="checkbox"/> Geological Hazards	<input type="checkbox"/> Wildfire																
<input type="checkbox"/> Hazardous Materials																	
<b>Description of the Problem:</b>	There is an insufficient amount of data surrounding dam inundation and the resulting flooding within the Township. These structures have the potential to impact those living near and downstream of dams in the jurisdiction and cause damages to property, infrastructure, the environment, and lives.																
<b>Description of the Solution:</b>	The Township will work with NJDEP and the County to conduct dam inundation modeling in high-risk areas, prioritizing those dams and their downstream areas that are classified as a high or significant hazard. Dam inundation models will then be digitized for ease of use.																
<b>Estimated Cost:</b>	Medium																
<b>Potential Funding Sources:</b>	Annual Budget, County, Budget, NJDEP																
<b>Implementation Timeline:</b>	Short																
<b>Goals Met:</b>	1, 2																
<b>Benefits:</b>	Identification of dams that are at higher risk of failure and an understanding of their inundation zones provides the opportunity to work with the downstream community to prepare for any potential flooding events and address any ways to mitigate the overall risk of failure.																
<b>Impact on Socially Vulnerable Populations:</b>	The most vulnerable populations may live directly downstream of the dam. Identifying which areas are most likely to experience significant impacts will allow for planning and staging of resources to protect lives and property.																
<b>Impact on Future Development:</b>	New structures are less likely to be built in areas where the risk of inundation is high. This can guide capital improvement projects within the municipality and only allow development in areas where it is safe to build, and guide future building codes, zoning, land use and permitting.																
<b>Impact on Critical Facilities/Lifelines:</b>	Allows for the identification of infrastructure that currently exists which may be vulnerable to impacts so that sufficient planning and preparation to increase resiliency and decrease likelihood of interruption.																
<b>Impact on Capabilities:</b>	Identification of inundation areas provides a framework to plan for the needs of communities that lie within the areas of highest risk.																
<b>Climate Change Considerations:</b>	Increase in extreme rainfall events may alter the floodplain, which impacts the dam inundation zones as water moves downstream.																
<b>Mitigation Category</b>	<table><tr><td><input checked="" type="checkbox"/> Local Plans and Regulations (LPR)</td><td><input type="checkbox"/> Natural Systems Protection (NSP)</td></tr><tr><td><input type="checkbox"/> Structure and Infrastructure Project (SIP)</td><td><input type="checkbox"/> Education and Awareness Programs (EAP)</td></tr></table>			<input checked="" type="checkbox"/> Local Plans and Regulations (LPR)	<input type="checkbox"/> Natural Systems Protection (NSP)	<input type="checkbox"/> Structure and Infrastructure Project (SIP)	<input type="checkbox"/> Education and Awareness Programs (EAP)										
<input checked="" type="checkbox"/> Local Plans and Regulations (LPR)	<input type="checkbox"/> Natural Systems Protection (NSP)																
<input type="checkbox"/> Structure and Infrastructure Project (SIP)	<input type="checkbox"/> Education and Awareness Programs (EAP)																
<b>CRS Category</b>	<table><tr><td><input checked="" type="checkbox"/> Preventative Measures (PR)</td><td><input type="checkbox"/> Natural Resource Protection (NR)</td></tr><tr><td><input type="checkbox"/> Property Protection (PP)</td><td><input type="checkbox"/> Structural Flood Control Projects (SP)</td></tr><tr><td><input type="checkbox"/> Public Information (PI)</td><td><input checked="" type="checkbox"/> Emergency Services (ES)</td></tr></table>			<input checked="" type="checkbox"/> Preventative Measures (PR)	<input type="checkbox"/> Natural Resource Protection (NR)	<input type="checkbox"/> Property Protection (PP)	<input type="checkbox"/> Structural Flood Control Projects (SP)	<input type="checkbox"/> Public Information (PI)	<input checked="" type="checkbox"/> Emergency Services (ES)								
<input checked="" type="checkbox"/> Preventative Measures (PR)	<input type="checkbox"/> Natural Resource Protection (NR)																
<input type="checkbox"/> Property Protection (PP)	<input type="checkbox"/> Structural Flood Control Projects (SP)																
<input type="checkbox"/> Public Information (PI)	<input checked="" type="checkbox"/> Emergency Services (ES)																
<b>Priority</b>	<input checked="" type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low														
<b>Alternatives:</b>	<table><tr><th>Action</th><th>Evaluation</th></tr><tr><td>No Action</td><td>Problem persists</td></tr><tr><td>Remove dams</td><td>Dams cannot be removed</td></tr><tr><td>Build levee around dams</td><td>There may not be available space to construct a levee around all dams.</td></tr></table>	Action	Evaluation	No Action	Problem persists	Remove dams	Dams cannot be removed	Build levee around dams	There may not be available space to construct a levee around all dams.								
Action	Evaluation																
No Action	Problem persists																
Remove dams	Dams cannot be removed																
Build levee around dams	There may not be available space to construct a levee around all dams.																





## Action 2025-ByramTwp-07. Disaster Debris Management Plan

<b>Lead Agency:</b>	OEM		
<b>Supporting Agencies:</b>	Public Works		
<b>Hazard(s) of Concern:</b>	<input checked="" type="checkbox"/> Dam Failure <input type="checkbox"/> Disease Outbreak <input type="checkbox"/> Drought <input checked="" type="checkbox"/> Earthquake <input type="checkbox"/> Flood <input type="checkbox"/> Geological Hazards <input checked="" type="checkbox"/> Hazardous Materials	<input checked="" type="checkbox"/> Hurricane <input type="checkbox"/> Infestation <input checked="" type="checkbox"/> Nor'easter <input checked="" type="checkbox"/> Severe Weather <input checked="" type="checkbox"/> Severe Winter Weather <input checked="" type="checkbox"/> Wildfire	
<b>Description of the Problem:</b>	Major disaster events can result in large amounts of debris that overwhelm normal trash collection operations. Depending on the amount generated, temporary staging areas for debris collection may be needed. The municipality does not have a disaster debris management plan in place. During a disaster that results in debris, a plan with outlined responsibilities is needed to adequately address post-disaster cleanup operations.		
<b>Description of the Solution:</b>	The Township will develop a disaster debris management plan. This plan will establish procedures and guidelines for managing disaster debris in a coordinated, environmentally responsible, and cost-effective manner. The plan will identify responsibilities for execution of the plan. The plan will align with permitted temporary collection areas.		
<b>Estimated Cost:</b>	Low		
<b>Potential Funding Sources:</b>	Municipal budget		
<b>Implementation Timeline:</b>	Within 5 years		
<b>Goals Met:</b>	1, 2		
<b>Benefits:</b>	The action will result in increased quicker and more efficient cleanup after disaster events for the Township and reduce flood concerns due to debris buildup in stormwater infrastructure.		
<b>Impact on Socially Vulnerable Populations:</b>	Not applicable		
<b>Impact on Future Development:</b>	Not applicable		
<b>Impact on Critical Facilities/Lifelines:</b>	Not applicable		
<b>Impact on Capabilities:</b>	This action will result in increased post disaster capabilities. It will also strengthen the existing stormwater infrastructure by limiting debris buildup during severe storm events.		
<b>Climate Change Considerations:</b>	Climate change may result in an increase in the frequency and severity of weather-related disaster events. This action will increase the capabilities to respond to these events.		
<b>Mitigation Category</b>	<input checked="" type="checkbox"/> Local Plans and Regulations (LPR) <input type="checkbox"/> Structure and Infrastructure Project (SIP)	<input type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)	
<b>CRS Category</b>	<input checked="" type="checkbox"/> Preventative Measures (PR) <input type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI)	<input type="checkbox"/> Natural Resource Protection (NR) <input type="checkbox"/> Structural Flood Control Projects (SP) <input checked="" type="checkbox"/> Emergency Services (ES)	
<b>Priority</b>	<input checked="" type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low
<b>Alternatives:</b>	<b>Action</b>	<b>Evaluation</b>	
	No Action	Problem persists	
	Rely on federal cleanup	These services may or may not be available	
	Rely on state cleanup	These services may or may not be available	



## Action 2025-ByramTwp-08. Code Coordinated Ordinance

<b>Lead Agency:</b>	Floodplain Administrator		
<b>Supporting Agencies:</b>	Building Department, Township Administration, NFIP State Coordinator, FEMA Regional Office		
<b>Hazard(s) of Concern:</b>	<input type="checkbox"/> Dam Failure <input type="checkbox"/> Disease Outbreak <input type="checkbox"/> Drought <input type="checkbox"/> Earthquake <input checked="" type="checkbox"/> Flood <input type="checkbox"/> Geological Hazards <input type="checkbox"/> Hazardous Materials <input type="checkbox"/> Hurricane <input type="checkbox"/> Infestation <input type="checkbox"/> Nor'easter <input type="checkbox"/> Severe Weather <input type="checkbox"/> Severe Winter Weather <input type="checkbox"/> Wildfire		
<b>Description of the Problem:</b>	<p>A recent audit of New Jersey's model ordinances by FEMA for conformance with NFIP, resulted in a review of existing local flood damage prevention ordinances. Based upon FEMA's review, specific language related to NFIP regulations was not consistent. Additionally, it was determined that better coordination was needed between the three sets of regulations that regulate development and construction in the floodplain. These regulations are: the NFIP implemented by local floodplain administrators, 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 local Construction Official. NJDEP used this feedback to develop a model Code Coordinated Ordinance and continues to work with municipalities to update flood damage prevention ordinances to the Code Coordinated Ordinance.</p>		
<b>Description of the Solution:</b>	After obtaining the appropriate review and concurrence by the NFIP State Coordinator and the FEMA Regional Office, the municipality will update and adopt the Code Coordinated Ordinance.		
<b>Estimated Cost:</b>	Staff time		
<b>Potential Funding Sources:</b>	Municipal budget		
<b>Implementation Timeline:</b>	Within 5 years		
<b>Goals Met:</b>	2, 5		
<b>Benefits:</b>	The updated ordinance will improve floodplain management, meet NFIP requirements, and increase resilience of new and substantially improved structures in the floodplain.		
<b>Impact on Socially Vulnerable Populations:</b>	The action will result in better regulation of construction standards within the Special Flood Hazard Area where significant risk to socially vulnerable populations exists.		
<b>Impact on Future Development:</b>	The action will result in stronger regulation of construction standards for future development in the Special Flood Hazard Area.		
<b>Impact on Critical Facilities/Lifelines:</b>	Critical facilities and lifelines located in the Special Flood Hazard Area will be required to meet the same requirements as general building construction that are set forth in the ordinance.		
<b>Impact on Capabilities:</b>	This action will improve floodplain management capabilities through better outlining of responsibilities and administrative procedures.		
<b>Climate Change Considerations:</b>	The updated ordinance includes the State's higher standards that are in place to address heightened flood risk due to climate change such as those for floodway rise and mandatory freeboard have been incorporated in these new model ordinances.		
<b>Mitigation Category</b>	<input checked="" type="checkbox"/> Local Plans and Regulations (LPR) <input type="checkbox"/> Structure and Infrastructure Project (SIP) <input type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)		
<b>CRS Category</b>	<input checked="" type="checkbox"/> Preventative Measures (PR) <input type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI) <input type="checkbox"/> Natural Resource Protection (NR) <input type="checkbox"/> Structural Flood Control Projects (SP) <input type="checkbox"/> Emergency Services (ES)		
<b>Priority</b>	<input checked="" type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low
<b>Alternatives:</b>	<b>Action</b>		<b>Evaluation</b>
	No Action		Current problem exists
	Modify existing flood damage prevention ordinance		Time intensive



	Leave NFIP	Residents lose flood insurance coverage
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## Action 2025-ByramTwp-09. Flood Mitigation Interest

<b>Lead Agency:</b>	Floodplain Administrator		
<b>Supporting Agencies:</b>	Planning Board, Township Administration		
<b>Hazard(s) of Concern:</b>	<input type="checkbox"/> Dam Failure <input type="checkbox"/> Disease Outbreak <input type="checkbox"/> Drought <input type="checkbox"/> Earthquake <input checked="" type="checkbox"/> Flood <input type="checkbox"/> Geological Hazards <input type="checkbox"/> Hazardous Materials <input type="checkbox"/> Hurricane <input type="checkbox"/> Infestation <input type="checkbox"/> Nor'easter <input type="checkbox"/> Severe Weather <input type="checkbox"/> Severe Winter Weather <input type="checkbox"/> Wildfire		
<b>Description of the Problem:</b>	The Township does not have a formalized list of damaged properties or property owners which may be interested in flood mitigation measures, such as elevation or acquisition. Maintaining these lists can assist the Township in identifying and prioritizing properties to mitigate.		
<b>Description of the Solution:</b>	The Floodplain Administration will develop a list for inventorying system, or properties damaged by flood events and property owners who are interested in flood mitigation measures, such as elevation or acquisition.		
<b>Estimated Cost:</b>	Staff time, Low		
<b>Potential Funding Sources:</b>	Township Budget		
<b>Implementation Timeline:</b>	Within 2 years		
<b>Goals Met:</b>	1, 2, 5		
<b>Benefits:</b>	Keeping a list of damaged properties and property owners interested in flood mitigation efforts may lead to the elimination of flood damage to homes and residences, which creating an open space for the municipality and increasing flood storage.		
<b>Impact on Socially Vulnerable Populations:</b>	Collecting data regarding homeowners that reside within flood prone areas provides an opportunity to introduce location-specific opportunities for assistance. Removing homes from the floodplain immediately removes the risk to life and property.		
<b>Impact on Future Development:</b>	Increased outreach to homeowners within a flood prone area will limit construction in areas that are prone to hazard events. Homes may be acquired, which will remove those structures from the floodplain and prevent future development on those sites.		
<b>Impact on Critical Facilities/Lifelines:</b>	Removing structures from the floodplain decreases the demand on utilities and emergency services including health and medical, law enforcement, and search and rescue.		
<b>Impact on Capabilities:</b>	This action will create a new Township capability, while enhancing its current NFIP capabilities.		
<b>Climate Change Considerations:</b>	A warmer atmosphere means storms have the potential to be more intense and occur more often, including increased periods of intense rain events. Areas experiencing flooding conditions may increase. Removing structures from the floodplain will reduce the response and recovery costs as a result of these events and decrease the loss of human life as a result of these events. Elevating structures will reduce the recovery costs as a result of these events.		
<b>Mitigation Category</b>	<input checked="" type="checkbox"/> Local Plans and Regulations (LPR) <input type="checkbox"/> Structure and Infrastructure Project (SIP) <input type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)		
<b>CRS Category</b>	<input checked="" type="checkbox"/> Preventative Measures (PR) <input type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI) <input type="checkbox"/> Natural Resource Protection (NR) <input type="checkbox"/> Structural Flood Control Projects (SP) <input type="checkbox"/> Emergency Services (ES)		
<b>Priority</b>	<input checked="" type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low
<b>Alternatives:</b>	<b>Action</b>	<b>Evaluation</b>	
	No action	Current problem remains	
	Only share opportunities when notified of grant funding	May not be enough time to garner interest or write application	
	Wait for information from the State on flood-damaged properties	May be a delay in notice	



## Action 2025-ByramTwp-10. Critical Facilities in the Floodplain

<b>Lead Agency:</b>	Facility Managers		
<b>Supporting Agencies:</b>	Emergency Management, Floodplain Administrator		
<b>Hazard(s) of Concern:</b>	<input type="checkbox"/> Dam Failure <input type="checkbox"/> Disease Outbreak <input type="checkbox"/> Drought <input type="checkbox"/> Earthquake <input checked="" type="checkbox"/> Flood <input type="checkbox"/> Geological Hazards <input type="checkbox"/> Hazardous Materials <input type="checkbox"/> Hurricane <input type="checkbox"/> Infestation <input type="checkbox"/> Nor'easter <input type="checkbox"/> Severe Weather <input type="checkbox"/> Severe Winter Weather <input type="checkbox"/> Wildfire		
<b>Description of the Problem:</b>	Critical facilities located in the floodplain are not only susceptible to flood damage but also create unnecessary complications for the municipality during an emergency event and post-disaster recovery. The Township has a number of critical facilities in the floodplain including Byram Lakes Elementary School, Pump Station 5, Pump Station 6, And Byram Twp Intermediate School.		
<b>Description of the Solution:</b>	<p>Coordinate with the facility managers at the Byram Lakes Elementary School, Pump Station 5, Pump Station 6, And Byram Twp Intermediate School in the Township to support the mitigation of vulnerable structures via retrofit (e.g., elevation, flood-proofing) or relocation to protect structures from future damage.</p> <p>Phase 1: Identify most cost-effective mitigation option</p> <p>Phase 2: Work with facility manager to implement selected action based on available funding and local match ability.</p>		
<b>Estimated Cost:</b>	Medium		
<b>Potential Funding Sources:</b>	FEMA BRIC, HMGP, Township Budget, Facilities		
<b>Implementation Timeline:</b>	5 years		
<b>Goals Met:</b>	2		
<b>Benefits:</b>	This action will remove or reduce critical facility and community lifeline vulnerability to the flood hazard and remove or reduce safety risks for first responders.		
<b>Impact on Socially Vulnerable Populations:</b>	Retrofitting or relocating the identified structures will benefit socially vulnerable populations, as individuals within these populations rely on resources from various government facilities, transportation facilities, and medical and senior care facilities.		
<b>Impact on Future Development:</b>	Noting the number of facilities located within the flood hazard area may encourage the consideration of relocating critical facilities and lifelines from the flood hazard area and deter the development of any additional facilities in the flood hazard area.		
<b>Impact on Critical Facilities/Lifelines:</b>	Noting the number of facilities located within the flood hazard area may encourage the consideration of relocating critical facilities and lifelines from the flood hazard area and deter the development of any additional facilities in the flood hazard area.		
<b>Impact on Capabilities:</b>	This action will enhance the Township's current NFIP capabilities.		
<b>Climate Change Considerations:</b>	A warmer atmosphere means storms have the potential to be more intense and occur more often, including increased periods of intense rain events.		
<b>Mitigation Category</b>	<input type="checkbox"/> Local Plans and Regulations (LPR) <input checked="" type="checkbox"/> Structure and Infrastructure Project (SIP) <input type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)		
<b>CRS Category</b>	<input type="checkbox"/> Preventative Measures (PR) <input checked="" type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI) <input type="checkbox"/> Natural Resource Protection (NR) <input checked="" type="checkbox"/> Structural Flood Control Projects (SP) <input type="checkbox"/> Emergency Services (ES)		
<b>Priority</b>	<input checked="" type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low
<b>Alternatives:</b>	<b>Action</b>	<b>Evaluation</b>	
	No Action	Current problem remains	
	Floodproof existing structures	May not necessarily reduce risk	
	Construct floodwalls to stop flood issues	Will most likely interrupt natural floodplain function	



## Action 2025-ByramTwp-11. Dam Owner Partnership

<b>Lead Agency:</b>	Township OEM		
<b>Supporting Agencies:</b>	NJDEP, Dam Owners		
<b>Hazard(s) of Concern:</b>	<input checked="" type="checkbox"/> Dam Failure <input type="checkbox"/> Disease Outbreak <input type="checkbox"/> Drought <input type="checkbox"/> Earthquake <input type="checkbox"/> Flood <input type="checkbox"/> Geological Hazards <input type="checkbox"/> Hazardous Materials <input type="checkbox"/> Hurricane <input type="checkbox"/> Infestation <input type="checkbox"/> Nor'easter <input type="checkbox"/> Severe Weather <input type="checkbox"/> Severe Winter Weather <input type="checkbox"/> Wildfire		
<b>Description of the Problem:</b>	Cub Lake Dam, Frenches Pond Dam, Johnson Lake Dam, Kofferls Pond Dam, Lake Lackawanna Dam, Panther Lake Dam, Reservoir Lake Dam, Tomahawk Lake Dam, and Wolf Lake Dam, all critical infrastructures, are located in the 1- and 0.2-percent flood hazard areas. The Township also has three high-hazard potential dams, the Cranberry Lake Dam, Frenches Pond Dam, and Reservoir Lake Dam, within its jurisdiction. These structures have the potential to impact those living nearby.		
<b>Description of the Solution:</b>	The Township will work with the owners of the dams to ensure inspections and safety procedures are up to date. EAPs will be collected by Township OEM and shared with the County OEM.		
<b>Estimated Cost:</b>	Low		
<b>Potential Funding Sources:</b>	Municipal budget		
<b>Implementation Timeline:</b>	Within 5 years		
<b>Goals Met:</b>	1, 2, 3, 5, 7		
<b>Benefits:</b>	This action will improve the safety and security of those who live within the dam inundation areas of the dams and increase the resilience of responding agencies.		
<b>Impact on Socially Vulnerable Populations:</b>	The action will result in better preparedness within the Special Flood Hazard Area and inundation areas where significant risk to socially vulnerable populations exists.		
<b>Impact on Future Development:</b>	Future development near inundation areas will be more secure as safety procedures and inspections are regularly performed on the dams.		
<b>Impact on Critical Facilities/Lifelines:</b>	Dams are considered a critical facility. This action will create an understanding of the safety procedures in place for each identified dam.		
<b>Impact on Capabilities:</b>	This action will improve planning and response capabilities through the understanding of responsibilities and procedures.		
<b>Climate Change Considerations:</b>	Climate change may result in an increase in the frequency and severity of weather-related disaster events, which may contribute to the likelihood of a dam failure event. This action will increase the capabilities to respond to these events.		
<b>Mitigation Category</b>	<input checked="" type="checkbox"/> Local Plans and Regulations (LPR) <input type="checkbox"/> Structure and Infrastructure Project (SIP) <input type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)		
<b>CRS Category</b>	<input type="checkbox"/> Preventative Measures (PR) <input type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI) <input type="checkbox"/> Natural Resource Protection (NR) <input type="checkbox"/> Structural Flood Control Projects (SP) <input checked="" type="checkbox"/> Emergency Services (ES)		
<b>Priority</b>	<input checked="" type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low
<b>Alternatives:</b>	<b>Action</b>		<b>Evaluation</b>
	No Action		Township will be unaware of any safety concerns for the dam or its condition
	Utilize information from NJDEP		Owners may not be required to submit a safety plan to the State
	Utilize information from the National Inventory of Dams		Not all dams are listed on the inventory





## Action 2025-ByramTwp-12. Reservoir Lake Dam Rehab

<b>Lead Agency:</b>	Patriots' Path Council, B.S.A																
<b>Supporting Agencies:</b>	County Engineer, County OEM, NJDEP, Municipal Engineer																
<b>Hazard(s) of Concern:</b>	<table><tr><td><input checked="" type="checkbox"/> Dam Failure</td><td><input type="checkbox"/> Hurricane</td></tr><tr><td><input type="checkbox"/> Disease Outbreak</td><td><input type="checkbox"/> Infestation</td></tr><tr><td><input type="checkbox"/> Drought</td><td><input type="checkbox"/> Nor'easter</td></tr><tr><td><input type="checkbox"/> Earthquake</td><td><input type="checkbox"/> Severe Weather</td></tr><tr><td><input type="checkbox"/> Flood</td><td><input type="checkbox"/> Severe Winter Weather</td></tr><tr><td><input type="checkbox"/> Geological Hazards</td><td><input type="checkbox"/> Wildfire</td></tr><tr><td><input type="checkbox"/> Hazardous Materials</td><td></td></tr></table>			<input checked="" type="checkbox"/> Dam Failure	<input type="checkbox"/> Hurricane	<input type="checkbox"/> Disease Outbreak	<input type="checkbox"/> Infestation	<input type="checkbox"/> Drought	<input type="checkbox"/> Nor'easter	<input type="checkbox"/> Earthquake	<input type="checkbox"/> Severe Weather	<input type="checkbox"/> Flood	<input type="checkbox"/> Severe Winter Weather	<input type="checkbox"/> Geological Hazards	<input type="checkbox"/> Wildfire	<input type="checkbox"/> Hazardous Materials	
<input checked="" type="checkbox"/> Dam Failure	<input type="checkbox"/> Hurricane																
<input type="checkbox"/> Disease Outbreak	<input type="checkbox"/> Infestation																
<input type="checkbox"/> Drought	<input type="checkbox"/> Nor'easter																
<input type="checkbox"/> Earthquake	<input type="checkbox"/> Severe Weather																
<input type="checkbox"/> Flood	<input type="checkbox"/> Severe Winter Weather																
<input type="checkbox"/> Geological Hazards	<input type="checkbox"/> Wildfire																
<input type="checkbox"/> Hazardous Materials																	
<b>Description of the Problem:</b>	Reservoir Lake Dam is a Class I High Hazard Dam that is located on Chemy Creek. The dam is owned by the Patriots' Path Council, B.S.A. Failure of the dam could result in inundation of forested areas, recreational areas, and local roadways including Wheller Road. Tiny Creek leads from Chemy Creek to Frenches Pond where another High Hazard Potential Dam, Frenches Pond Dam, is situated. The failure of this dam could lead to a compounded failure of Frenches Pond Dam due to the weight of the influx of water. Although the Reservoir Lake Dam was last inspected in 2022 and found to be in satisfactory condition, the risk of dam failure warrants an engineering evaluation to determine if retrofits of the dam would result in safer conditions.																
<b>Description of the Solution:</b>	The Municipal Engineer will work with the Patriots' Path Council, B.S.A to complete an engineering study of Reservoir Lake Dam. The Township will also request information and input from its Public Works/Highway department and the County regarding impacted roadways. If cost-effective mitigation measures or retrofit options are identified that can increase the level of safety and length of useful life, the Township and the Patriots' Path Council, B.S.A will pursue funding support, permit approval from NJDEP, and implement the cost-effective measures.																
<b>Estimated Cost:</b>	High																
<b>Potential Funding Sources:</b>	FEMA BRIC, HHPD																
<b>Implementation Timeline:</b>	Within 5 years																
<b>Goals Met:</b>	1, 2, 8																
<b>Benefits:</b>	This action will improve the safety and security of those who live within the dam inundation areas of the dams and increase the resilience of responding agencies.																
<b>Impact on Socially Vulnerable Populations:</b>	The action will result in better preparedness within the Special Flood Hazard Area and inundation areas where significant risk to socially vulnerable populations exists.																
<b>Impact on Future Development:</b>	Future development located in or near the dam inundation area will be further protected from a dam failure event.																
<b>Impact on Critical Facilities/Lifelines:</b>	Dams are considered a critical facility. This action will create an understanding of the safety procedures in place for each identified dam and strengthen the structural integrity of dam, as needed.																
<b>Impact on Capabilities:</b>	This action will improve planning and response capabilities through the understanding of responsibilities and procedures.																
<b>Climate Change Considerations:</b>	Climate change may result in an increase in the frequency and severity of weather-related disaster events, which may contribute to the likelihood of a dam failure event due to projected increases in precipitation. This action will increase the capabilities to respond to these events.																
<b>Mitigation Category</b>	<table><tr><td><input type="checkbox"/> Local Plans and Regulations (LPR)</td><td><input type="checkbox"/> Natural Systems Protection (NSP)</td></tr><tr><td><input checked="" type="checkbox"/> Structure and Infrastructure Project (SIP)</td><td><input type="checkbox"/> Education and Awareness Programs (EAP)</td></tr></table>			<input type="checkbox"/> Local Plans and Regulations (LPR)	<input type="checkbox"/> Natural Systems Protection (NSP)	<input checked="" type="checkbox"/> Structure and Infrastructure Project (SIP)	<input type="checkbox"/> Education and Awareness Programs (EAP)										
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<b>CRS Category</b>	<table><tr><td><input type="checkbox"/> Preventative Measures (PR)</td><td><input type="checkbox"/> Natural Resource Protection (NR)</td></tr><tr><td><input type="checkbox"/> Property Protection (PP)</td><td><input checked="" type="checkbox"/> Structural Flood Control Projects (SP)</td></tr><tr><td><input type="checkbox"/> Public Information (PI)</td><td><input type="checkbox"/> Emergency Services (ES)</td></tr></table>			<input type="checkbox"/> Preventative Measures (PR)	<input type="checkbox"/> Natural Resource Protection (NR)	<input type="checkbox"/> Property Protection (PP)	<input checked="" type="checkbox"/> Structural Flood Control Projects (SP)	<input type="checkbox"/> Public Information (PI)	<input type="checkbox"/> Emergency Services (ES)								
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<input type="checkbox"/> Property Protection (PP)	<input checked="" type="checkbox"/> Structural Flood Control Projects (SP)																
<input type="checkbox"/> Public Information (PI)	<input type="checkbox"/> Emergency Services (ES)																
<b>Priority</b>	<input checked="" type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low														
<b>Alternatives:</b>	<table><tr><th>Action</th><th>Evaluation</th></tr><tr><td>No Action</td><td>Current problem continues</td></tr></table>	Action	Evaluation	No Action	Current problem continues												
Action	Evaluation																
No Action	Current problem continues																



	Decommission Dam	High cost, flood risk for nearby infrastructure increased, loss of Chemy Creek as an environmental and recreational resource.
	Elevate nearby structures	Very high cost and likely not feasible for commercial properties. Will not reduce potential for dam failure due to poor dam conditions



## Action 2025-ByramTwp-13. Cranberry Lake Dam Rehab

<b>Lead Agency:</b>	New Jersey Division of Parks and Forestry																
<b>Supporting Agencies:</b>	County Engineer, County OEM, NJDEP, Municipal Engineer																
<b>Hazard(s) of Concern:</b>	<table><tr><td><input checked="" type="checkbox"/> Dam Failure</td><td><input type="checkbox"/> Hurricane</td></tr><tr><td><input type="checkbox"/> Disease Outbreak</td><td><input type="checkbox"/> Infestation</td></tr><tr><td><input type="checkbox"/> Drought</td><td><input type="checkbox"/> Nor'easter</td></tr><tr><td><input type="checkbox"/> Earthquake</td><td><input type="checkbox"/> Severe Weather</td></tr><tr><td><input type="checkbox"/> Flood</td><td><input type="checkbox"/> Severe Winter Weather</td></tr><tr><td><input type="checkbox"/> Geological Hazards</td><td><input type="checkbox"/> Wildfire</td></tr><tr><td><input type="checkbox"/> Hazardous Materials</td><td></td></tr></table>			<input checked="" type="checkbox"/> Dam Failure	<input type="checkbox"/> Hurricane	<input type="checkbox"/> Disease Outbreak	<input type="checkbox"/> Infestation	<input type="checkbox"/> Drought	<input type="checkbox"/> Nor'easter	<input type="checkbox"/> Earthquake	<input type="checkbox"/> Severe Weather	<input type="checkbox"/> Flood	<input type="checkbox"/> Severe Winter Weather	<input type="checkbox"/> Geological Hazards	<input type="checkbox"/> Wildfire	<input type="checkbox"/> Hazardous Materials	
<input checked="" type="checkbox"/> Dam Failure	<input type="checkbox"/> Hurricane																
<input type="checkbox"/> Disease Outbreak	<input type="checkbox"/> Infestation																
<input type="checkbox"/> Drought	<input type="checkbox"/> Nor'easter																
<input type="checkbox"/> Earthquake	<input type="checkbox"/> Severe Weather																
<input type="checkbox"/> Flood	<input type="checkbox"/> Severe Winter Weather																
<input type="checkbox"/> Geological Hazards	<input type="checkbox"/> Wildfire																
<input type="checkbox"/> Hazardous Materials																	
<b>Description of the Problem:</b>	Cranberry Lake Dam is a Class I High Hazard Dam that is located on Cranberry Lake. The dam is owned by the New Jersey Division of Parks and Forestry. Failure of the dam could result in inundation of forested area, densely populated areas, commercial properties, recreational area, South Shore Road, and State Route 206. The dam was last inspected in 2022 and found to be in poor condition, meaning the risk of dam failure warrants an engineering evaluation to determine if retrofits of the dam would result in safer conditions.																
<b>Description of the Solution:</b>	The Municipal Engineer will work with the New Jersey Division of Parks and Forestry to complete an engineering study of Cranberry Lake Dam. The Township will also request information and input from its Public Works/Highway department and the County regarding impacted roadways. If cost-effective mitigation measures or retrofit options are identified that can increase the level of safety and length of useful life, the Township and the New Jersey Division of Parks and Forestry will pursue funding support, permit approval from NJDEP, and implement the cost-effective measures.																
<b>Estimated Cost:</b>	High																
<b>Potential Funding Sources:</b>	FEMA BRIC, HHPD																
<b>Implementation Timeline:</b>	Within 5 years																
<b>Goals Met:</b>	1, 2, 8																
<b>Benefits:</b>	This action will improve the safety and security of those who live within the dam inundation areas of the dams and increase the resilience of responding agencies.																
<b>Impact on Socially Vulnerable Populations:</b>	The action will result in better preparedness within the Special Flood Hazard Area and inundation areas where significant risk to socially vulnerable populations exists.																
<b>Impact on Future Development:</b>	Future development located in or near the dam inundation area will be further protected from a dam failure event.																
<b>Impact on Critical Facilities/Lifelines:</b>	Dams are considered a critical facility. This action will create an understanding of the safety procedures in place for each identified dam and strengthen the structural integrity of dam, as needed.																
<b>Impact on Capabilities:</b>	This action will improve planning and response capabilities through the understanding of responsibilities and procedures.																
<b>Climate Change Considerations:</b>	Climate change may result in an increase in the frequency and severity of weather-related disaster events, which may contribute to the likelihood of a dam failure event due to projected increases in precipitation. This action will increase the capabilities to respond to these events.																
<b>Mitigation Category</b>	<table><tr><td><input type="checkbox"/> Local Plans and Regulations (LPR)</td><td><input type="checkbox"/> Natural Systems Protection (NSP)</td></tr><tr><td><input checked="" type="checkbox"/> Structure and Infrastructure Project (SIP)</td><td><input type="checkbox"/> Education and Awareness Programs (EAP)</td></tr></table>			<input type="checkbox"/> Local Plans and Regulations (LPR)	<input type="checkbox"/> Natural Systems Protection (NSP)	<input checked="" type="checkbox"/> Structure and Infrastructure Project (SIP)	<input type="checkbox"/> Education and Awareness Programs (EAP)										
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<input type="checkbox"/> Public Information (PI)	<input type="checkbox"/> Emergency Services (ES)																
<b>Priority</b>	<input checked="" type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low														
<b>Alternatives:</b>	<b>Action</b>	<b>Evaluation</b>															
	No Action	Current problem continues															
	Decommission Dam	High cost, flood risk for nearby infrastructure increased, loss of Cranberry Lake as an environmental and recreational resource.															



	Elevate nearby structures	Very high cost and likely not feasible for commercial properties. Will not reduce potential for dam failure due to poor dam conditions
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## Action 2025-ByramTwp-14. Frenches Pond Dam Rehab

<b>Lead Agency:</b>	Patriots' Path Council, B.S.A																
<b>Supporting Agencies:</b>	County Engineer, County OEM, NJDEP, Municipal Engineer																
<b>Hazard(s) of Concern:</b>	<table><tr><td><input checked="" type="checkbox"/> Dam Failure</td><td><input type="checkbox"/> Hurricane</td></tr><tr><td><input type="checkbox"/> Disease Outbreak</td><td><input type="checkbox"/> Infestation</td></tr><tr><td><input type="checkbox"/> Drought</td><td><input type="checkbox"/> Nor'easter</td></tr><tr><td><input type="checkbox"/> Earthquake</td><td><input type="checkbox"/> Severe Weather</td></tr><tr><td><input type="checkbox"/> Flood</td><td><input type="checkbox"/> Severe Winter Weather</td></tr><tr><td><input type="checkbox"/> Geological Hazards</td><td><input type="checkbox"/> Wildfire</td></tr><tr><td><input type="checkbox"/> Hazardous Materials</td><td></td></tr></table>			<input checked="" type="checkbox"/> Dam Failure	<input type="checkbox"/> Hurricane	<input type="checkbox"/> Disease Outbreak	<input type="checkbox"/> Infestation	<input type="checkbox"/> Drought	<input type="checkbox"/> Nor'easter	<input type="checkbox"/> Earthquake	<input type="checkbox"/> Severe Weather	<input type="checkbox"/> Flood	<input type="checkbox"/> Severe Winter Weather	<input type="checkbox"/> Geological Hazards	<input type="checkbox"/> Wildfire	<input type="checkbox"/> Hazardous Materials	
<input checked="" type="checkbox"/> Dam Failure	<input type="checkbox"/> Hurricane																
<input type="checkbox"/> Disease Outbreak	<input type="checkbox"/> Infestation																
<input type="checkbox"/> Drought	<input type="checkbox"/> Nor'easter																
<input type="checkbox"/> Earthquake	<input type="checkbox"/> Severe Weather																
<input type="checkbox"/> Flood	<input type="checkbox"/> Severe Winter Weather																
<input type="checkbox"/> Geological Hazards	<input type="checkbox"/> Wildfire																
<input type="checkbox"/> Hazardous Materials																	
<b>Description of the Problem:</b>	Frenches Pond Dam is a Class I High Hazard Dam that is located on Frenches Pond. The dam is owned by the Patriots' Path Council, B.S.A. Failure of the dam could result in inundation of forested areas, recreational areas, and local roadways including Wheller Road and Camp Allamuchy Road, and potentially Interstate-80. Another High Hazard Potential Dam, the Reservoir Lake Dam, is connected to Frenches Pond upstream by Tiny Creek. Although the Frenches Pond Dam was last inspected in 2022 and found to be in satisfactory condition, the risk of dam failure warrants an engineering evaluation to determine if retrofits of the dam would result in safer conditions.																
<b>Description of the Solution:</b>	The Municipal Engineer will work with the Patriots' Path Council, B.S.A to complete an engineering study of Frenches Pond Dam. The Township will also request information and input from its Public Works/Highway department and the County regarding impacted roadways. If cost-effective mitigation measures or retrofit options are identified that can increase the level of safety and length of useful life, the Township and the Patriots' Path Council, B.S.A will pursue funding support, permit approval from NJDEP, and implement the cost-effective measures.																
<b>Estimated Cost:</b>	High																
<b>Potential Funding Sources:</b>	FEMA BRIC, HHPD																
<b>Implementation Timeline:</b>	Within 5 years																
<b>Goals Met:</b>	1, 2, 8																
<b>Benefits:</b>	This action will improve the safety and security of those who live within the dam inundation areas of the dams and increase the resilience of responding agencies.																
<b>Impact on Socially Vulnerable Populations:</b>	The action will result in better preparedness within the Special Flood Hazard Area and inundation areas where significant risk to socially vulnerable populations exists.																
<b>Impact on Future Development:</b>	Future development located in or near the dam inundation area will be further protected from a dam failure event.																
<b>Impact on Critical Facilities/Lifelines:</b>	Dams are considered a critical facility. This action will create an understanding of the safety procedures in place for each identified dam and strengthen the structural integrity of dam, as needed.																
<b>Impact on Capabilities:</b>	This action will improve planning and response capabilities through the understanding of responsibilities and procedures.																
<b>Climate Change Considerations:</b>	Climate change may result in an increase in the frequency and severity of weather-related disaster events, which may contribute to the likelihood of a dam failure event due to projected increases in precipitation. This action will increase the capabilities to respond to these events.																
<b>Mitigation Category</b>	<table><tr><td><input type="checkbox"/> Local Plans and Regulations (LPR)</td><td><input type="checkbox"/> Natural Systems Protection (NSP)</td></tr><tr><td><input checked="" type="checkbox"/> Structure and Infrastructure Project (SIP)</td><td><input type="checkbox"/> Education and Awareness Programs (EAP)</td></tr></table>			<input type="checkbox"/> Local Plans and Regulations (LPR)	<input type="checkbox"/> Natural Systems Protection (NSP)	<input checked="" type="checkbox"/> Structure and Infrastructure Project (SIP)	<input type="checkbox"/> Education and Awareness Programs (EAP)										
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<b>CRS Category</b>	<table><tr><td><input type="checkbox"/> Preventative Measures (PR)</td><td><input type="checkbox"/> Natural Resource Protection (NR)</td></tr><tr><td><input type="checkbox"/> Property Protection (PP)</td><td><input checked="" type="checkbox"/> Structural Flood Control Projects (SP)</td></tr><tr><td><input type="checkbox"/> Public Information (PI)</td><td><input type="checkbox"/> Emergency Services (ES)</td></tr></table>			<input type="checkbox"/> Preventative Measures (PR)	<input type="checkbox"/> Natural Resource Protection (NR)	<input type="checkbox"/> Property Protection (PP)	<input checked="" type="checkbox"/> Structural Flood Control Projects (SP)	<input type="checkbox"/> Public Information (PI)	<input type="checkbox"/> Emergency Services (ES)								
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<input type="checkbox"/> Public Information (PI)	<input type="checkbox"/> Emergency Services (ES)																
<b>Priority</b>	<input checked="" type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low														
<b>Alternatives:</b>	<table><tr><th>Action</th><th>Evaluation</th></tr><tr><td>No Action</td><td>Current problem continues</td></tr></table>	Action	Evaluation	No Action	Current problem continues												
Action	Evaluation																
No Action	Current problem continues																



	Decommission Dam	High cost, flood risk for nearby infrastructure increased, loss of Frenches Pond as an environmental and recreational resource.
	Elevate nearby structures	Very high cost and likely not feasible for commercial properties. Will not reduce potential for dam failure due to poor dam conditions