



9.39 TOWNSHIP OF WASHINGTON

This section presents the jurisdictional annex for the Township of Washington. The annex includes a general overview of the Township of Washington; an assessment of the Township of Washington’s risk, vulnerability, and mitigation capabilities; and a prioritized action plan to implement prior to a disaster to reduce future losses and achieve greater resilience to natural hazards.

9.39.1 Hazard Mitigation Planning Team

The following individuals are the Township of Washington’s identified HMP update primary and alternate points of contact and NFIP Floodplain Administrator.

Table 9.39-1. Hazard Mitigation Planning Team

Primary Point of Contact	Alternate Point of Contact
Matt Lopez, OEM Coordinator 43 Schooley’s Mountain Road, Long Valley, NJ 07853 908-876-8637 mlopez@wtmorris.net	Bruce Clark, Deputy OEM Coordinator 43 Schooley’s Mountain Road, Long Valley, NJ 07853 908-876-4711 bclark@wtmorris.net
NFIP Floodplain Administrator	
Paul Ferriero, Township Engineer 180 Main Street, PO Box 571, Chester, NJ 07930 908-879-6209 paul.ferriero@ferrieroengineering.com	

9.39.2 Jurisdiction Profile

The Township of Washington is a residential community with a total area of 44.8 square miles, of which 44.4 square miles is land and 0.4 square miles of water. The Township is located approximately 40 miles north of the City of Trenton and 40 miles west of New York City. It is bordered by the Township of Mount Olive and the Town of Hackettstown to the north, the Township of Chester to the east, the Township of Tewksbury and Lebanon to the south, and the Township of Mansfield to the west. The 2010 population of the Township was 18,533.

There are two unincorporated communities in the Township – Long Valley and Schooley’s Mountain. The Musconetcong River and the South Branch Raritan River are the two major waterways in the Township of Washington. Other waterbodies in the Township includes the Stephensburg Brook, Electric Brook, Stony Brook, Drakes Brook, and Tanners Brook.

According to the U.S. Census, the 2010 population for the Township of Washington was 18,533. The estimated 2017 population was 18,713, a 1.0% increase from the 2010 Census. Data from the 2017 U.S. Census American Community Survey indicate that 4.3% of the population is 5 years of age or younger and 14.1% is 65 years of age or older. Communities must deploy a support system that enables all populations to safely reach shelters or to quickly evacuate a hazard area.

9.39.3 Growth/Development Trends

Understanding how past, current, and projected development patterns have or are likely to increase or decrease risk in hazard areas is a key component to understanding a jurisdiction’s overall risk to its hazards of concern.





Table 9.39-2 summarizes recent and expected future development trends, including major residential/commercial development and major infrastructure development. Figure 9.39-1 and 9.39-2 at the end of this annex illustrate the geographically-delineated hazard areas and the location of potential new development.

Table 9.39-2. Recent and Expected Future Development

Type of Development	2014	2015	2016	2017	2018
Number of Building Permits for New Construction Issued Since the Previous HMP					
Single Family	28	15	16	1	5
Multi-Family	0	0	0	0	0
Other (commercial, mixed-use, etc.)	0	0	0	0	0
Property or Development Name	Type of Development	# of Units / Structures	Location (address and/or block and lot)	Known Hazard Zone(s)*	Description / Status of Development
Recent Major Development and Infrastructure from 2015 to Present					
Heath Village	Residential	144	B: 19, L: 5-7	1% flood area - property is located in flood area; structure is not	Complete
Known or Anticipated Major Development and Infrastructure in the Next Five (5) Years					
Kings Highway	Residential	208 structures	Kings Highway and Route 57		Concept Plan phase

* Only location-specific hazard zones or vulnerabilities identified.

9.39.4 Capability Assessment

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

- An assessment of legal and regulatory capabilities.
- Development and permitting capabilities.
- An assessment of fiscal capabilities.
- An assessment of education and outreach capabilities.
- Information on National Flood Insurance Program (NFIP) compliance.
- Classification under various community mitigation programs.
- The community’s adaptive capacity for the impacts of climate change.

For a community to succeed in reducing long-term risk, hazard mitigation must be integrated into the day-to-day local government operations. As part of this planning effort, planning/policy documents were reviewed, and each jurisdiction was surveyed to obtain a better understanding of their progress in plan integration. Areas with current mitigation integration are summarized below. The Township of Washington identified specific integration activities that will be incorporated into municipal procedures are included in the updated mitigation strategy.



PLANNING, LEGAL AND REGULATORY CAPABILITY

The table below summarizes the legal and regulatory tools that are available to the Township of Washington and where hazard mitigation has been integrated.

Table 9.39-3. Planning, Legal and Regulatory Capability

	Do you have this? (Yes/No)	Authority that enforces (Federal, State, Regional, County, Local)	Is this State Mandated?	Has the HMP been integrated in the last 5 years? If yes- how? Describe in comments	If no - can it be a mitigation action? If yes, add Mitigation Action #.
Codes, Ordinances, & Requirements					
Building Code	Yes	State and Local	Yes	No	-
<i>Comment: Chapter 56 (Building Construction); the Township uses the State Uniform Construction Code</i>					
Zoning Code	Yes	Local	No	Yes	-
<i>Comment: Chapter 217 (Zoning); adopted on 5/26/1983 - The purpose of this chapter is to guide the appropriate use or development of land in the Township in which it will promote the public health, safety, morals, and general welfare. The Township contains zoning overlay zones which includes a carbonate area district. The code refers to the floodplain management code (Chapter 92) and restricts development adjacent to a C1 or other stream or state open waters except in conformance with Chapter 92.</i>					
Subdivisions	Yes	Local	Yes	Yes	-
<i>Comment: Chapter 175 (Subdivision of Land); adopted by the Township Committee on 9/26/1978; the purpose of this chapter shall be to provide rules, regulations and standards to guide land subdivision in the Township of Washington in order to promote the public health, safety, convenience and general welfare of said Township and to carry out the objective of the Municipal Land Use Law. It is administered to ensure the orderly growth and development, the conservation, protection, and proper use of land and adequate provisions for circulation, utilities and services and the conservation and environmental protection of all land, water and air resources within the jurisdiction of Washington Township. The Planning Board is the approving agency for subdivision applications. The Township requires a sketch plat be presented when a subdivision is being requested. The plat must include the location of existing houses, buildings and other structures, with accurate dimensions from all existing and proposed lot lines, topography, delineated flood hazard areas, buffer zones, wetlands and transition areas, ridgelines, minimum improvable lot areas and soils information within the portion to be subdivided and within 200 feet. This chapter refers to the Master Plan as the subdivision should conform to the Circulation Element and the overlay zones part of the zoning code.</i>					
Stormwater Management	Yes	Local	Yes	Yes	-
<i>Comment: Chapter 170 of the municipal code relates to Stormwater Control. Stormwater management is included in Article 1 of the code. The purpose of stormwater management is to establish minimum stormwater management requirements and controls for major development. The policy statement is: flood control, groundwater recharge and pollutant reduction through nonstructural or low-impact techniques shall be explored before relying on structural best management practices (BMPs). For major development, if structural stormwater management measures are needed, they must be designed to take into account the existing site conditions, including, for example, environmentally critical areas; wetlands; flood-prone areas; slopes; depth to seasonal high water table; soil type, permeability and texture; drainage area and drainage patterns; and the presence of solution-prone carbonate rocks (limestone).</i>					
<i>The Planning and Zoning Boards review municipal projects and ensures compliance with the Stormwater Control Ordinance before issuing preliminary or final subdivision or site plan approvals under the Municipal Land Use Law. All new residential and redevelopment projects that are subject to the Residential Site Improvement Standards for stormwater management.</i>					
Post-Disaster Recovery	No	-	-	-	-
<i>Comment:</i>					
Real Estate Disclosure	Yes	State	Yes	-	-
<i>Comment: Division of Consumer Affairs - N.J.A.C. 13:45A-29.1</i>					
Growth Management	No	-	-	-	-
<i>Comment:</i>					
Site Plan Review	Yes	Local	Yes	Yes	-



	Do you have this? (Yes/No)	Authority that enforces (Federal, State, Regional, County, Local)	Is this State Mandated?	Has the HMP been integrated in the last 5 years? If yes- how? Describe in comments	If no - can it be a mitigation action? If yes, add Mitigation Action #.
<p>Comment: Chapter 168 (Site Plan Review); adopted 5/18/1992. The purpose of this chapter is to establish rules, regulations, standards and procedures for approval of all developments in order to: preserve existing natural resources and give proper consideration to the physical constraints of the land; provide for safe and efficient vehicular and pedestrian circulation; provide for screening, landscaping, signing and lighting; ensure efficient, safe and aesthetic land development; provide for compliance with appropriate design standards to ensure adequate light and air, proper building arrangements and minimum adverse effect on surrounding property; develop proper safeguards to minimize the impact on the environment, including but not limited to soil erosion and sedimentation and air and water pollution; and ensure the provision of adequate water supply, drainage and stormwater management, sanitary facilities and other utilities and services; and provide for recreation, open space and public use areas. All site plans must include all existing and proposed buildings and structures, streets, easements, driveways, entrances and exits, delineated flood hazard areas and riparian zones, wetlands and transition areas, ridgelines, stream corridor and open water buffers on the site and within 200 feet of the site.</p>					
Environmental Protection	No	-	-	-	-
<p>Comment:</p>					
Flood Damage Prevention	Yes	Local	Yes	Yes	-
<p>Comment: Chapter 92 (Floodplain Management); the purpose of the Floodplain Management code is 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; 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 and streets and bridges located in areas of special flood hazard; Help maintain a stable tax base by providing for the sound use and development of areas of special flood hazard so as to minimize future flood blight areas; Ensure that potential buyers are notified that property is in an area of special flood hazard; Ensure that those who occupy the areas of special flood hazard assume responsibility for their actions. The Planning Board is appointed the floodplain administrator for the Township. The code requires new construction and substantial improvement in the floodplain to have their lowest floor, including basement, elevated to or above the base flood elevation.</p>					
Wellhead Protection	No	-	-	-	-
<p>Comment: While there is no adopted wellhead protection code, it is discussed in Section 255 (Water), Section 170 (Stormwater Control), and Chapter 111 (Land Use Procedures).</p>					
Emergency Management	No	-	-	-	-
<p>Comment:</p>					
Climate Change	No	-	-	-	-
<p>Comment:</p>					
Disaster Recovery Ordinance	No	-	-	-	-
<p>Comment:</p>					
Disaster Reconstruction Ordinance	No	-	-	-	-
<p>Comment:</p>					
Other	Yes	Local	No	Yes	-
<p>Comment:</p> <ul style="list-style-type: none"> Green Building Practices for Civic, Commercial, and Residential Buildings – this resolution was adopted on May 20, 2019 by the Township Committee. This resolution states that the Township will train its planning and construction code enforcement staff through programs offered by the Affordable Green Academy and the New Jersey Department of Community Affairs in how to incorporate green building measures into the design, construction, operation, and maintenance of municipal buildings and facilities and will encourage green design for commercial and residential buildings. The resolution also states that the Township will support green building in the private sector through various actions (e.g. green building scorecard as a discussion item in the Site Plan approval process), actions that might be required in the future (e.g. amended the Site Plan checklist to incorporate green building standards), and educational actions (e.g. information on website, guidelines, etc.). Chapter 98 (Geologic Hazards) - Geologic hazards may exist in developments which received approvals prior to the adoption of this chapter regulating development in limestone areas. Those hazards may be discovered during or after construction. In such cases it shall be unlawful for the developer and/or the owner to continue construction activities which would impact the geologic 					



	Do you have this? (Yes/No)	Authority that enforces (Federal, State, Regional, County, Local)	Is this State Mandated?	Has the HMP been integrated in the last 5 years? If yes- how? If no - can it be a mitigation action? If yes, add Mitigation Action #.
<p><i>hazard until the following have occurred: The occurrence of the hazard has been reported to the Township Clerk and Engineer within 24 hours of discovery; A report on the geologic hazard which analyzes the impact of the hazard and details a remediation plan has been prepared and submitted to the township for review and approval by the Township Geotechnical Consultant (TGC); After obtaining approval of the remediation plan from the municipality, necessary remediation of the hazard to prevent or minimize damage to buildings, structures, utilities, driveways, parking areas, roadways and other site improvements and to minimize pollution of the groundwater has been performed; Any damage to improvements has been repaired and restoration of ground cover and landscaping has been accomplished; and The township has been reimbursed for the cost of inspection or other costs incurred in connection with the geologic hazard.</i></p> <ul style="list-style-type: none"> • Chapter 103 (Highlands Area Exemptions) - The purpose of this chapter is to set forth the procedural and substantive requirements by which the municipality will issue Highlands Act Exemption Determinations. • Chapter 111 (Land Use Procedures) – Establishes the Planning Board and Zoning Board of Adjustment • Chapter 155 (Sewers) - Article I of the code states that an owner of any house, building or property used for human occupancy, employment, recreation or any other purpose situated within the Township abutting on or having easement or right-of-way access to any street, easement or right-of-way in which there is now located a public sewerage system is required, at the owner's expense, to install suitable sanitary sewer facilities and to connect such facilities directly with the proper public sewer in accordance with the provisions of this article and with the rules and regulations of the Washington Township Municipal Utilities Authority or the Hackettstown Municipal Utilities Authority, as the case may be, and the Washington Township Board of Health. Article II of the code refers to illicit connections to the storm sewer system. The purpose of this section is to prohibit illicit connections to the municipal separate storm sewer system operated by the Township of Washington so as to protect public health, safety and welfare, and to prescribe penalties for the failure to comply. 				
Planning Documents				
Comprehensive / Master Plan	Yes	Local	Yes	Yes -
<p>Comment:</p> <ul style="list-style-type: none"> • 2009 Master Plan and Development Regulations Reexamination Report (adopted September 23, 2009); The Master Plan includes the following elements: land use, circulation, community facilities, utility service, open space and recreation, recycling, conservation, economic, historic preservation, farmland preservation, housing element and fair share, implementation, and natural resource inventory. Several goals of the plan relate to those included in the County's HMP, including secure safety from fire, flood, panic, and other natural and man-made disasters. The Open Space and Recreation Plan was re-examined as part of the 2003 and 2009 Master Plan Re-examination. It was originally adopted in 2001 and was prepared so the Township could receive Green Acres preferential open space funding. 				
Capital Improvement Plan	Yes	Local	No	Yes -
<p>Comment: The Capital Improvement Plan is part of the annual budget. The Township Committee is responsible for maintaining and updating. The annual budget includes line items for DPW equipment, road improvements, emergency services equipment, and facility improvements.</p>				
Disaster Debris Management Plan	No	-	No	-
<p>Comment: The Township is currently developing a debris management plan</p>				
Floodplain or Watershed Plan	Yes	Local	No	Yes -
<p>Comment: This is part of the Natural Resource Inventory completed in 2003. The Planning Board is responsible for maintaining and updating.</p>				
Stormwater Management Plan	Yes	Local	Yes	Yes -
<p>Comment: The Stormwater Management Plan was completed in 12/19/2005. This plan documents the strategy for the Township to address stormwater-related impacts. Several goals of this plan coincide with the County's HMP, including: reduce flood damage, including damage to life and property. Other goals include reducing soil erosion from any development or construction and maintaining the integrity of stream channels for their biological functions, as well as for drainage. This plan also refers to the Township's Master Plan. The Stormwater Management Plan addresses the review and update of existing ordinances and the Master Plan to allow for project designs that include low impact development techniques.</p>				
Stormwater Pollution Prevention Plan	Yes	Local	Yes	-
<p>Comment: Stormwater Compliance Solutions LLC prepared the 2020 Stormwater Pollution Prevention Plan for the Township.</p>				
Urban Water Management Plan	No	-	-	-



	Do you have this? (Yes/No)	Authority that enforces (Federal, State, Regional, County, Local)	Is this State Mandated?	Has the HMP been integrated in the last 5 years? If yes- how? If no - can it be a mitigation action? If yes, add Mitigation Action #.	
				If yes- how? Describe in comments	
<i>Comment:</i>					
Habitat Conservation Plan	Yes	Local/County	-	-	-
<i>Comment:</i>					
Economic Development Plan	No	-	-	-	-
<i>Comment:</i>					
Shoreline Management Plan	No	-	-	-	-
<i>Comment:</i>					
Community Wildfire Protection Plan	No	-	-	-	-
<i>Comment:</i>					
Community Forest Management Plan	Yes	Local	No	-	-
<i>Comment:</i>					
Transportation Plan	No	-	-	-	-
<i>Comment:</i>					
Agriculture Plan	Yes	Local/County	-	-	-
<i>Comment:</i>					
Climate Action Plan	No	-	-	-	-
<i>Comment:</i>					
Tourism Plan	No	-	-	-	-
<i>Comment:</i>					
Business Development Plan	No	-	-	-	-
<i>Comment:</i>					
Other	No	-	-	-	-
<i>Comment:</i>					
Response/Recovery Planning					
Comprehensive Emergency Management Plan (CEMP) / Emergency Operations Plan (EOP)	Yes	Local	Yes	-	-
<i>Comment: The Township's EOP was adopted on April 25, 2014. The OEM is responsible for maintaining and updating.</i>					
Threat & Hazard Identification & Risk Assessment (THIRA)	No	-	-	-	-
<i>Comment:</i>					
Post-Disaster Recovery Plan	No	-	-	-	-
<i>Comment:</i>					
Continuity of Operations Plan	No	-	-	-	-
<i>Comment:</i>					
Public Health Plan	Yes	Local	-	-	-
<i>Comment: This is included in the Township's Emergency Operations Plan</i>					



	Do you have this? (Yes/No)	Authority that enforces (Federal, State, Regional, County, Local)	Is this State Mandated?	Has the HMP been integrated in the last 5 years? If yes- how?	If no - can it be a mitigation action? If yes, add Mitigation Action #.
Other	No	-	-	-	-
Comment:					

Table 9.39-4. Development and Permitting Capability

Criterion	Response
Does your jurisdiction issue development permits?	Yes – the Zoning Department issues development permits
Does your jurisdiction have the ability to track permits by hazard area?	No
Does your jurisdiction have a buildable lands inventory? -If yes, please describe briefly. -If no, please quantitatively describe the level of buildout in the jurisdiction.	No

ADMINISTRATIVE AND TECHNICAL CAPABILITY

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

Table 9.39-5. Administrative and Technical Capabilities

Staff/Personnel Resource	Available ?	Department/Agency/Position
Administrative Capability		
Planning Board	Yes	Washington Township Planning Board
Mitigation Planning Committee	Yes	Township OEM
Environmental Board / Commission	Yes	Washington Township Environmental Commission was established in 1979. It currently has nine active members and meets once a month. Some key initiatives in 2019 included local river and stream sampling /testing twice per year, and hosting a high school student stream sampling education workshop. The Environmental Commission also routinely performs monthly reviews of all township development plans and advises on any environmental concerns.
Open Space Board / Committee	Yes	Washington Township Open Space Committee
Economic Development Commission / Committee	Yes	Economic Development Committee was recently formed to help promote the township, and encourage tourism, and consumerism
Warning Systems / Services (reverse 911, outdoor warning signals)	Yes	Reverse 911 (Rave), Social Media (Facebook and Twitter), municipal website, email
Maintenance program to reduce risk	Yes	Safety Committee; the Township DPW has an annual catch basin cleaning program that helps maintain catch basin function and efficiency. For areas that experience recurring problems, the Township cleans those inlets twice a year.
Mutual aid agreements	Yes	Surrounding communities



Staff/Personnel Resource	Available ?	Department/Agency/Position
Technical/Staffing Capability		
Planners or engineers with knowledge of land development and land management practices	Yes	Professional Contractors (Engineer & Planner)
Engineers or professionals trained in building or infrastructure construction practices	Yes	Professional Contractors
Planners or engineers with an understanding of natural hazards	Yes	Professional Contractors
Staff with training in benefit/cost analysis	No	-
Staff with training in green infrastructure	No	-
Staff with education/ knowledge/ training in low impact development	No	-
Surveyor	No	-
Stormwater engineer	Yes	Professional Contractor
Personnel skilled or trained in GIS applications	Yes	Professional Contractors (Engineer & Planner)
Local or state water quality professional	No	-
Scientist familiar with natural hazards in local area	No	-
Emergency manager	Yes	Township OEM
Watershed planner	No	-
Environmental specialist	No	-
Grant writers	No	-
Resilience Officer	No	-
Other	Yes	Yes, we have others

FISCAL CAPABILITY

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

Table 9.39-6. Fiscal Capabilities

Financial Resource	Accessible or Eligible to Use?
Community Development Block Grants (CDBG, CDBG-DR)	Yes, via Morris County
Capital Improvements Project Funding	Yes
Authority to Levy Taxes for Specific Purposes	Yes
User Fees for Water, Sewer, Gas or Electric Service	Yes (MUA) Water + Sewer
Incur Debt through General Obligation Bonds	Yes
Incur Debt through Special Tax Bonds	Yes, Tax Anticipation
Incur Debt through Private Activity Bonds	No
Withhold Public Expenditures in Hazard-Prone Areas	No
State-Sponsored Grant Programs	Yes
Development Impact Fees for Homebuyers or Developers	No
Clean Water Act 319 Grants (Nonpoint Source Pollution)	No
Other	Yes – Open Space Acquisition Funding through the Township and Morris County

EDUCATION AND OUTREACH CAPABILITY





The table below summarizes the education and outreach resources available to the Township of Washington.

Table 9.39-7. Education and Outreach Capabilities

Criterion	Response
Do you have a public information officer or communications office?	Yes, the Township has a Public Information Officer
Do you have personnel skilled or trained in website development?	Yes, the Township uses a consultant to build the website and the Township updates and maintains it
Do you have hazard mitigation information available on your website? <ul style="list-style-type: none"> If yes, briefly describe. 	Yes, the Township’s website has information about the Hazard Mitigation Plan with a link to the take the citizen survey
Do you use social media for hazard mitigation education and outreach? <ul style="list-style-type: none"> If yes, briefly describe. 	Yes, the Township uses Facebook and Twitter for hazard mitigation education and outreach
Do you have any citizen boards or commissions that address issues related to hazard mitigation? <ul style="list-style-type: none"> If yes, briefly describe. 	Yes, LEPC
Do you have any other programs already in place that could be used to communicate hazard-related information? <ul style="list-style-type: none"> If yes, briefly describe. 	Yes, Digital/non digital sign boards, Rave
Do you have any established warning systems for hazard events? <ul style="list-style-type: none"> If yes, briefly describe. 	Yes, The Township uses Reverse 911 (Rave), Social Media (Facebook and Twitter), municipal website, and email for warning systems

COMMUNITY CLASSIFICATIONS

The table below summarizes the classifications for community programs available to the Township of Washington.

Table 9.39-8. Community Classifications

Program	Participating?	Classification	Date Classified
Community Rating System	No	-	-
Building Code Effectiveness Grading Schedule (BCEGS)	Yes	Class 1 DCA	2008
Public Protection (Fire ISO Protection Class)	Yes	5/8B	2012
Storm Ready Certification	No	-	-
Firewise Community Classification	No	-	-
Sustainable Jersey	Yes	Bronze	October 2013

ADAPTIVE CAPACITY

Adaptive capacity is defined as “the ability of systems, institutions, humans and other organisms to adjust to potential damage, to take advantage of opportunities, or respond to consequences” (IPCC 2014). In other words, it describes a jurisdiction’s current ability to adjust to, protect from, or withstand a hazard event. This term is often discussed in reference to climate change; however, adaptive capacity also includes an understanding of local capacity for adapting to current and future risks and changing conditions. The table below summarizes the adaptive capacity for each hazard and the jurisdiction’s rating.

- Does the municipality have access to resources to determine the possible impacts of climate change upon the municipality? No
- Is the administrative supportive of integrating climate change in policies or actions? No



- Is climate change already being integrated into current policies/plans or actions (projects/monitoring) within the municipality? No

Table 9.39-9. Adaptive Capacity

Hazard	Adaptive Capacity (Capabilities) - High/Medium/Low
Dam Failure	Medium
Disease Outbreak	Medium
Drought	Medium
Earthquake	Medium
Extreme Temperature	Medium
Flood	Medium
Geological Hazards	Medium
Harmful Algal Bloom	Medium
Hazardous Substances	Medium
Infestation	Medium
Severe Weather	Medium
Severe Winter Weather	Medium
Wildfire	Medium

Notes:

High = Capacity exists and is in use; Medium = Capacity may exist, but is not used or could use some improvement;

Low = Capacity does not exist or could use substantial improvement; Unsure = Not enough information is known to assign a rating.

NATIONAL FLOOD INSURANCE PROGRAM

This section provides specific information on the management and regulation of the regulatory floodplain.

Table 9.39-10. National Flood Insurance Program Compliance

Criterion	Response
What local department is responsible for floodplain management?	Engineering (hired consultant)
Who is your floodplain administrator? (name, department/position)	Township Engineer
Are any certified floodplain managers on staff in your jurisdiction?	Yes
What is the date that your flood damage prevention ordinance was last amended?	4-16-2007
Does your floodplain management program meet or exceed minimum requirements? If exceeds, in what ways?	Overall, meets the minimum; however, it does not meet the minimum state requirement for new development and substantial improvements in the floodplain which requires a minimum of one foot above the base flood elevation. Refer to 2020-WASHINGTON-005
When was the most recent Community Assistance Visit or Community Assistance Contact?	According to the FEMA CRS and CAV History, dated March 18, 2020, the Township has not had a CAV or CAC conducted.
Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? • If so, state what they are.	No
Are any RiskMAP projects currently underway in your jurisdiction? If so, state what they are.	There are currently no RiskMAP projects underway in the Township.



Criterion	Response
Do your flood hazard maps adequately address the flood risk within your jurisdiction? <ul style="list-style-type: none"> If no, state why. 	Yes
Does your floodplain management staff need any assistance or training to support its floodplain management program? <ul style="list-style-type: none"> If so, what type of assistance/training is needed? 	No
Does your jurisdiction participate in the Community Rating System (CRS)? <ul style="list-style-type: none"> If yes, is your jurisdiction interested in improving its CRS Classification? If no, is your jurisdiction interested in joining the CRS program? 	No – however, the Township is interested in joining the CRS program
How many flood insurance policies are in force in your jurisdiction?* <ul style="list-style-type: none"> What is the insurance in force? What is the premium in force? 	64 policies in-force \$97,583 premiums in-force
How many total loss claims have been filed in your jurisdiction?* <ul style="list-style-type: none"> How many claims are still open or were closed without payment? What were the total payments for losses? 	97 claims filed 79 closed, 0 open, 18 closed without payment \$1,904,161 total payments
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

ADDITIONAL AREAS OF EXISTING INTEGRATION

- Sustainable Jersey** – Sustainable Jersey is a nonprofit organization that provides tools, training and financial incentives to support communities as they pursue sustainability programs. By supporting community efforts to reduce waste, cut greenhouse gas emissions, and improve environmental equity, Sustainable Jersey is empowering communities to build a better world. Municipalities can receive Sustainable Jersey certification. There are two levels of certification – bronze and silver. To become certified, there is a list of requirements that municipalities must do. Washington Township is a Sustainable Jersey certified municipality. It was certified on October 21, 2019 as a bronze certified applicant.
- Green Team** – the Township’s Green Team was appointed in 2010 and has been re-appointed each year. Membership is made up of residents of Washington Township. The Team meets once a month to discuss project statuses, budget reports, and other relevant business and is always open to the public. Members of the Team oversee annual events that include tree plantings, invasive plant removals, open space stewardship, paper shredding, and e-waste recycling events. The Green Team also partners with the fire department to run the annual green living food trucks and firework festival. Members also participate in spring and fall clean community programs, and the annual Arbor Day NJDEP Tree Recovery Tree Seedlings distribution. The Green Team helped revive the former Green Market. In a partnership with the Economic Development Committee, the new Market at Long Valley will run Thursday afternoons from June through October. The Green Team maintains a Facebook page (<https://www.facebook.com/WTmorrisGreenTeam/>) to disseminate information and they launched a website (<https://bit.ly/313e94C>).





- **Highlands Commission:** The Township is located in the New Jersey Highlands Region. It is one of 88 municipalities protected by and subject to the provisions of the Highlands Water Protection and Planning Act. The Township is partially located in the Preservation and Planning Areas. The Township seeks to align its land use planning program with provisions in the Highlands Regional Master Plan. The Highlands Regional Master Plan is a supplement to the Township’s Master Plan, designated as the Highlands Element. Any major development in the Highlands Region must be reviewed by the NJDEP Highlands Council.
- The Township’s Floodplain Ordinance and Hazard Mitigation Plan share common goal of protecting life. The Hazard Mitigation Plan will be used as a resource for the use of future grant opportunities and to assist with application development.
- The Township has a robust public information website located at: www.washtwpmorris.org The website offers information about Hurricane Preparedness as well as hazardous weather forecasts for the area. The Township also utilizes Twitter and Facebook as a public information outreach media.
- As part of the requirements for the Stormwater Pollution Protection Plan, the Township Environmental Committee holds information meetings with the general public on various environmental topics, including illicit connections and improper disposal of waste.

9.39.5 Hazard Event History Specific to the Jurisdiction

Morris County has a history of hazard events, as detailed in Section 4 (Risk Assessment) of this plan. A summary of historical events is provided in each of the hazard profiles in Section 4.4 (Hazard Profiles) and includes a chronology of events that affected Morris County and its jurisdictions. The Township of Washington’s history of federally-declared (as presented by FEMA) and significant hazard events (as presented in NOAA-NCEI) is consistent with that of Morris County. Table 9.39-11 provides details regarding municipal-specific loss and damages the Township experienced during hazard events. Information provided in the table below is based on reference material or local sources.

Table 9.39-11. Hazard Event History

Date(s) of Event	Event Type (disaster declaration if applicable)	Morris County Designated?	Summary of Event	Summary of Local Damages and Losses
January 22-24, 2016	Severe Winter Storm and Snowstorm (DR-4264)	Yes	Snow began during the evening hours on the 22nd, then continued, heavy at times through the 23rd before ending early on the 24th. Snowfall totals included 30.0 inches in Long Valley, 29.0 inches in Madison, 26.0 inches in Budd Lake, 25.3 inches in Green Pond, 22.5 inches in Butler, 21.0 inches in Chatham, and 18.0 inches in Marcella.	Multiple outages from trees on wires and heavy snow on lines. Trees across roads causing road closures. Overtime during and after storm.
March 6-7, 2018	Severe Winter Storm and Snow Storm (DR-4368)	Yes	Snowfall amounts in excess of 6 inches occurred across portions of the county.	Multiple outages, trees down across roads and on power lines. Overtime during and after storm
March 21, 2018	Winter Storm	No	Precipitation began as a wet, heavy snow during the evening hours on March 20th. After a lull during the overnight hours, a drier snow began falling, heavy at times, during the afternoon and evening hours on March 21st. Snowfall totals were lower in the eastern portions of the	Multiple outages, trees down, road closures. Overtime during and after storm.



Date(s) of Event	Event Type (disaster declaration if applicable)	Morris County Designated?	Summary of Event	Summary of Local Damages and Losses
			<p>county were mixing took place. Some snowfall reports include: 12.0 inches in Netcong, Green Pond, and Mine Hill Township, 11.2 inches in Jefferson Township, 11.0 inches in Marcella, 10.5 inches in both Rockaway and Mine Hill Township, 10.0 inches in Succasunna, 9.5 inches in Butler, 9.3 inches in Denville, 9.2 inches in both Budd Lake and Washington Township, 8.8 inches in both Mount Arlington and Randolph Township, 8.4 inches in Morristown, 8.2 inches at Charlottesburg Reservoir, 8.0 inches in Dover, 7.5 inches in Parsippany, 7.0 inches at Boonton Reservoir, 7.0 inches in Millington, 6.5 inches in Pine Brook, 4.0 inches in Beach Glen, and 3.7 inches in Pleasantville.</p>	

9.39.6 Jurisdiction-Specific Vulnerabilities and Hazard ranking

The hazard profiles in Section 4 (Risk Assessment) provide detailed information regarding each plan participant’s vulnerability to the identified hazards. Table 9.39-12 summarizes the Washington Township risk assessment results and data used to determine the hazard ranking.

A gradient of certainty was developed to summarize the confidence level regarding the input used to populate the hazard ranking. A certainty factor of high, medium or low was selected and assigned to each hazard to provide a level of transparency and create increased understanding of the data used to support the resulting ranking. The following scale was used to assign a certainty factor to each hazard:

- High—Defined scenario/event to evaluate; probability calculated; evidenced-based/quantitative assessment to estimate potential impacts through hazard modeling.
- Moderate—Defined scenario/event or only a hazard area to evaluate; estimated probability; combination of quantitative (exposure analysis, no hazard modeling) and qualitative data to estimate potential impacts.
- Low—Scenario or hazard area is undefined; there is a degree of uncertainty regarding event probability; majority of potential impacts are qualitative.



Table 9.39-12. Overview of the Hazard Scenario and Associated Estimated Impacts Considered in the Hazard Ranking

Hazard of Concern	Hazard/ Scenario Area Evaluated	Population		Buildings		Economy (Loss)		Certainty Factor
Dam Failure	Partial or complete failure of a dam There are 12 dams in the Township, according to NJDEP.	Population impacted is dependent on the capacity of the dam, the extent of the dam failure inundation area and the severity of the failure.		The number of building impacted is dependent on the capacity of the dam, the extent of the dam failure inundation area and the severity of the failure.		Economic impacts include dam/building/infrastructure repairs; debris removal/disposal; utility impacts.		Low
Disease Outbreak	Disease Outbreaks which include: Mosquito-Borne Diseases, Tick-Borne Diseases, Campylobacteriosis, Influenza, Mumps, Ebola	Population impacted is dependent on the disease and severity of the outbreak; in some cases immunocompromised persons are more vulnerable.		Structural impacts due to disease outbreak would be limited.		Economic losses can include County financial impacts to monitor/address outbreaks; lost wages or commercial interruptions; depends on the severity and type of disease outbreak.		Low
Drought	Prolonged drought event - The County is serviced by water supplies who primarily get water from groundwater sources; some surface water sources.	Entire population exposed. Population on surface water supplies may be impacted first; water restrictions/contamination; increased wildfire risk.		Droughts are not expected to cause direct damage to buildings.		Losses include aesthetic, landscape/nursery/agricultural industry impacts.		Low
Earthquake	"100, 500-, 2,500-Year Mean Return Period (MRP) Events evaluated NEHRP Soils D&E (soft soils that amplify ground shaking are present in the County"	NEHRP D&E:	1,183	NEHRP D&E:	491	100-year Loss:	\$0	High
		Liquefaction Class 4:	93	Liquefaction Class 4:	50	500-year Loss:	\$2,507,657	
						2,500-year Loss:	\$41,550,146	
Extreme Temperature	Extreme temperature event (heat or cold)	Over 65 Population:	2,647	Physical impacts due to extreme temperatures would be limited.		Loss of business function is possible due to unexpected repairs (i.e. pipes bursting) or power failures.		Low
		Population Below Poverty Level:	524					
Flood	100- and 500-Year Mean Return Period Event	100-year	170	100-year	107	100-year Loss:	\$54,505,470	High
		500-year	243	500-year	145			
Geological	High Landslide Susceptibility Areas and Areas developed over carbonate rock	Class A:	14	Class A:	7	Class A:	4539320.174	Moderate
		Class B:	262	Class B:	110	Class B:	\$56,195,921	
		Carbonate Bedrock:	3,664	Carbonate Bedrock:	1,910	Carbonate Bedrock:	\$1,550,901,735	





Hazard of Concern	Hazard/ Scenario Area Evaluated	Population		Buildings		Economy (Loss)		Certainty Factor
Harmful Algal Bloom	Any body of water or area adjacent that is susceptible to harmful algal bloom.	Population in contact (e.g., swimming) or drinking water from surface water impacted can result in a range of health effects		General building stock impacts due to harmful algal bloom are not anticipated. Critical facilities (i.e., water treatment plants) could lead to plant closures.		Economic impacts range from recreational closure of impacted waterbodies; cost to sample/monitor/remediate.		Low
Hazardous Substance	Release of a hazardous substance from a fixed site.	Population impacted will depend on the type of material and scale of the incident. May include population within small radii of site.		The degree of damages to a building depends on the scale of the incident.		The degree of damages depends on the scale of the incident.		Low
Infestation	Infestation including: Insects [e.g. Gypsy Moth, Mosquitoes, Spotted Lanternfly, Emerald Ash Borer], White-Tailed Deer, Rodents	Population impacted will depend on the type and severity of infestation and may cause an increased risk for disease outbreak.		Physical impacts will be limited to indirect impacts from invasive species which affect crops and vegetation.		Economic impact will depend on the type and severity of infestation and may cause an increased risk for disease outbreak.		Low
Severe Weather	Severe Weather Event	Entire population exposed; The degree of impact to the population depends on the scale of the incident.		Entire building stock is exposed; The degree of impact depends on the scale of the incident.		Annualized Loss:	\$60,154	High
						100 -Year Loss:	\$2,775,170	
						500-year Loss:	\$15,462,040	
Severe Winter Weather	Severe Winter Weather Event	All residents/commuters/visitors are exposed; socially-vulnerable populations may be at increased risk.		All buildings are exposed; the degree of impact depends on the scale of the incident.		The cost of snow and ice removal and repair of roads/infrastructure can impact operating budgets.		Low
Wildfire	Wildfire Fuel Hazard areas (High, Very High, Extreme)	Wildfire:	119	Wildfire:	59	Wildfire:	\$25,242,707	Moderate



REPETITIVE FLOOD LOSSES

The following summarizes the repetitive and severe repetitive flood losses in the Township of Washington.

- Number of repetitive loss (RL) properties: 13
- Number of severe repetitive loss (SRL) properties: 2
- Number of RL/SRL properties that have been mitigated: 1

Source: FEMA BureauNet, 2019

Note: RL and SRL as of 04/26/2019; The number of SRL properties excludes RL properties and includes properties that have been verified only (SRL_Indicator = V).

CRITICAL FACILITIES

The table below identifies critical facilities in the community located in the 1-percent and 0.2-percent floodplain.

Table 9.39-13. Potential Flood Losses to Critical Facilities and Lifelines

Name	Type	Exposure		Status of Mitigation
		1% Event	0.2% Event	
No facilities identified at this time				

ADDITIONAL IDENTIFIED VULNERABILITIES

The jurisdiction did not identify additional vulnerabilities within their community that is not already documented in the risk assessment.

HAZARD AREA EXTENT AND LOCATION

Hazard area extent and location maps were generated for the Township of Washington that illustrate the probable areas impacted within the municipality. These maps are based on the best available data at the time of the preparation of this plan and are adequate for planning purposes. Maps have been generated only for those hazards that can be clearly identified using mapping techniques and technologies and for which the Township of Washington has significant exposure. A map of the Township of Washington hazard area extent and location is provided on the following page. This map indicates the location of the regulatory floodplain, as well as identified critical facilities within the municipality.

HAZARD RANKING

This section includes the community specific identification of the primary hazard concerns based on identified problems, impacts and the results of the risk assessment as presented in Section 5 (Risk Assessment). The ranking process involves an assessment of the likelihood of occurrence for each hazard; its potential impacts on people, property, and the economy; community capability and changing future climate conditions. This input supports the mitigation action development to target those hazards with highest level of concern.

As discussed in Section 4.3 (Hazard Ranking), each plan participant may have differing degrees of risk exposure and vulnerability compared to Morris County as a whole. Therefore, each jurisdiction ranked the degree of risk to each hazard as it pertains to their community factoring in their capabilities to withstand impacts and rebound after the event. The table below summarizes the hazard rankings of potential natural hazards for the Township



of Washington. The Township of Washington has reviewed the Morris County hazard ranking table, as well as its individual results, to reflect the relative risk of the hazards of concern to the community.

The Township is in agreement with the calculated risk of each hazard as presented in the table below.

Table 9.39-14. Township of Washington Hazard Ranking Input

Dam Failure	Disease Outbreak	Drought	Earthquake	Extreme Temperature	Flood	Geological Hazard
Medium	High	Medium	Medium	Medium	Medium	High

Harmful Algal Bloom	Hazardous Substances	Infestation	Severe Weather	Severe Winter Weather	Wildfire
Low	High	High	High	High	Low

9.39.7 Mitigation Strategy and Prioritization

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

PAST MITIGATION INITIATIVE STATUS

The following table summarizes the jurisdiction’s progress on their mitigation strategy identified in the 2015 HMP. Actions that are carried forward as part of this plan update are included in the following subsection in its own table with prioritization. Previous actions that are now on-going programs and capabilities are indicated as such in the following table and can also be found under ‘Capability Assessment’ presented previously in this annex.

Table 9.39-15. Status of Previous HMP Mitigation Actions

2015 Action Number	Action Description	Responsible Party	Status (In Progress, No Progress, Ongoing Capability, or Completed)	Include in the 2020 HMP Update?	
				Check if Yes	Enter 2020 HMP Action #
TW - 1	Improve drainage and storm sewers on Naughtright, Bartley, Middle Valley and Zellars Roads.	Municipal DPW Director	No Progress	Include in the 2020 Plan – keep action as worded	2020-WASHINGTON-001
TW - 2	Backup power for Town Hall (backup EOC/records storage) on Schooleys Mount Road.	Municipal Administration	Complete	Discontinue – project has been completed	
TW - 3	Support the mitigation of vulnerable structures via retrofit (e.g. elevation, flood-proofing) or acquisition/relocation for the following properties: - Two RLs on West Mill Road - One RL on East Mill Road - One RL on Mallard Cover Road - One RL on Naughtright Road	Municipal OEM	No Progress	Include in the 2020 Plan – keep action as worded	2020-WASHINGTON-002



2015 Action Number	Action Description	Responsible Party	Status (In Progress, No Progress, Ongoing Capability, or Completed)	Include in the 2020 HMP Update?	
				Check if Yes	Enter 2020 HMP Action #
TW - 4	Bury power lines, telephone trunk, and television cables in front of Long Valley Fire Company on Fairview Avenue.	Municipal OEM	No Progress	Include in the 2020 Plan – keep action as worded; working with JCP&L	2020-WASHINGTON-003
TW - 5	Develop all-hazards public education and outreach program for hazard mitigation and preparedness.	Municipal OEM	Ongoing Capability	Remove from plan and incorporate as an ongoing capability	
TW - 6	Purchase digital signboard for public safety messaging	Municipal OEM	Complete	Discontinue – sign board purchased	
TW - 7	Purchase dual band radio and install in police vehicles	Municipal OEM	Complete	Discontinue – project is complete; however, radios were not purchased, project was completed differently	
TW - 8	Purchase 3 portable generators for Fire Department	Municipal OEM Fire Dept.	No Progress	Include in the 2020 HMP – keep as worded	2020-WASHINGTON-004

In addition to the above progress, the Township of Washington identified the following mitigation projects/activities that were completed but not identified in the 2015 HMP mitigation strategy:

- Purchase of a generator for senior center (Main Shelter)
- Purchase of a generator for Long Valley Fire Station

PROPOSED HAZARD MITIGATION INITIATIVES FOR THE PLAN UPDATE

The Township of Washington participated in a risk assessment workshop in November 2019 in which detailed information was provided about assets exposed and vulnerable to the identified hazards of concern. The Township of Washington participated in a mitigation action workshop in March 2020 and was provided a Mitigation Toolbox that included a mitigation catalog developed specifically for Morris County and its hazards of concerns; challenges and opportunities identified during the capability and risk assessments; and the following FEMA publications to use as a resource as part of their comprehensive review of all possible activities and mitigation measures to address their hazards: FEMA 551 *Selecting Appropriate Mitigation Measures for Floodprone Structures* (March 2007) and FEMA *Mitigation Ideas – A Resource for Reducing Risk to Natural Hazards* (January 2013). Section 6 (Mitigation Strategy) and Appendix F (Mitigation Strategy Supplement) provide a more complete description of the Mitigation Toolbox and its resources.

Table 9.39-16 summarizes the comprehensive-range of specific mitigation initiatives the Township of Washington would like to pursue in the future to reduce the effects of hazards. Some of these initiatives might be previous actions carried forward for this HMP update. Initiatives are dependent upon available funding



(grants and local match availability) and can be modified or omitted at any time based on the occurrence of new hazard events and changes in municipal priorities. Both the four FEMA mitigation action categories and the six CRS mitigation action categories are listed in the table below to further demonstrate the wide-range of activities and mitigation measures selected.

As discussed in Section 6 (Mitigation Strategy), 14 criteria were used to evaluate each action, including an evaluation of the benefits and costs. For each new mitigation action, a numeric rank was assigned (-1, 0, or 1) for each of the 14 evaluation criteria. The results of this evaluation, in addition to input from the jurisdiction, were then used to prioritize the mitigation initiatives as 'High', 'Medium', or 'Low.' Table 9.39-17 summarizes the evaluation of each mitigation initiative and the resulting priority, listed by Action Number.



Table 9.39-16. Proposed Hazard Mitigation Initiatives and Associated Priority

Initiative Number	Mitigation Initiative Name	Description of the Problem and Solution	New or Existing Assets?	Hazard(s) to be Mitigated	Goals Met	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Cost	Timeline	Priority	Mitigation Category	CRS Category
2020-WASHINGTON-001	Drainage Improvements	<p>Problem: During severe storms and weather drainage systems backup flooding on Bartley, Middle Valley, Naughtright, and Zellars Roads</p> <p>Solution: Perform engineering design studies aided at redirecting run off and or raising elevations with the purpose of eliminating and/or reducing flooding during severe storms and weather.</p>	Existing	Flood, Severe Weather, Severe Winter Weather	3, 6	Township DPW, Township Engineer	EPA Clean Water State Fund, CDBG, FEMA HMGP	Reduce flooded roads and allow roads to remain open; better access for emergency and vehicle access	\$100 for engineering studies; alterations to be determined	1 year for study/design 4 years for construction	Medium	SIP	PP, ES
2020-WASHINGTON-002	Mitigation of Vulnerable Structures	<p>Problem: There are 15 repetitive loss and severe repetitive loss properties in the Township. These structures are vulnerable to flooding and have sustained repeat flood damage.</p> <p>Solution: The ultimate action would be to purchase the properties or raise the elevation of the buildings above the maximum 100 year level. However, before that decision is made each property should be researched in detail to determine the appropriate action, i.e. do nothing, raise the elevation or purchase and destroy the property. Project 2020-WASHINGTON-001 requests funding to complete a detailed study</p>	Existing	Flood, Severe Weather	1, 4	Township OEM, Floodplain Administrator	Municipal budget for study; once project identified, funding sources will depend on the type of mitigation	Reduce risk to floods, reduce damages to floods	\$375,000 for study	2 years	Medium	SIP	PP



Initiative Number	Mitigation Initiative Name	Description of the Problem and Solution	New or Existing Assets?	Hazard(s) to be Mitigated	Goals Met	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Cost	Timeline	Priority	Mitigation Category	CRS Category
		on each of the properties by a certified engineering company to determine the appropriate action.											
2020-WASHINGTON N-003	Bury Utility Wires and Cables	<p>Problem: Primary power wires, telephone trunk cables and cable television distribution wires hang in front of fire station bay doors approximately six feet above and three feet out of area where vehicles exit. In times of high winds, large storms, or hurricane conditions wires could come down blocking vehicles from exiting the station.</p> <p>Solution: Bury power lines, telephone trunk, and television cables in front of Long Valley Fire Company on Fairview Avenue.</p>	New and Existing	Severe Winter Weather, Severe Weather	3, 6	Township Administration	Transportation Enhancement Program, CDBG	Reduce utility outages	\$500,000	1-2 years	Medium	SIP	PP, ES
2020-WASHINGTON N-004	Portable Generators	<p>Problem: The Township Fire Department does not have a portable source of backup power.</p> <p>Solution: Purchase 3 portable generators for Fire Department</p>	N/A	All	2, 3	Township Fire Department	FEMA HMGP and FMA, Township Budget, FEMA Fire Assistance	Continuity of operations, power source during outage	\$10,000	Within 2 years	Medium	SIP	ES
2020-WASHINGTON N-005	Update Floodplain Management (Chapter 92) Code	<p>Problem: The current flood damage prevention ordinance (Chapter 92) states that any new development or substantial improvements must be elevated at or above the base flood elevation. This does not meet the minimum requirement set by the State of New Jersey.</p>	New and Existing	Flood	All	Planning Board	Township Budget	Increase protection of development in the floodplain	<\$10,000	Within 1 year	High	LPR	PR, PP



Initiative Number	Mitigation Initiative Name	Description of the Problem and Solution	New or Existing Assets?	Hazard(s) to be Mitigated	Goals Met	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Cost	Timeline	Priority	Mitigation Category	CRS Category
		Solution: Update the current flood damage prevention ordinance to require new construction and substantial improvements to be elevated at least one foot above the base flood elevation.											
2020-WASHINGTON N-006	Long Valley Fire Co. No. 1 Fire Station	<p>Problem: The Long Valley Fire Co. No. 1 station is located in the floodplain (Zone A4 and B) and is susceptible to occasional flooding. This causes delays in response and damage to firefighting equipment and records. It is also outdated for performing its roll to protect life and property of the people of Washington Township. Current building was converted from a circa 1940s car dealership. As a result truck bays are undersized for equipment required under current fire regulations. There is minimal storage and room for maintenance of turnout gear and equipment. There is limited secure office space for personnel records.</p> <p>Solution: Construct new fire house outside of the floodplain that meets present and future needs of the fire company.</p>	Existing	All hazards	3, 6	Washington Twp Administration and Fire Department	FEMA Firefighter Assistance Grants, EMPG	Improve life and property protection; improved fire fighter safety; continuity of operations	\$1.25 million	One to two years	High	SIP	PP, ES
		Problem: Ash trees are throughout the township,	New and Existing	Infestation, Severe					\$125,000	One Year	Medium	NSP	PP, NR



Initiative Number	Mitigation Initiative Name	Description of the Problem and Solution	New or Existing Assets?	Hazard(s) to be Mitigated	Goals Met	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Cost	Timeline	Priority	Mitigation Category	CRS Category
2020-WASHINGTON N-007	Emerald Ash Borer Infestation Removal	including on township property and outside JCPL right of way. EAB have infested most of the ash trees. Solution: Purchase large chipper and trailer with grapple to allow our DPW to remove damaged or invested ash trees		Weather, Severe Winter Weather		Washington Twp DPW and Administration	EMPG, Municipal Budget	Improve life and protect property					
2020-WASHINGTON N-008	Long Valley Fire Co. No. 1 Satellite Facility	Problem: Fire Station area of responsibility covers approximately one third of the township including the Long Valley commercial, three schools and four of the six churches. The FEMA identified flood plains Zones divide the coverage area. In a time of flooding it may be impossible to cover total area from one station on one side of the river thus hindering the company's ability to provide critical support if required. Solution: Locate minimally equipped satellite fire station on the opposite side of the river from the primary station.	New	Flood, Severe Weather, Severe Winter Weather	3, 6	Washington Twp Administration and Fire Department	FEMA Firefighter Assistance Grants, EMPG	Improve life and property protection; improved fire fighter safety; continuity of operations	\$525,000	One year	Medium	SIP	PP, ES

Notes:

Acronyms and Abbreviations:

CAV Community Assistance Visit
 CRS Community Rating System
 DPW Department of Public Works
 FEMA Federal Emergency Management Agency
 FPA Floodplain Administrator
 HMA Hazard Mitigation Assistance

Potential FEMA HMA Funding Sources:

FMA Flood Mitigation Assistance Grant Program
 HMGP Hazard Mitigation Grant Program
 PDM Pre-Disaster Mitigation Grant Program

Timeline:

The time required for completion of the project upon implementation

Cost:

The estimated cost for implementation.

Benefits:





N/A Not applicable
 NFIP National Flood Insurance Program
 OEM Office of Emergency Management

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

Mitigation Category:

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

CRS Category:

- Preventative Measures (PR) - Government, administrative or regulatory actions, or processes that influence the way land and buildings are developed and built. Examples include planning and zoning, floodplain local laws, capital improvement programs, open space preservation, and storm water management regulations.
- Property Protection (PP) - These actions include public activities to reduce hazard losses or actions that involve (1) modification of existing buildings or structures to protect them from a hazard or (2) removal of the structures from the hazard area. Examples include acquisition, elevation, relocation, structural retrofits, storm shutters, and shatter-resistant glass.
- Public Information (PI) - Actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. 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. 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. Structures include dams, setback levees, floodwalls, retaining walls, and safe rooms.
- Emergency Services (ES) - Actions that protect people and property during and immediately following a disaster or hazard event. Services include warning systems, emergency response services, and the protection of essential facilities.

Table 9.39-17. Summary of Evaluation and Action Priority

Initiative Number	Mitigation Initiative Name	Life Safety	Property Protection	Cost Effectiveness	Technical	Political	Legal	Fiscal	Environmental	Social	Administrative	Multi-Hazard	Timeline	Agency Champion	Other Community Objectives	Total	High / Medium / Low
2020-WASHINGTON-001	Drainage Improvements	1	0	1	1	0	0	-1	1	0	0	1	1	0	0	6	Medium
2020-WASHINGTON-002	Mitigation of Vulnerable Structures	1	1	1	1	0	0	0	0	0	0	0	1	0	0	5	Medium
2020-WASHINGTON-003	Bury Utility Wires and Cables	1	1	1	0	0	0	0	0	0	-1	1	1	1	0	5	Medium
2020-WASHINGTON-004	Portable Generators	1	1	1	1	0	0	0	0	1	1	1	0	0	0	7	Medium



Initiative Number	Mitigation Initiative Name	Life Safety	Property Protection	Cost Effectiveness	Technical	Political	Legal	Fiscal	Environmental	Social	Administrative	Multi-Hazard	Timeline	Agency Champion	Other Community Objectives	Total	High / Medium / Low
2020-WASHINGTON-005	Update Floodplain Management (Chapter 92) Code	1	1	1	1	1	1	1	1	1	1	1	0	0	0	11	High
2020-WASHINGTON-006	Long Valley Fire Co. No. 1 Fire Station	1	1	1	1	0	1	0	0	0	1	1	1	1	0	9	High
2020-WASHINGTON-007	Emerald Ash Borer Infestation Removal	1	1	1	1	0	0	0	1	0	1	1	1	0	0	8	Medium
2020-WASHINGTON-008	Long Valley Fire Co. No. 1 Satellite Facility	1	1	1	1	0	1	-1	0	0	1	1	1	1	0	8	Medium

Notes: Section 6 (Mitigation Strategy) conveys guidance on prioritizing mitigation actions.



Table 9.39-18. Analysis of Mitigation Actions by Hazard and Category

Hazard	Prevention	Property Protection	Public Education and Awareness	Natural Resource Protection	Emergency Services	Structural Projects	Climate Resilient	Community Capacity Building
Dam Failure		-006			-004, -006	-004, -006		
Disease Outbreak		-006			-004, -006	-004, -006		
Drought		-006			-004, -006	-004, -006		
Earthquake		-006			-004, -006	-004, -006		
Extreme Temperature		-006			-004, -006	-004, -006		
Flood	-005	-001, -002, -005, -006, -008	-005		-001, -004, -006, -008	-001, -002, -004, -006, -008		
Geological Hazard		-006			-004, -006	-004, -006		
Harmful Algal Bloom		-006			-004, -006	-004, -006		
Hazardous Substances		-006			-004, -006	-004, -006		
Infestation		-006, -007		-007	-004, -006	-004, -006		
Severe Weather		-003, -006, -007, -008			-003, -004, -006, -008	-003, -004, -006, -008		
Severe Winter Weather		-006, -007, -008		-007	-004, -006, -008	-004, -006, -008		
Wildfire		-006			-004, -006	-004, -006		

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

9.39.8 Staff and Local Stakeholder Involvement in Annex Development

The Township of Washington followed the planning process described in Section 2 (Planning Process). This annex was developed over the course of several months with input from many jurisdiction representatives. All departments were asked to contribute to the annex development through reviewing and contributing to the capability assessment, reporting on the status of previously identified actions, and participating in action identification and prioritization. The following table summarizes who participated and in what capacity. Additional documentation on the municipality’s planning process through Planning Partnership meetings is included in Section 2 (Planning Process) and Appendix C (Meeting Documentation).

Table 9.39-19. Contributors to the Annex

Entity	Title	Method of Participation
Matt Lopez	OEM Coordinator	Primary POC, reviewed annex, attended planning partnership meetings, contributed to the mitigation strategy
C. W. Davidson	Deputy Coordinator	Reviewed annex, contributed to the mitigation strategy



Figure 9.39-1. Township of Washington Hazard Area Extent and Location Map 1

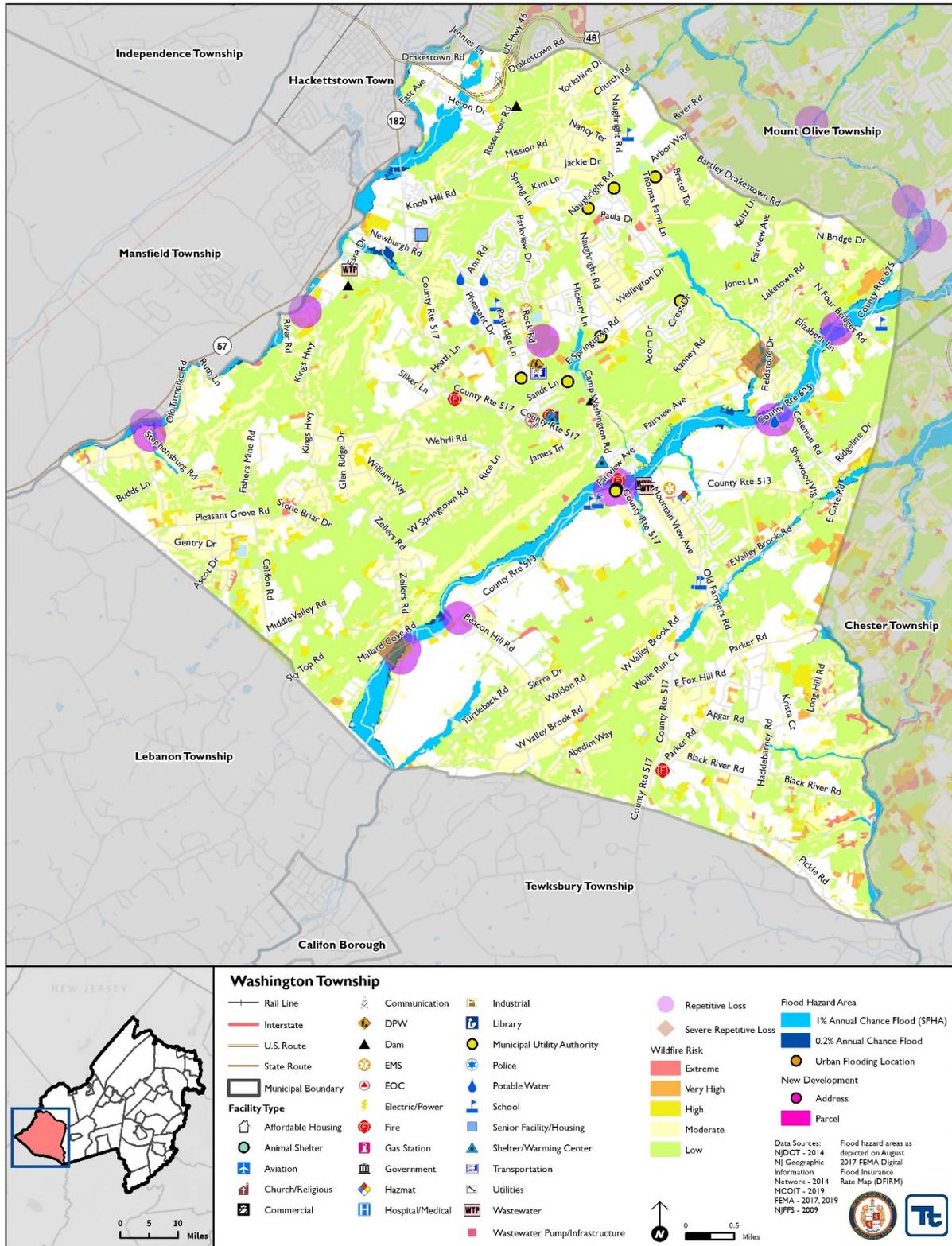
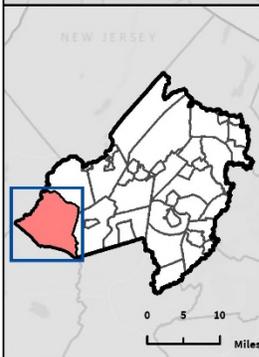
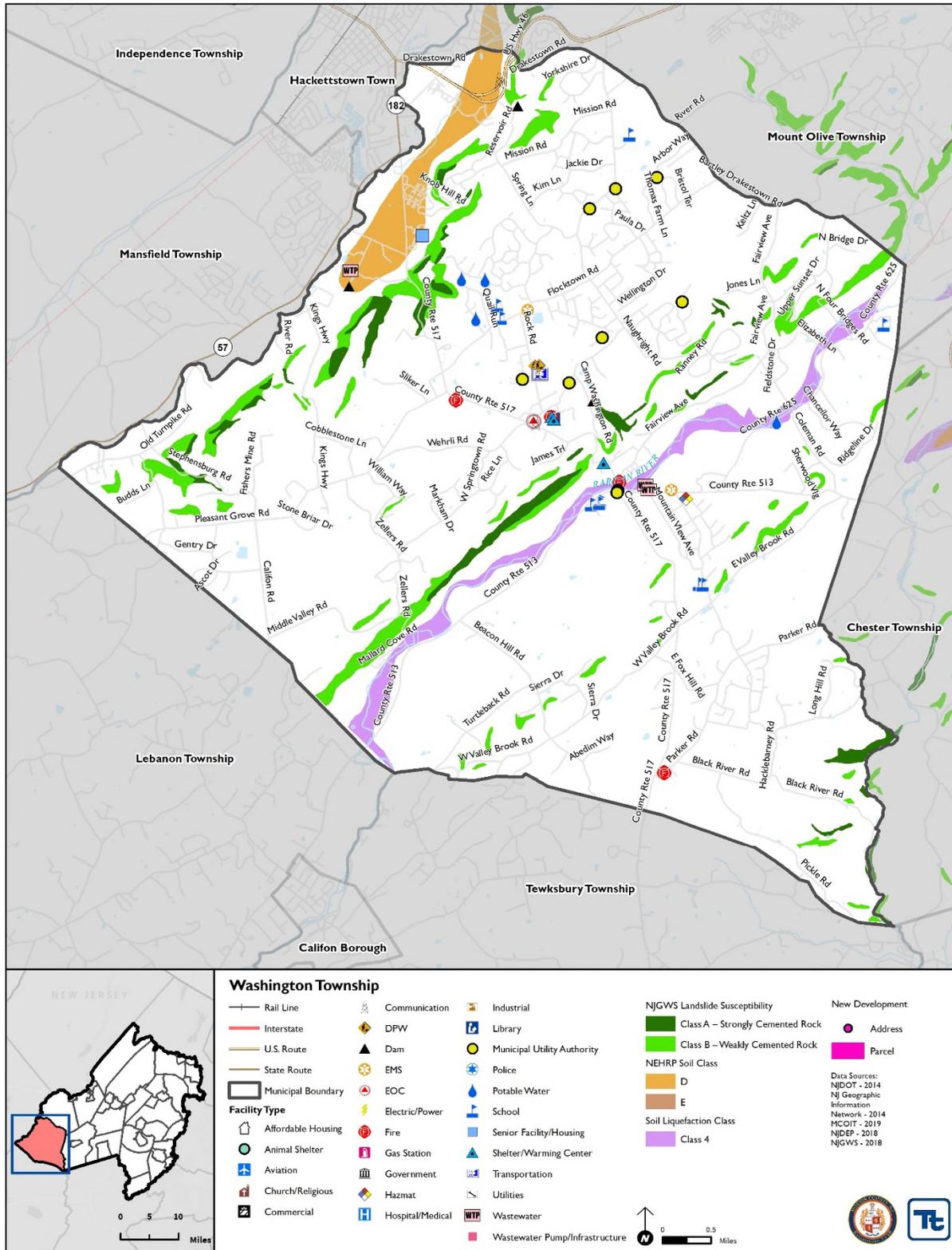




Figure 9.39-2. Township of Washington Hazard Area Extent and Location Map 2



Washington Township — Rail Line — Interstate — U.S. Route — State Route — Municipal Boundary Facility Type Affordable Housing Animal Shelter Aviation Church/Religious Commercial Communication DPW Dam EMS EOC Electric/Power Fire Gas Station Government Hazmat Hospital/Medical Industrial Library Municipal Utility Authority Police Porable Water School Senior Facility/Housing Shelter/Warming Center Transportation Utilities Wastewater Wastewater Pump/Infrastructure		NJGWS Landslide Susceptibility Class A – Strongly Cemented Rock Class B – Weakly Cemented Rock NEHRP Soil Class D E Soil Liquefaction Class Class 4	New Development Address Parcel Data Sources: NDOT - 2014 NJ Geographic Information Network - 2014 MCOIT - 2019 NIDEP - 2018 NJGWS - 2018
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Action Worksheet			
Project Name:	Drainage and Sewer System Upgrades		
Project Number:	2020-WASHINGTON-001		
Risk / Vulnerability			
Hazard(s) of Concern:	Flood, Severe Storm, Severe Winter Storm		
Description of the Problem:	During severe storms and weather drainage systems backup flooding on Bartley, Middle Valley, Naughtright, and Zellars Roads		
Action or Project Intended for Implementation			
Description of the Solution:	Perform engineering design studies aided at redirecting run off and or raising elevations with the purpose of eliminating and/or reducing flooding during severe storms and weather.		
Is this project related to a Critical Facility or Lifeline?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Level of Protection:	Minimize water overflow on Township roads	Estimated Benefits (losses avoided):	Better access for emergency and vehicle access
Useful Life:	50 years	Goals Met:	3, 6
Estimated Cost:	\$100 for engineering studies; alterations to be determined	Mitigation Action Type:	LPR, SIP
Plan for Implementation			
Prioritization:	Medium	Desired Timeframe for Implementation:	1 year for study/design 4 years for construction
Estimated Time Required for Project Implementation:	1 year per road identified	Potential Funding Sources:	Township Budget, FEMA PDM for study; FEMA HMGP for construction
Responsible Organization:	Washington Twp. DPW	Local Planning Mechanisms to be Used in Implementation if any:	Hazard Mitigation, Capital Improvement
Three Alternatives Considered (including No Action)			
Alternatives:	Action	Estimated Cost	Evaluation
	No Action	\$0	Current problem continues
	Acquire all properties along floodprone roadways	\$6 million+	Not feasible; not all homes flood; reduced tax base; roadways would still flood
	Elevation all homes along floodprone roadways	\$6 million+	Costly; not necessary to elevate all homes; roadway would still flood
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			



Action Worksheet		
Project Name:	Drainage and Sewer System Upgrades	
Project Number:	2020-WASHINGTON-001	
Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	
Property Protection	0	Improves road conditions
Cost-Effectiveness	1	Reduces damage/repair to roads
Technical	1	
Political	0	
Legal	0	
Fiscal	-1	Requires funding/grant
Environmental	1	Improves water handling/erosion
Social	0	
Administrative	0	
Multi-Hazard	1	Flood, Severe Weather, Severe Winter Weather
Timeline	1	
Agency Champion	0	
Other Community Objectives	0	
Total	6	
Priority (High/Med/Low)	Medium	



Action Worksheet			
Project Name:	Long Valley Fire Co. No. 1 Fire Station		
Project Number:	2020-WASHINGTON-006		
Risk / Vulnerability			
Hazard(s) of Concern:	All hazards		
Description of the Problem:	The Long Valley Fire Co. No. 1 station is located in the floodplain (Zone A4 and B) and is susceptible to occasional flooding. This causes delays in response and damage to firefighting equipment and records. It is also outdated for performing its roll to protect life and property of the people of Washington Township. Current building was converted from a circa 1940s car dealership. As a result truck bays are undersized for equipment required under current fire regulations. There is minimal storage and room for maintenance of turnout gear and equipment. There is limited secure office space for personnel records.		
Action or Project Intended for Implementation			
Description of the Solution:	Construct new fire house outside of the floodplain that meets present and future needs of the fire company.		
Is this project related to a Critical Facility or Lifeline?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Level of Protection:	100 year flood	Estimated Benefits (losses avoided):	Improve life and property protection; improved fire fighter safety; continuity of operations
Useful Life:	25+ years	Goals Met:	3, 6
Estimated Cost:	\$1.25 million	Mitigation Action Type:	SIP
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	One to two years
Estimated Time Required for Project Implementation:	One to two years	Potential Funding Sources:	FEMA Firefighter Assistance Grants, EMPG
Responsible Organization:	Washington Twp Administration and Fire Department	Local Planning Mechanisms to be Used in Implementation if any:	Capital Improvements
Three Alternatives Considered (including No Action)			
Alternatives:	Action	Estimated Cost	Evaluation
	No Action	\$0	Current problem continues
	Expand building	N/A	Property size is limited; zoning restrictions
	Elevate building	\$2 million	Not feasible; building cannot be elevated
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			



Action Worksheet		
Project Name:	Long Valley Fire Co. No. 1 Fire Station	
Project Number:	2020-WASHINGTON-006	
Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Improved condition of firefighting equipment. Improved safety of firefighter. Improved fire company administration and record keeping.
Property Protection	1	Improved storage of equipment and trucks.
Cost-Effectiveness	1	Better care of trucks and ancillary Hardware due to improved storage space.
Technical	1	
Political	0	
Legal	1	
Fiscal	0	Funding for the project would require outside assistance through grant(s)
Environmental	0	
Social	0	
Administrative	1	
Multi-Hazard	1	All hazards
Timeline	1	
Agency Champion	1	Fire Department and Township Officials
Other Community Objectives	0	
Total	9	
Priority (High/Med/Low)	High	



Action Worksheet			
Project Name:	Long Valley Fire Co. No. 1 Satellite Facility		
Project Number:	2020-WASHINGTON-007		
Risk / Vulnerability			
Hazard(s) of Concern:	Flood, Severe Weather, Severe Winter Weather		
Description of the Problem:	Fire Station area of responsibility covers approximately one third of the township including the Long Valley commercial, three schools and four of the six churches. The FEMA identified flood plains Zones divide the coverage area. In a time of flooding it may be impossible to cover total area from one station on one side of the river thus hindering the company's ability to provide critical support if required.		
Action or Project Intended for Implementation			
Description of the Solution:	Locate minimally equipped satellite fire station on the opposite side of the river from the primary station.		
Is this project related to a Critical Facility or Lifeline?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Level of Protection:	100 year flood	Estimated Benefits (losses avoided):	Improve life and property protection; improved fire fighter safety; continuity of operations
Useful Life:	100 years	Goals Met:	3, 6
Estimated Cost:	\$525,000	Mitigation Action Type:	SIP
Plan for Implementation			
Prioritization:	Medium	Desired Timeframe for Implementation:	One year
Estimated Time Required for Project Implementation:	One year	Potential Funding Sources:	FEMA Firefighter Assistance Grants, EMPG
Responsible Organization:	Washington Twp Administration and Fire Department	Local Planning Mechanisms to be Used in Implementation if any:	Capital Improvements
Three Alternatives Considered (including No Action)			
Alternatives:	Action	Estimated Cost	Evaluation
	No Action	\$0	Current problem continues
	Expand current building	N/A	Property size is limited; zoning restrictions
	Elevate current building	\$2 million	Not feasible; building cannot be elevated
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			



Action Worksheet		
Project Name:	Long Valley Fire Co. No. 1 Satellite Facility	
Project Number:	2020-WASHINGTON-007	
Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Provides increased protection during flood situations; recommended by fire insurance underwriters as a result of latest inspection
Property Protection	1	Increases the capability of the fire company to respond during adverse conditions
Cost-Effectiveness	1	
Technical	1	
Political	0	
Legal	1	
Fiscal	-1	Funding for the project would require outside assistance through grants
Environmental	0	
Social	0	
Administrative	1	
Multi-Hazard	1	Flood, Severe weather, Severe Winter Weather
Timeline	1	
Agency Champion	1	
Other Community Objectives	0	
Total	8	
Priority (High/Med/Low)	Medium	