**Upper Saucon Township, Lehigh County Annex**

**Hazard Mitigation Plan Points-of-Contact**

|  |  |
| --- | --- |
| **Primary:** | **Alternate:** |
| Patrick M. Leonard  Deputy Emergency Management Coordinator  5500 Camp Meeting Road, Center Valley, PA 18034  610-282-1171, Extension 1268  pleonard@uppersaucon | Dane Carroll  Emergency Management Coordinator  5500 Camp Meeting Road, Center Valley, PA 18034  610-282-3064  Dc25@ustpd.org |

**Municipal Profile**

Upper Saucon Township is located in the southwestern corner of Lehigh County and encompasses a land area of 24.7 square miles and has a population of 15,973 (2020 Census). Upper Saucon Township is bordered by; Lower Saucon Township (Northampton County) to the northeast; Bucks County to the southeast; Lower Milford and Upper Milford Townships to the southwest; and Salisbury Township to the west and northwest. Coopersburg Borough is located in the southeastern part of Upper Saucon Township.

Upper Saucon Township is in the Delaware River watershed, and the majority of the township is drained by the Saucon Creek into the Lehigh River. However, a small area in the extreme south of the township is drained by the Unami Creek, which flows into the Perkiomen Creek and then the Schuylkill River. There are many small standing bodies of water scattered throughout the township, mostly located around parks and in the vicinity of the aforementioned streams and creeks.

Interstate 78 runs north-south through the north-central part of the township, before turning east towards Lower Saucon Township (Northampton County). Route 309 is the primary north-south route serving Upper Saucon Township. Route 309 enters the township coming north from Philadelphia, via Quakertown, joins Interstate 78 in the northern part of the township, coming west from New York City, and proceeds towards Allentown. Other north-south routes serving Upper Saucon are Route 145 and 378. Route 145 comes south from Allentown, merging with Rt. 309 at its split with I-78. Route 378 comes from Bethlehem, entering the township from the northeast to meet 309 in the south-central part of Upper Saucon. Primary locale routes include Locust Valley Road, which runs east-west in the lower west part of the township, and Blue Church Road, also in the southwest running east-west north of Locust Valley Road. Limeport Pike runs east-west from Lower Macungie Township on a slight north-east route to the I-78, Rt. 309 intersection in northern Upper Saucon Township, and Oakhurst Drive / Vera Cruz Road follows a similar route further north in the township but then continues southeast through Upper Saucon and into Northampton County. South of Oakhurst Drive, Center Valley Parkway / Saucon Valley Road travels east-west through the center of the township, meeting with Limeport Pike just west of Route 309, and continuing east into Lower Saucon Township, Northampton County.

**Municipal Participation**

1. Identify municipal stakeholders to be involved in the planning process such as, floodplain administrator, public works, emergency management, engineers, planners, etc., and include their specific role in the process.

|  |  |
| --- | --- |
| Tom Nicoletti, Police Chief  Role: Review and comment on draft plan | Dane Carroll, Emergency Management Coordinator  Role: Alternate Township representative at planning team meetings. Review and comment on draft plan |
| Charles Unangst, Township Engineer  Role: Review and comment on draft plan | Trisha Lang, Director of Community Development  Role: Review and comment on draft plan |
| Thomas Beil, Township Manager  Role: Provide data and information to the Township. Review and comment on draft plan. | Patrick Leonard, Deputy Emergency Management Coordinator  Role: Township representative at planning team meetings. |
| Chuck Castetter, Fire Chief  Role: Review and comment on draft plan. |  |

1. Identify community stakeholders such as; neighborhood groups, religious groups, major employers / businesses, etc., that will be informed and / or involved in the planning process and describe how they will be involved.

**Major employers:**

Olympus Corporation of the Americas

Southern Lehigh School District

Lutron Electronics

The Promenade Shops at Saucon Valley

Dun and Bradstreet Corporation

1. Describe how the public **will be engaged** in the current planning process (examples, newsletters, social media, etc.), **and how they were engaged** since the 2018 Hazard Mitigation Plan.

Current: Information will be posted on Township website

Past: Same

**Compliance with the National Flood Insurance Program (NFIP)**

| **Topic** | **Identify source of information, if different from the one listed.** | **Additional Comments** |
| --- | --- | --- |
| **1. Staff Resources** | | |
| Is the Community Floodplain Administrator (FPA) or NFIP Coordinator certified? | Community FPA | No |
| Is floodplain management an auxiliary function? | Community FPA | Yes |
| Provide an explanation of NFIP administration services (e.g., permit review, GGIS, education or outreach, inspections, engineering capability) | Community FPA | Enforcement of floodplain provisions of zoning ordinance. |
| What are the barriers to running an effective NFIP program in the community, if any? | Community FPA | Smaller streams are not identified on FEMA maps. |
| **2. Compliance History** | | |
| Is the community in good standing with the NFIP? | State NFIP Coordinator, FEMA NFIP Specialist, or community records | Yes |
| Are there any outstanding compliance issues (i.e., current violations)? |  | No |
| When was the most recent Community Assistance Visits (CAV) or Community Assistance Contact (CAC)? |  | Unknown |
| Is a CAV or CAC scheduled or needed? |  | No |
| **3. Regulation** | | |
| When did the community enter the NFIP? | NFIP Community Status Book | 7/26/1974 |
| Are the Flood Insurance Rate Maps (FIRMs) digital or paper?  How are residents assisted with mapping? | Community FPA | Both – residents can view paper maps at the Township Building or view digital maps on FEMA’s website. |
| Do floodplain regulations meet or exceed FEMA or State minimum requirements?  If so, in what ways? | Community FPA | Exceed – Township regulates a 500-year floodplain. |
| Describe the permitting process | Community FPA, State, FEMA NFIP | No permits are issued for encroachments unless applicant successfully appeals to Zoning Hearing Board for relief. |
| **4. Insurance Summary** | | |
| How many NFIP policies are in the community?  What is the total premium and coverage? | State NFIP Coordinator or  FEMA NFIP Specialist | Unknown |
| How many claims have been paid in the community? What is the total amount of paid claims? How many substantial damage claims have there been? | FEMA NFIP or  Insurance Specialist | Unknown |
| How many structures are exposed to flood risk within the community? | Community FPA or GIS Analyst | Unknown |
| Describe any areas of flood risk with limited NFIP policy coverage | Community FPA or  FEMA Insurance Specialist | Unknown |
| **5. Community Rating System (CRS)** | | |
| Does the community participate in CRS? | Community FPA, State, or FEMA NFIP | No |
| If so, what is the community’s CRS Class Ranking? | Flood Insurance Manual (http://www.fema.gov/floodinsurancemanual.gov) | N/A |
| What categories and activities provide CRS points and how can the Class be improved? |  | N/A |
| Does the plan include CRS planning requirements? | Community FPA, FEMA CRS Coordinator, or ISO representative | N/A |

**Community Assets**

Community assets are defined to include anything that is important to the character as well as the function of a community, and can be described in four categories, they are; people, economy, natural environment and built environment. Please identify the community assets and location under each category.

1. **People**

* Concentrations of vulnerable populations such as the elderly, physically or mentally disabled, non-English speaking, and the medically or chemically dependent.

Mount Trexler Manor (personal care home)

Sacred Heart Assisted Living at Saucon Creek (senior care community)

* Types of visiting populations where large numbers of people are concentrated such as visitors for special events and students.

DeSales University

Strayer University

Southern Lehigh Middle School

Hopewell Elementary School

Penn State Lehigh Valley

Southern Lehigh High School

Jospeh P. Liberati Intermediate School

Southern Lehigh Football Stadium

Saucon Valley Country Club (periodically hosts professional golf tournaments with large number of spectators

1. **Economy**

* Major employers, primary economic sectors such as agriculture and commercial centers where losses would have a severe impact on the community.

Lutron Electronics Headquarters

Dun and Bradstreet Corporation

Olympus Corporation of the Americas Headquarters

The Promenade Shops at Saucon Valley (regional shopping center)

Southern Lehigh School District

1. **Natural Environment**

* Those areas / features that can provide protective functions that reduce the magnitude of hazard events such as, wetlands or riparian areas, and other environmental features important to protect.

Saucon Creek and its tributaries, which include the South Branch of Saucon Creek and Tumble Brook.

Mest Marsh – Locally significant cattail marsh of several acres with adjoining swampy floodplain along the Saucon Creek.

Mill Road Wetlands – Expansive series of wetlands adjoining an unnamed tributary of Tumble Brook.

South Mountain, Applebutter Hill, Flint Hill, Saucon Hill and other areas of high elevation

1. **Built Environment**

* Existing structures such as, concentrations of buildings that may be more vulnerable to hazards based on location, age, construction type and / or condition of use.

Business impacted by flooding located on North Main Street, Coopersburg

* Infrastructure systems such as water and wastewater facilities, power utilities, transportation systems, communication systems, energy pipelines and storage.

Gun Club Municipal Water Supply Well

Applebutter Hill Water Storage Tank

Upper Saucon Wastewater Treatment Plant

South Mountain Water Storage Tank

Colonial Crest Municipal Water Supply Well

* High potential loss facilities such as, dams, locations that house hazardous materials, military and / or civilian defense installations.

Errickson Fish Pond Dam (DEP No. D39-094)

* Critical facilities such as, hospitals, medical facilities, police and fires stations, emergency operations centers, shelters, schools and airports / heliports.

Upper Saucon Township Police Department

Upper Saucon Township Municipal Building

Upper Saucon Ambulance Corps

Joseph P. Liberati Intermediate School

Hopewell Elementary School

FAA Communication Facility

Upper Saucon Volunteer Fire Department

Upper Saucon Wastewater Treatment Plant

Southern Lehigh Middle School

St. Michael’s Elementary School (Limeport)

St. Michael’s Middle School

DeSales University (identified as mass care center – fixed Nuclear Support Plan for incident at Limerick Generating Station)

* Cultural / historical resources such as, museums, parks, stadiums, etc.

Southern Lehigh Football Stadium

Saucon Rail Trail

Ueberroth Zinc Mine Historic District and President Pump Site

Upper Saucon Township Community Park

**Capability Assessment**

| **Capability** | * **Regulatory** * **Tools** * **Programs** | **Status** | | | **Department /**  **Agency**  **Responsible** | **Effect on Hazard Loss Reduction:**  **-Supports**  **-Neutral**  **-Hinders** | **Change since 2018 Plan?**  **+ Positive**  **- Negative** | **Has the 2018 Plan been integrated into the Regulatory Tool/Program? If so, how?** | **How can these capabilities be expanded and improved to reduce risk?** | **Additional Comments** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **In Place** | **Date Adopted or Updated** | **Under Development** |
| **1. Planning & Regulatory** | Comprehensive Plan | X | 4/11/22 |  | Upper  Saucon  Township | Supports | Positive | No | Provide funding | Currently Updating |
| Capital Improvement Plan | X | 2/15/17 |  | Upper  Saucon  Township | Supports | No change | No | Provide funding | Updated Annually |
| Economic Development Plan |  |  |  |  |  |  |  |  |  |
| Continuity of Operations Plan | X | 2/6/2017 |  | Upper  Saucon  Township | Supports | Positive | No | Provide funding | Continuity of  Operations Plan is generally consistent with 2013 Hazard Mitigation Plan. |
| Stormwater Management Plan / Ordinance | X | 12/19/2011 |  | Upper  Saucon  Township | Supports | No change | No | Provide funding |  |
| Open Space Management Plan (or Parks/Rec., Greenways Plan) | X | 10/24/06 |  | Upper  Saucon  Township | Neutral | No change | No |  | Currently Updating  2020-2021 |
| Natural Resource Protection Plan |  |  |  |  |  |  |  |  |  |
| Transportation Plan |  |  |  |  |  |  |  |  |  |
| Historic Preservation Plan |  |  |  |  |  |  |  |  |  |
| Floodplain Management Plan |  |  |  |  |  |  |  |  |  |
| Farmland Preservation |  |  |  |  |  |  |  |  |  |
| Evacuation Plan |  |  |  |  |  |  |  |  |  |
| Disaster Recovery Plan |  |  |  |  |  |  |  |  |  |
| Hazard Mitigation Plan | X | 2018 |  | Lehigh County | Supports | No change | N/A |  | Currently Updating |
| Emergency Operations Plan | X | 1/2/18 |  | Township | Supports | Positive | Yes |  | Updated Annually; EOP was updated in 2018 to reference 2013 Hazard Mitigation Plan |
| Zoning Regulations | X | 6/9/09 |  | Township | Supports | No change | No |  |  |
| Floodplain Regulations | X | 6/9/09 |  | Township | Supports | No change | No |  | Floodplain regulations in Zoning Ordinance |
| NFIP Participation | X | 7/26/74 |  | FEMA | Supports | No change | No |  |  |
| Building Code | X | 5/25/04 |  | Township | Supports | No change | No |  | Township adopted  State-wide Uniform Construction Code which is amended periodically by the State |
| Fire Code | X | 5/25/04 |  | Township | Supports | No change | No |  | Township adopted  State-wide Uniform Construction Code which incorporates certain sections of the International Fire Code |
| Other |  |  |  |  |  |  |  |  |  |

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| --- | --- | --- | --- | --- | --- | --- | --- |
| **Capability** | * **Staff** * **Personnel** * **Resources** | **Yes** | **No** | **Department / Agency** | **Change since 2018 Plan?**  **+ Positive**  **- Negative** | **How can these capabilities be expanded and improved to reduce risk?** | **Additional Comments** |
| **2. Administrative & Technology** | Planners (with land use / land development knowledge) | X |  | Township | No Change |  | In-House Planning Dept. |
| Planners or engineers (with natural and / or human-caused hazards knowledge) | X |  | Township | No Change |  | In-House Planning Dept. |
| Engineers or professionals trained in building and / or infrastructure construction practices (including building inspectors) | X |  | Township | No Change |  | Consultant - Upper Saucon  Township contracts with Key codes Inspection Agency for building inspection services. |
| Emergency Manager | X |  | Township | No Change |  | Township has Emergency Management Coordinator |
| Floodplain administrator / manager | X |  | Township | No Change |  | Township staff member designated as Floodplain Administrator |
| Land surveyors |  |  | Township |  |  |  |
| Staff familiar with the hazards of the community | X |  | Township | No Change |  | Township staff is familiar with hazards of community. |
| Personnel skilled in Geographical Information Systems (GIS) and / or FEMA’s HAZUS program | X |  | Township | No Change |  | Consultant - Township uses Hanover Engineering to maintain its GIS system. |
| Grant writers or fiscal staff to handle large / complex grants | X |  | Township | No Change |  | Experienced grant writers on Township staff. |
| Other |  |  |  |  |  |  |

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| --- | --- | --- | --- | --- | --- | --- | --- |
| **Capability** | * **Staff** * **Personnel** * **Resources** | **Yes** | **No** | **Department / Agency** | **Change since 2018 Plan?**  **+ Positive**  **- Negative** | **How can these capabilities be expanded and improved to reduce risk?** | **Additional Comments** |
| **3. Financial Resources** | Capital improvement programming |  |  | Unknown | No change | Provide funding |  |
| Community Development Block Grants (CDBG) | X |  | Lehigh County | No change | Streamline / simplify application process. |  |
| Special purposes taxes | X |  | Township | No change |  |  |
| Gas / Electricity utility fees |  |  | UGI / PPL | No change |  | Gas / electric utilities are outside the Township's control. |
| Water / Sewer fees | X |  | Township | No change |  |  |
| Stormwater utility fees | X |  | Township | New State Law allows Township to charge fee. |  |  |
| Development impact fees | X |  | Township | No change |  |  |
| General obligation, revenue, and / or special tax bonds | X |  | Township | No change |  |  |
| Partnering arrangements or intergovernmental agreements | X |  | Lehigh County | No change | County should do more to promote intergovernmental cooperation. |  |
| Other |  |  |  |  |  |  |

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| --- | --- | --- | --- | --- | --- | --- | --- |
| **Capability** | * **Staff** * **Personnel** * **Resources** | **Yes** | **No** | **Department / Agency** | **Change since 2018 Plan?**  **+ Positive**  **- Negative** | **How can these capabilities be expanded and improved to reduce risk?** | **Additional Comments** |
| **4. Education & Outreach** | Firewise Communities Certification |  |  | Township's  Volunteer Fire Department | Education /  Outreach not part of 2013  Plan |  |  |
| StormReady Certification |  |  | Township | Education /  Outreach not part of 2013  Plan | Provide funding |  |
| Natural disaster or safety-related school programs |  |  | Southern  Lehigh School  District | Education /  Outreach not part of 2013 Plan |  |  |
| Ongoing public education or information programs such as, responsible water use, fire safety, household preparedness, and environmental education. | X |  | Township and Township's  Volunteer Fire Department | Education /  Outreach not part of 2013 Plan | Provide funding | Water conservation information provided to all Township water customers. Fire Dept. provides fire prevention instruction to employees working at local businesses and children attending local schools. |
| Public-private partnership initiatives addressing disaster related issues. |  |  | Lehigh County  Emergency  Management Agency | Education /  Outreach not part of 2013  Plan |  |  |
| Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc. |  |  | Lehigh County  Emergency  Management Agency | Education /  Outreach not part of 2013 Plan |  |  |
| Other |  |  |  |  |  |  |

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| --- | --- | --- | --- | --- | --- | --- |
| **Capability** |  | **Degree of Capability** | | | **Change since the 2018 Hazard Mitigation Plan?**  **If so, how?** | **Additional Comments** |
| **Limited** | **Moderate** | **High** |
| **5. Self – Assessment** | Planning and Regulatory |  | X |  | No change |  |
| Administrative and Technical |  | X |  | No change |  |
| Financial |  | X |  | No change |  |
| Education and Outreach |  | X |  | No change |  |

**Known or Anticipated Future Development / Redevelopment**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Development /**  **Property Name** | **Type of Development** | **Number of Structures** | **Location** | **Known Hazard Zone** | **Description / Status** |
| Brinley Court | Residential | 217 | 7535 South Main Street |  | Under Construction |
| Old Saucon | Residential | 80 | 4373 Route 378 |  | Under Construction |
| Strawberry Hill | Residential | 23 | 6807 Blue Church Road South |  | single family / approved |
| Locust Valley Golf Course/TOA | Residential | 125 | 5500 Locust Valley Road | floodplain | Under Construction |
| Kay Landis Mill | Residential | 95 | 5454 Landis Mill Road | floodplain | single family / proposed |
| Estates at Saucon Valley | Residential | 102 | Flint Hill Road &  Taylor Drive |  | Under Construction |
| Spring Valley Estates | Residential | 8 | Spring Valley Road |  | Under Construction |
| Good Shepard | Rehab Hospital | 1 | Center Valley Parkway | Karst Geography | Substantially completed 1/24 |
| Saucon Creek Office Park | Commercial Office | 1 | 3900 Saucon Creek |  | Approved/ Pending Construction |
| Warehousing - over 1 million sf | Industrial | 3-5 | Route 309 |  | Pending |

**Natural & Non-Natural Event History Specific to Upper Saucon Township**

|  |  |  |
| --- | --- | --- |
| **Type of Event and Date(s)** | **FEMA Disaster #**  **(if applicable)** | **Local Damage(s) or Loss(es)** |
| Winter Storm Jonas – 1/2016 | DR-4267-PA | Effects of record snowfall; deployment of Township resources to deal with record snowfall. |
| Pennsylvania COVID-19 Pandemic – 1/2020 | DR-4506-PA | Effects of Pandemic; Impact on Township staffing and resources; COVID-19 County Relief Block Grants to be awarded in November 2020 |
| Tropical Storm Isaias – 8/2020 | N/A | Effects of record rainfall in a short duration; historic flooding |
| Tropical Storm Ida 9/1/2021 | N/A | Extensive Flooding with significant road closures; PA 309 North & South; Lanark Rd, Kozy Korner Rd; Landis Mill Rd, W Saucon Valley Rd; Center Valley Parkway; W Hopewell Rd; Main St (6301); E Valley Rd, |

**2018 Municipal Action Plan Status**

| **Existing Mitigation Action**  **(from 2018 Hazard Mitigation Plan)** | | **Status** | | | | | **Additional Comments** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **No Progress /**  **Unknown** | **In Progress** | **Continuous** | **Completed** | **Discontinued** |
| **1** | Widen Camp Meeting Rd. bridge over Saucon Creek so more water can flow under bridge instead of backing up on to property at 4664 Camp Meeting Road. |  |  |  | X | Completed 2018 | PennDOT plans to replace bridge in 2018. |
| **2** | Property and roadway flooding along East Valley Road between Camp Meeting Road and Courtney Drive at the bridge over the Saucon Creek - Mitigate major street/ private property flooding by replacing the existing East Valley Road bridge over the Saucon Creek and improving the upstream and downstream conditions. | X |  |  |  |  | Funding not available for project. |
| **3** | Drainage improvements/detention pond to alleviate flooding at intersection of Rt. 309 and Center Valley Parkway/Saucon Valley Road. |  | X |  |  |  | PennDOT to start preliminary engineering in 2019. |
| **4** | Roadway flooding along Route 309 and Saucon Valley Road intersection - Mitigate major highway flooding by replacing the existing Route 309 bridge over the Saucon Creek and elevate Route 309 and Saucon Valley Road as necessary. | X |  |  |  |  | PennDOT has begun engineering & design work to improve the intersection/ interchange & address flooding. Subject to PennDOT funding/scheduling. |
| **5** | 5895 Glen Road – Mitigate local street/property flooding by installing a small storm sewer system. |  |  |  | X |  | Completed 2021 |
| **6** | 5151 West Hopewell Road – Mitigate local street flooding by installing inlets and storm sewer pipes. | X |  |  |  |  | Funding not available for project. |
| **7** | Roadway flooding along Blue Church Road South near the intersection with State Street – Mitigate street flooding by installing properly sized storm sewer pipe and associated inlets beneath Blue Church Road South. | X |  |  |  |  | Funding not available for project. |
| **8** | Property and roadway flooding along Camp Meeting Road between Preston Lane and Muirfield Road – mitigate street/private property flooding by installing inlets and storm sewer along Camp Meeting Road. | X |  |  |  |  | Engineering almost completed; stormwater improvements planned in 2019. |
| **9** | Roadway flooding along Chestnut Drive from the Lanark Road intersection to the intersections with Orchard Drive and Apple Lane and then along Orchard Drive and Apple Lane to West Hopewell Road -  Mitigate significant street flooding with the installation of inlets and storm sewer pipes to convey the stormwater. | X |  |  |  |  | Funding not available for project. |
| **10** | Property and roadway flooding along Jacoby Road and Suter Road intersection - Mitigate street / private property flooding hazard to local traffic by replacing existing storm sewer pipes with larger pipes and drainage structures. | X |  |  |  |  | Stormwater improvements planned in 2018. |
| **11** | Property and roadway flooding along Jacoby Road at the Tumble Brook culvert - Mitigate street flooding by replacing the Tumble Brook culvert beneath Jacoby Road. |  | X |  |  |  | Jacoby Road culvert funding in proposed 2021 budget. Implementation to move to short-term. |
| **12** | Roadway flooding along Kozy Korner Road at the bridge over the Saucon Creek - Replace existing bridge to mitigate street flooding of Kozy Korner Road. | X |  |  |  |  | Funding not available for project. |
| **13** | Roadway flooding along Lanark Road and Saucon Valley Road intersection - Mitigate major road flooding (to the point of road closure) by replacing the Lanark Road Bridge over the Saucon Creek and elevate the bridge road approaches. |  | X |  |  |  | Funding not available for project. |
| **14** | Property flooding along Vera Cruz Road just north of Sescher Lane (private street) - Private property flooding to be mitigated by increasing current storm sewer size beneath Vera Cruz Road. | X |  |  |  |  | Funding not available for project. |
| **15** | Property and roadway flooding along West Hopewell Road-Mitigate Street/private property flooding by installing a storm sewer system. | X |  |  |  |  | No viable solution to correct flooding problem. |
| **16** | Roadway flooding along Route 309 and Hopewell Road intersection - intersection floods during heavy rain events creating a traffic hazard and at times closure of south bound Route 309. Project will install larger drainage structure across Route 309 to mitigate major street flooding. | X |  |  |  |  | Funding not available for project. |
| **17** | Retrofit structures located in hazard-prone areas to protect structures from future damage, with repetitive loss and severe repetitive loss properties as priority. Specifically identified are the following:   * 4664 Camp Meeting Road * 4537 East Valley Road * 4569 East Valley Road * 6301 N. Main Street   Phase 1: Identify appropriate candidates for retrofitting based on cost-effectiveness versus relocation.  Phase 2: Where retrofitting is determined to be a viable option, work with property owners toward implementation of that action based on available funding from FEMA and local match availability. | X |  |  |  |  | Additional staff needed to implement mitigation action. Funding not in place to support adding staff at this time. |
| **18** | Purchase, or relocate structures located in hazard- prone areas to protect structures from future damage, with repetitive loss & severe repetitive loss properties as priority. Specifically identified are the following:   * 4664 Camp Meeting Road * 6301 N. Main Street   Phase 1: Identify appropriate candidates for relocation based on cost-effectiveness versus retrofitting.  Phase 2: Where relocation is determined to be a viable option, work with property owners toward implementation of that action based on available funding from FEMA and local match availability. | X |  |  |  |  | Additional staff needed to implement mitigation action. Funding not in place to support adding staff at this time. |
| **19** | Maintain compliance with and good standing in the NFIP including adoption and enforcement of floodplain management requirements (e.g. regulating all new and substantially improved construction in Special Hazard Flood Areas), floodplain identification and mapping, and flood insurance outreach to the community.  Further, continue to meet and/or exceed the minimum NFIP standards and criteria through the following NFIP- related continued compliance actions identified below. | X |  |  |  |  | Additional staff needed to implement mitigation action. Funding not in place to support adding staff at this time. |
| **20** | Conduct and facilitate community and public education and outreach for residents and businesses to include, but not be limited to, the following to promote and effect natural hazard risk reduction:  Provide and maintain links to the HMP website, and regularly post notices on the County/municipal homepage(s) referencing the HMP webpages. Prepare and distribute informational letters to flood vulnerable property owners and neighborhood associations, explaining the availability of mitigation grant funding to mitigate their properties, and instructing them on how they can learn more and implement mitigation. Use email notification systems and newsletters to better educate the public on flood insurance, the availability of mitigation grant funding, and personal natural hazard risk reduction measures. Work with neighborhood associations, civic and business groups to disseminate information on flood insurance and the availability of mitigation grant funding. |  | X |  |  |  | Township working to improve communication and  outreach efforts through SNAP program and CodeRED notification system.. |
| **21** | Begin and/or continue the process to adopt higher regulatory standards to manage flood risk (i.e. increased freeboard, cumulative substantial damage/improvements). | X |  |  |  |  | Township has already adopted higher standards by regulating the 500-year floodplain. |
| **22** | Determine if a Community Assistance Visit (CAV) or Community Assistance Contact (CAC) is needed, and schedule if needed. | X |  |  |  |  | Community Assistance Visit/Community Assistance Contact not needed at this time. |
| **23** | Have designated NFIP Floodplain  Administrator (FPA) become a Certified Floodplain Manager through the ASFPM and/or pursue relevant continuing education training such as FEMA Benefit-Cost Analysis. |  | X |  |  |  | Floodplain administrator taking steps to become certified. |
| **24** | Participate in the Community Rating System (CRS) to further manage flood risk and reduce flood insurance premiums for NFIP policyholders. This shall start with the submission to FEMA-DHS of a Letter of Intent to join CRS, followed by the completion and submission of an application to the program once the community’s current compliance with the NFIP is established. | X |  |  |  |  | Additional staff needed to implement mitigation action. Funding not in place to support adding staff at this time. |
| **25** | Obtain and archive elevation certificates for NFIP compliance. | X |  |  |  |  | Additional staff needed to implement mitigation action. Funding not in place to support adding staff at this time. |
| **26** | Continue to support the implementation, monitoring, maintenance, and updating of this Plan, as defined in Section 7.0. |  | X |  |  |  | Township supports updating Haz. Mit. Plan. |
| **27** | Complete the ongoing updates of the Comprehensive Emergency Management Plans. |  |  | X |  |  | Township updates Emergency Operations Plan each year. |
| **28** | Create/enhance/maintain mutual aid agreements with neighboring communities for continuity of operations. | X |  |  |  |  | Mutual aid agreements from 2013 remain in place. |
| **29** | Develop and maintain capabilities to process FEMA/PEMA paperwork after disasters; qualified damage assessment personnel – Improve post-disaster capabilities – damage assessment; FEMA/PEMA paperwork compilation, submissions, record keeping. | X |  |  |  |  | Mitigation action is so vague as to be meaningless. Provide more specifics. |
| **30** | Work with regional agencies (i.e. County and PEMA) to help develop damage assessment capabilities at the local level through such things as training programs, certification of qualified individuals (e.g. code officials, floodplain managers, engineers). | X |  |  |  |  | County should take lead. |
| **31** | Educate residents about hazards of radon. Provide information material and free radon test kits. |  |  | X |  |  |  |
| **32** | Prepare hazardous materials transportation incident response plan. The purpose of the plan is to develop policies and procedures under which Township emergency response providers will operate in the event of a hazardous materials release due to a traffic / transportation incident along the Interstate 78 and Route 309 corridors. |  |  | X |  |  |  |
| **33** | Coordinate with the County Emergency Management Agency and PA Department of Health, which is responsible for setting up points of distribution and providers for immunizations. |  |  | X |  |  |  |
| **34** | Devise an employee vaccination and immunization plan to prevent an outbreak within the municipal employee ranks. |  |  | X |  |  |  |
| **35** | Devise a municipal continuity of operations plan to keep essential services running in the event that a significant portion of the workforce is affected. |  |  | X |  |  |  |
| **36** | Devise a public education and outreach plan regarding disease prevention. |  |  | X |  |  |  |
| **37** | Provide education and outreach to residents regarding how to prevent the spread of invasive species, including quarantine procedures. |  |  | X |  |  |  |
| **38** | Develop a neighborhood cleanup plan designed to remove discarded tires, trash and other items in which standing water can form. |  |  | X |  |  |  |
| **39** | Provide training and education for first responders to ensure effective emergency care. |  |  | X |  |  |  |
| **40** | Provide education and outreach, especially in K-12, regarding drug abuse prevention. |  |  | X |  |  |  |

**Notes:**

1. Actions not carried through to the 2023 Action Plan are so noted.
2. To maintain National Flood Insurance Program (NFIP) compliance, actions related to the NFIP were carried through to the 2023 Action Plan even if identified by the municipality as completed.

**2023 Mitigation Action Plan**

| **Mitigation Action** | | **Regional Action Category** | **Mitigation Technique Category** | **Hazard(s) Addressed** | **Priority**  **(H / M / L)** | **Estimated Cost** | **Potential Funding** | **Lead Agency / Department** | **Implementation Schedule** | **Applies to New and / or Existing Structures** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **1** | Property and roadway flooding along East Valley Road between Camp Meeting Road and Courtney Drive at the bridge over the Saucon Creek - Mitigate major street/ private property flooding by replacing the existing East Valley Road bridge over the Saucon Creek and improving the upstream and downstream conditions. | 25 | Structure & Infrastructure | Flood | Medium | High | FEMA  mitigation grant  funding; local  budget for match | Township  Engineering & Public Works, with support from the Pidcock  Company | Long-term  (depending on funding) | Existing |
| **2** | Drainage improvements/detention pond to alleviate flooding at intersection of Rt. 309 and Center Valley Parkway/Saucon Valley Road. | 15 | Structure & Infrastructure | Flood | Medium | High | FEMA  mitigation grant  funding; local  budget for match | Township  Engineering & Public Works, with support from the Pidcock  Company | Long-term  (depending on funding) | Existing |
| **3** | Roadway flooding along Route 309 and Saucon Valley Road intersection - Mitigate major highway flooding by replacing the existing Route 309 bridge over the Saucon Creek and elevate Route 309 and Saucon Valley Road as necessary. | 16 | Structure & Infrastructure | Flood | High | High | FEMA  mitigation grant  funding; local  budget for match | Township  Engineering & Public Works, w/ support from the Pidcock  Company | Long-term  (depending on funding) | Existing |
| **4** | 5151 West Hopewell Road – Mitigate local street flooding by installing inlets and storm sewer pipes. | 15 | Structure & Infrastructure | Flood | Medium | Medium | Municipal Budget | Township  Engineering and Public  Works, with support from the Pidcock  Company | Long-term  (depending on funding) | Existing |
| **5** | Roadway flooding along Blue Church Road South near the intersection with State Street – Mitigate street flooding by installing properly sized storm sewer pipe and associated inlets beneath Blue Church Road South. | 15 | Structure & Infrastructure | Flood | Medium | Medium | Municipal Budget | Township  Engineering and Public  Works, with support from the Pidcock  Company | Long-term  (depending on funding) | Existing |
| **6** | Property and roadway flooding along Camp Meeting Road between Preston Lane and Muirfield Road – mitigate street/private property flooding by installing inlets and storm sewer along Camp Meeting Road. | 15 | Structure & Infrastructure | Flood | Medium | High | FEMA  mitigation grant  funding;  State highways, local  budget for match | Township  Engineering and Public  Works, with support from the Pidcock  Company | Long-term  (depending on funding) | Existing |
| **7** | Roadway flooding along Chestnut Drive from the Lanark Road intersection to the intersections with Orchard Drive and Apple Lane and then along Orchard Drive and Apple Lane to West Hopewell Road -  Mitigate significant street flooding with the installation of inlets and storm sewer pipes to convey the stormwater. | 15 | Structure & Infrastructure | Flood | Medium | High | FEMA  mitigation grant  funding; local  budget for match | Township  Engineering and Public  Works, with support from the Pidcock  Company | Long-term  (depending on funding) | Existing |
| **8** | Property and roadway flooding along Jacoby Road and Suter Road intersection - Mitigate street / private property flooding hazard to local traffic by replacing existing storm sewer pipes with larger pipes and drainage structures. | 15 | Structure & Infrastructure | Flood | Medium | Medium | Municipal Budget | Township  Engineering and Public  Works, with support from the Pidcock  Company | Long-term  (depending on funding) | Existing |
| **0** | Property and roadway flooding along Jacoby Road at the Tumble Brook culvert - Mitigate street flooding by replacing the Tumble Brook culvert beneath Jacoby Road. | 15 | Structure & Infrastructure | Flood | Medium | High | Municipal Budget | Township  Engineering and Public  Works, with support from the Pidcock  Company | Short-term | Existing |
| **10** | Roadway flooding along Kozy Korner Road at the bridge over the Saucon Creek - Replace existing bridge to mitigate street flooding of Kozy Korner Road. | 25 | Structure & Infrastructure | Flood | Medium | High | FEMA  HMGP  funding; local  budget for match | Township  Engineering and Public  Works, with support from the Pidcock  Company | Long-term  (depending on funding) | Existing |
| **11** | Roadway flooding along Lanark Road and Saucon Valley Road intersection - Mitigate major road flooding (to the point of road closure) by replacing the Lanark Road Bridge over the Saucon Creek and elevate the bridge road approaches. | 25 | Structure & Infrastructure | Flood | Medium | High | FEMA  HMGP  funding;  State highways, local  budget for match | Township  Engineering and Public  Works, with support from the Pidcock  Company | Long-term  (depending on funding) | Existing |
| **12** | Property flooding along Vera Cruz Road just north of Sescher Lane (private street) - Private property flooding to be mitigated by increasing current storm sewer size beneath Vera Cruz Road. | 15 | Structure & Infrastructure | Flood | Medium | High | FEMA  HMGP  funding;  State highways, local  budget for match | Township  Engineering and Public  Works, with support from the Pidcock  Company | Long-term  (depending on funding) | Existing |
| **13** | Property and roadway flooding along West Hopewell Road - Mitigate street/private property flooding by installing a storm sewer system. | 15 | Structure & Infrastructure | Flood | Medium | Medium | FEMA  mitigation grant  funding; local  budget for match | Township  Engineering and Public  Works, with support from the Pidcock  Company | Long-term  (depending on funding) | Existing |
| **14** | Roadway flooding along Route 309 and Hopewell Road intersection - intersection floods during heavy rain events creating a traffic hazard and at times closure of south bound Route 309. Project will install larger drainage structure across Route 309 to mitigate major street flooding. | 15 | Structure & Infrastructure | Flood | Medium | High | FEMA  mitigation grant  funding;  State highways, local  budget for match | Township  Engineering and Public  Works, with support from the Pidcock  Company | Long-term  (depending on funding) | Existing |
| **15** | Retrofit structures located in hazard-prone areas to protect structures from future damage, with repetitive loss and severe repetitive loss properties as priority. Specifically identified are the following:   * 4664 Camp Meeting Road * 4537 East Valley Road * 4569 East Valley Road * 6301 N. Main Street   Phase 1: Identify appropriate candidates for retrofitting based on cost-effectiveness versus relocation.  Phase 2: Where retrofitting is determined to be a viable option, work with property owners toward implementation of that action based on available funding from FEMA and local match availability. | 1 | Structure & Infrastructure | Flood | High | High | FEMA  Mitigation Grant  Programs and local  budget (or property  owner) for cost share | Municipality  (via Municipal  Engineer/NFIP Floodplain  Administrator) with support from PEMA,  FEMA | Long-term  (depending on funding) | Existing |
| **16** | Purchase, or relocate structures located in hazard- prone areas to protect structures from future damage, with repetitive loss & severe repetitive loss properties as priority. Specifically identified are the following:   * 4664 Camp Meeting Road * 6301 N. Main Street   Phase 1: Identify appropriate candidates for relocation based on cost-effectiveness versus retrofitting.  Phase 2: Where relocation is determined to be a viable option, work with property owners toward implementation of that action based on available funding from FEMA and local match availability. | 2 | Structure & Infrastructure | Flood | High | High | FEMA  Mitigation Grant  Programs and local  budget (or property  owner) for cost share | Municipality  (via Municipal  Engineer/NFIP Floodplain  Administrator) with support from PEMA,  FEMA | Long-term  (depending on funding) | Existing |
| **17** | Maintain compliance with and good standing in the NFIP including adoption and enforcement of floodplain management requirements (e.g. regulating all new and substantially improved construction in Special Hazard Flood Areas), floodplain identification and mapping, and flood insurance outreach to the community.  Further, continue to meet and/or exceed the minimum NFIP standards and criteria through the following NFIP- related continued compliance actions identified below. | 3 | Local plans & Regulations | Flood | High | Low -  Medium | Municipal Budget | Municipality  (via Municipal  Engineer/NFIP Floodplain  Administrator) with support from PEMA,  ISO FEMA | Ongoing | New &  Existing |
| **18** | Conduct and facilitate community and public education and outreach for residents and businesses to include, but not be limited to, the following to promote and effect natural hazard risk reduction:  Provide and maintain links to the HMP website, and regularly post notices on the County/municipal homepage(s) referencing the HMP webpages. Prepare and distribute informational letters to flood vulnerable property owners and neighborhood associations, explaining the availability of mitigation grant funding to mitigate their properties, and instructing them on how they can learn more and implement mitigation. Use email notification systems and newsletters to better educate the public on flood insurance, the availability of mitigation grant funding, and personal natural hazard risk reduction measures. Work with neighborhood associations, civic and business groups to disseminate information on flood insurance and the availability of mitigation grant funding. | 4 | Education  & Awareness | All Hazards | High | Low-  Medium | Municipal Budget | Municipality with support  from Planning Partners,  PEMA, FEMA | Short-term | N/A |
| **19** | Begin and/or continue the process to adopt higher regulatory standards to manage flood risk (i.e. increased freeboard, cumulative substantial damage/improvements). | 5 | Local plans  & Regulations | Flood | High | Low | Municipal Budget | Via Municipal  Engineer/NFIP Floodplain  Admin. w/ support from PEMA, FEMA | Short-term | New &  Existing |
| **20** | Determine if a Community Assistance Visit (CAV) or Community Assistance Contact (CAC) is needed, and schedule if needed. | 3 | Local plans  & Regulations | Flood | High | Low | Municipal Budget | NFIP  Floodplain  Administrator with support  from PADEP,  PEMA, FEMA | Short-term | N/A |
| **21** | Have designated NFIP Floodplain Administrator (FPA) become a Certified Floodplain Manager through the ASFPM and/or pursue relevant continuing education training such as FEMA Benefit-Cost Analysis. | 6 | Local plans  & Regulations | Flood | Medium | Low | Municipal Budget | NFIP  Floodplain  Administrator | Short-term | N/A |
| **22** | Participate in the Community Rating System (CRS) to further manage flood risk and reduce flood insurance premiums for NFIP policyholders. This shall start with the submission to FEMA-DHS of a Letter of Intent to join CRS, followed by the completion and submission of an application to the program once the community’s current compliance with the NFIP is established. | 7 | Local plans  & Regulations | Flood | High | Low | Municipal Budget | NFIP  Floodplain  Administrator with support  from PA DEP, PEMA, FEMA | Short-term | N/A |
| **23** | Obtain and archive elevation certificates for NFIP compliance. | 8 | Local plans  & Regulations | Flood | Low | Low | Municipal Budget | NFIP  Floodplain  Administrator | Ongoing | N/A |
| **24** | Continue to support the implementation, monitoring, maintenance, and updating of this Plan, as defined in Section 7.0. | 9 | All  Categories | All Hazards | High | Low – High (for  5-year update) | Municipal Budget, possibly  FEMA  Mitigation  Grant  Funding for 5-year update | Via mitigation planning point of contacts  w/ support from Planning  Partners  (through their  Points of  Contact),  PEMA | Ongoing | New &  Existing |
| **25** | Complete the ongoing updates of the Comprehensive Emergency Management Plans. | 10 | Local plans  & Regulations | All Hazards | Medium | Low | Municipal Budget | Municipality with support from PEMA | Ongoing | New &  Existing |
| **26** | Create/enhance/maintain mutual aid agreements with neighboring communities for continuity of operations. | 11 | All  Categories | All Hazards | Medium | Low | Municipal Budget | Municipality w/ support from  surrounding  municipalities and County | Ongoing | New &  Existing |
| **27** | Develop and maintain capabilities to process FEMA/PEMA paperwork after disasters; qualified damage assessment personnel – Improve post-disaster capabilities – damage assessment; FEMA/PEMA paperwork compilation, submissions, record keeping. | 12 | Education  & Awareness | All Hazards | Low | Medium | Municipal budget | Municipality with support  from County,  PEMA, FEMA | Short-term | N/A |
| **28** | Work with regional agencies (i.e. County and PEMA) to help develop damage assessment capabilities at the local level through such things as training programs, certification of qualified individuals (e.g. code officials, floodplain managers, engineers). | 13 | Education  & Awareness | All Hazards | Medium | Medium | Municipal budget,  FEMA HMA grant programs | Municipality with support  from County,  PEMA | Short-term  (depending on funding) | N/A |
| **29** | Educate residents about hazards of radon. Provide information material and free radon test kits. | 4 | Education  & Awareness | Radon Exposure | High | $5,000 | State grant | Township and local state  representative's office | 2019 | N/A |
| **30** | Prepare hazardous materials transportation incident response plan. The purpose of the plan is to develop policies and procedures under which Township emergency response providers will operate in the event of a hazardous materials release due to a traffic / transportation incident along the Interstate 78 and Route 309 corridors. | 23 | Local plans  & Regulations | Transportation Incident | High | $15,000 | State grant and  Township funds | Township  Emergency  Management  Coordinator | 2019 - prepare plan; 2020 -  implement plan;  2021 - training exercises | N/A |
| **31** | Coordinate with the County Emergency Management Agency and PA Department of Health, which is responsible for setting up points of distribution and providers for immunizations. | 11 | Local plans  & Regulations | Pandemic and  Infectious  Disease | Medium | Low | Municipal Budget | Municipality, working with  County EMA and PA  Department of Health | Ongoing | N/A |
| **32** | Devise an employee vaccination and immunization plan to prevent an outbreak within the municipal employee ranks. | 10 | Local plans  & Regulations | Pandemic and  Infectious  Disease | Medium | Low | Municipal Budget | Municipality | Short-term | N/A |
| **33** | Devise a municipal continuity of operations plan to keep essential services running in the event that a significant portion of the workforce is affected. | 11 | Local plans  & Regulations | Pandemic and  Infectious  Disease | Medium | Low | Municipal Budget | Municipality | Short-term | N/A |
| **34** | Devise a public education and outreach plan regarding disease prevention. | 4 | Education  & Awareness | Pandemic and  Infectious  Disease | High | Low | Municipal Budget | Municipality | Ongoing | N/A |
| **35** | Provide education and outreach to residents regarding how to prevent the spread of invasive species, including quarantine procedures. | 4 | Education  & Awareness | Invasive Species | High | Low | Municipal Budget | Municipality | Ongoing | N/A |
| **36** | Develop a neighborhood cleanup plan designed to remove discarded tires, trash and other items in which standing water can form. | 27 | Education  & Awareness | Invasive Species | High | Low | Municipal Budget | Municipality | Short-term | N/A |
| **37** | Provide training and education for first responders to ensure effective emergency care. | 27 | Local plans  & Regulations | Drug  Overdose  Crisis | High | Low | Municipal Budget | Municipality | Ongoing | N/A |
| **38** | Provide education and outreach, especially in K-12, regarding drug abuse prevention. | 4 | Education  & Awareness | Drug  Overdose  Crisis | High | Low | Municipal Budget | Municipality/ School  District | Ongoing | N/A |
| **39** | Help communities upstream and downstream of the Errickson Fish Pond Dam and communities that could be impacted by dam failure (e.g., loss of water for firefighting activities if they rely on a reservoir) to better understand their risk to be better prepared during an emergency. | 4 | Education & Awareness | Dam Failure, Flood | Medium | Low | Municipal Budget | Municipality | Ongoing | N/A |

**Notes:**

***Estimated Costs:***

* Where actual project costs have been reasonable estimated: Low = < $10,000; Medium = $10,000 to $100,000; High = > $100,000;
* Where actual project costs cannot reasonably be established at this time:

**Low** = Possible to fund under existing budget. Project is part of, or can be part of an existing on-going program.

**Medium** = Could budget for under existing work plan, but would require a reapportionment of the budget or a budget amendment,

or the cost of the project would have to be spread over multiple years.

**High** = Would require an increase in revenue via an alternative source (i.e., bonds, grants, fee increases) to implement. Existing

funding levels are not adequate to cover the costs of the proposed project.

***Potential Funding (FEMA HMA):***

* **BRIC =** Building Resilient Infrastructure andCommunities
* **FMA** = Flood Mitigation Assistance Grant Program
* **HMGP** = Hazard Mitigation Grant Program
* **HSGP** = Homeland Security Grant Program
* **EMPG** = Emergency Management Performance Grant

***Implementation Schedule:***

* **Short Term** = 1 to 5 years
* **Long Term** = 5 years or greater
* **DOF** = Depending on Funding

***Applies to New and/or Existing Structures:***

* **N/A** = Not Applicable