Westmoreland County

Hazard Mitigation Plan

October 2020

Prepared By:
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EXECUTIVE SUMMARY

The 2020 update to the Westmoreland County Hazard Mitigation Plan (HMP) was prepared in accordance with the Disaster Mitigation Act of 2000 (DMA 2000). DMA 2000 requires states and local governments to prepare HMPs to remain eligible to receive pre-disaster mitigation grant funds and funds made available in the wake of federally declared disasters. Additionally, DMA 2000 effectively improves the disaster planning process by increasing hazard mitigation planning requirements for hazard events. DMA 2000 requires participating municipalities to (1) document their hazard mitigation planning process and (2) identify hazards; potential losses; and mitigation needs, goals, and strategies.

The Westmoreland County HMP represents the work of citizens, elected and appointed government officials, business leaders, and volunteer and non-profit groups to protect community assets, preserve economic viability of the community, and save lives. DMA 2000 regulations require formal updates and adoptions of local plans every 5 years to reassess risks and update local strategies to manage and mitigate those risks. To comply, Westmoreland County and its jurisdictions actively participated in updating the HMP. Extensive outreach efforts by Westmoreland County's Department of Public Safety resulted in participation from the county and 39 of its municipalities. Upon completion and approval of the HMP, participating jurisdictions will continue to address and implement findings and recommendations based on this plan update.

Table ES-1 identifies municipal governments that actively participated in the HMP update process.

Table ES-1. Participating Jurisdictions in the 2020 Westmoreland County HMP Update

Jurisdictions				
• Westmoreland County	• Hempfield Township	• Lower Burrell, City of	• North Huntingdon Township	• South Greensburg Borough
• Arona Borough	• Hunker Borough	• Loyalhanna Township	• Oklahoma Borough	• South Huntingdon Township
• Cook Township	• Irwin Borough	• Manor Borough	• Penn Borough	• Southwest Greensburg Borough
• Derry Township	• Jeannette, City of	• Monessen, City of	• Penn Township	• Trafford Borough
• Donegal Township	• Latrobe, City of	• Mount Pleasant Borough	• Salem Township	• Unity Township
• East Vandergrift Borough	• Laurel Mountain Borough	• Mount Pleasant Township	• Scottdale Borough	• Washington Township
• Export Borough	• Ligonier Borough	• Murrysville, Municipality of	• Sewickley Township	• West Newton Borough
• Greensburg, City of	• Ligonier Township	• New Kensington, City of	• Smithton Borough	• Youngwood Borough

During the plan update process, Westmoreland County and its participating municipalities engaged in the following steps of the planning process steps:

1. Identified and prioritized hazards that may affect the county and its municipalities.
2. Assessed the county's and each municipalities' vulnerabilities to these hazards.
3. Identified mitigation actions that can reduce those vulnerabilities.
4. Developed a strategy for implementing those actions, including identifying the agency (or agencies) responsible for each implementation.

Throughout the planning process, the general public was offered an opportunity to comment on the existing HMP and provide suggestions for the updated version. The county hosted two Planning Team meetings that were open to the public, during which residents could provide input on the HMP.

The following were identified by the Planning Team as hazards that present the highest risk to the county and its municipalities:

- Flood, Flash Flood, and Ice Jam
- Illicit Drug Use
- Utility Interruptions
- Winter Storm
- Tornado, Windstorm
- Environmental Hazards
- Terrorism
- Extreme Temperatures
- Radon Exposure
- Hailstorm
- Landslide

This HMP also includes hazard profiles for the following hazards (listed in order of highest risk factor analysis ranking to lowest):

- Wildfire
- Drought
- Structural Fire
- Transportation Accidents
- Hurricane and Tropical Storm
- Earthquake
- Nuclear Incidents
- Subsidence and Sinkholes
- Lightning
- Dam Failure
- Avalanche

To mitigate the effects of those hazards, the Planning Team identified the following goals for hazard mitigation over the next 5 years:

1. **Goal 1:** Prevent injury/death and damage from natural and human-caused hazards in Westmoreland County.
2. **Goal 2:** Protect the citizens of Westmoreland County as well as public and private property from the impacts of natural and human-caused hazards.

3. **Goal 3:** To protect and restore existing natural resources including wetlands, floodplains, and riparian buffeters.
4. **Goal 4:** To enhance awareness, understanding, and preparedness among local, county, state, and federal emergency management personnel to protect public health and safety.
5. **Goal 5:** To promote public awareness on the potential impacts of natural and non-natural hazards, and actions to reduce those impacts.

Objectives and actions to be implemented are discussed in the Mitigation Action Plan in Section 6.2 of this HMP.

Additionally, Planning Team members will meet annually to evaluate the status of plan implementation and prepare a summary report of HMP status and any needed updates. The mitigation evaluation will address changes as new hazard events occur, as the area develops, and as more information becomes available pertaining to hazards and their impacts. The evaluation will include an assessment of whether the planning process and actions have been effective, the plan's goals are being reached, and changes are needed. The public is encouraged to give feedback (1) by directly contacting the Westmoreland County Hazard Mitigation Plan Coordinator, (2) during recurring review meetings, and (3) during the 5-year revision process.

To request information or provide comments regarding this plan, please contact the Westmoreland County Emergency Management Agency. Contact information is provided below:

Mailing Address:	Westmoreland County Department of Public Safety 911 Public Safety Road Greensburg, PA 15601
Contact Name:	Christopher Tantlinger, Deputy Emergency Management Coordinator
E-mail Address:	ctantlin@westmoreland.pa.us
Telephone:	(724) 640-6601

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APPENDICES

Certification of Annual Review

The Westmoreland County Hazard Mitigation Working Group and Planning Team reviewed this Hazard Mitigation Plan (HMP). See Section 7 of this document for further details regarding this certification section. The HMP Coordinator hereby certifies the review.

Year	Date of Meeting	Public Outreach Addressed?*	Signature
2015	• 1/14/15 • 2/11/15 • 3/11/15 • 4/8/15 • 6/10/15	N/A	
2016	N/A	N/A	
2017	• 10/11/17 • 12/12/17	N/A	
2018	• 1/9/18 • 2/6/18 • 5/8/18 • 10/15/18 • 11/19/18 • 12/17/18	N/A	
2019	• 1/14/19	Westmoreland County performed a full update of the HMP in 2019-2020	
2020	N/A	Westmoreland County performed a full update of the HMP in 2019-2020	
2021			
2022			
2023			
2024			

** Confirm yes here annually and describe on record of changes page.*

Record of Changes

Date	Description of Change Made, Mitigation Action Completed, or Public Outreach Performed	Change Made By (Print Name)	Change Made By (Signature)

REMINDER: *Please attach all associated meeting agendas, sign-in sheets, handouts, and minutes.*

SECTION 1 INTRODUCTION

This section presents background information, describes the purpose, and defines the scope of the 2019 update of the Westmoreland County Hazard Mitigation Plan (HMP).

1.1 Background

Across the United States, natural and human-caused disasters have led to increasing levels of deaths, injuries, property damage, and interruptions of business and government services. The time, money, and effort spent to recover from these disasters exhausts resources, diverting attention from important public programs and private agendas.

Westmoreland County, Pennsylvania, has experienced a significant number of Statewide or County-specific disaster declarations since 1954. The emergency management community, citizens, elected officials, and other stakeholders in Westmoreland County recognize the impact of disasters on their community and have concluded that proactive efforts need to be taken to reduce the impact of natural and human-caused hazards. To that purpose, Westmoreland County is committed to updating and maintaining the Westmoreland County HMP.

"Hazard mitigation" describes actions taken to prevent or reduce the long-term risks to life and property caused by a hazard event. Pre-disaster mitigation actions are taken in advance of a hazard event and are essential to breaking the typical disaster cycle of damage, reconstruction, and repeated damage. With careful selection, mitigation actions can be long-term, cost-effective measures taken to reduce the risk of loss.

The Westmoreland County Hazard Mitigation Working Group (HMWG) (composed of Westmoreland County officials and a few other stakeholders) and the Planning Team (composed of Westmoreland County officials, municipal representatives, emergency responders, representatives from State and federal agencies, utility companies, and other stakeholders) have updated this HMP. Westmoreland County contracted Tetra Tech, Inc. (Tetra Tech), to prepare the 2019 HMP update.

The HMP update is the result of several months of collaboration between the citizens and officials of the County and representatives from Tetra Tech to develop a pre-disaster, multi-hazard mitigation plan that will guide the County toward greater disaster resistance, while respecting the character and needs of the community.

1.2 Purpose

The purpose of this HMP is to minimize the effects that natural, technological, and man-made hazards have on the people, property, environment, and business operations within Westmoreland County. This document exists to provide the background information and rationale for the mitigation actions that the HMWG, Planning Team, and municipal representatives have chosen to implement across the County.

The document is governed by the Disaster Mitigation Act of 2000 (DMA 2000) and its implementing regulations (Title 44 *Code of Federal Regulations* [CFR] §201.6, published February 26, 2002). Local jurisdictions must comply with the DMA 2000 and these regulations to remain eligible for funding and technical assistance from State and federal hazard mitigation programs.

1.3 Scope

The implementation actions outlined in this HMP apply to Westmoreland County and any municipalities within the County that adopt this plan. Only those municipalities that have participated in the plan update process may adopt this plan and will be eligible for State and federal hazard mitigation funding. For the purpose of this plan, municipal participation is defined as (1) completion and submission of an Evaluation of Identified Hazards Worksheet, Capability Assessment Survey, and/or Mitigation Strategy 5-Year Plan Review Worksheet; and (2)

attendance by an official municipal representative at a planning or public meeting, or participation in individual outreach conducted as part of the planning process.

1.4 Authority and Reference

This HMP was prepared in accordance with the following regulations and guidance:

- Federal Emergency Management Agency (FEMA) "Local Mitigation Planning Handbook," March 2013
- FEMA "Integrating Hazard Mitigation into Local Planning," March 1, 2013
- FEMA "Plan Integration: Linking Local Planning Efforts," July 2015
- Local Mitigation Plan Review Guide, October 1, 2011
- DMA 2000 (Public Law 106-390), October 30, 2000
- 44 CFR Parts 201 and 206 (including Feb. 26, 2002, Oct. 1, 2002, Oct. 28, 2003, and Sept. 13, 2004 Interim Final Rules)
- FEMA "How-To Guide for Using Hazards U.S.-Multi-Hazards (HAZUS-MH) for Risk Assessment" (Document No. 433), February 2004
- FEMA Mitigation Planning How-To Series (FEMA 386-1 through 4), 2002
  Available on-line at: http://www.fema.gov/fima/planhowto.shtm.
- FEMA "Mitigation Ideas: A Resource for Reducing Risk to Natural Hazards," January 2013
- Commonwealth of Pennsylvania's All-Hazard Mitigation Planning Standard Operating Guide, October 18, 2013

A full set of references used in updating the HMP is included in Appendix A.

SECTION 2 COUNTY PROFILE

Section 2 of the Westmoreland County Hazard Mitigation Plan (HMP) discusses the geography and environment, community facts, population and demographics, and land use and development in Westmoreland County.

2.1 Geography and Environment

Westmoreland County is the ninth largest county in Pennsylvania in terms of population and the largest by landmass, encompassing 1,025 square miles of cities, farm land, and forest land and 11 square miles of water. Westmoreland County is bordered to the east by Cambria County and Somerset County, to the north by Indiana County and Armstrong County, to the northwest by Butler County, to the west by Allegheny County, and to the south by Washington County and Fayette County.

Westmoreland County is part of the Laurel Highlands and lies on the northeastern end of the soft coal fields on the Appalachian plateau, with the eastern part lying within the Allegheny Foothills. The highest elevation is 2,960 feet above Mean Sea Level (MSL) at Birch Rock Hill on Laurel Hill, and the lowest elevation of approximately 740 feet above MSL is located at the Allegheny River in New Kensington. A significant amount of land in Westmoreland County is classified by the United States Geological Survey (USGS) mapping as having excessive slopes (exceeding 25 percent), and therefore is considered unsuitable or marginally suitable for development. Variations in aspect, slope, and elevation combine to create a number of different microenvironments throughout the county. There is a considerable number of rivers and streams in and around the county. Westmoreland County is bordered to the west by the Allegheny River near Allegheny County and the Monongahela River near Washington County. The Kiskiminetas River runs along the northwestern border near Armstrong County, and the Conemaugh River runs along the northern border near Indiana and Cambria Counties.

2.2 Community Facts

Westmoreland County was established on February 26, 1773, by the Act of Assembly. It was the first county west of the Allegheny Mountains, and the 11th (and last) county established by the Colony of Pennsylvania. Its territory originally included the whole southwestern corner of Pennsylvania (16 current counties). It was named after Westmoreland County in northwestern England.

The first county seat was located in Hanna's Town (later called Hannastown) near Greensburg and is remembered for the Hanna's Town Resolves of May 16, 1775. Hannastown was destroyed by fire by the Seneca Indians, led by Chief Guyasota on July 13, 1782, and the county seat was relocated to Greensburg shortly thereafter. The first court in the new Greensburg county seat took place in 1797 in a log cabin where the current county courthouse is located. After the Colonial War for Independence, five counties were carved from the original boundary of Westmoreland County, and after 1800, 11 other counties were created in part from these counties. Since 1803, Westmoreland County has had the same boundary lines as it has today.

Westmoreland County includes 21 townships, 37 boroughs, and 7 cities. There are several key transportation routes throughout the county, which are concentrated in the western half of the county. Interstates 70 and 76 and U.S Routes 22 and 30 provide for eastbound and westbound travel through the county. U.S. Routes 66 and119 provide for northbound and southbound travel. In addition to these major transportation routes, there are smaller Pennsylvania Routes that support regional transport.

Throughout the 20th century, Westmoreland County reflected the nation’s industrial growth and change that followed. Agriculture served as the county’s economic base for most of the 19th century. After the Civil War, the county relied upon the metals and mining industries for its economic base; these industries dominated the communities in which they were located. By the end of the 1950s, Westmoreland County ranked fifth among Pennsylvania’s counties in the mining of bituminous coal. New Kensington, Pennsylvania, became the center of

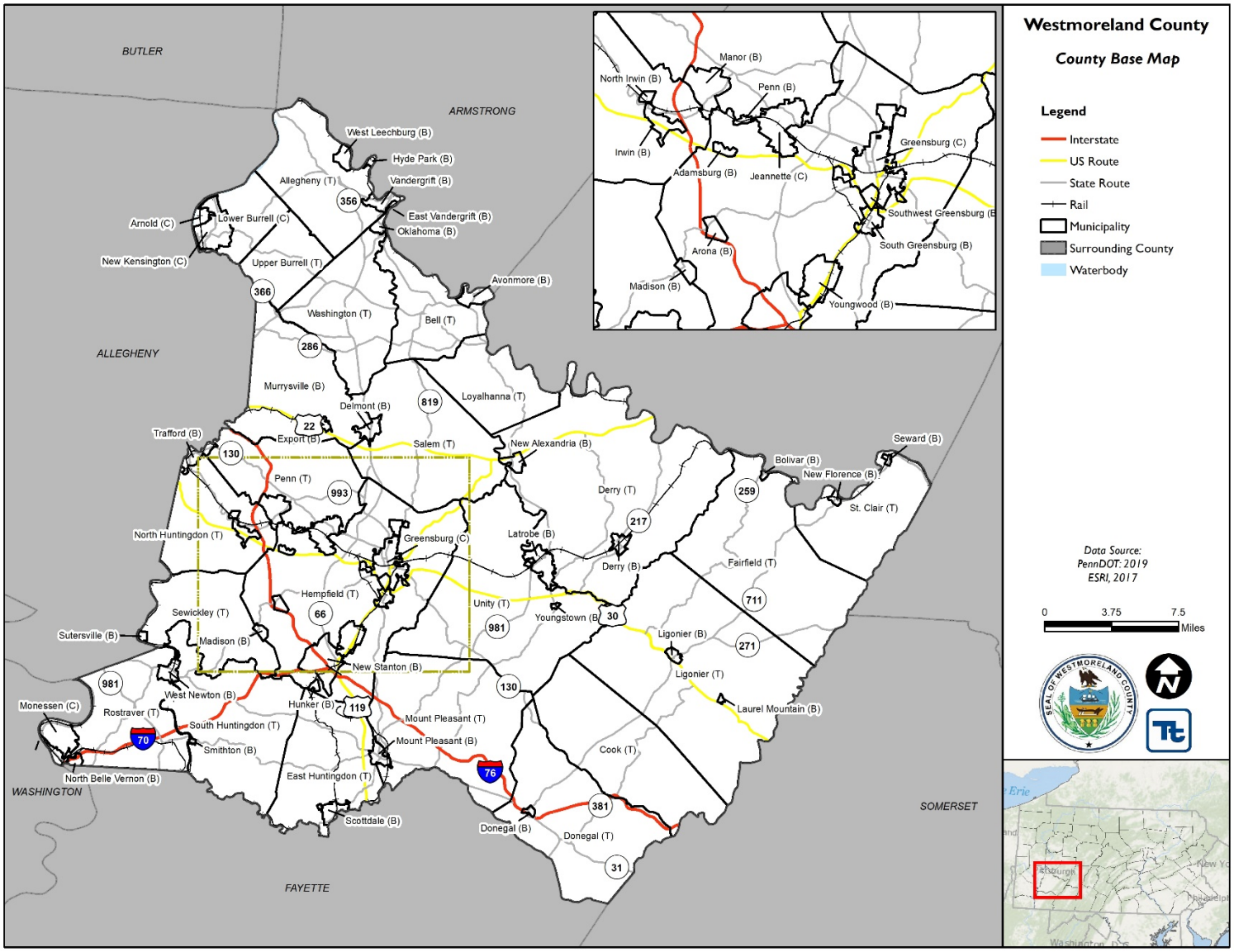
the aluminum industry in the United States, and Monessen led the county in steel and tin plate production, producing immense quantities of woven wire and tubes. The glass industry was centered in Jeannette, where six different plants produced glass for almost every domestic, industrial, and military use. Glass was also manufactured in Mt. Pleasant, Greensburg, and Arnold. Large population centers developed around these cities.

In the 1970s and 1980s, the demise of the steel industry in the United States was mirrored in Westmoreland County, as over 40 percent of manufacturing jobs were lost after 1980. Coal also experienced more than a 50 percent reduction in jobs during the same period. Westmoreland County's economy continues to change. New industrial parks and the development of small businesses have led the way to a diversification of the county's economy. Traditional employers such as Alcoa, Allegheny Ludlum Steel, Elliott Company, and Kennametal still form a significant part of the county's economic base. The addition of many small firms such as specialty machine shops, fabrication, and electronic businesses continue to grow.

Changes in the county's economy have also resulted in changing where people reside. The county's boroughs and cities are no longer major employment centers and are slowly losing population to the first and second class townships where land and infrastructure are abundant. Suburban growth continues to take place in areas such as Hempfield Township, Unity Township, and the Municipality of Murrysville, which have gained steadily in population. Many county residents still find employment in the City of Pittsburgh or outside of Westmoreland County; therefore, these communities have become "bedroom communities" for those who make the commute.

From its first federal census in 1790, Westmoreland has grown from a population of 16,018 to a population of 365,169 as of the 2010 Census. Westmoreland County has had the same boundary lines and acreage since 1803. Today, it is the Pennsylvania's 9th largest county in terms of land area and is the 10th largest county in the Commonwealth in terms of population.

Figure 2-1. Base Map of Westmoreland County



2.3 Population and Demographics

Population and demographic data provide baseline information about residents. Changes in demographics or population may be used to identify higher-risk populations. Maintaining up-to-date data on demographics will allow Westmoreland County to better assess magnitudes of hazards and develop more specific mitigation plans. According to the 2010 U.S. Census, Westmoreland County had a population of 365,169, which represents a 1.3 percent decrease from the 2000 U.S. Census population of 369,993. Table 2-1 presents the population statistics for Westmoreland County based on the 2000 and 2010 U.S. Census, and 2017 estimates (the most current available) data. Table 2-2 provides details regarding the demographics for Westmoreland County.

Table 2-1. Westmoreland County Population Statistics

Municipality	2000 Census	2010 Census	2017 Estimate	Population Change 2000-2017	Population Change 2000-2017 (%)	Population Density Per Square Mile (2010)
Adamsburg Borough	221	172	187	-34	-15	614.3
Allegheny Township	8,002	8,164	8,198	196	2	262.6
Arnold, City of	5,667	5,157	4,980	-687	-12	7,064.4
Arona Borough	407	370	369	-38	-9	711.5
Avonmore Borough	820	1,011	1,083	263	32	687.8
Bell Township	2,458	2,348	2,288	-170	-7	109.3
Bolivar Borough	501	465	420	-81	-16	2,735.3
Cook Township	2,403	2,250	2,199	-204	-8	48.1
Delmont Borough	2,497	2,686	2,621	124	5	2,534.0
Derry Borough	2,991	2,688	2,601	-390	-13	3,490.9
Derry Township	14,726	14,502	14,258	-468	-3	152.5
Donegal Borough	165	120	189	24	15	521.7
Donegal Township	2,442	2,403	2,191	-251	-10	48.9
East Huntingdon Township	7,781	7,963	7,771	-10	0	241.6
East Vandergrift Borough	742	674	813	71	10	5,184.6
Export Borough	895	917	830	-65	-7	2,292.5
Fairfield Township	2,536	2,424	2,116	-420	-17	39.5
Greensburg, City of	15,899	14,892	14,476	-1,423	-9	3,668.0
Hempfield Township	40,721	43,241	41,376	655	2	563.5
Hunker Borough	329	291	313	-16	-5	1,164.0
Hyde Park Borough	513	500	441	-72	-14	2,083.3
Irwin Borough	4,366	3,973	3,841	-525	-12	4,729.8
Jeannette, City of	10,654	9,654	9,341	-1,313	-12	4,039.3
Latrobe, City of	8,944	8,338	8,071	-873	-10	3,594.0
Laurel Mountain Borough	185	167	191	6	3	1,284.6
Ligonier Borough	1,695	1,573	1,453	-242	-14	3,146.0
Ligonier Township	6,973	6,603	6,495	-478	-7	71.4
Lower Burrell, City of	12,608	11,761	11,413	-1,195	-9	1,044.5
Loyalhanna Township	2,301	2,382	2,004	-297	-13	110.4
Madison Borough	510	387	391	-119	-23	902.3

Municipality	2000 Census	2010 Census	2017 Estimate	Population Change 2000-2017	Population Change 2000-2017 (%)	Population Density Per Square Mile (2010)
Manor Borough	2,796	3,239	3,308	512	18	1,695.8
Monessen, City of	8,669	7,720	7,474	-1,195	-14	2,671.3
Mount Pleasant Borough	4,728	4,454	4,353	-375	-8	4,454.0
Mount Pleasant Township	11,153	10,911	10,641	-512	-5	195.0
Murrysville, Municipality of	18,872	20,079	19,972	1,100	6	545.0
New Alexandria Borough	595	560	609	14	2	658.8
New Florence Borough	784	689	649	-135	-17	2,087.9
New Kensington, City of	14,701	13,116	12,679	-2,022	-14	3,320.5
New Stanton Borough	1,906	2,173	2,558	652	34	541.9
North Belle Vernon Borough	2,107	1,971	1,829	-278	-13	4,692.9
North Huntingdon Township	29,123	30,609	30,565	1,442	5	1,122.9
North Irwin Borough	879	846	827	-52	-6	4,230.0
Oklahoma Borough	915	809	756	-159	-17	1,326.2
Penn Borough	460	475	453	-7	-2	2,698.8
Penn Township	19,591	20,005	19,574	-17	0	650.4
Rostraver Township	11,634	11,363	11,176	-458	-4	352.0
St. Clair Township	1,398	1,518	1,377	-21	-2	53.9
Salem Township	6,969	6,623	6,565	-404	-6	140.6
Scottdale Borough	4,772	4,384	4,242	-530	-11	3,779.3
Seward Borough	484	495	399	-85	-18	2,475.0
Sewickley Township	6,230	5,996	5,858	-372	-6	224.1
Smithton Borough	444	399	386	-58	-13	3,990.0
South Greensburg Borough	2,280	2,117	2,143	-137	-6	2,981.7
South Huntingdon Township	6,175	5,796	5,628	-547	-9	127.6
Southwest Greensburg Borough	2,398	2,115	2,157	-241	-10	5,525.6
Sutersville Borough	636	605	592	-44	-7	2,240.7
Trafford Borough	3,236	3,113	3,023	-213	-7	2,572.7
Unity Township	21,137	22,607	22,270	1,133	5	335.2
Upper Burrell Township	2,240	2,326	2,372	132	6	153.7
Vandergrift Borough	5,455	5,205	5,037	-418	-8	3,827.2
Washington Township	7,384	7,422	7,237	-147	-2	232.3
West Leechburg Borough	1,290	1,294	1,399	109	8	1,362.1
West Newton Borough	3,083	2,633	2,550	-533	-17	2,531.7
Youngstown Borough	400	326	307	-93	-23	2,963.6
Youngwood Borough	4,138	3,050	2,950	-1,188	-29	1,588.5
Westmoreland County	**369,993**	**365,169**	**356,835**	**-13,158**	**-4**	**355.4**

Sources: U.S. Census Bureau 2000, 2010, 2018

Table 2-2. Demographics for Westmoreland County

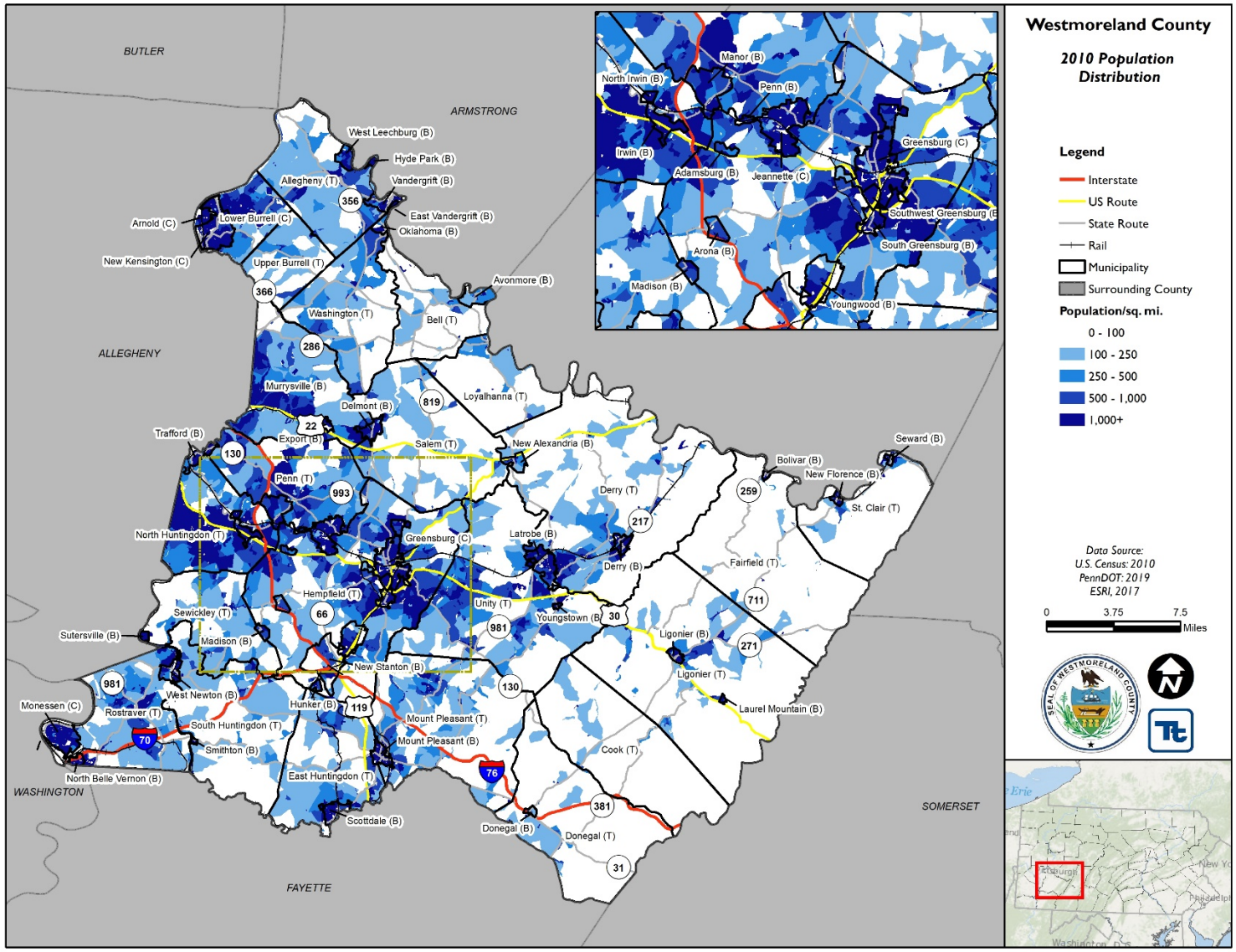
Demographics	2000 Census Westmoreland County	2010 Census Westmoreland County	2017 Estimate Westmoreland County	2017 Estimate Pennsylvania	2017 Estimate United States
Total population	369,993	365,169	356,835	12,790,505	325,719,178
Male	178,435	177,722	174,211	6,272,521	160,402,504
Female	191,558	187,447	182,624	6,533,016	165,402,504
Median age (years)	41.3	45.1	46.6	40.8	38.1
Under 5 years	19,175	17,671	16,498	705,018	19,795,159
18 years and over	288,763	292,558	289,855	10,140,566	252,070,495
65 years and over	67,781	68,877	75,289	2,276,543	50,815,712
Total households	149,813	153,650	151,262	50,70,931	118,825,921
Group quarters population	8,496	7,962	8,154	427,268	8,087,642

Sources: U.S. Census Bureau 2000, 2010, 2018

As shown in the tables above, Westmoreland County's 2010 Census population was 365,169. Based on these data, the population density of Westmoreland County is 355.4 persons per square mile, which is considerably higher than the Pennsylvania statewide average of 284 persons per square mile. The City of Arnold has the highest population density of all the municipalities in the county (7,064.4 persons per square mile) (U.S. Census 2010). A majority of the municipalities in Westmoreland County have population densities above the statewide average. However, many municipalities in the county have low population density. A low population density means that people are spread throughout the municipality rather than clustered in groups. Dispersing information, instructions, and resources during a disaster response effort to residents in low-density areas is more difficult than in more densely populated areas because individuals are not centralized. Westmoreland County 2010 population density data is illustrated in Figure 2-2.

While low-density areas provide challenges to disseminating hazard mitigation information, a low population density also means that hazards will not affect as many people. For example, diseases may not spread as quickly because citizens are in contact with less people. Similarly, fires are less likely to spread to other structures because of the large distances between them. The magnitude of an event is typically smaller in a less-populated area because each event affects fewer people and properties.

Figure 2-2. Westmoreland County 2010 Population Distribution



The Disaster Mitigation Act of 2000 (DMA 2000) requires that HMPs consider socially vulnerable populations. These populations can be more susceptible to hazard events based on a number of factors, including their physical and financial ability to react or respond during a hazard and the location and construction quality of their housing. For the purposes of this study, vulnerable populations shall include (1) the elderly and younger populations (persons aged 65 and over; persons aged 5 and younger) and (2) those living in low-income households.

Approximately 21.1 percent of the county's total population is aged 65 and older compared to 18.2 percent at the Commonwealth level and 16 percent at the national level (U.S. Census, 2018). Older residents may have access and functional needs. For example, many may be unable to drive; therefore, special evacuation plans may be necessary. They may also have hearing or vision impairments that could make receiving emergency instructions difficult. Additionally, 4.6 percent of the county's total population is under the age of 5 years compared to 5.5 percent at the Commonwealth level and 6 percent at the national level (U.S. Census 2018). Both older and younger populations have higher risks for contracting certain diseases. The county's combined population under 5 years of age and over 65 years represent approximately 25.7 percent of its total population compared to 23.7 percent at the Commonwealth level and 22 percent at the national level.

Figure 2-3 and Figure 2-4 illustrate the distribution of these populations for Westmoreland County.

Figure 2-3. Westmoreland County 2010 Population Over 65 Years

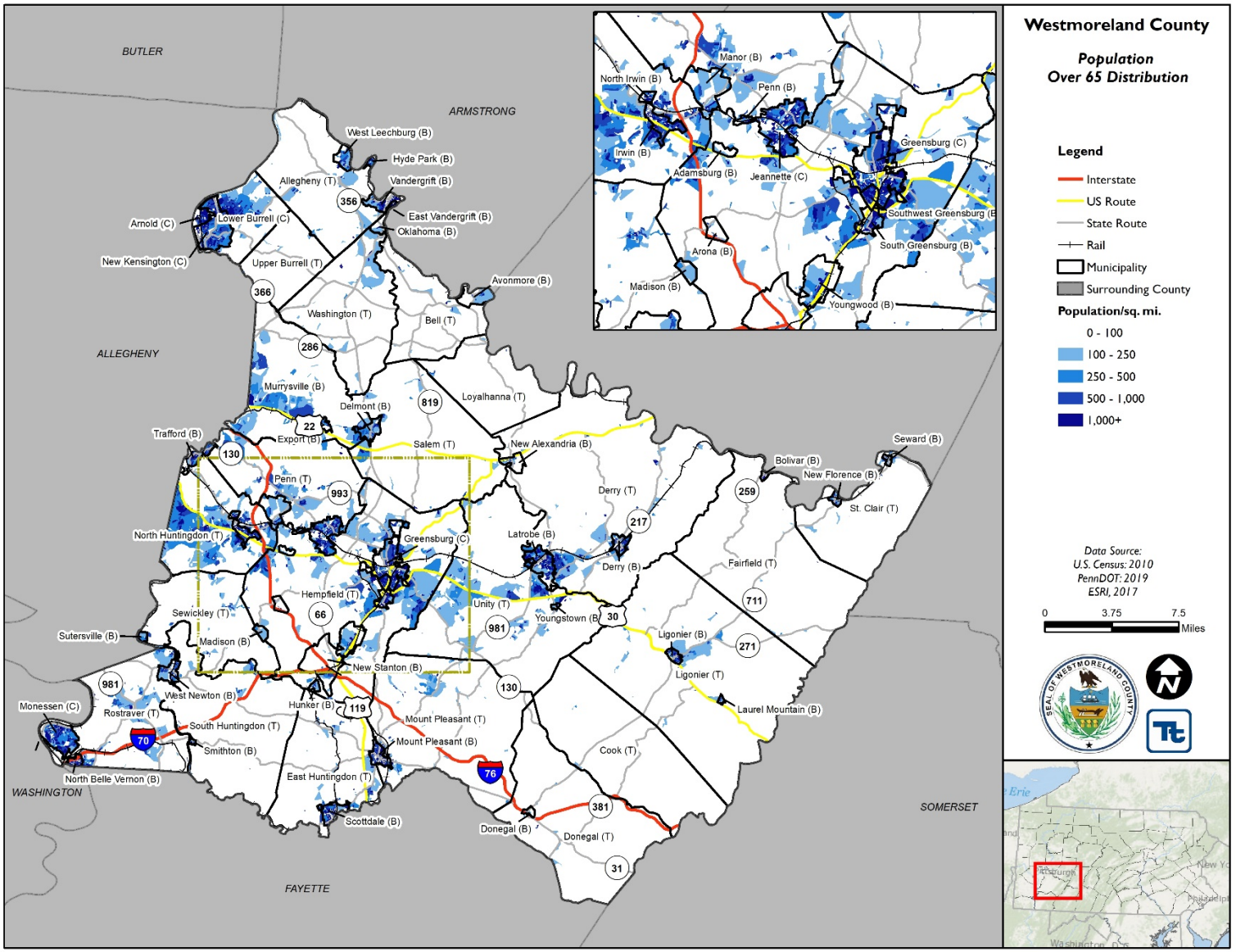
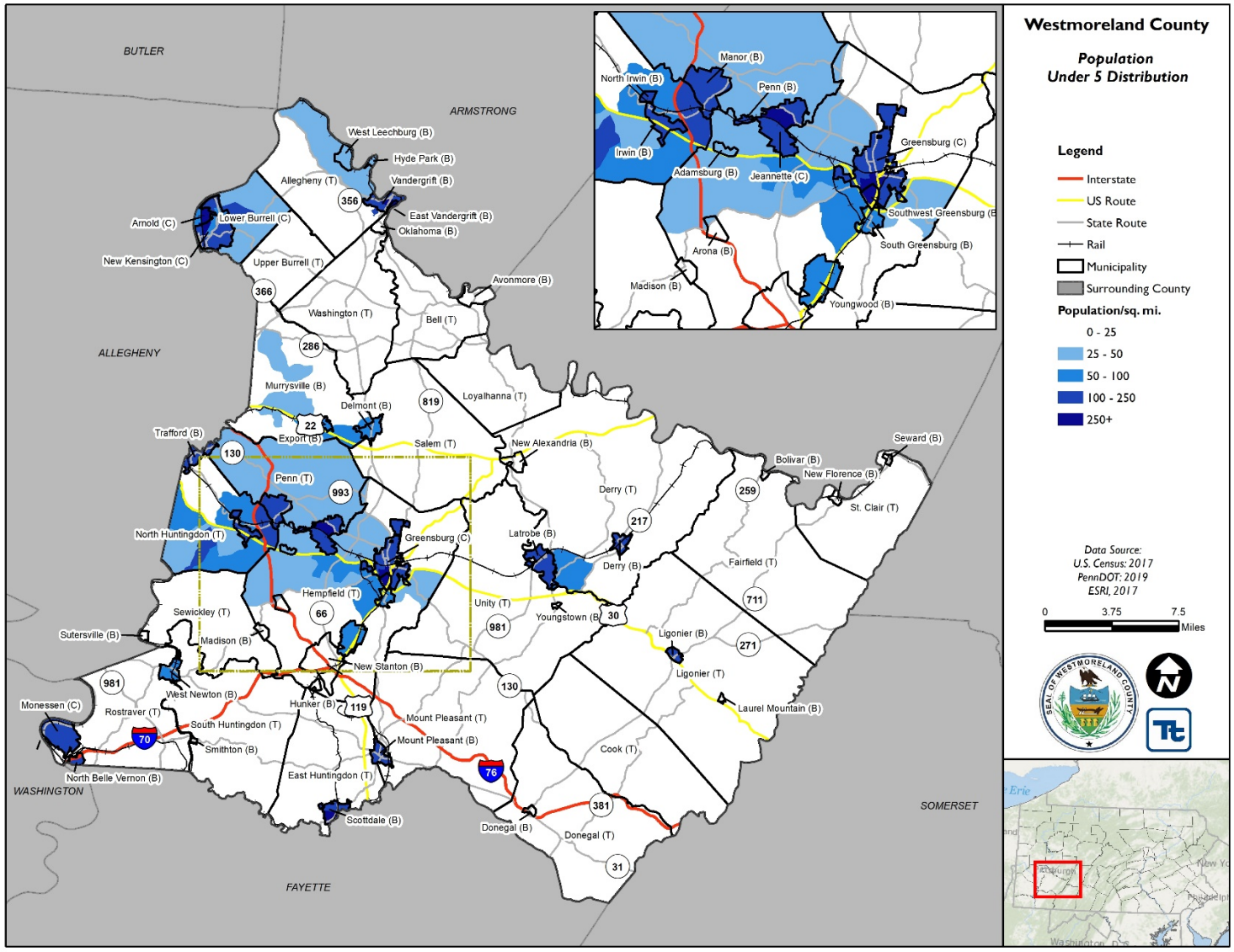


Figure 2-4. Westmoreland County Population Under 5 Years



Only 1.4 percent of Westmoreland County's population lives in group quarters compared to 3.3 percent in the Commonwealth level and 2.5 percent at the national level. The term "group quarters" refers to people living in communal settings, which can include inmates in a prison, students in a dorm, or elderly or mentally disabled individuals living in group care homes. Residents living in group quarters are often special needs populations. It is important to ensure that each group quarter facility has its own emergency plan to account for the unique needs of its residents during a hazard event.

Table 2-3 provides population estimates and projections for each municipality in Westmoreland County and for the county as a whole. The population of the entire county is estimated to be 361,236 by the year 2040, which represents a net population decrease of 3,933 people in a 30-year period. As shown in the table below, over 75 percent of the municipalities in Westmoreland County are projected to see a decrease in population. The table also shows that 15 municipalities are projected to see an increase in population. It should be noted that changes in population or demographics may be used to identify higher-risk populations. Maintaining up-to-date data on demographics will allow Westmoreland County to better assess magnitudes of hazards and develop more specific mitigation plans and strategies.

Table 2-3. Westmoreland County Population Projections by Municipality

Municipality	2000 Census	2010 Census	Population Change 2000-2010 (%)	2020 Projection	2030 Projection	2040 Projection	Projected Population Change 2010-2040 (%)
Adamsburg Borough	221	172	-22.2	157	142	128	-25.6
Allegheny Township	8,002	8,164	2.0	8,295	8,443	8,581	5.1
Arnold, City of	5,667	5,157	-9.0	4,693	4,271	3,824	-25.8
Arona Borough	407	370	-9.1	360	334	318	-14.1
Avonmore Borough	820	1,011	23.3	939	1,017	1,010	-0.1
Bell Township	2,458	2,348	-4.5	2,361	2,304	2,286	-2.6
Bolivar Borough	501	465	-7.2	423	385	345	-25.8
Cook Township	2,403	2,250	-6.4	2,396	2,371	2,444	8.6
Delmont Borough	2,497	2,686	7.6	3,028	3,282	3,586	33.5
Derry Borough	2,991	2,688	-10.1	2,582	2,349	2,189	-18.6
Derry Township	14,726	14,502	-1.5	13,995	13,649	13,211	-8.9
Donegal Borough	165	120	-27.3	109	99	89	-25.8
Donegal Township	2,442	2,403	-1.6	2,399	2,376	2,363	-1.7
East Huntingdon Township	7,781	7,963	2.3	8,083	8,238	8,373	5.1
East Vandergrift Borough	742	674	-9.2	619	563	508	-24.6
Export Borough	895	917	2.5	877	873	848	-7.5
Fairfield Township	2,536	2,424	-4.4	2,525	2,504	2,552	5.3
Greensburg, City of	15,899	14,892	-6.3	14,220	13,362	12,610	-15.3
Hempfield Township	40,721	43,241	6.2	43,361	44,376	44,880	3.8
Hunker Borough	329	291	-11.6	275	251	231	-20.6
Hyde Park Borough	513	500	-2.5	478	461	441	-11.8
Irwin Borough	4,366	3,973	-9.0	3,669	3,338	3,023	-23.9
Jeannette, City of	10,654	9,654	-9.4	8,901	8,100	7,327	-24.1
Latrobe, City of	8,944	8,338	-6.8	7,902	7,340	6,850	-17.8

Municipality	2000 Census	2010 Census	Population Change 2000-2010 (%)	2020 Projection	2030 Projection	2040 Projection	Projected Population Change 2010-2040 (%)
Laurel Mountain Borough	185	167	-9.7	154	140	126	-24.6
Ligonier Borough	1,695	1,573	-7.2	1,553	1,475	1,430	-9.1
Ligonier Township	6,973	6,603	-5.3	6,441	6,160	5,947	-9.9
Lower Burrell, City of	12,608	11,761	-6.7	11,602	11,050	10,722	-8.8
Loyalhanna Township	2,301	2,382	3.5	2,491	2,584	2,686	12.8
Madison Borough	510	387	-24.1	361	329	294	-24.0
Manor Borough	2,796	3,239	15.8	3,514	3,930	4,266	31.7
Monessen, City of	8,669	7,720	-10.9	7,025	6,393	5,725	-25.8
Mount Pleasant Borough	4,728	4,454	-5.8	4,303	4,082	3,900	-12.4
Mount Pleasant Township	11,153	10,911	-2.2	10,700	10,471	10,252	-6.0
Murrysville, Municipality of	18,872	20,079	6.4	21,529	25,328	25,977	29.4
New Alexandria Borough	595	560	-5.9	559	538	529	-5.5
New Florence Borough	784	689	-12.1	627	571	511	-25.8
New Kensington, City of	14,701	13,116	-10.8	11,936	10,861	9,726	-25.8
New Stanton Borough	1,906	2,173	14.0	2,187	2,346	2,422	11.5
North Belle Vernon Borough	2,107	1,971	-6.5	1,910	1,806	1,726	-12.4
North Huntingdon Township	29,123	30,609	5.1	31,797	33,156	34,417	12.4
North Irwin Borough	879	846	-3.8	788	744	692	-18.2
Oklahoma Borough	915	809	-11.6	736	670	600	-25.8
Penn Borough	460	475	3.3	452	451	438	-7.8
Penn Township	19,591	20,005	2.1	22,277	23,442	25,240	26.2
Rostraver Township	11,634	11,363	-2.3	11,481	11,377	11,400	0.3
St. Clair Township	1,398	1,518	8.6	1,452	1,493	1,472	-3.0
Salem Township	6,969	6,623	-5.0	6,292	5,969	5,641	-14.8
Scottdale Borough	4,772	4,384	-8.1	3,989	3,630	3,251	-25.8
Seward Borough	484	495	2.3	478	477	467	-5.7
Sewickley Township	6,230	5,996	-3.8	5,660	5,383	5,072	-15.4
Smithton Borough	444	399	-10.1	412	391	390	-2.3
South Greensburg Borough	2,280	2,117	-7.1	2,040	1,913	1,815	-14.3
South Huntingdon Township	6,175	5,796	-6.1	5,532	5,203	4,911	-15.3
Southwest Greensburg Borough	2,398	2,115	-11.8	2,018	1,836	1,680	-20.6
Sutersville Borough	636	605	-4.9	551	510	461	-23.8
Trafford Borough	3,236	3,113	-3.8	3,045	2,963	2,889	-7.2

Municipality	2000 Census	2010 Census	Population Change 2000-2010 (%)	2020 Projection	2030 Projection	2040 Projection	Projected Population Change 2010-2040 (%)
Unity Township	21,137	22,607	7.0	23,824	25,186	26,465	17.1
Upper Burrell Township	2,240	2,326	3.8	2,353	2,413	2,454	5.5
Vandergrift Borough	5,455	5,205	-4.6	4,841	4,543	4,207	-19.2
Washington Township	7,384	7,422	0.5	7,243	7,189	7,063	-4.8
West Leechburg Borough	1,290	1,294	0.3	1,256	1,242	1,215	-6.1
West Newton Borough	3,083	2,633	-14.6	2,396	2,180	1,953	-25.8
Youngstown Borough	400	326	-18.5	311	283	263	-19.3
Youngwood Borough	4,138	3,050	-26.3	2,902	2,694	2,520	-17.4
Westmoreland County	**369,993**	**365,169**	**-1.3**	**363,665**	**363,832**	**361,236**	**-1.1**

Sources: U.S. Census 2000, 2010, and 2018

According to the 2013-2017 American Community Survey, 2.7 percent of the county's population speaks a language other than English, with 0.6 percent of the population speaking English less than "very well." While currently a low percentage, future hazard mitigation strategies should consider addressing language barriers to ensure that all residents can receive emergency instructions. Table 2-4 summarizes race and ethnicity population information for Westmoreland County.

Table 2-4. Race and Ethnicity in Westmoreland County

Race and Ethnicity	Westmoreland County				Pennsylvania		United States	
	2010	% of Pop.	2017	% of Pop.	2017	% of Pop.	2017	% of Pop.
One race	360,694	98.8	351,111	98.4	12,493,185	97.7	315,004,407	96.9
White	348,182	96.5	338,659	94.9	10,378,174	81.1	234,370,202	73.0
Black or African American	8,562	2.3	8,432	2.4	1,417,611	11.1	40,610,815	12.7
American Indian and Alaska Native	351	0.1	317	0.1	24,995	0.2	2,632,102	0.8
Asian	2,704	0.7	3,093	0.9	417,525	3.3	1,7186,320	5.4
Native Hawaiian and Other Pacific Islander	62	0.0	54	0.0	3,665	0.0	570,116	0.2
Some other race	833	0.2	556	0.2	251,215	2.0	15,553,808	4.8
Two or more races	4,475	1.2	5,724	1.6	297,320	2.3	10,081,044	3.1
Foreign born	2,191	0.6	5,489	0.6	841,731	6.6	43,028,127	13.4
Speak a language other than English	8,034	2.2	9,209	2.7	1,328,055	11.0	64,221,193	21.3
Hispanic or Latino	3,179	0.9	3,903	1.1	874,833	6.8	56,510,571	17.6

Source: U.S. Census Bureau 2010, 2011, 2018
Pop. = Population

Westmoreland County has 169,894 housing units. These properties may be vulnerable to various natural hazards, particularly those located in defined hazard areas. Damage to residential properties is not only costly to repair or rebuild but devastating to the displaced residents.

According to the U.S. Census, approximately 10.6 percent of the county's residential properties are vacant compared to 11.4 percent at the Commonwealth level and 12.2 percent at the national level; most vacancies are due to units available for rent. Vacant buildings are particularly vulnerable to arson and criminal activity. Because vacant properties are not inhabited year-round or may not be adequately maintained, many are structurally deficient and at risk of collapse.

Approximately 20.0 percent of the county's population live in rented homes. Because renters are more transient than homeowners, communicating with renters may be more difficult than communicating with homeowners. Similarly, communications with tourists would be harder during an emergency event. Communication strategies should be developed to ensure that these populations receive proper notifications.

Table 2-5, Table 2-6, Table 2-7 and summarizes characteristics of the residential properties in Westmoreland County.

Table 2-5. Housing Characteristics in Westmoreland County

Housing Characteristics	Westmoreland County		Pennsylvania	United States
	2010	2017	2017	2017
Total housing units	168,199	169,894	5,653,599	135,393,564
Owner-occupied housing units	117,726	117,800	3,456,360	75,833,135
Renter-occupied housing units	35,924	34,092	1,551,082	42,992,786
Vacant housing units	14,549	18,002	646,157	16,567,643
Median value (dollars)	$126,800	$144,900	170,500	193,500
Housing units with a mortgage	69,527	65,744	2,097,646	48,185,314
Housing units without a mortgage	48,199	52,056	1,358,714	27,647,821

Source: U.S. Census Bureau 2010, 2011, 2018

Table 2-6. Westmoreland County Housing Statistics by Municipality

Municipality	Total Housing Units	Occupied Housing Units	Vacant Housing Units	1 Unit, Detached	1 Unit, Attached	2 Units	3 or 4 Units	5 to 9 Units	10 to 19 Units	20 or More Units	Mobile Home	Boat, RV, Van, etc.
Adamsburg Borough	121	93	28	63	17	4	18	14	0	0	5	0
Allegheny Township	3,461	3,332	129	2,996	157	0	0	79	0	86	143	0
Arnold, City of	3,089	2,426	663	1,785	257	503	164	131	28	221	0	0
Arona Borough	165	154	11	143	2	6	1	0	0	0	13	0
Avonmore Borough	519	468	51	377	7	36	11	0	3	21	64	0
Bell Township	998	942	56	878	6	0	18	0	0	0	91	5
Bolivar Borough	196	162	34	176	2	4	0	0	0	0	14	0
Cook Township	1,170	901	269	1,006	24	7	20	0	0	0	113	0
Delmont Borough	1,457	1,242	215	1,057	75	58	45	14	112	96	0	0
Derry Borough	1,297	1,103	194	1,020	33	63	41	67	9	46	18	0
Derry Township	6,808	5,986	822	5,011	299	301	93	91	35	89	889	0
Donegal Borough	96	75	21	82	0	0	6	0	0	0	8	0
Donegal Township	1,332	846	486	865	20	13	19	0	0	0	409	6
East Huntingdon Township	3,559	3,410	149	2,252	72	62	125	103	0	47	898	0
East Vandergrift Borough	404	339	65	352	10	17	14	0	0	0	11	0
Export Borough	463	396	67	288	29	61	27	13	0	19	26	0
Fairfield Township	1,192	859	333	935	32	13	12	0	0	0	200	0
Greensburg, City of	7,712	6,556	1,156	4,355	311	748	628	439	516	695	20	0
Hempfield Township	18,347	17,056	1,291	13,861	1,178	146	272	200	279	873	1,529	9
Hunker Borough	129	127	2	117	0	0	1	0	0	0	11	0
Hyde Park Borough	227	212	15	205	2	9	5	0	0	0	6	0
Irwin Borough	2,018	1,909	109	1,032	66	168	124	248	184	196	0	0
Jeannette, City of	4,997	4,425	572	3,616	427	409	239	66	52	173	15	0
Latrobe, City of	4,310	3,726	584	3,002	151	286	243	245	131	237	15	0
Laurel Mountain Borough	108	76	32	108	0	0	0	0	0	0	0	0
Ligonier Borough	934	787	147	630	61	35	131	28	36	4	9	0
Ligonier Township	3,759	2,914	845	3,343	13	66	53	0	0	63	221	0
Lower Burrell, City of	5,344	4,796	548	4,376	338	90	99	93	56	206	86	0

Municipality	Total Housing Units	Occupied Housing Units	Vacant Housing Units	1 Unit, Detached	1 Unit, Attached	2 Units	3 or 4 Units	5 to 9 Units	10 to 19 Units	20 or More Units	Mobile Home	Boat, RV, Van, etc.
Loyalhanna Township	919	810	109	757	26	5	5	0	0	0	126	0
Madison Borough	200	181	19	182	2	9	0	0	0	0	7	0
Manor Borough	1,284	1,228	56	1,170	59	26	15	0	0	0	14	0
Monessen, City of	4,605	3,660	945	3,544	222	134	163	176	84	251	31	0
Mount Pleasant Borough	2,241	1,986	255	1,533	139	149	134	57	44	137	48	0
Mount Pleasant Township	5,054	4,488	566	3,940	186	178	146	29	14	11	550	0
Murrysville, Municipality of	8,551	8,138	413	7,034	664	76	54	32	101	320	270	0
New Alexandria Borough	272	263	9	240	0	6	9	6	0	0	11	0
New Florence Borough	293	269	24	210	13	56	0	0	0	0	14	0
New Kensington, City of	6,892	5,838	1,054	4,536	408	551	320	367	205	425	80	0
New Stanton Borough	1,098	1,042	56	700	34	39	27	79	124	78	17	0
North Belle Vernon Borough	966	814	152	780	38	101	10	24	3	0	10	0
North Huntingdon Township	13,092	12,411	681	11,450	432	107	184	193	129	308	289	0
North Irwin Borough	386	366	20	314	5	15	28	24	0	0	0	0
Oklahoma Borough	403	362	41	365	5	8	6	5	0	4	10	0
Penn Borough	198	166	32	177	2	3	2	5	0	0	9	0
Penn Township	8,081	7,673	408	7,130	441	126	24	47	0	57	256	0
Rostraver Township	4,881	4,426	455	4,139	168	78	66	42	0	7	381	0
St. Clair Township	3,260	2,979	281	1,770	294	46	28	0	0	30	1,092	0
Salem Township	2,137	1,898	239	1,518	152	124	78	71	47	136	11	0
Scottdale Borough	250	175	75	169	0	34	35	1	0	0	11	0
Seward Borough	2,589	2,347	242	2,034	148	79	18	57	0	0	253	0
Sewickley Township	176	159	17	142	5	7	7	11	0	0	4	0
Smithton Borough	1,166	1,027	139	813	124	69	76	38	0	41	5	0
South Greensburg Borough	2,565	2,369	196	2,082	81	67	48	29	0	0	258	0
South Huntingdon Township	1,162	993	169	875	60	76	50	24	66	11	0	0
Southwest Greensburg Borough	706	601	105	484	30	78	0	0	0	0	114	0
Sutersville Borough	310	245	65	267	11	3	14	2	0	0	13	0
Trafford Borough	1,689	1,438	251	1,194	155	51	88	33	60	108	0	0

Municipality	Total Housing Units	Occupied Housing Units	Vacant Housing Units	1 Unit, Detached	1 Unit, Attached	2 Units	3 or 4 Units	5 to 9 Units	10 to 19 Units	20 or More Units	Mobile Home	Boat, RV, Van, etc.
Unity Township	9,583	8,684	899	7,237	638	233	106	151	423	235	560	0
Upper Burrell Township	1,007	924	83	863	14	34	5	16	0	30	45	0
Vandergrift Borough	2,745	2,284	461	1,954	63	285	169	114	27	128	5	0
Washington Township	3,191	3,029	162	2,544	25	50	24	18	5	92	433	0
West Leechburg Borough	650	609	41	587	13	21	23	0	0	0	6	0
West Newton Borough	1,294	1,162	132	1,003	28	18	65	21	31	107	21	0
Youngstown Borough	128	110	18	112	4	5	0	0	0	0	7	0
Youngwood Borough	1,658	1,420	238	1,073	83	134	120	103	71	0	74	0
Westmoreland County	169,894	151,892	18,002	128,853	8,361	6,186	4,556	3,606	2,875	5,588	9,849	20

Sources: 2013-2017 5-year estimates

Table 2-7. Westmoreland County Housing Year Built by Municipality

Municipality	Built 2014 or later	Built 2010 to 2013	Built 2000 to 2009	Built 1990 to 1999	Built 1980 to 1989	Built 1970 to 1979	Built 1960 to 1969	Built 1950 to 1959	Built 1940 to 1949	Built 1939 or earlier
Adamsburg Borough	0	0	0	3	5	9	13	23	16	52
Allegheny Township	18	63	508	545	248	359	493	505	315	407
Arnold, City of	0	0	30	65	116	245	470	624	365	1,174
Arona Borough	0	0	1	2	12	19	6	19	38	68
Avonmore Borough	0	0	0	12	18	84	68	33	56	248
Bell Township	0	15	120	88	108	119	91	81	79	297
Bolivar Borough	0	0	5	2	4	29	14	28	20	94
Cook Township	0	19	69	165	80	212	136	160	106	223
Delmont Borough	0	5	200	222	135	191	194	144	137	229
Derry Borough	0	0	15	33	67	69	78	205	191	639
Derry Township	32	89	603	733	732	1,099	885	1,019	307	1,309
Donegal Borough	0	0	6	6	2	11	17	5	23	26
Donegal Township	19	5	199	222	189	266	145	78	55	154
East Huntingdon Township	0	34	513	617	519	424	293	358	224	577
East Vandergrift Borough	0	0	0	13	9	8	17	7	53	297

Municipality	Built 2014 or later	Built 2010 to 2013	Built 2000 to 2009	Built 1990 to 1999	Built 1980 to 1989	Built 1970 to 1979	Built 1960 to 1969	Built 1950 to 1959	Built 1940 to 1949	Built 1939 or earlier
Export Borough	0	0	41	5	7	5	51	72	60	222
Fairfield Township	0	22	100	159	157	193	148	158	60	195
Greensburg, City of	41	7	107	371	552	845	864	1,413	1,112	2,400
Hempfield Township	50	322	1,960	1,927	1,662	4,227	2,867	2,741	829	1,762
Hunker Borough	0	2	7	5	2	11	10	19	14	59
Hyde Park Borough	0	0	15	5	20	17	18	35	35	82
Irwin Borough	0	40	12	143	73	198	381	553	60	558
Jeannette, City of	0	8	78	64	174	345	480	1,244	911	1,693
Latrobe, City of	0	0	151	120	111	447	531	907	612	1,431
Laurel Mountain Borough	0	0	0	0	1	3	13	16	41	34
Ligonier Borough	11	7	84	24	60	59	61	172	120	336
Ligonier Township	0	29	146	280	155	541	506	980	427	695
Lower Burrell, City of	24	0	257	415	409	708	816	1,589	551	575
Loyalhanna Township	0	0	67	173	113	121	76	51	80	238
Madison Borough	0	0	2	0	22	41	19	22	18	76
Manor Borough	31	41	164	114	234	110	179	81	140	190
Monessen, City of	0	10	129	42	48	419	590	1,492	593	1,282
Mount Pleasant Borough	31	15	7	47	170	123	170	597	236	845
Mount Pleasant Township	0	75	490	407	500	668	676	695	243	1,300
Murrysville, Municipality of	104	295	1,000	1,425	1,055	1,656	1,253	757	290	716
New Alexandria Borough	0	0	10	11	7	32	18	51	57	86
New Florence Borough	0	6	6	2	21	37	23	47	29	122
New Kensington, City of	0	89	102	105	424	529	914	1,291	1455	1,983
New Stanton Borough	0	13	210	66	67	319	163	85	49	126
North Belle Vernon Borough	0	0	46	11	27	35	122	186	178	361
North Huntingdon Township	78	270	1,328	1,103	681	2,534	2,435	2,807	680	1,176
North Irwin Borough	0	0	19	15	12	32	20	63	71	154
Oklahoma Borough	0	0	8	8	11	67	60	57	36	156
Penn Borough	0	3	2	8	14	9	6	23	35	98

Municipality	Built 2014 or later	Built 2010 to 2013	Built 2000 to 2009	Built 1990 to 1999	Built 1980 to 1989	Built 1970 to 1979	Built 1960 to 1969	Built 1950 to 1959	Built 1940 to 1949	Built 1939 or earlier
Penn Township	22	38	1,044	1,632	827	1,522	1,014	1,011	308	663
Rostraver Township	86	67	718	516	395	546	520	802	450	781
St. Clair Township	0	51	235	438	471	584	415	284	118	664
Salem Township	5	5	45	46	74	224	201	251	244	1,042
Scottdale Borough	0	5	4	3	4	5	21	44	35	129
Seward Borough	6	15	112	128	222	474	307	350	250	725
Sewickley Township	0	0	0	3	0	14	19	31	10	99
Smithton Borough	10	6	59	99	58	36	55	301	114	428
South Greensburg Borough	10	43	305	183	327	492	194	304	120	587
South Huntingdon Township	0	0	11	32	44	120	101	172	162	520
Southwest Greensburg Borough	8	6	28	73	79	158	74	103	74	103
Sutersville Borough	0	0	5	2	14	27	40	68	20	134
Trafford Borough	0	0	60	15	72	86	265	388	105	698
Unity Township	20	200	1,429	1,187	884	1,428	1,121	1,230	437	1,647
Upper Burrell Township	19	5	89	128	176	139	67	227	85	72
Vandergrift Borough	0	0	94	0	68	98	216	206	412	1,651
Washington Township	15	13	198	390	359	659	409	479	275	394
West Leechburg Borough	0	0	44	14	27	101	71	112	93	188
West Newton Borough	0	0	8	42	115	137	92	209	185	506
Youngstown Borough	0	0	4	1	5	9	13	25	12	59
Youngwood Borough	0	15	55	125	30	119	140	426	150	598
Westmoreland County	640	1,953	13,364	14,840	13,284	24,453	21,745	28,516	14,666	36,433

Sources: ACS 2013-2017 5-year estimates

In 2017 (the most current data available), the median household income in the county was $56,702, which was higher than the Commonwealth of Pennsylvania's estimated median household income ($54,895) and lower than the national estimated household income ($57,652). The county's 2017 estimated per capita income of $31,827 was slightly higher than the Commonwealth's 2017 estimated per capita income of $31,476 and the national estimated per capita income of $31,177. Approximately 6.9 percent of families' incomes in Westmoreland County were below poverty level compared to 8.9 percent of families in the Commonwealth and 10.5 percent of families at the national level. 10.3 percent of Westmoreland County's individuals' incomes were below poverty level compared to 13.1 percent in the Commonwealth and 14.6 percent at the national level. Emergency responders may have difficulty connecting with individuals within this economic bracket for several reasons, including less access to the Internet within these communities. Additionally, some low-income families and individuals may not own vehicles, and therefore could be more vulnerable during an evacuation. Table 2-8 summarizes economic characteristics of Westmoreland County's population and population distribution of residents with incomes below the poverty level.

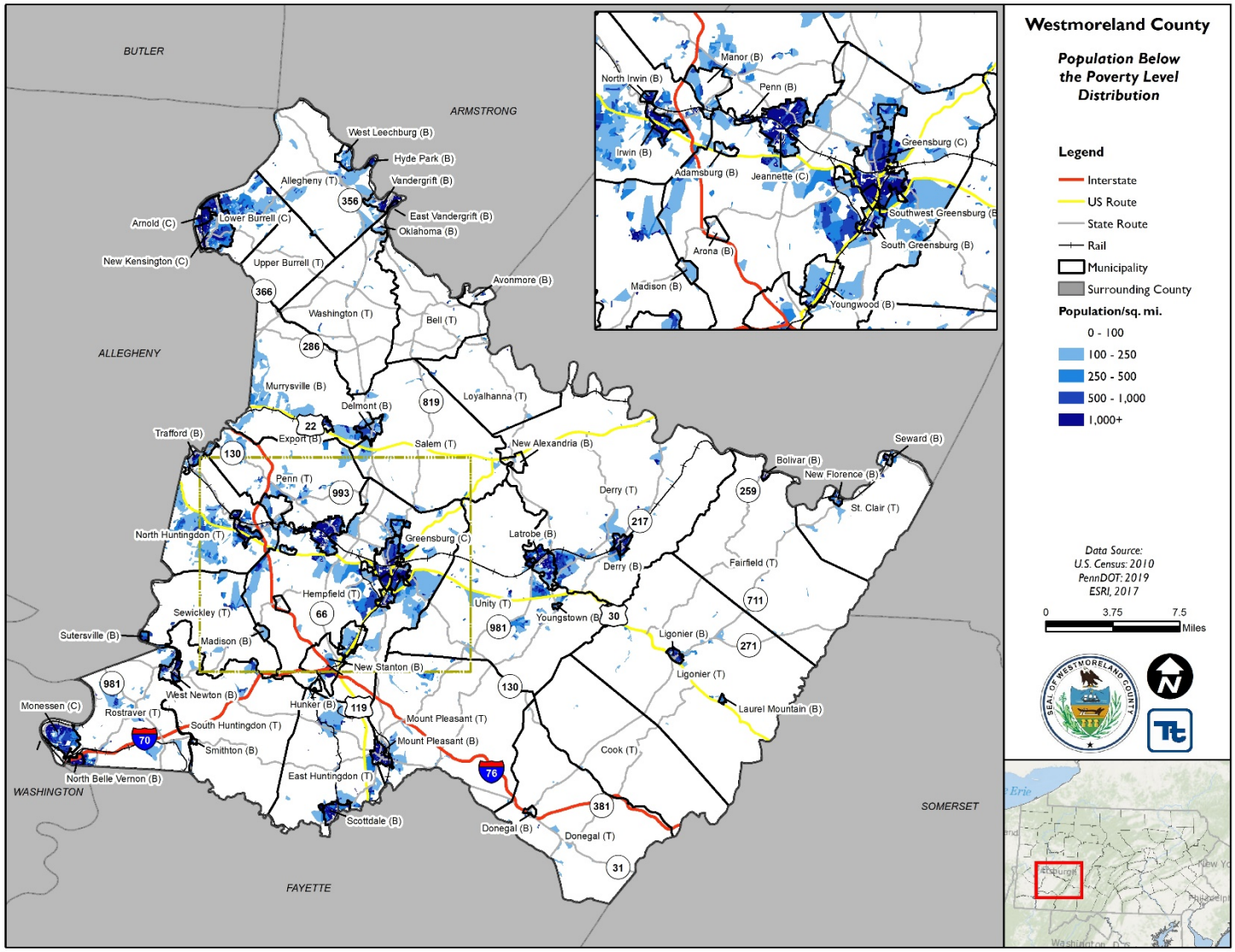
Table 2-8. Economic Characteristics in Westmoreland County

Economic Characteristics	Westmoreland County 2010 Census	Westmoreland County 2017 Estimates	Pennsylvania 2017 Estimates	United States 2017 Estimates
Median household income	47,689	56,702	56,951	57,652
Median family income	60,897	72,728	72,692	70,850
Per capita income	25,845	31,827	31,476	31,177
Families with income below the poverty level	7,251	7,068	286,317	8,221,363
Individuals with income below the poverty level	35,786	36,754	1,548,720	42,583,651

Source: U.S. Census 2010, 2011, 2018

Figure 2-5 illustrates population distribution for residents with incomes below the poverty level.

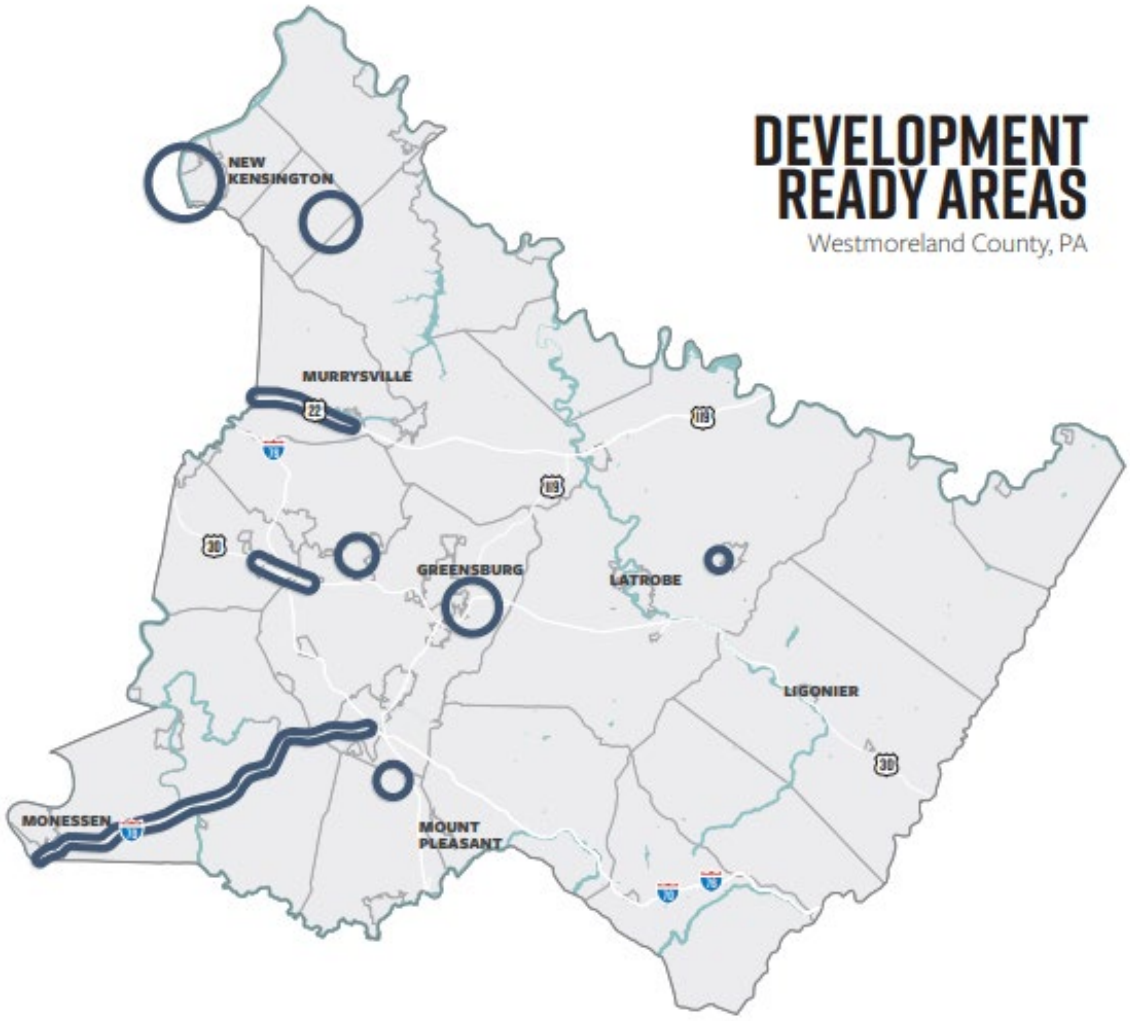
Figure 2-5. Westmoreland County Population Below the Poverty Level



2.4 Land Use and Development

Westmoreland County's land use patterns are influenced by its topography and existing infrastructure. Most development in Westmoreland County is concentrated in an urban/suburban development triangle that is bounded roughly by New Kensington, Latrobe, and Monessen. Outside of this triangle, the county is composed of small towns and residential neighborhoods interspersed with farms, forested lands, and rolling hills. The 2018 Westmoreland County Comprehensive Plan has identified a strategy for economic development throughout Westmoreland County by preparing and promoting development-ready sites for commercial and industrial development. Locations for development are primarily located in the aforementioned development triangle. The locations are primarily located along major transportation corridors or in more populated areas of the county to provide viable options to potential new businesses. The intention is to create policy and develop locations to reduce time or potential barriers to encouraging economic growth in Westmoreland County. (Westmoreland County 2018). Figure 2-6 below illustrates the identified development-ready areas in Westmoreland County originally shown in the 2018 Westmoreland County Comprehensive Plan.

Figure 2-6. Development-Ready Areas Identified in the 2018 Westmoreland County Comprehensive Plan



Source: Westmoreland County 2018

The 2018 Westmoreland County Comprehensive Plan identifies strategies for implanting planning best practices for the county to work toward revitalizing communities and creating sustainable development practices. Land use regulations across Westmoreland County have adopted extremely specific land use classifications, which therefore limits the flexibility of development leading to outward expansion and lower density development, which institutes a de facto dependence on vehicle transportation. Implementation of Smart Code Zoning is identified as a means to allow stakeholders to visualize land use patterns and make better-informed decisions in addition to having the capability to allow for scalable implementation of land use regulations ranging in size from a city block to an entire county. Westmoreland County Planning Division will be working with the seven Planning Districts across the County to work towards creating and implementing local land use plans consistent with the Smart Code Approach. Another objective identified within the 2018 Comprehensive Plan is to direct development density towards certain areas to promote sustainable development and encourage mixed-use development to reflect the national trends for higher-density urban development patterns (Westmoreland County 2018).

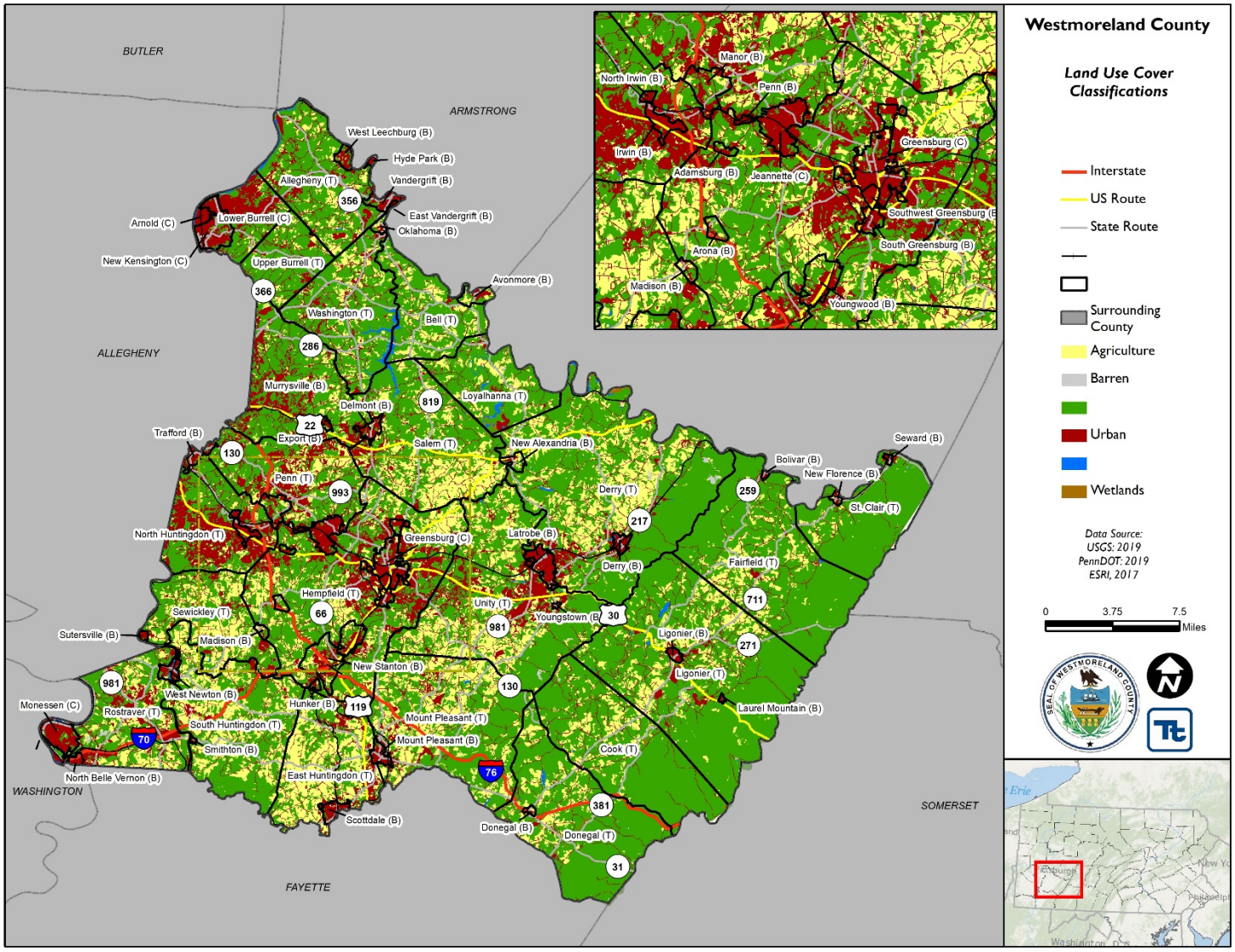
County Planning Division is responsible for the administration of land use regulations through the county's Subdivision and Land Development Ordinance (SALDO), which applies to 29 of the 65 municipalities (Westmoreland County 2019).

According to the U.S. Geologic Survey's National Land Cover Dataset, the primary land cover classification of Westmoreland County is forested land (60.9 percent of area) and agricultural land (20.3 percent). The eastern edge of Westmoreland County, in the "Westmoreland Ridges," is primarily composed of forested land. Agriculture and urban land (17.4 percent) are in the valley between the ridges and to the west of the ridges.

Agricultural use of land in Westmoreland County between 2007 and 2017 has decreased by 13.8 percent, but the market value of products sold has increased by 13.4 percent. The total sum of agricultural land and market value of products sold decreased from 2007 to 2012 but saw an increase in both categories between 2012 and 2017 (USDA, 2019). Utilization of the considerable agricultural land across the county for agritourism may help family-owned or smaller farming operations increase profitability and also work to retain employment opportunities and maintain the agricultural base of Westmoreland County. Westmoreland County Agricultural Land Preservation (WCALP) was created in 1990, "to conserve and protect agricultural lands and assure that farmers in this county have sufficient agricultural lands to provide farm products for the people of Westmoreland County and the Commonwealth. The Westmoreland County program has been approved by the Pennsylvania Department of Agriculture and operates within the guidelines of the Agricultural Security Areas Law (Act of June 30.1981, P.L. 128, No.43) (WCALP N.d.)."

Figure 2-7 shows the county land use and land cover.

Figure 2-7. Westmoreland County Land Use and Land Cover



2.5 Data Sources and Limitations

The County Profile section of this HMP was developed with information from the following sources:

1. Westmoreland County Comprehensive Plan (Westmoreland County 2018)
2. Pennsylvania Department of Environmental Protection Population Projections Report (PA DEP n.d.)
3. U.S. Census Bureau. 2010
4. U.S. Census Bureau. 2011. 2006-2010 American Community Survey 5-Year Estimates Westmoreland County.
5. U.S. Census Bureau. 2018. 2013-2017 American Community Survey 5-Year Estimates Westmoreland County.
6. Westmoreland County Planning Division. 2019.
7. United States Department of Agriculture. 2018. 2012 Census of Agriculture: Westmoreland County, Pennsylvania County Profile.
8. United States Department of Agriculture. 2019. 2017 Census of Agriculture: Westmoreland County, Pennsylvania County Profile.
9. Westmoreland County Agricultural Land Preservation (WCALP N.d.)

Data sources used to develop the HMP in general are listed in Section 1.4 and Appendix A. Data sources used to perform geographic information system (GIS) analysis for the risk assessment are listed in Section 4.1. These sources were key in understanding the current demographic makeup of the community as well as in framing the foundation of the HMP. The sources listed provided the underlying context of the HMP and allowed the Planning Team to understand critical vulnerabilities in the county. Throughout the course of the planning process, the Planning Team continually sought additional data sources to augment the information included in the HMP. The Planning Team made multiple requests for existing jurisdictional documents (e.g., jurisdictional hazard mitigation plans and other relevant information). Despite multiple requests for municipal documents, the response was somewhat limited.

SECTION 3 PLANNING PROCESS

The Westmoreland County hazard mitigation planning process has been an integral part of the update of the Westmoreland County Hazard Mitigation Plan (HMP). This section describes the planning process, which included participation of 39 of the county's 65 municipalities as well as the composition of the Hazard Mitigation Working Group (HMWG) and Planning Team; meetings and documentation; public and stakeholder participation; multi-jurisdictional planning; and existing planning mechanisms implemented during the HMP update process. Additional details regarding update of each section of this HMP are included at the beginning of those sections.

A successful hazard mitigation planning process builds partnerships and brings together members representing government agencies, the public, and other stakeholders to reach consensus on ways the community will prepare for and respond to those hazards most likely to occur. In addition, applying a comprehensive and transparent process adds validity to the HMP. Throughout the Westmoreland County HMP, participants involved in the HMP planning process gained better understanding of problems and issues and helped devise solutions and actions for the community, resulting in a revised set of common community values and widespread support for directing financial, technical, and human resources to agreed-upon actions.

3.1 Update Process and Participation Summary

In accordance with the Disaster Mitigation Act of 2000 (DMA 2000) requirements, this plan documents the following topics:

- Planning process
- Hazard identification
- Risk assessment
- Mitigation strategy: goals, actions, and projects
- Formal adoption by the participating jurisdictions
- Pennsylvania Emergency Management Agency (PEMA) and Federal Emergency Management Agency (FEMA) approval

The 2013 PEMA All-Hazard Mitigation Planning Standard Operating Guide (PEMA 2013) lays out the standard planning process in Pennsylvania to create and update HMPs (including this HMP), and is cited in Appendix A, under Authorities and References. Hazard vulnerabilities and the risk assessment are described in Section 4 (Risk Assessment), and the mitigation strategy is described in Section 6 (Mitigation Strategy) of this HMP.

Public participation and planning meetings served as the main forum for gathering information to update the HMP. The HMWG and Planning Team were afforded access to information in relevant and approved plans, policies, and procedures for Westmoreland County. Opportunities for public participation included public meetings, distribution of information at municipal meetings and via social media, and opportunities to the review and comment on the draft HMP update. To develop all sections of the HMP, the Planning Team used meetings, e-mail correspondence, and teleconferences to solicit input from county, municipal, and other stakeholders, including members of the general public. Most information received for this update came from Westmoreland County, its municipalities, and the HMWG. Through this planning process, the county established a comprehensive approach to reduce effects of hazards on the county and its municipalities.

3.2 The Planning Team

Recognizing the need to manage risk within the county and to meet the requirements of the DMA 2000, the Westmoreland County Department of Public Safety (DPS) and the Westmoreland County HMWG led the update to the 2020 HMP. Mr. Christopher Tantlinger, Deputy Emergency Management Coordinator, led the HMWG,

providing guidance and direction to the planning effort and ensuring the resulting document will be embraced both politically and by the constituency within the county. Throughout the planning process, Mr. Rocky Rzodkiewicz served as the lead planner and point of contact for the planning process. The Westmoreland County HMWG meets several times each year on a regular basis. Membership of the HMWG is maintained on an ongoing basis and includes representatives of the Westmoreland County DPS, major industries, community organizations, and other stakeholders.

The HMWG was charged with the following tasks:

- Providing guidance and oversight of the planning process on behalf of the general planning partnership (Planning Team)
- Attending and participating in HMWG meetings
- Assisting with the development and completion of certain planning elements, including:
    - Reviewing and updating the hazards of concern
    - Developing a public and stakeholder outreach program
    - Assuring the data and information used in the plan update process is best available
    - Reviewing and updating the hazard mitigation planning goals and objectives
    - Identifying and screening of appropriate mitigation strategies and activities
    - Reviewing and updating plan maintenance procedures
- Reviewing and commenting on plan documents prior to submission to PEMA and FEMA

A Planning Team was assembled to include each of the municipalities participating in the HMP update as well as invited stakeholders and members of the HMWG. The organizations listed in Table 3-1 were invited to participate on the Planning Team.

Table 3-1. Organizations Invited to Participate in the Planning Process

Westmoreland County Jurisdictions				
• Westmoreland County	• East Huntingdon Township	• Lower Burrell, City of	• North Irwin Borough	• Sutersville Borough
• Adamsburg Borough	• East Vandergrift Borough	• Loyalhanna Township	• Oklahoma Borough	• Trafford Borough
• Allegheny Township	• Export Borough	• Madison Borough	• Penn Borough	• Unity Township
• Arnold, City of	• Fairfield Township	• Manor Borough	• Penn Township	• Upper Burrell Township
• Arona Borough	• Greensburg, City of	• Monessen, City of	• Rostraver Township	• Vandergrift Borough
• Avonmore Borough	• Hempfield Township	• Mount Pleasant Borough	• St. Clair Township	• Washington Township
• Bell Township	• Hunker Borough	• Mount Pleasant Township	• Salem Township	• West Leechburg Borough
• Bolivar Borough	• Hyde Park Borough	• Murrysville, Municipality of	• Scottdale Borough	• West Newton Borough
• Cook Township	• Irwin Borough	• New Alexandria Borough	• Seward Borough	• Youngstown Borough
• Delmont Borough	• Jeannette, City of	• New Florence Borough	• Sewickley Township	• Youngwood Borough
• Derry Borough	• Latrobe, City of	• New Kensington, City of	• Smithton Borough	
• Derry Township	• Laurel Mountain Borough	• New Stanton Borough	• South Greensburg Borough	
• Donegal Borough	• Ligonier Borough	• North Belle Vernon Borough	• South Huntingdon Township	

• Donegal Township	• Ligonier Township	• North Huntingdon Township	• Southwest Greensburg Borough	
Educational Institutions				
• Belle Vernon Area School District	• Hempfield Area School District	• New Kensington-Arnold School District	• Greensburg Central Catholic High School	• University of Pittsburgh
• Burrell School District	• Jeannette City School District	• Norwin School District	• Queen of Angels Catholic School	• Westmoreland County Community College
• Derry Area School District	• Kiski Area School District	• Penn-Trafford School District	• St. Florian School	
• Franklin Regional School District	• Ligonier Valley School District	• Southmoreland School District	• Penn State University	
• Greater Latrobe School District	• Monessen City School District	• Westmoreland IU	• St. Vincent College	
• Greensburg-Salem School District	• Mount Pleasant Area School District	• Yough School District	• Seton Hill University	
Hospitals				
• Citizen's General Hospital and Alle-Kiski Medical Center	• Excela Health Frick Hospital	• Excela Health Latrobe Hospital	• Excela Health Westmoreland Hospital	• Torrance State Hospital
Fire Departments				
• Adamsburg VFD	• Export VFD	• Level Green VFC	• North Huntingdon Twp Rescue Truck	• Upper Burrell Twp FD
• Alcoa Technical Center FD	• Fairfield Twp VFD	• Ligonier VFD	• North Irwin VFD	• Vandergrift VFD #1
• Allegheny Twp FD	• Fairmont-Hahntown VFD	• Lloydsville VFD	• Norvelt VFD	• Vandergrift VFD #2
• Arnold Palmer Airport FD	• Forbes Road VFC	• Lowber VFC	• Oklahoma VFD	• Washington Twp VFC
• Arnold VFD	• Fort Allen FD	• Lower Burrell FD #1	• Paintertown VFC	• Waterford VFD
• Avonmore VFD	• Grandview VFD	• Lower Burrell FD #2	• Penn Borough VFD	• Webster VFD
• Bell Twp FD	• Grapeville VFD	• Lower Burrell FD #3	• Pleasant Unity VFD	• West Newton VFC
• Bolivar VFC	• Greensburg VFD	• Lower Burrell FD #4	• Rillton VFD	• West Point VFD
• Bovard VFD	• Hannastown VFD	• Luxor VFD	• Rostraver Central VFC	• Westinghouse Waltz Mills FD
• Bradenville VFD	• Harrison City VFD	• Madison VFD	• Sardis VFD	• Westmoreland City VFD
• Calumet VFD	• Hartford Heights VFD	• Manor VFD	• Scottdale VFD	• Westmoreland County HAZMAT Team
• Carbon FD	• Hecla VFD	• Marguerite VFD	• Seward VFD	• Westmoreland Rough Terrain Team
• Chestnut Ridge VFD	• Hempfield VFD #2	• Markle VFD	• Shafton VFC	• Westmoreland Tactical Rope Team
• Circleville VFD	• Herminie VFD	• Midway-St Clair VFD	• Slickville VFD	• Westmoreland Trench Rescue Team
• Claridge VFD	• High Park VFD	• Monessen VFD	• Smithton VFD	• Westmoreland Water Rescue Team
• Collinsburg VFC	• Hunker VFD	• Mt Pleasant VFD	• South Greensburg FD	• White Valley VFD

• Crabtree VFD	• Hutchinson VFD	• Murrysville VFC #1	• Southwest Greensburg VFD	• Whitney Hostetter VFD
• Darlington FD	• Hyde Park / West Leechburg VFD	• Mutual VFD	• St Vincent Fire Department	• Wilpen VFD
• Delmont VFD	• Irwin VFD	• New Alexandria VFD	• Strawpump VFD	• Youngstown VFD
• Derry VFD	• Jeannette FD	• New Florence VFD	• Sutersville VFD	• Youngwood VFD
• Dry Ridge FD	• Kecksburg VFD	• New Kensington FD	• Torrance State Hospital FD	• Yukon VFD
• East Huntingdon Twp VFC	• Kiski Valley Special Services	• New Stanton VFD	• Trafford VFD	
• Eastern Derry Twp VFD	• Larimer VFD	• North Belle Vernon VFD	• Trauger VFD	
• Everson VFD	• Latrobe FD	• North Hempfield VFD	• Turkeytown VFD	
Police Departments				
• Allegheny Township Police	• Jeannette Police	• New Kensington Police	• Smithton Borough Police	• West Newton Police
• Arnold Police	• Latrobe Police	• North Belle Vernon Police	• South Greensburg Police	• Westmoreland County Park Police
• Avonmore Borough Police	• Ligonier Borough Police	• North Huntingdon Township Police	• Southwest Greensburg Police	• University of Pittsburgh - Greensburg Campus Police
• Delmont Borough Police	• Lower Burrell Police	• Penn Borough Police	• St Clair Township Police	• PSP - Greensburg
• Derry Borough Police	• Manor Police	• Penn Township Police	• Trafford Police	• PSP - Kiski
• Gilpin Township Police	• Monessen Police	• Rostraver Police	• Upper Burrell Police	• PSP - Belle Vernon
• Greensburg Police	• Mount Pleasant Police	• Scottdale Borough Police	• Vandergrift Police	• PSP - New Stanton
• Hyde Park Police	• Murrysville Police	• Scottdale Police	• Washington Township Police	
• Irwin Police	• New Florence Police	• Seward Borough Police	• West Leechburg Police	
Emergency Medical Services (EMS) Agencies				
• Adamsburg EMS	• MAAS - Chestnut Ridge	• MAAS - New Alexandria	• Murrysville EMS	• Rostraver/West Newton EMS
• Jeannette EMS	• MAAS - Delmont	• MAAS - New Stanton	• New Kensington EMS	• Sewickley EMS
• Kecksburg EMS	• MAAS - Derry	• MAAS - Scottdale/East Huntingdon	• North Huntingdon Township Rescue 8	• Trafford EMS
• Laurel Valley EMS	• MAAS - Greensburg	• Monessen/Mon Valley EMS	• Norvelt EMS	
• Lower Kiski EMS	• MAAS - Ligonier	• Mount Pleasant Medic 10	• Penn Township Rescue 6	
Retirement, Personal Care, and Nursing Homes				
• Belair Healthcare and Rehabilitation Center	• The Grove at North Huntingdon	• Oak Hill Healthcare and Rehabilitation Center	• St. Anne Home	• Weatherwood Manor
• Bethlen Home of the Hungarian Reformed Federation of America	• Harmon House Care Center	• Quality Life Services - Apollo	• Transitions Healthcare North Huntingdon	

• Greensburg Care Center	• Hempfield Manor	• Redstone Highlands Health Care Ctr	• Twin Lakes Rehabilitation and Healthcare Center	
• The Grove at Irwin	• Loyalhanna Care Center	• The Rehabilitation & Nursing Center at Greater Pittsburgh	• Westmoreland Manor	
• The Grove at Latrobe	• Murrysville Rehabilitation and Wellness Center	• Scottdale Healthcare and Rehabilitation Center	• William Penn Care Center	
Neighboring Jurisdictions				
• Allegheny County Department of Emergency Services	• Butler County Emergency Services	• Fayette County EMA	• Somerset County Department of Emergency Services	• Washington County EMA
• Armstrong County Department of Public Safety	• Cambria County Department of Emergency Services	• Indiana County Emergency Management		
Media				
• 97.3 Lite FM	• Latrobe Bulletin	• The Daily Courier	• WPXI 11 News	
• Associated Press	• Pittsburgh Post-Gazette	• Valley News Dispatch	• WTAE-TV	
• KDKA-TV CBS Pittsburgh	• Pittsburgh Tribune-Review	• WCNS 1480 AM		
Chambers of Commerce				
• Alle-Kiski Strong Chamber of Commerce	• Greater Latrobe-Laurel Valley Chamber of Commerce	• Mountain Laurel Chamber of Commerce	• Twin Rivers Chamber of Commerce	• Westmoreland County Chamber of Commerce
State and Federal Agencies				
• Pennsylvania Department of Environmental Protection	• Pennsylvania Emergency Management Agency	• FEMA Region III	• U.S. Army Corps of Engineers	
Other Stakeholders				
• AAA	• Children's Disaster Services	• Humane Society of Westmoreland County	• Pennsylvania Funeral Directors Association	• United Way
• Adventist Community Services	• Church of the Brethren	• Jewish Community Services	• The Pennsylvania Turnpike Commission	• Westmoreland Association of Volunteer Administrators
• American Cancer Society	• Civil Air Patrol	• Lions Club	• Salvation Army	• Westmoreland County Animal Response Team
• Arnold Palmer Airport	• First Energy	• Lutheran Disaster Response	• Society of St. Vincent DePaul	• Westmoreland County Food Bank
• Blackburn Center	• Girl Scouts of Westmoreland	• Massage Therapy Groups (AMTA)	• The Southwestern Pennsylvania Commission (SPC)	• Westmoreland Transit
• Boy Scouts of America	• Goodwill Industries	• Mennonite Disaster Services	• United Church of Christ	

Notes: VFC Volunteer Fire Company VFD Volunteer Fire Department

For a complete list of individual invitees, participants, attendance at meetings, completion of worksheets, or submission of comments, please refer to Appendices C through E.

The Planning Team acknowledged that important steps in developing a comprehensive HMP were to:

- Identify hazards that specifically affect Westmoreland County, and
- Assess their likelihood of occurrence, along with potential damage to the people, property, and environment of the county.

The Planning Team chose to focus on an all-hazards approach rather than to narrow the focus to natural disasters only.

As the contract consultant, Tetra Tech guided the HMWG and Planning Team through the HMP update planning process. More specifically, Tetra Tech was tasked to:

- Assist with the organization of the Planning Team
- Assist with the development and implementation of a public and stakeholder outreach program
- Collect data
- Facilitate and record attendance at meetings
- Assist with the review, update, and ranking of the hazards of concern, and hazard profiling, and risk assessment
- Assist with the review and update of mitigation planning goals and objectives
- Assist with the review of progress of past mitigation strategy
- Assist with the screening of mitigation actions and the identification of appropriate actions
- Assist with the prioritization of mitigation actions
- Author the draft and final HMP documents

3.3 Meetings and Documentation

Tetra Tech supported the county in drafting planning documents, preparing meeting materials, and facilitating meetings. The HMWG reviewed documentation, provided validation, and acted as an advocate for the HMP update.

Table 3-2 lists dates and descriptions of meetings held by the Westmoreland County HMWG and Planning Team as part of the process of updating the Westmoreland County HMP. In addition, Westmoreland County DPS incorporated discussions about the HMP update in its quarterly emergency management coordinator training conducted in March 2019 and July 2019.

Table 3-2. Public and Planning Meetings

Date	Description of Meeting
February 11, 2019	HMWG Kickoff Meeting to kick off the planning process
February 19, 2019	Citizen's Planning Workshop
February 28, 2019	Planning Team Kickoff Meeting
March 11, 2019	HMWG Meeting to review the plan maintenance procedures
March 19, 2019	Citizen's Planning Workshop
March 20, 2019	Crabtree Creek Stakeholder Meeting
March 27, 2019	EMC Training
April 8, 2019	HMWG Meeting
May 22, 2019	Elected Officials Seminar
July 24, 2019	EMC Training
August 21, 2019	Crabtree Creek Stakeholder Meeting

Date	Description of Meeting
September 9, 2019	HMWG Meeting to review the results of the risk assessment
September 30, 2019	Risk Assessment Review Meeting
October 21, 2019	HMWG Meeting to set goals and objectives
October 30, 2019	Mitigation Strategy Workshop
November 18, 2019	HMWG Meeting
November 19, 2019	Regional Stakeholder Meeting
November 21, 2019	Regional Stakeholder Meeting
December 16, 2019	HMWG Meeting
January 13, 2020	HMWG Meeting
May 28, 2020	Plan Draft Review Meeting
October 29, 2020	HMP adoption by County Commissioners

The HMWG provided meeting notes that documented all agenda topics, decisions, and action items identified and posted the meeting minutes on the project website. Documentation from all meetings is located in Appendix C.

Westmoreland County residents were informed of the planning process through various sources, including newspaper-announced public notices and announcements on the Westmoreland County HMP project website (www.westmorelandcountyhmp.com).

The Risk Assessment Review Meeting and Draft Review Meeting were advertised as public meetings. Press releases were sent to the major media outlets serving Westmoreland County, and invitations were posted to the county's website and social media network. One member of the general public attended. Any subsequent supporting documentation provided by county residents will be included in Appendix E (Public and Stakeholder Participation).

3.4 Public and Stakeholder Participation

To maximize effectiveness of the HMP, the Planning Team fostered continual public and stakeholder engagement. Input was encouraged and collected through a variety of methods. Four worksheets/surveys— the Hazard/Risk Identification Survey, Capabilities Assessment Survey, NFIP Survey, and Mitigation Strategy 5-Year Plan Review Worksheet (Mitigation Review Worksheet)—were given to representatives from each municipality in Westmoreland County. Of the county and 65 municipalities surveyed in Westmoreland County, 40 jurisdictions (the county and 39 municipalities) provided information so that their input could be reviewed and incorporated into the updated HMP.

The following entities with vested interest in development of the updated HMP were given the opportunity to participate in the planning process by attending a Planning Team or public meeting or by offering comments on the project website: local, state, and federal agencies; neighboring jurisdictions (i.e., Allegheny, Armstrong, Butler, Cambria, Fayette, Indiana, Somerset, and Washington); community leaders; educators; healthcare facilities; and other relevant private and nonprofit groups. Invitations to participate in meetings were sent to those stakeholders. Appendix E includes a copy of the Planning Team meeting invitation list and sample copies of invitation letters sent. Meeting invitations were also sent to all municipalities, including elected officials and Emergency Management Coordinators. 34 municipalities in Westmoreland County had representatives attending at least one meeting. Additionally, direct outreach was conducted with municipalities who were unable to attend other meetings or who had questions about worksheets, participation requirements, the planning process, or mitigation project selection. This additional outreach was provided by phone or one-on-one meetings.

At the beginning of the planning process, Westmoreland County DPS posted a request for public input on its Facebook page regarding the type and location of hazards impacting the county. Westmoreland County DPS also issued a Citizen Action Outreach flyer in July 2019 to inform residents of the planning effort, ask individuals to participate, and link people to the HMP website for more information. Copies of these messages are shown in Appendix E.

The Westmoreland County DPS conducted two Citizen's Planning Workshops at the University of Pittsburgh-Greensburg on February 19, 2019 and March 19, 2019. The workshops included an introductory presentation providing an overview of hazard mitigation on the local level, an interactive online activity to locate and map hazard areas with respect to locations of homes or residences, as well as the opportunity to learn about mitigation options to help reduce future losses. The February 2019 session was attended by 25 participants, and the March 2019 session was attended by 17 participants.

Additionally, during the planning process, members of the HMWG attended and presented information about the HMP at two meetings of Crabtree Creek stakeholders, one on March 20, 2019, and one on August 21, 2019. The March 2019 meeting was attended by 13 people, and the August 2019 meeting was attended by 19 people.

Through public notices published in the local newspapers, the groups listed in Section 3.2 and the general public were invited to visit the project website, review the draft County HMP update, and send comments to Westmoreland County DPS. In addition, two general public meetings were held during the planning process, as listed in Table 3-2. Copies of the public notices and other forms of public and stakeholder outreach are presented in Appendix E.

Throughout the course of the entire planning process, 47 members of the general public and the following stakeholder organizations participated (organizations represented on the HMWG are indicated with an asterisk):

- Allegheny County Department of Emergency Services
- Arcelor Mittal Monessen, LLC
- ArcelorMittal Monessen
- Central Westmoreland Career and Technology Center
- Chestnut Ridge Foam
- Cleveland/Price, Inc.
- Crabtree Volunteer Fire Department
- DNP Imagingcomm America Corporation
- Dominion Energy
- Ferrell Gas
- Firestone Building Products
- Forbes Road Volunteer Fire Department
- Gabriel Performance Products
- General Carbide
- Greensburg-Salem School District
- Mount Pleasant Fire
- Mountain Watershed Association
- Norwin School District
- Pennsylvania Department of Health
- Pennsylvania Emergency Management Agency*
- Pennsylvania House of Representatives
- PennWEST
- Protect Penn-Trafford (Protect PT)*
- PSP - Greensburg
- Quadrant EPP USA, Inc.
- Somerset County Department of Emergency Services
- Southwestern Pennsylvania Commission*
- The Hospital and Healthsystem
- U.S. Army Corps of Engineers
- University of Pittsburgh Police
- WEC Engineers
- West Penn Power*
- Westinghouse Waltz Mill
- Westmoreland Community Action
- Westmoreland County Animal Response Team
- Westmoreland County Trench/Rescue
- Westmoreland Marcellus Citizens Group
- Westmoreland Sanitary Landfill

- Eastern Westmoreland Career and Technology Center
- Enterprise Products
- Excela Health
- Pennsylvania Department of Transportation
- Westmoreland Transit Association of Pennsylvania (HAP)

Section 3.5 of this HMP, Multijurisdictional Planning, includes Table 3-4, which indicates overall municipal participation in the planning process.

3.5 Multijurisdictional Planning

Westmoreland County led a multijurisdictional effort to prepare an update the HMP, which will apply to the county and all participating municipalities. The county provided resources (e.g., data, geographic information system [GIS], etc.) to municipalities to augment locally available information. Westmoreland County undertook an intensive effort to involve all 65 municipalities in the update process. However, Westmoreland County depended on municipal buy-in for plan participation, as municipalities in the Commonwealth of Pennsylvania have the legal authority to enforce compliance with land use planning and development directives, and thus determine whether to participate in the planning process.

Each municipality was given the opportunity to join the process. The county invited municipal officials and representatives to attend Planning Team and public meetings, provided worksheets to update the hazards of concern capabilities and mitigation strategy, and tasked municipalities to review and prioritize the mitigation actions. Municipal participation culminated in formal adoption of the HMP; copies of municipal adoption resolutions are in Appendix F. Table 3-3 and Table 3-4 indicate the ways each municipality participated in the planning process.

Table 3-3. Worksheet Completion

Jurisdiction	Worksheets				
	Risk Assessment Survey Received	Risk Assessment/ Capability Assessment Received	Capabilities Assessment Survey Received	Mitigation Review Worksheet Received	NFIP Survey
Westmoreland County	X		X	X	N/A
Adamsburg Borough					
Allegheny Township					
Arnold, City of					
Arona Borough		X			
Avonmore Borough					
Bell Township					
Bolivar Borough					
Cook Township		X			
Delmont Borough					
Derry Borough					
Derry Township	X				
Donegal Borough					
Donegal Township	X		X	X	X
East Huntingdon Township					
East Vandergrift Borough	X				
Export Borough	X		X	X	X
Fairfield Township					

Jurisdiction	Worksheets				
	Risk Assessment Survey Received	Risk Assessment/ Capability Assessment Received	Capabilities Assessment Survey Received	Mitigation Review Worksheet Received	NFIP Survey
Greensburg, City of	X	X	X	X	X
Hempfield Township	X		X	X	X
Hunker Borough	X				
Hyde Park Borough					
Irwin Borough	X		X	X	X
Jeannette, City of	X	X	X	X	X
Latrobe, City of	X		X	X	X
Laurel Mountain Borough	X		X	X	X
Ligonier Borough		X			
Ligonier Township	X	X	X		X
Lower Burrell, City of					
Loyalhanna Township					
Madison Borough					
Manor Borough	X		X	X	X
Monessen, City of	X	X	X	X	X
Mount Pleasant Borough	X	X	X		X
Mount Pleasant Township		X			
Murrysville, Municipality of	X		X	X	X
New Alexandria Borough					
New Florence Borough					
New Kensington, City of		X			
New Stanton Borough					
North Belle Vernon Borough					
North Huntingdon Township	X	X	X	X	X
North Irwin Borough					
Oklahoma Borough	X				
Penn Borough					
Penn Township	X	X	X	X	X
Rostraver Township					
St. Clair Township					
Salem Township	X	X	X	X	X
Scottdale Borough	X	X	X	X	X
Seward Borough					
Sewickley Township		X			
Smithton Borough	X		X	X	X
South Greensburg Borough	X	X	X	X	X
South Huntingdon Township	X	X	X		
Southwest Greensburg Borough	X		X	X	X
Sutersville Borough					
Trafford Borough	X	X			
Unity Township					
Upper Burrell Township					
Vandergrift Borough					

Jurisdiction	Worksheets				
	Risk Assessment Survey Received	Risk Assessment/ Capability Assessment Received	Capabilities Assessment Survey Received	Mitigation Review Worksheet Received	NFIP Survey
Washington Township	X	X	X	X	X
West Leechburg Borough					
West Newton Borough	X	X	X	X	X
Youngstown Borough					
Youngwood Borough	X	X	X	X	X

Table 3-4. Planning Meetings

Jurisdiction	Meetings							
	Planning Team Kickoff Meeting 02/28/2019	EMC Training 03/27/2019	Local Officials Seminar 05/22/2019	EMC Training 07/24/19	PT Risk Assessment Meeting 09/30/2019	Mitigation Solutions Workshop 10/30/2019	Regional Support Meetings November 2019	Plan Draft Review Meeting 05/28/2020
Westmoreland County	X	X	X	X	X	X	X	X
Adamsburg Borough								
Allegheny Township								
Arnold, City of								
Arona Borough						X		
Avonmore Borough								
Bell Township								
Bolivar Borough								
Cook Township						X		
Delmont Borough								
Derry Borough								
Derry Township		X		X				
Donegal Borough								
Donegal Township								
East Huntingdon Township								
East Vandergrift Borough								
Export Borough		X		X				
Fairfield Township								
Greensburg, City of		X	X	X		X	X	
Hempfield Township		X		X		X	X	X
Hunker Borough								
Hyde Park Borough								
Irwin Borough		X	X					
Jeannette, City of						X		
Latrobe, City of	X	X	X	X	X			
Laurel Mountain Borough								
Ligonier Borough	X					X		
Ligonier Township		X				X		
Lower Burrell, City of		X						
Loyalhanna Township			X					

Jurisdiction	Meetings							
	Planning Team Kickoff Meeting 02/28/2019	EMC Training 03/27/2019	Local Officials Seminar 05/22/2019	EMC Training 07/24/19	PT Risk Assessment Meeting 09/30/2019	Mitigation Solutions Workshop 10/30/2019	Regional Support Meetings November 2019	Plan Draft Review Meeting 05/28/2020
Madison Borough								
Manor Borough	X			X				
Monessen, City of						X	X	X
Mount Pleasant Borough	X	X	X				X	
Mount Pleasant Township		X				X		
Murrysville, Municipality of	X		X					
New Alexandria Borough								
New Florence Borough								
New Kensington, City of							X	
New Stanton Borough								
North Belle Vernon Borough								
North Huntingdon Township	X	X		X		X		
North Irwin Borough								
Oklahoma Borough								
Penn Borough	X							
Penn Township		X	X	X		X		
Rostraver Township								
St. Clair Township								
Salem Township		X	X	X			X	
Scottdale Borough	X			X		X	X	
Seward Borough								
Sewickley Township							X	
Smithton Borough	X	X						
South Greensburg Borough	X	X	X	X			X	
South Huntingdon Township		X	X	X			X	
Southwest Greensburg Borough								
Sutersville Borough								
Trafford Borough						X		
Unity Township						X		
Upper Burrell Township								
Vandergrift Borough								

Jurisdiction	Meetings							
	Planning Team Kickoff Meeting 02/28/2019	EMC Training 03/27/2019	Local Officials Seminar 05/22/2019	EMC Training 07/24/19	PT Risk Assessment Meeting 09/30/2019	Mitigation Solutions Workshop 10/30/2019	Regional Support Meetings November 2019	Plan Draft Review Meeting 05/28/2020
Washington Township	X		X				X	
West Leechburg Borough								
West Newton Borough		X	X			X		
Youngstown Borough								
Youngwood Borough	X	X	X			X	X	

Notes:
EMC = Emergency Management Coordinator

SECTION 4 RISK ASSESSMENT

4.1 Update Process and Participation Summary

In accordance with the FEMA Local Mitigation Planning Handbook, risk is the potential for damage, loss, or other impacts created by the interaction of hazards with community assets. Westmoreland County's risk assessment is organized into the following sections:

- Section 4.2 outlines the hazard identification process for both natural and human-caused hazards of concern for further profiling and evaluation.
- Section 4.3 profiles the hazards of concern (location and extent, range of magnitude, past occurrence, and future occurrence) and assesses vulnerability.
- Section 4.4 summarizes the risk assessment methodology, ranking results, potential losses, and future development and vulnerability.

The Hazard Mitigation Working Group (HMWG) and Planning Team evaluated the 2015 HMP hazards of concern by examining the historic events that have taken place in the county since the last plan update and reviewing the Commonwealth's Hazard Mitigation Plan. In addition, the HMWG and Planning Team completed the risk assessment worksheet (Evaluation of Identified Hazards and Risk Worksheet). The worksheet listed hazards profiled in the 2015 HMP and requested that participants identify whether the frequency of occurrence, magnitude of impact, and/or geographic extent of each hazard increased, decreased, or did not change since the preparation of the 2015 HMP. The worksheet also provided the opportunity to assess hazards not profiled in the HMP to determine if those hazards should be included as part of the update. Responses from the worksheets were reviewed by the HMWG to identify a list of hazards to profile in the 2020 HMP, including one additional hazard of concern (illicit drug use). Each hazard profile also includes an additional subsection that discusses the effect of climate change on vulnerability. Refer to copies of the completed worksheets in Appendix D.

4.2 Hazard Identification

This section discusses past disaster declarations related to Westmoreland County and summarizes hazards of concern addressed in the Westmoreland County Hazard Mitigation Plan (HMP).

4.2.1 Disaster Declarations

In reviewing and updating Westmoreland County's hazards of concern, the Hazard Mitigation Working Group (HMWG) and Planning Team reviewed additional information and historical records from a wide range of sources. This section discusses the Presidential Disaster and Emergency Declarations, Gubernatorial Disaster Declarations or Proclamations, and Small Business Administration Disaster Declarations that have affected Westmoreland County.

Presidential Disaster and Emergency Declarations are issued when authorities have determined that state and local governments need assistance in responding to a disaster event. Since 1955, declarations have been issued for various hazard events including hurricanes or tropical storms, severe winter storms, and flooding. Summaries of declarations that have affected the County are provided in the tables below.

Table 4.2-1 lists Presidential Disaster and Emergency Declarations issued between 1972 through February 2019 that have affected Westmoreland County. Additional declarations beyond February 2019 can be found on the Federal Emergency Management Agency (FEMA) website at: https://www.fema.gov/disasters (FEMA 2019).

Table 4.2-1. Presidential Disaster and Emergency Declarations affecting Westmoreland County

Declaration Number	Date	Event
DR-340	June 23, 1972	Flood: Tropical Storm Agnes
EM-3026	January 29, 1977	Snow: Snowstorms
DR-537	July 21, 1977	Flood: Severe Storms and Flooding
EM-3081	June 3, 1980	Tornado: Severe Storms and Tornado
DR-721	August 27, 1984	Flood: Severe Storms and Flooding
DR-754	November 3, 1985	Flood: Severe Storms and Flooding
EM-3105	March 13-17, 1993	Snow: Severe Snowfall and Winter Storm
DR-1015	January 4 – February 25, 1994	Severe Storms: Severe Winter Storms
DR-1085	January 6-12, 1996	Snow: Blizzard of 96
DR-1093	January 19-30, 1996	Flood: Severe Storms and Flooding
EM-3180	February 14-19, 2003	Severe Storms: Snow
DR-1555	September 8-9, 2004	Severe Storms: Severe Storms and Flooding Associated with Tropical Depression Frances
DR-1557	September 17 – October 1, 2004	Hurricane: Tropical Depression Ivan
EM-3232	August 29 – October 1, 2005	Hurricane: Hurricane Katrina
DR-1898	February 5-11, 2010	Snow: Severe Winter Storms and Snowstorms
EM-3356	October 26 – November 8, 2012	Hurricane: Hurricane Sandy
DR-4267	January 22-23, 2016	Snow: Severe Winter Storm and Snowstorm

In addition to these Presidentially-declared events, 25 events warranted Gubernatorial Disaster Declarations or Proclamations. Table 4.2-2 lists all Gubernatorial Disaster Declarations or Proclamations that have been issued for Westmoreland County between 1958 and 2017 (including those for events listed in Table 4.2-1), according to the Pennsylvania Emergency Management Agency (PEMA) (PEMA 2018).

Table 4.2-2. Gubernatorial Disaster Declarations or Proclamations affecting Westmoreland County

Date	Event
January 1966	Heavy Snow
February 1972	Heavy Snow
February 1974	Truckers Strike
July 1976	High Winds/Flooding
January 1978	Heavy Snow
February 1978	Blizzard
July 1999	Drought
February 2000	Flooding
September 2006	Proclamation of Emergency – Hurricane Katrina
September 2006	Proclamation of Disaster Emergency – Tropical Depression Ernesto
February 2007	Proclamation of Disaster Emergency – Regulations
February 2007	Proclamation of Disaster Emergency – Severe Winter Storm
April 2007	Proclamation of Disaster Emergency – Severe Winter Storm
February 2010	Proclamation of Emergency – Severe Winter Storm
January 2011	Proclamation of Emergency – Severe Winter Storm
August 2011	Proclamation of Emergency – Severe Storms and Flooding (Lee/Irene)
April 2012	Proclamation of Emergency – Spring Winter Storms
October 2012	Proclamation of Disaster Emergency – Hurricane Sandy
June 2013	Proclamation of Emergency – High Winds, Thunderstorms, Heavy Rain, Tornado, Flooding
January 2014	Proclamation of Disaster Emergency – Extreme Weather, Utility Interruption
February 2014	Proclamation of Emergency – Severe Winter Storm
February 2014	Proclamation of Emergency – Severe Winter Storm
February 2014	Proclamation of Emergency – Severe Winter Storm
January 2015	Proclamation of Disaster Emergency – Severe Winter Storms
August 2015	Proclamation of Disaster Emergency – Severe Storms
January 2016	Proclamation of Disaster Emergency – Severe Winter Storm
March 2017	Proclamation of Disaster Emergency – Severe Winter Storm
March 2017	Proclamation of Disaster Emergency – Severe Winer Storm
January 2018	Proclamation of Disaster Emergency – Opioid Crisis Emergency Proclamation
March 2018	Proclamation of Disaster Emergency – Opioid Crisis, Severe Winter Storms

Westmoreland County has also received Small Business Administration Disaster Assistance for a number of disaster events. A Small Business Administration Disaster Declaration qualifies communities for access to

affordable, timely, and accessible financial assistance. Table 4.2-3 lists Small Business Administration (SBA) Disaster Declarations issued for Westmoreland County between 1989 and 2018 (PEMA 2018; SBA 2019).

Table 4.2-3. Small Business Administration Disaster Declarations affecting Westmoreland County

Date	Event
November 1985	Flash Flood
August 2000	Flooding
August 2002	Severe Storms – May 31
July 2008	Fire
July 2013	Severe Storms and Flooding
July 2013	Severe Storms and Flooding
September 2013	Storms and Severe Weather
July 2016	Flash Flooding
September 2016	Flash Flooding
June 2017	Fire
June 2018	Flooding
July 2018	Rain, Flash Flooding
September 2018	Flooding

4.2.2 Summary of Hazards

As part of the plan update process, the HMWG and Planning Team reviewed the hazards of concern detailed in the 2014 version of the HMP, as well as those identified in the State HMP. They also considered the history of hazard events that have occurred in Westmoreland County, as well as events that occurred after the completion of the 2014 version of the plan. This review of historical events included an evaluation of all emergency and disaster declarations in the Commonwealth, with a focus on those events that warranted federal assistance for Westmoreland County.

Further, all jurisdictions participating in the plan update process were provided a Hazard Identification/ Evaluation of Risk worksheet to help identify the hazards—natural and non-natural—that each community believed posed significant risk to Westmoreland County, including hazards that may not have been considered in either the 2014 version of the plan or the State HMP. Completed worksheets submitted by the municipalities are included in Appendix D. Based on the review of the 2014 hazards list and completion of the Hazard Identification/Evaluation of Risk worksheet, additional hazards were considered in need of a risk assessment. The HMWG and Planning Team decided to keep all 2014 hazards of concern and add Illicit Drug Use.

Based on all available information and input from the municipalities, the HMWG and Planning Team selected the following natural and non-natural hazards for consideration in this HMP:

Natural Hazards

- Avalanche
- Drought
- Earthquake
- Extreme Temperature
- Flood, Flash Flood, Ice Jam
- Hailstorm
- Hurricane, Tropical Storm
- Landslide
- Lightning
- Radon Exposure
- Subsidence and Sinkholes
- Tornadoes and Windstorms
- Wildfire
- Winter Storm

Non-Natural Hazards

- Dam Failure
- Environmental Hazards
- Illicit Drug Use
- Nuclear Incident
- Structural Fire
- Terrorism
- Transportation Accident
- Utility Interruption

These hazards have been profiled individually in Section 4.3 of this plan.

4.3 Hazard Profiles

The following sections profile and assess vulnerability for each hazard of concern. For each hazard, the profile includes: the hazard description; its location and extent; range of magnitude, past occurrence, future occurrence, and vulnerability assessment. The vulnerability assessment for each hazard includes: an overview of vulnerability and data and methodology used; the impact to life, health and safety; impact to general building stock and critical facilities; impact to the economy; impact to the environment; impact to future growth and development; and effect of climate change on vulnerability.

4.3.1 Avalanche

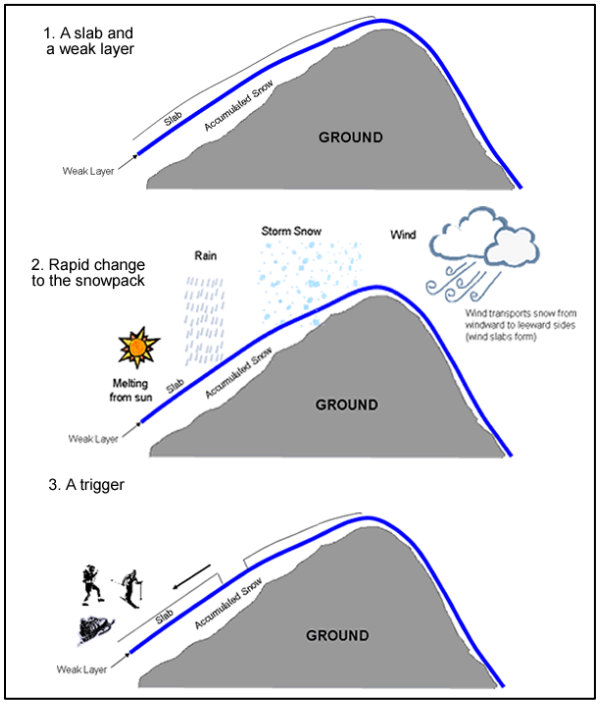
An avalanche is a fast-moving flow of snow and ice down a mountain slope that uproots trees and anything in its path. Many factors lead up to an avalanche, including weather, temperature, steepness of slope, direction of the slope, vegetation, wind direction, terrain, and snow pack conditions. All of these factors can change by the hour, rendering an avalanche unpredictable and extremely dangerous (University of Vermont, n.d.). About 90 percent of all avalanches start on slopes of 30-45 degrees; about 98 percent of all avalanches occur on slopes of 25-50 degrees. Typically, avalanches do not occur on slopes steeper than 50 degrees, as snow does not accumulate on these slopes. Avalanche cycles are typically preceded by large snowfall events (San Miguel County Hazard Mitigation Plan [HMP] 2011).

Avalanches release most often on slopes above timberline that face away from prevailing winds (leeward slopes collect snow blowing from the windward sides of ridges.) Avalanches can run, however, on small slopes well below timberline, such as gullies, road cuts, and small openings in the trees. Very dense trees can anchor the snow to steep slopes and prevent start of avalanches; however, avalanches can release and travel through a moderately dense forest.

The three types of avalanches are loose, sluff, and slab. The two types of slab avalanches are soft and hard. Avalanches can be either dry or wet. Avalanches occur for one of two basic reasons: either the load on a slope increases faster than snow strength, or snow strength decreases.

Slab avalanches occur when a more cohesive or harder layer of snow sets up on top of a less cohesive or softer and weaker layer of snow. Sometimes the weaker snow can barely support the layers above it, and when weight is added to the upper layers, the weak layer collapses, the snowpack fractures, and a slab avalanche occurs. Slab avalanches often involve large volumes of fast-moving snow (U.S. Forest Service National Avalanche Center, n.d.). Figure 4.3.1-1 illustrates a slab avalanche.

Figure 4.3.1-1. Slab Avalanche



Source: WMD EMD 2014

Although the most dangerous avalanche is the slab avalanche, loose slides can and do produce injury and death. Loose avalanches occur when grains of snow cannot hold onto a slope and begin sliding downhill, picking up more snow and fanning out in an inverted V.

A sluff is a cold snow, powdery surface slide that typically is the least dangerous type of avalanche. However, sluffs can and often do injure skiers and snowboarders by pushing them over cliffs and rock bands in steep terrains (U.S. Forest Service National Avalanche Center, n.d.).

Wet avalanches occur when warm temperatures melt the surface snow layers and saturate them with water. The water weakens the bonds between layers, and an avalanche occurs. Wet avalanches move more slowly than dry avalanches, but they can be very dangerous. If temperatures have been above freezing for extended periods of time, wet avalanches will most likely occur (U.S. Forest Service National Avalanche Center, n.d.).

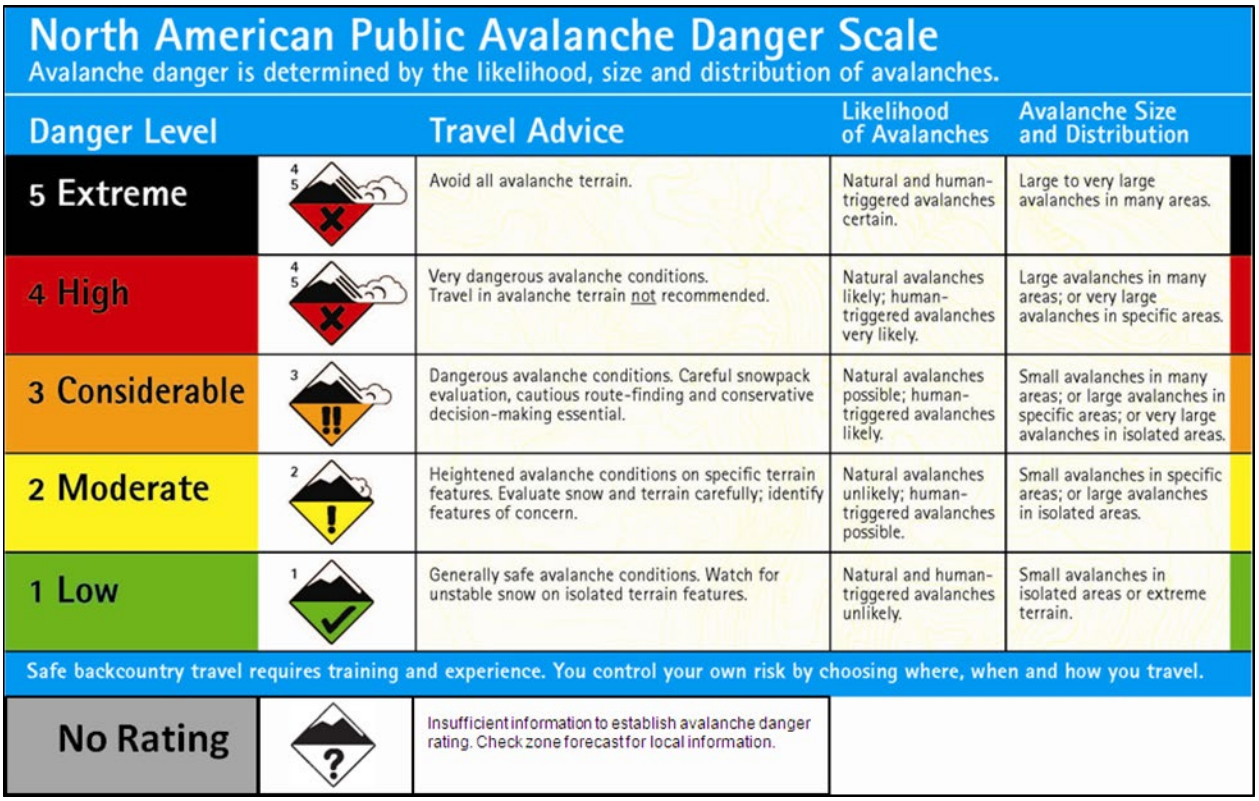
4.3.1.1 Location and Extent

Most avalanches occur in remote, mountainous locations away from populated areas. As a result, many avalanches go unnoticed. An avalanche becomes a hazard when populations and facilities become exposed to avalanche areas.

The Avalanche Danger Scale is an ordinal, five-level warning system that is a cornerstone of public avalanche information. The system was developed in Europe in 1993, and was introduced to North America in 1994. Although both Canada and the United States adopted the system, different descriptors of the danger levels were developed in each country. In 2005, noted deficiencies in clarity during low probability/high consequence avalanche conditions were addressed. Figure 4.3.1-2. shows this updated scale, which is used to estimate potential property damage and flooding from an avalanche (Statham et al. 2010).

Within Westmoreland County, multiple factors affect the probability of the occurrence of an avalanche. While many factors contributing to an avalanche are unpredictable – such as type of snow, direction of wind, and temperature – some factors are constant. Generally speaking in Westmoreland County, these constant factors include topographical composition of a potentially susceptible area. Such areas are remote, vegetated areas with a slope profile of 30 to 45 degrees. Approximate avalanche hazard zones may be identified as additional resources become available, allowing communities to more specifically identify potentially vulnerable areas. The methodology may include determinations of slope via high-resolution digital elevation models.

Figure 4.3.1-2. North American Avalanche Danger Scale



Source: Colorado Avalanche Information Center 2013

4.3.1.2 Range of Magnitude

Although not fully understood, some relationship is apparent between the area and length of the runout zone (the portion of an avalanche path where debris stops), and the frequency or probability of the avalanche. This is called the magnitude/frequency relationship. The relationship is usually expressed as the return period (or annual probability) of occurrence of an avalanche that will travel some specified distance into the runout zone. Avalanche size has no definable upper limit. One can always imagine an event slightly larger (and less likely) than the previous one. Nevertheless, a practical upper size limit is plausible beyond which probability of encounter with an avalanche is so small as to be similar to probabilities of other risks we normally take in our activities (Mears 2001).

Evidently, severity of hazard depends on both the magnitude/frequency relationship and on human use of the area. For example, placing a public facility that would concentrate large numbers of people for long periods of time within a hazard area creates a much more severe hazard than would be posed by periodic exposure of cross-country skiers at the same location. Response of an avalanche to weather and snowpack conditions would not change, but the hazard would depend on **both** avalanche magnitude/frequency relationships and total exposure time of people and facilities. The permanent facility is a fixed target (Mears 2001).

A number of weather, terrain, and snowpack factors determine the general range of magnitude of avalanche danger, as outlined below:

Weather

- **Storms** – A large percentage of all snow avalanches occur during and shortly after storms.

- **Rate of snowfall** – Snow falling at a rate of 1 inch or more per hour rapidly increases avalanche danger.
- **Temperature** – Storms starting with low temperatures and dry snow, followed by rising temperatures and wetter snow, are more likely to cause avalanches than storms that start warm and then cool with snowfall.
- **Wet snow** – Rainstorms or spring weather with warm, moist winds and cloudy nights can warm the snow cover, resulting in wet snow avalanches. Wet snow avalanches are more likely on sun-exposed terrain (south-facing slopes) and under exposed rocks or cliffs. Wind is the most common cause of avalanches. Wind can deposit snow 10 times faster than snow falling from storms. Wind erodes snow from the upwind side of obstacles and deposits snow on the downwind (lee) side. This is called "wind loading."

Terrain

- **Ground cover** – Large rocks, trees, and heavy shrubs help anchor snow, but also create stress concentrations between anchored and unanchored snow.
- **Slope profile** – Dangerous slab avalanches are more likely to occur on convex slopes that produce stress concentrations within surface snow due to varying creep rates.
- **Slope aspect** – Leeward slopes are dangerous because windblown snow adds depth and creates dense slabs. South facing slopes are more dangerous in the springtime due to increasing solar effects.
- **Slope steepness** – Snow avalanches are most common on slopes of 30 to 45 degrees.

Snowpack

- **Snow texture** – This is the feel, appearance, or consistency of the snow determined by the shape, size, and attachment of snow grains that comprise the particular snow layer. Also included in this is the inter-granular relationship—overall feel of a snow layer, specifically the relative quantities of the different types and sizes of snow particles in a particular layer, and sizes, shapes, and arrangement of grains as seen with a hand lens. A layer of small-grained, moist snow has a distinctly different texture—much more cohesive and able to make snowballs—than well-faceted snow that falls apart in one's hands and exhibits very little internal cohesion.
- **Snow layering** – The snowpack is composed of ground-parallel layers that accumulate over the winter. Each layer contains ice grains that are representative of the distinct meteorological conditions during which the snow formed and was deposited. Once deposited, a snow layer continues to evolve under the influence of meteorological conditions that prevail after deposition.
- **Snow bonding** – In the absence of strong temperature gradients within a dry snowpack, this is the normally stabilizing or "rounding" process whereby individual snow grains or layers come into contact and gradually strengthen the ice skeleton or snow layer(s) through sintering or formation of ice "necks" between the grains. This sintering process results from shape- or size-driven vapor pressure differences between or within grains or layers, and involves preferential transfer of water vapor and subsequent vapor deposition. The associated redistribution of water vapor results in inter-granular attachments or bonds between grains through an expanding ice matrix, and typically results in gradual strengthening of the surrounding snowpack structure. However and notably, if strong temperature gradients occur within or between snow layers, a different metamorphic process in the snow cover can result in what is known as faceting—a process that results in new crystal growth and/or recrystallization of existing snow grains, often producing general weakening of the snow structure. Faceting is characterized by strong (often local) temperature gradients in the snow pack and resulting strong vapor pressure gradients that move mass from warmer grains (higher vapor pressure) to colder grains (lower vapor pressure). As the process evolves and more mass is transferred, faceting snow loses existing grain bonds, forms new grains, and in general becomes more disaggregated and sugary (hence the related term "sugar snow"). Observations and tests have revealed that the hardness of a faceting snow layer decreases with time, and it becomes easier to penetrate and pull individual faceted grains out of a snow pit wall (WMD EMD 2014).

The worst-case avalanche to occur in Westmoreland County was on March 2, 1994, causing nearly $7,400 dollars in property damage. No other information was available.

4.3.1.3 Past Occurrence

According to the Spatial Hazards Events and Losses for the United States (SHELDUS), Westmoreland County has undergone one avalanche (on March 2, 1994), which caused nearly $7,400 dollars in property damage. Though SHELDUS provided information regarding the avalanche occurrence within Westmoreland County, no additional data is provided regarding this event, including the municipality in which this event occurred. In addition, despite discussions with the Hazard Mitigation Working Group and other hazard research, no additional information was found regarding this event.

Since the 2015 update of the Westmoreland County HMP, no recent avalanche events have been recorded in the County. The American Avalanche Association's National Avalanche Center national database and the National Centers for Environmental Information (NCEI) Storm Events Database did not report any instances of avalanches in Westmoreland County.

4.3.1.4 Future Occurrence

The factors that contribute to the avalanche hazard are difficult to measure on an annual basis. Conditions contributing to an avalanche include accumulated snow, type of snow, temperature, and stress factors associated with an avalanche. Moreover, most avalanches occur well away from populated areas. Based upon the Risk Factor Methodology Probability Criteria, probability of an avalanche hazard within Westmoreland County is classified as *unlikely*.

4.3.1.5 Vulnerability Assessment

To understand risk, assets exposed to hazard areas are identified. Regarding the avalanche hazard, Westmoreland County is exposed within areas where avalanches may occur—specifically, topographical areas within which appropriate slope and conditions occur for development of an avalanche.

This section evaluates and estimates potential impacts of the avalanche hazard on Westmoreland County in the following subsections:

- Overview of vulnerability
- Impacts on (1) life, health, and safety; (2) general building stock, critical facilities, and the economy; (3) the environment; and (4) future growth and development
- Effects of climate change on vulnerability
- Additional data and next steps

Overview of Vulnerability

Avalanches can impact transportation corridors, businesses, and private residents, depending on locations of development and infrastructure within hazard-prone areas. Given their volatility, avalanches can significantly damage infrastructure, cause loss of life, and strain lifelines and emergency responders.

Impact on Life, Health, and Safety

The avalanche hazard poses the highest threat to individuals or small groups in remote, backcountry settings during winter and early spring months.

Impact on General Building Stock, Critical Facilities and the Economy

No structures or critical facilities are exposed to the avalanche hazard. The Steering Committee and Municipal partners indicated that an avalanche would not likely affect them. As mentioned in Section 4.3.1.3, Westmoreland County has experienced one avalanche event, resulting in nearly $7,400 in property damage.

Impact on the Environment

Similar to landslides, avalanches can have a destructive impact on the surrounding environment. However, after an avalanche, environmental conditions in the impacted area can improve to foster an increase in biodiversity. As compared to surrounding forest tracts, these areas have an increased availability of light, water, and nutrients due to the destruction of large, dominant trees (Swiss Federal Research Institute WSL 2016). The increase in biodiversity of grasses, herbs, and shrubs create a food source for a variety of animal species, and the decay of uprooted trees and shrubs provide a food source for insect, fungal, and microbial decomposers to recycle nutrients into the soil (Shaw 2017).

Future Growth and Development

Areas targeted for potential future growth and development within the next 5 to 10 years have been identified across the County, as described in Section 2.4 of this HMP.

Effect of Climate Change on Vulnerability

The definition of "climate" includes not just average temperature and precipitation, but also type, frequency, and intensity of weather events. Both globally and at the local scale, climate change can alter prevalence and severity of extreme events such as hailstorms. While predicting changes of storm events under a changing climate is difficult, understanding vulnerabilities to potential changes is a critical part of estimating impacts of future climate change on human health, society, and the environment (U.S. Environmental Protection Agency [EPA] 2006).

Pennsylvania's Department of Environmental Protection was obligated by the Climate Change Act (Act 70 of 2008) to initiate a study of potential impacts of global climate change on the Commonwealth. The main findings in the June 2009 Pennsylvania Climate Impact Assessment indicate likelihood that Pennsylvania will undergo increased temperatures in the 21st century. Future improvements in modeling smaller scale climatic processes can be expected and will lead to improved understanding of how the changing climate will alter events in Pennsylvania (Shortle et al. 2009).

Additional Data and Next Steps

The assessment above identifies vulnerable populations and potential structural and economic losses associated with this hazard of concern. Collection of additional and actual loss data specific to the plan participants will further enhance Westmoreland County's vulnerability assessment.

4.3.2 Drought

This section provides a profile and vulnerability assessment of the drought hazard in Westmoreland County. Drought is a period characterized by long durations of below-normal precipitation. Drought conditions occur in virtually all climatic zones, yet characteristics of drought vary significantly from one region to another, relative to normal precipitation within respective regions. Drought can affect agriculture, water supply, aquatic ecology, wildlife, and plant life. Drought is a temporary irregularity in typical weather patterns and differs from aridity, which reflects low rainfall within a specific region and is a permanent feature of the climate of that area.

Drought can be defined or grouped into four categories:

- Meteorological drought is a measure of departure of precipitation from normal, defined solely by reference to relative degree of dryness. Because of climatic differences, dryness considered a drought at one location of the country may not be considered drought at another location.
- Agricultural drought links various characteristics of meteorological (or hydrological) drought to agricultural impacts, focusing on precipitation shortages, differences between actual and potential evapotranspiration, soil water deficits, reduced groundwater or reservoir levels, and other parameters. Agricultural drought occurs when not enough water is available for a particular crop to grow at a particular time. Agricultural drought is defined in terms of soil moisture deficiencies relative to water demands of plant life, primarily crops.
- Hydrological drought is associated with below-normal surface or subsurface water supply resulting from periods of precipitation shortfalls (including snowfall). Hydrological drought is related to effects of precipitation shortfalls on stream flows and water levels in reservoirs, lakes, and groundwater.
- Socioeconomic drought is associated with supply and demand of an economic good, with elements of meteorological, hydrological, and agricultural drought categories. This differs from the aforementioned types of drought because its occurrence depends on supply and demand to identify or classify droughts. Supplies of many economic goods such as water, silage, food grains, fish, and hydroelectric power depend on weather. Socioeconomic drought occurs when demand for an economic good exceeds supply as a result of a weather-related shortfall in water supply (National Drought Mitigation Center ([NDMC] 2017).

Drought can affect many sectors of an economy and its affects can reach beyond an area undergoing physical drought. Because water is essential for producing goods and providing services, drought can reduce crop yield, increase fire hazard, lower water levels, and damage wildlife and fish habitats. Further consequences include reductions in crop yields, rangeland, and forest productivity that may lower incomes of farmers and agribusinesses; increase in prices of food and timber; increase in unemployment; reduction of tax revenues as expenditures decline; increase in crime, foreclosures, and migration; and depletion of disaster relief funds. The many impacts of drought can be categorized as economic, environmental, or social.

Particularly at locations where citizens rely on wells for drinking water, water supplies are vulnerable to effects of drought and thus can impact the severity of a drought. Residents depending on well water can more easily handle short-term droughts without major inconveniences than populations that rely on surface water. However, longer-term droughts inhibit groundwater aquifers from recharging and can thus extend the problems of well owners for an indeterminate amount of time. Westmoreland County residents who depend on private domestic wells have this greater "hidden vulnerability" to droughts. According to the U.S. Geological Survey (USGS) National Water Information System, the average daily domestic self-supplied groundwater withdrawals of fresh water in Westmoreland County was 6.08 million gallons (Mgal)

per day in 2015, serving roughly 4,337 residents for a total of roughly 130 gallons per person (dependent on well water) per day (USGS 2018).

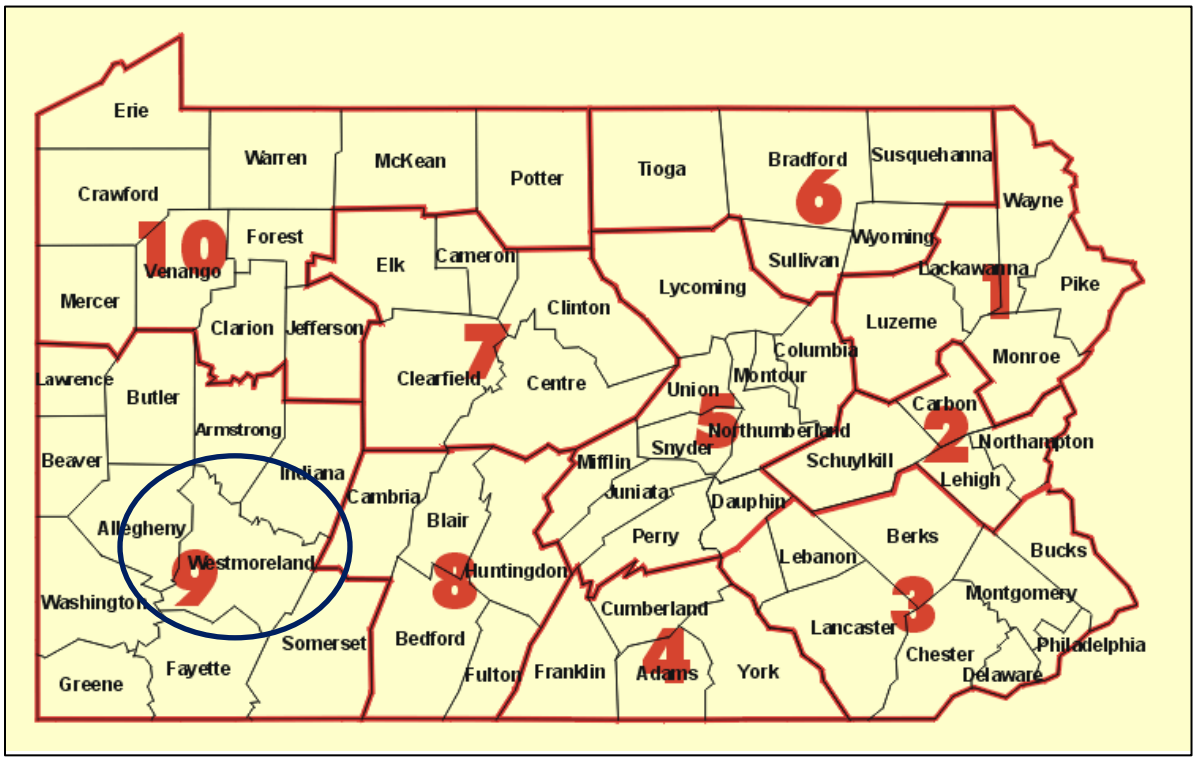
4.3.2.1 Location and Extent

Droughts are regional in scope and may affect the entirety of Westmoreland County rather than only individual municipalities within the County. Droughts may also concurrently affect counties near Westmoreland County, or even the entire Commonwealth. Generally, areas along waterways will reveal drought conditions later than areas away from waterways.

Climate divisions are regions within a state that are climatically homogenous. The National Oceanic and Atmospheric Administration (NOAA) has divided the United States into 359 climate divisions. NOAA has a map of these climate divisions nationally across the country (NOAA 2019). The boundaries of these divisions typically coincide with County boundaries, except in the western United States where they are based largely on drainage basins (National Weather Service [NWS] 2005).

According to NOAA, Pennsylvania includes 10 climate divisions: Pocono Mountains, East Central Mountains, Southeastern Piedmont, Lower Susquehanna, Middle Susquehanna, Upper Susquehanna, Central Mountains, South Central Mountains, Southwest Plateau, and Northwest Plateau Climate Division (National Climatic Data Center [NCDC] 2012). Figure 4.3.2-1 shows the climate divisions of Pennsylvania. Westmoreland County is within the Southwest Plateau climate division.

Figure 4.3.2-1 Climate Divisions of Pennsylvania



Source: NWS 2005
Note: Highlight added.
The climate divisions for Pennsylvania are: 1 = Pocono Mountains; 2 = East Central Mountains; 3 = Southeastern Piedmont; 4 = Lower Susquehanna; 5 = Middle Susquehanna; 6 = Upper Susquehanna; 7 = Central Mountains; 8 = South Central Mountains; 9 = Southwest Plateau; 10 = Northwest Plateau

Table 4.3.2-1 lists the number of reported domestic wells within each municipality of Westmoreland County. The well data were obtained from the Pennsylvania Groundwater Information System (PaGWIS). PaGWIS is maintained by Pennsylvania Department of Conservation and Natural Resources (DCNR) and relies on voluntary submissions of well record data by well drillers; as a result, it is not a complete database of all domestic wells in the County. It is, however, the most complete dataset of domestic wells available.

Table 4.3.2-1. Domestic Wells in Westmoreland County

Municipality	Number of Reported Domestic Wells	Municipality	Number of Reported Domestic Wells
Allegheny Township	198	Mount Pleasant Township	141
Arona Borough	1	Murrysville Borough	74
Bell Township	66	New Alexandria Borough	3
Bolivar Borough	2	New Florence Borough	3
Cook Township	102	New Kensington	12
Delmont Borough	1	New Stanton Borough	6
Derry Borough	1	North Huntingdon Township	36
Derry Township	236	North Irwin Borough	1
Donegal Borough	14	Oklahoma Borough	1
Donegal Township	55	Penn Borough	1
East Huntingdon Township	41	Penn Township	79
Export Borough	2	Rostraver Township	69
Fairfield Township	154	Salem Township	218
Greensburg	9	Scottdale Borough	6
Hempfield Township	352	Seward Borough	2
Hunker Borough	1	Sewickley Township	40
Irwin Borough	3	Smithton Borough	5
Jeannette	11	South Greensburg Borough	1
Latrobe Borough	18	South Huntingdon Township	98
Ligonier Borough	2	St. Clair Township	20
Ligonier Township	162	Trafford Borough	1
Lower Burrell City	37	Unity Township	203
Loyalhanna Township	84	Unknown	50
Madison Borough	7	Upper Burrell Township	73
Mt Pleasant Borough	2	Washington Township	198

Source: PA DCNR 2019a

4.3.2.2 Range of Magnitude

Effects of droughts vary depending on their severity, timing, duration, and location. Some droughts may exert their greatest impact on agriculture, while others may have stronger effects on water supply or recreational activities. Droughts can adversely affect the following significantly:

- Public water supplies for human consumption
- Rural water supplies for livestock consumption and agricultural operations
- Water quality
- Natural soil water or irrigation water for agriculture
- Water for forests and for fighting forest fires
- Water for navigation and recreation

PA DEP and Pennsylvania Emergency Management Agency (PEMA) manage water supply droughts according to the following four conditions of drought, as defined in the Commonwealth of Pennsylvania 2018 State Hazard Mitigation Plan (PA HMP):

- Drought Watch: A period to alert government agencies, public water suppliers, water users, and the public regarding potential for future drought-related problems. The focus is on increased monitoring, awareness, and preparation for response in the event that conditions worsen. A request for voluntary water conservation is issued. The objective of voluntary water conservation measures during a drought watch is to reduce water use by 5 percent within the affected areas. Because of varying conditions, individual water suppliers or municipalities may propose more stringent conservation actions.
- Drought Warning: This is a drought stage involving a coordinated response to imminent drought conditions and potential water supply shortages through concerted voluntary conservation measures to avoid or reduce shortages, relieve stressed sources, develop new sources, and, if possible, forestall the need to impose mandatory water use restrictions. The objective of voluntary water conservation measures during a drought warning is to reduce overall water use by 10 to 15 percent within the affected areas. Because of varying conditions, individual water suppliers or municipalities may propose more stringent conservation actions.
- Drought Emergency: During this drought stage, water management entities assemble all available resources to respond to actual emergency conditions, avoid depletion of water sources, ensure at least minimum water supplies to protect public health and safety, support essential and high-priority water uses, and avoid unnecessary economic upsets. If deemed necessary and if ordered by the Governor during this stage, imposition of mandatory restrictions on nonessential water usage could occur as provided for in 4 *Pa. Code* Chapter 119. Objectives of water use restrictions (mandatory or voluntary) and other conservation measures during a drought emergency are to reduce consumptive water use within the affected areas by 15 percent, and to reduce total use to the extent necessary to preserve public water system supplies, avoid or mitigate local or area shortages, and ensure equitable sharing of limited supplies.
- Local Water Rationing: This fourth condition of drought is not defined as a drought stage. Local municipalities may, with the approval of the PEMA Council, implement local water rationing to share a rapidly dwindling or severely depleted water supply within designated water supply service areas. These individual water rationing plans, authorized through provisions of 4 *Pa. Code* Chapter 120, require specific limits on individual water consumption to achieve significant reductions in use. Under both mandatory restrictions imposed by the Commonwealth and local water rationing practices, procedures are specified for granting variances in consideration of individual hardships and economic dislocations (PEMA 2018).

Pennsylvania uses five parameters to assess drought conditions: precipitation deficits, stream flows, groundwater levels, soil moisture, and reservoir stage. These are described in detail below.

- Precipitation Deficits: Because rainfall provides the basis for ground and surface water resources, measuring the difference in precipitation from the normal (30-year average) tends to be the earliest indicator that a drought is possible in an area. PA DEP will compare the cumulative precipitation for varying time periods (minimum of 3 months, maximum of 12 months) each month against the normal, 30-year average value for each same time-period. Any duration that has less than the normal is considered to have had a deficit, represented by a percentage less than the normal precipitation. Table 4.3.2-2 lists the drought conditions (defined in the PA HMP and noted above) that are indicated by various precipitation deficit percentages (PEMA 2018).

Table 4.3.2-2. Precipitation Deficit Drought Indicators for Pennsylvania

Duration of Deficit Accumulation (months)	Drought Watch (deficit as percent of normal precipitation)	Drought Warning (deficit as percent of normal precipitation)	Drought Emergency (deficit as percent of normal precipitation)
3	25	35	45
4	20	30	40
5	20	30	40
6	20	30	40
7	18.5	28.5	38.5
8	17.5	27.5	37.5
9	16.5	26.5	36.5
10	15	25	35
11	15	25	35
12	15	25	35

Source: PEMA 2018

Table 4.3.2-3 lists normal monthly and annual precipitation from 1981 to 2010 (the most current 3-decade data available) at the six NOAA weather stations in Westmoreland County. Data from the NOAA weather stations are available through the National Centers for Environmental Information (NCEI), which compiles monthly and annual normal total precipitation (inches) data retrieved from both NWS Cooperative Network (COOP) and Principal Observation (First-Order) locations throughout the United States.

Table 4.3.2-3. Normal Monthly and Annual Precipitation (total in inches) from 1981 to 2010 at NOAA Weather Stations in Westmoreland County

Station Name	January	February	March	April	May	June	July	August	September	October	November	December	ANNUAL
Donegal 2 NW	4.05	2.93	3.47	3.80	4.29	4.46	4.38	3.74	3.60	3.01	3.95	3.22	44.9
Laurel Summit	4.14	3.37	4.62	4.36	5.06	4.95	4.87	4.47	4.23	3.88	4.72	4.04	52.71

Station Name	January	February	March	April	May	June	July	August	September	October	November	December	ANNUAL
Loyalhanna Lake	3.24	2.42	3.29	3.40	4.03	4.13	4.12	4.06	3.75	2.59	3.70	3.12	41.85
Mount Pleasant	2.97	2.62	3.53	3.68	4.27	4.43	4.47	3.84	3.57	2.74	3.92	3.12	43.16
New Station 1 SW	2.78	2.61	3.19	3.30	4.03	3.88	3.96	3.46	3.48	2.44	3.60	2.76	39.49
Salina	2.97	2.51	3.29	3.49	4.18	4.23	4.65	3.92	3.54	2.66	3.75	3.19	42.38

Source: NCEI 2019

- Stream Flows: Stream flows, which typically lag up to 2 months behind normal precipitation amounts in signaling a drought, offer the second earliest indication of drought conditions. PA DEP uses 61 USGS-maintained stream gauges throughout the Commonwealth as its drought monitoring network, computing 30-day average stream flow values for each stream gauge based on the entire period of record for each gauge. The USGS Drought status is determined from stream flows based on exceedances rather than percentages. The various stages of drought watch, warning, and emergency conditions are indicated, respectively, by 75-percent, 90-percent, and 95-percent exceedances of 30-day average flows (PEMA 2018). NWS tracks stream gages throughout the Commonwealth and provides real-time information (https://water.weather.gov/ahps/region.php?state=pa).
- Groundwater Levels: Groundwater levels for each day are used to calculate the average level of the preceding 30 days. This 30-day value is compared to the values derived from historical records yielding a percentile indicating how much time the groundwater levels have been below the historical average levels. USGS also maintains a network of groundwater monitoring wells, just recently upgraded to at least one well in each county. Groundwater measurements are used to indicate drought status in a manner similar to stream flows. Groundwater level exceedances of 75, 90 and 95 percent are used to indicate watch, warning, and emergency status. In this case, it is the 30-day average depth to groundwater that is measured and monitored, again in relation to long-term 30-day averages based on the period of record for each county well (PEMA 2018).
- Soil Moisture: Soil moisture is measured using an algorithm calibrated for relatively homogeneous regions which measures dryness based on temperature and precipitation in the area, information which is provided by NOAA. This generates a value called the Palmer Drought Severity Index (PDSI), which is compiled by the Climate Prediction Center of the National Weather Service on a weekly basis. A PDSI of -4.00 or less indicates a drought emergency; a value between -3.00 and -3.99 indicates a drought warning, and a value between -2.00 and -2.99 indicates a drought watch (PEMA 2018).
- Reservoir Storage Levels: Water-level storage in several large public water supply reservoirs (especially three New York City reservoirs in the Upper Delaware River Basin) is the fifth indicator that PA DEP uses for drought monitoring. Depending on the total quantity of storage and the length of the refill period for the various reservoirs, PA DEP uses varying percentages of storage draw down to indicate the three drought stages for each of the reservoirs (PEMA 2018).

Table 4.3.2-4 summarizes PDSI classifications. The PDSI uses 0 to reflect normal status, and negative numbers to indicate droughts. For example, 0 is no drought, -2 is moderate drought, and -4 is extreme drought. Positive numbers signify excess precipitation (NDMC 2013).

Table 4.3.2-4. Palmer Drought Severity Index (PDSI) Classifications

Severity Category	PDSI Value	Drought Status
Extremely wet	4.0 or more	None
Very wet	3.0 to 3.99	None
Moderately wet	2.0 to 2.99	None
Slightly wet	1.0 to 1.99	None
Incipient wet spell	0.5 to 0.99	None
Near normal	0.49 to -0.49	None
Incipient dry spell	-0.5 to -0.99	None
Mild drought	-1.0 to -1.99	None
Moderate drought	-2.0 to -2.99	Watch
Severe drought	-3.0 to -3.99	Warning
Extreme drought	-4.0 or less	Emergency

Source: NDMC 2013; PEMA 2013

Availability and management of water supply are discussed in the 2009 Pennsylvania State Water Plan (PA DEP 2009b), a joint effort by the Statewide Water Resources Committee and PA DEP. In 2009, the PA DEP Secretary approved an updated State Water Plan to guide management of Pennsylvania's water resources over a 15-year planning horizon. As a functional planning tool for all Pennsylvania municipalities, counties, and regional planning partnerships, the State Water Plan profiles drought and resource constraints and encourages implementation of new technology and use policies to facilitate reduced water uses and resource demands at critical peak times. The State Water Plan provides inventories of water availability as well as an assessment of current and future water use demands and trends. It also offers strategies for improving management of water resources and waterway corridors that aim to reduce damages from extreme drought and flooding conditions (PA DEP 2009b).

4.3.2.3 Past Occurrence

Historical information has been drawn from many sources regarding previous occurrences and losses associated with drought events throughout Pennsylvania and Westmoreland County. Because so many sources were reviewed for the purpose of developing this plan, loss and impact information pertaining to many events could vary depending on the source. Therefore, accuracy of cited monetary values is based only on the available information identified during research for this plan.

According to NOAA's NCEI storm events database, Westmoreland County underwent no drought events between January 1, 1950, and May 31, 2019. Since 1955, the Commonwealth has undergone 12 drought events that resulted in a Governor's proclamation or a Federal Emergency Management Agency (FEMA)-declared disaster or emergency. Westmoreland County was included in one of these events, and full details are available in PEMA's Pennsylvania Disaster History list. In addition to these events, between 1980 and 2016, PA DEP indicated that Westmoreland County has experienced events that warranted 22 drought watch declarations, 11 drought warning declarations, and 1 drought emergency declaration (PEMA 2018).

According to FEMA, between 1954 and 2018, Pennsylvania experienced one drought-related disaster (DR) or emergency (EM) classified as one or a combination of the following disaster types: drought or water shortage. Because these disaster types generally cover a wide region of the Commonwealth, this single disaster may have impacted many counties. However, not all counties were included in the disaster declaration. FEMA, PEMA, and other sources indicate that Westmoreland County has not been declared a disaster area as a result of a drought-related event (FEMA 2017).

Drought events that have occurred between 1895 and 2017 and have affected Westmoreland County are identified in Table 4.3.2-5, based on all sources researched. However, not all sources have been identified or researched, and therefore Table 4.3.2-5 may not include all events that have occurred throughout the County.

Table 4.3.2-5. Past Occurrences of Drought Events from 1895 to 2017

Dates of Event	Event Type	FEMA Declaration Number	County Designated?	Losses / Impacts / PDSI Value
July 1895 - August 1896	Drought	N/A	N/A	-5.36 in 1/1896
October - November 1897	Drought	N/A	N/A	-3.65 in 10/1897
November 1899 - January 1900	Drought	N/A	N/A	-3.06 in 1/1900
April 1900 - May 1901	Drought	N/A	N/A	-5.25 in 2/1901
October 1901 - January 1902	Drought	N/A	N/A	-4.19 in 11/1901
November 1904 - July 1905	Drought	N/A	N/A	-3.89 in 12/1904
October 1908 - March 1909	Drought	N/A	N/A	-5.32 in 12/1908
September - December 1909	Drought	N/A	N/A	-4.15 in 12/1909
March - December 1910	Drought	N/A	N/A	-4.20 in 8/1910
February - March 1911	Drought	N/A	N/A	-3.20 in 3/1911
May - July 1911	Drought	N/A	N/A	-4.29 in 7/1911
April - May 1915	Drought	N/A	N/A	-3.37 in 4/1915
August 1922 - November 1923	Drought	N/A	N/A	-5.53 in 12/1922
August 1925 - September 1925	Drought	N/A	N/A	-3.89 in 9/1925
July 1930 - December 1931	Drought	N/A	N/A	-7.38 in 1/1931
May 1932 - February 1933	Drought	N/A	N/A	-4.43 in 9/1932
May - July 1934	Drought	N/A	N/A	-4.01 in 7/1934
November 1939 - January 1940	Drought	N/A	N/A	-4.00 in 1/1940
October 1953 - July 1954	Drought	N/A	N/A	-5.18 in 12/1953
September 1963 - February 1964	Drought	N/A	N/A	-4.23 in 12/1963
July - September 1965	Drought	DR-206	N/A	-3.68 in 8/1965
July 1966 - February 1967	Drought	N/A	N/A	-3.72 in 1/1967
October - November 1968	Drought	N/A	N/A	-3.08 in 10/1968
February - June - 1969	Drought	N/A	N/A	-3.80 in 6/1969
July – August 1988	Drought	N/A	N/A	Drought Watch from PA Dept. of Environmental Resources (PA DER) (PA DEP Predecessor)
August – December 1988	Drought	N/A	N/A	Drought Warning from PA DER
June – July 1991	Drought	N/A	N/A	Drought Watch from PA DER
July – August 1991	Drought	N/A	N/A	Drought Watch, Governor's Proclamation
August 1991 - February 1992	Drought	N/A	N/A	-4.19 in October 1991
August – September 1991	Drought	N/A	N/A	Drought Warning, Governor's Proclamation
September – October 1991	Drought	N/A	N/A	Drought Warning, PA DER
October 1991 – January 1992	Drought	N/A	N/A	Drought Warning, Governor's Proclamation
January – April 1992	Drought	N/A	N/A	Drought Warning, Press Release
April – June 1992	Drought	N/A	N/A	Drought Warning, Governor's Notice of Termination
June – September 1992	Drought	N/A	N/A	Drought Watch

Dates of Event	Event Type	FEMA Declaration Number	County Designated?	Losses / Impacts / PDSI Value
May - June 1992	Drought	N/A	N/A	-3.54 in June 1992
September 1-20, 1995	Drought	N/A	N/A	Drought Warning
September – November 1995	Drought	N/A	N/A	Drought Watch, Governor's Proclamation
November – December 1995	Drought	N/A	N/A	Drought Watch, Governor's Proclamation
December 1998 – June 1999	Drought	N/A	N/A	Drought Watch
June – July 1999	Drought	N/A	N/A	Drought Warning
July – September 1999	Drought	N/A	N/A	55 counties under a drought and water shortage emergency. Governor declared a disaster and transferred $500,000 to PEMA for drought-related expenses.
September 1999 – February 2000	Drought	N/A	N/A	Drought Warning
February – May 2000	Drought	N/A	N/A	Drought Watch
September – November 2002	Drought	N/A	N/A	Drought Watch
April – June 2006	Drought	N/A	N/A	Drought Watch
August – September 2007	Drought	N/A	N/A	Drought Watch
November 2008 – January 2009	Drought	N/A	N/A	Drought Watch
September – December 2010	Drought	N/A	N/A	Drought Watch
March – July 2015	Drought	N/A	N/A	Drought Watch
January – October 2016	Drought	N/A	N/A	USDA S4165

Sources: NRCC 2012; PEMA 2013; NCEI 2017; PA DEP 2017b; USDA 2019

Notes:
FEMA Federal Emergency Management Agency
N/A Not applicable
NCEI National Centers for Environmental Information
NRCC Northeast Regional Climate Center
PA DEP Pennsylvania Department of Environmental Protection
PDSI Palmer Drought Severity Index
PEMA Pennsylvania Emergency Management Agency

Table 4.3.2-6 lists the crop loss insurance payments on claims from Westmoreland County caused by drought events since 1989.

Table 4.3.2-6. Crop Loss Insurance Claims Due to Drought, 1989 to 2016

Crop Year	Total Claims	Crop Year	Total Claims
1989	$12,994	2005	$440,364.80
1990	$0	2006	$27,560.25
1991	$0	2007	$101,805
1992	$0	2008	$253,312.20
1993	$9,316	2009	$8,624.40
1994	$9,871.75	2010	$67,376.65
1995	$59,972.58	2011	$117,395.10
1996	$0	2012	$114,861.80
1997	$235,366.80	2013	$96,055

Crop Year	Total Claims	Crop Year	Total Claims
1998	N/A	2014	$0
1999	$388,431	2015	$266,756
2000	$0	2016	$468,130.70
2001	$197,953.20	2017	$5,699.40
2002	$500,582.30	2018	$0
2003	$0	2019	$0
2004	$0	-	-

Source: U.S. Department of Agriculture (USDA) 2019a

4.3.2.4 Future Occurrence

Frequency of droughts is difficult to forecast. Based on national annual data from 1895 to 1995, Westmoreland County underwent severe or extreme drought conditions approximately 5.6 percent of the time (NRCC 2019). Based on the drought conditions listed in Table 4.3.2-5, future occurrences of drought events are considered *possible*, as defined by the Risk Factor Methodology probability criteria (described in Section 4.4).

4.3.2.5 Vulnerability Assessment

To understand risk, a community must evaluate assets exposed and vulnerable within the identified hazard area. For the drought hazard, all of Westmoreland County has been identified as the hazard area. Therefore, all assets (population, structures, critical facilities, and lifelines) described in the County Profile (Section 2) are potentially vulnerable to a drought. This section evaluates and estimates potential impacts of the drought hazard on Westmoreland County in the following subsections:

- Overview of vulnerability
- Impacts on (1) life, health, and safety; (2) general building stock and critical facilities; (3) economy; (4) the environment; and (5) future growth and development

Overview of Vulnerability

Westmoreland County is vulnerable to drought. Assets at particular risk include any open land or structures along the wildland-urban interface (WUI) that could become vulnerable to the wildfire hazard caused by extended periods of low rain and high heat, usually associated with drought. In addition, water supply resources could be impacted by extended periods of low rain. Finally, vulnerable populations could be particularly susceptible to the drought hazard and cascading impacts because of age, health conditions, and limited ability to mobilize to shelter, cooling, and medical resources.

Impact on Life, Health, and Safety

Drought conditions can cause a shortage of water available for human consumption and can reduce local firefighting capabilities. Social impacts of a drought include mental and physical stress, public safety threats (increased threat from forest/grass fires), health threats, conflicts among water users, reduced quality of life, and inequities in distribution of impacts and disaster relief. The infirm, young, and elderly are particularly susceptible to drought and extreme temperatures, sometimes associated with drought conditions, due to their age, health conditions, and limited ability to mobilize to shelters, cooling, and medical resources. Impacts on the economy and environment may have social implications as well (New York State Disaster Preparedness Commission [NYSDPC] 2011). For the purposes of this plan, the entire population of the County is considered vulnerable to drought events.

Impact on General Building Stock and Critical Facilities

A drought is not expected to directly affect any structures, and all are expected to be operational during a drought event. However, droughts contribute to conditions conducive to wildfires. Risk to life and property is greatest in regions where forested areas adjoin urbanized areas (high-density residential, commercial, and industrial), also known as the WUI. Therefore, all assets in and adjacent to the WUI zone, including population, structures, critical facilities, lifelines, and businesses, are considered vulnerable to wildfire. Section 4.3.13 (Wildfire) of this HMP addresses the wildfire hazard in Westmoreland County.

Impact on the Economy

Drought events impact the economy, including loss of business function and damage and loss of inventory. Industries that rely on water for business may be impacted the hardest by drought (e.g., agriculture). Even though a majority of businesses will still be operational, they may be impacted aesthetically. A prolonged drought can exert serious direct and indirect economic impacts on a community or across the County. Economic impacts may include:

- Losses from crop, livestock, timber, and aquaculture production and associated businesses
- Losses from recreation providers and associated businesses
- Losses related to the increased costs resulting from increased energy demand and from shortages caused by reduced hydroelectric generation capacity
- Revenue losses for federal, state, and local governments from a reduced tax base and for financial institutions from defaults and postponed payments
- Long-term loss of economic growth and development

Loss estimates are based on lost agricultural revenues statewide. Table 4.3.2-7 below lists the County's farmland acreage exposure to the drought hazard as well as the annual market value of all agricultural products sold, as documented in the 2017 USDA Census of Agriculture. If the County would lose its agricultural yield due to drought, total losses could amount to over $66 million. Table 4.3.2-8 details the potential losses associated with County livestock by providing livestock totals for the County and their associated market value. Livestock, poultry, and associated products have a potential loss value of more than $32 million (USDA 2017).

Table 4.3.2-7. Estimated County Losses Relating to Agricultural Production

Impacted Farmland Acreage	Market Value of All Agricultural Products
144,278	$66,320,000

Source: USDA 2017

Table 4.3.2-8. Estimated County Losses Relating to Livestock and Poultry

Livestock and Poultry	Inventory	Market Value of All Livestock, Poultry, and Their Products
Layers	19,837	**$32,672,000**
Cattle and Calves	23,327	
Hogs and Pigs	1,164	
Sheep and Lambs	2.087	
Total	**46,415**	

Source: USDA 2017
Note: Market value of livestock and poultry is only provided by total value and not available by category.

Impact on the Environment

As summarized in the PA HMP (2018), the National Drought Mitigation Center at the University of Nebraska-Lincoln identified the following as environmental impacts from droughts:

- Damage to animal species in the form of reduced water and feed availability, degradation of fish and wildfire habitat, migration and concertation issues (too many or too few animals in a given area), stress to endangered species, and loss of biodiversity
- Lower water levels in reservoirs, lakes, and ponds
- Reduced stream flow
- Loss of wetlands
- Increased groundwater depletion, land subsidence, and reduced groundwater recharge
- Water quality impacts like salinity, water temperature increases, pH changes, dissolved oxygen, or turbidity
- Loss of biodiversity
- Loss of trees
- Increased number and severity of fires
- Reduced soil quality and erosion issues
- Increased dust or pollutants

Future Growth and Development

Areas targeted for potential future growth and development within the next 5 to 10 years have been identified across the County (further discussed in Section 2.4 of this HMP). Exposure of any new development and new residents to the drought hazard is anticipated.

Effect of Climate Change on Vulnerability

Climate is defined not simply as average temperature and precipitation but also by type, frequency, and intensity of weather events. Both globally and at the local level, climate change can alter prevalence and severity of weather extremes such as droughts. While predicting changes in drought events under a changing climate is difficult, understanding vulnerabilities to potential changes is a critical part of estimating effects of future climate change on human health, society, and the environment (U.S. Environmental Protection Agency [EPA] 2006).

According to the Pennsylvania Climate Impacts Assessment 2015 Update, the likelihood for drought will decrease by the middle of the 21st century as months with above-normal precipitation increase but drying of surface soil across the coterminous United States in all seasons is still projected due to enhanced evapotranspiration. Soil moisture at root depth of crops is more useful for estimating agricultural drought. Resolution constraints and lack of detailed evapotranspiration process representation lead to lower confidence in projections with the soil moisture budget being less constrained (Wehner et al. 2017).

4.3.3 Earthquake

An earthquake is sudden movement of the Earth's surface caused by release of stress accumulated within or along the edge of the Earth's tectonic plates, a volcanic eruption, or a man-made explosion (Shedlock and Pakiser 1997). Most earthquakes occur at the boundaries where the Earth's tectonic plates meet (faults); less than 10 percent of earthquakes occur within plate interiors. As plates continue to move and plate boundaries change geologically over time, weakened boundary regions become part of the interiors of the plates. These zones of weakness within the continents can cause earthquakes, which are a response to stresses that originate at the edges of the plate or in the deeper crust (Shedlock and Pakiser 1997).

According to the U.S. Geological Survey (USGS) Earthquake Hazards Program, an earthquake hazard is any disruption associated with an earthquake that may affect residents' normal activities. This category includes surface faulting, ground motion (shaking), landslides, liquefaction, tectonic deformation, tsunamis, and seiches. Each of these terms is defined below:

- Surface faulting: Displacement that reaches the Earth's surface during a slip along a fault. Commonly occurs with shallow earthquakes—those with an epicenter of less than 20 kilometers (km).
- Ground motion (shaking): Movement of the Earth's surface from earthquakes or explosions. Ground motion or shaking is produced by waves generated by a sudden slip on a fault or sudden pressure at the explosive source, and that travel through the Earth and along its surface.
- Landslide: Movement of surface material down a slope.
- Liquefaction: A process by which water-saturated sediment temporarily loses strength and acts as a fluid, like the wet sand near the water at the beach. Earthquake shaking can cause this effect.
- Tectonic deformation: Change in the original shape of a material caused by stress and strain.
- Tsunami: A sea wave of local or distant origin that results from large-scale seafloor displacements associated with large earthquakes, major sub-marine slides, or exploding volcanic islands.
- Seiche: Sloshing of a closed body of water, such as a lake or bay, from earthquake shaking (USGS 2012).

Ground shaking is the primary cause of earthquake damage to man-made structures. Damage can be increased when soft soils amplify ground shaking. Soils influence damage in different ways. Soft soils can amplify the motion of earthquake waves, producing greater ground shaking and increasing stresses on built structures on the land surface. Loose, wet, sandy soils also can cause damage when they lose strength and flow as a fluid when shaken, causing foundations and underground structures to shift and break (Stanford 2003).

The National Earthquake Hazard Reduction Program (NEHRP) developed five soil classifications (A to E) distinguished by soil shear-wave velocity that alters severity of an earthquake; each classification is listed in Table 4.3.3-1. Class A soils—hard rock—reduce ground motion from an earthquake, and Class E soils—soft soils—amplify and magnify ground shaking, and increase building damage and losses.

Table 4.3.3-1. NEHRP Soil Classifications

Soil Classification	Description
A	Hard rock
B	Rock
C	Very dense soil and soft rock
D	Stiff soils
E	Soft soils

Source: Federal Emergency Management Agency (FEMA) 2013

The following sections discuss location and extent, range of magnitude, previous occurrence, future occurrence, and vulnerability assessment associated with the earthquake hazard in Westmoreland County.

4.3.3.1 Location and Extent

Focal depth and geographic position of the epicenter of an earthquake commonly determine its location. Focal depth of an earthquake is the depth from the Earth's surface to the region where an earthquake's energy originates (the focus or hypocenter). The epicenter of an earthquake is the point on the Earth's surface directly above the hypocenter. Earthquakes usually occur without warning, and their effects can be felt in areas at great distances from the epicenter.

According to the Pennsylvania Bureau of Topographic and Geologic Survey, events that occur in the Commonwealth involve very small impact areas (less than 100 km in diameter). The most seismically active region in the Commonwealth is in southeastern Pennsylvania in the area of Lancaster County (Pennsylvania Emergency Management Agency [PEMA] 2018). Areas of Pennsylvania, including Westmoreland County, may be subject to the effects of earthquakes with epicenters outside the Commonwealth.

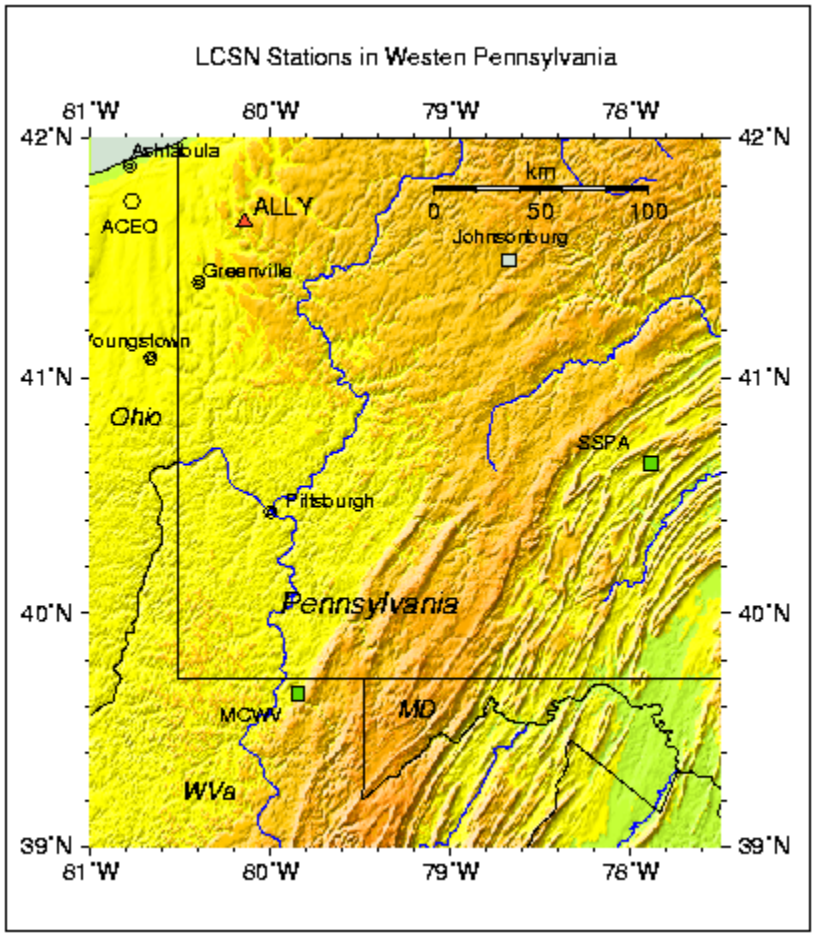
The Pennsylvania State Hazard Mitigation Plan includes a map of earthquake hazard zones throughout the Commonwealth (shown on Figure 4.3.3-1) (PEMA 2018). Westmoreland County falls within the lowest hazard zone with a 2.73-2.83% Peak Ground Acceleration (PGA) (USGS, 2014). Minor earthquake damage is expected in this zone.

Figure 4.3.3-1. Pennsylvania Earthquake Hazard Zones

Source: PEMA 2018
Note: Westmoreland County is within the blue oval on the map.

The Lamont-Doherty Cooperative Seismographic Network (LCSN) monitors earthquakes that occur primarily in the northeastern United States. The goal of the project is to compile a complete earthquake catalog for this region, to assess the earthquake hazards, and to study the causes of the earthquakes in the region. The LCSN operates 40 seismographic stations in the following seven states: Connecticut, Delaware, Maryland, New Jersey, New York, Pennsylvania, and Vermont. Figure 4.3.3-2 shows the locations of seismographic stations in western Pennsylvania. The network is composed of broadband and short-period seismographic stations (LCSN 2014).

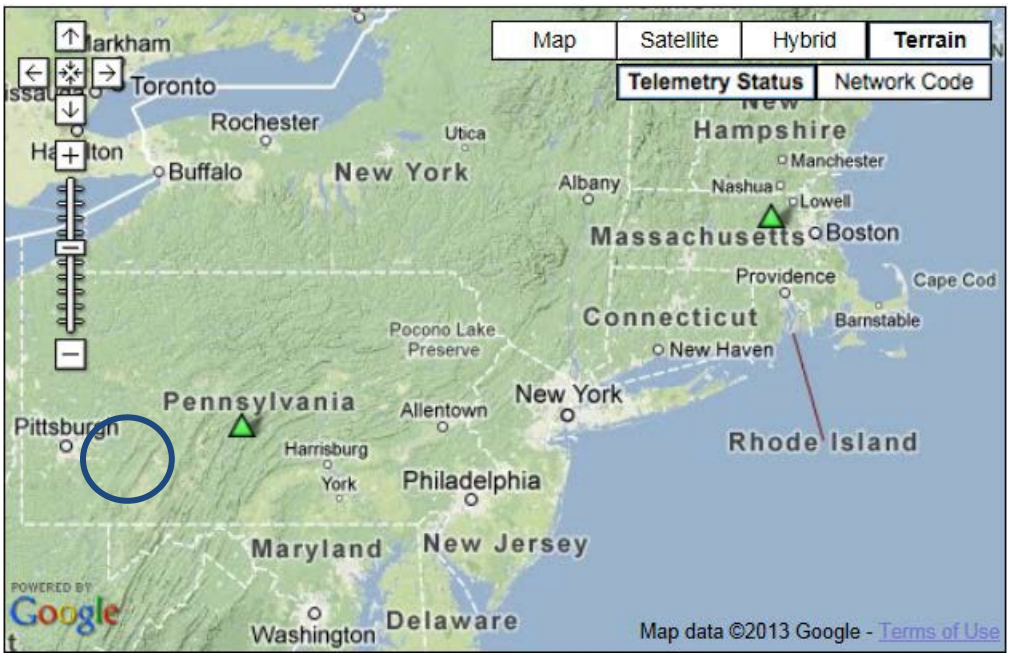
Figure 4.3.3-2. Lamont-Doherty Seismic Stations Locations in Eastern Pennsylvania



Source: LCSN 2014

In addition to the Lamont-Doherty Seismic Stations, USGS operates a global network of seismic stations to monitor seismic activity. While no seismic stations are within Westmoreland County, nearby stations are in State College, Pennsylvania. Figure 4.3.3-3 shows their locations.

Figure 4.3.3-3. USGS Seismic Stations



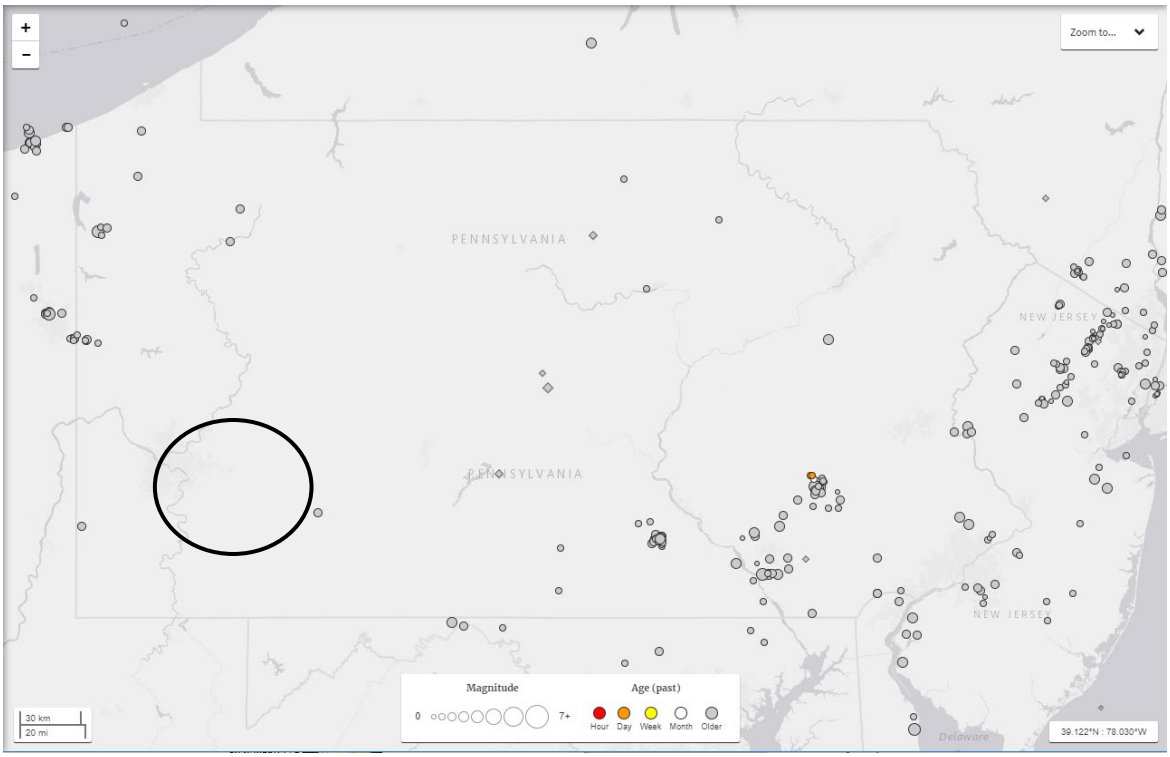
Source: USGS 2017

Note: Seismic station locations are indicated by green triangles, and Westmoreland County is within the black oval.

The USGS provides the website *Did You Feel It?* (http://earthquake.usgs.gov/earthquakes/dyfi/) for citizens to report earthquake experiences and to share information regarding the earthquake and its effects. The website is intended to gather citizens' experiences during an earthquake and incorporate the information into detailed maps for illustrating shaking intensity and damage assessments (USGS 2019).

Earthquakes above a magnitude 5.0 can cause damage near their epicenters, and larger-magnitude earthquakes can cause damage over larger, wider areas. Earthquakes in Pennsylvania appear to be centered in the southeastern portion and northwestern corner of the Commonwealth. Figure 4.3.3-4 illustrates earthquake activity in Pennsylvania from 1950 to 2019, with Westmoreland County circled in black. A discussion of previous occurrences of earthquakes in Westmoreland County appears in the Past Occurrences section (Section 4.3.3.3) of this profile.

Figure 4.3.3-4. Earthquake Epicenters in Pennsylvania, 1950 – 2019



Source: *USGS 2019*
Note: *The black circle indicates the approximate location of Westmoreland County.*

4.3.3.2 Range of Magnitude

Seismic waves are vibrations from earthquakes that travel through the Earth and are recorded on instruments called seismographs. The magnitude or extent of an earthquake is a given value of the earthquake size, or amplitude of the seismic waves, as measured by a seismograph. The Richter magnitude scale (Richter scale) was developed in 1932 as a mathematical device to compare sizes of earthquakes. The Richter scale is the most widely known scale that measures magnitude of earthquakes. It has no upper limit and is not used to express damage. An earthquake in a densely populated area that results in many deaths and considerable damage may have the same magnitude and shock in a remote area that did not undergo any damage. Table 4.3.3-2 lists Richter scale magnitudes and corresponding earthquake effects associated with each magnitude.

The United States Geological Survey has been conducting additional research on the effect that the oil and gas industry is having on induced seismicity in the United States. The thought is that hydraulic fracturing or "fracking" will ultimately lead to an increased earthquake risk because of increased pressure from the water being pumped underground into geologic formations. Fracking sites and wastewater disposal wells could lead to induced seismicity and an increase in earthquake risk, but research from USGS indicates that in Oklahoma, only 1-2% of earthquakes can be linked to hydraulic fracturing operations, with the remaining earthquakes being induced by wastewater disposal wells (USGS N.d.) There are a considerable number of variables related to induced seismicity from fracking and wastewater disposal wells including: "the injection rate and total volume injected; the presence of faults that are large enough to produce felt earthquakes; stresses that are large enough to produce earthquakes; and the presence of pathways for the fluid pressure to travel from the injection point to faults (USGS N.d.)." A majority of the research is focused in the Midwestern and Western United States with temporary seismic monitoring stations set up in Oklahoma, Texas, Kansas, Illinois, and Ohio and additional resources in Colorado and California.

Based on historical data of earthquakes with a recorded intensity, little damage is expected from earthquake events. However, since the worst earthquake recorded in Pennsylvania was a magnitude 5.2, a worst-case scenario for this hazard would be if an earthquake of similar magnitude occurred in Westmoreland County or near the border in an adjacent county, causing mild damage in populated areas. The worst-case earthquake in Westmoreland County would likely result in trees swaying, objects falling off walls, cracked walls, and falling plaster.

Table 4.3.3-2. Richter Scale Magnitudes

Richter Magnitude	Earthquake Effects
3.5 or less	Generally, not felt, but recorded
3.5 to 5.4	Often felt, but rarely causes damage
Under 6.0	At most, slight damage to well-designed buildings; can cause major damage to poorly constructed buildings over small regions.
6.1 to 6.9	Can be destructive up to about 100 kilometers from epicenter.
7.0 to 7.9	Major earthquake; can cause serious damage over large areas.
8.0 or greater	Great earthquake; can cause serious damage in areas several hundred kilometers across.

Source: PEMA 2018

The intensity of an earthquake is based on observed effects of ground shaking on people, buildings, and natural features, and varies with location. The Modified Mercalli Intensity (MMI) scale expresses the intensity of an earthquake and is a subjective measure that describes the strength of a shock felt at a particular location. The MMI scale expresses intensity of an earthquake's effects in a given locality according to a scale from I to XII. Descriptions of MMI scales appear in Table 4.3.3-3. Earthquakes that occur in Pennsylvania originate deep within the Earth's crust and not on an active fault. No injury or severe damage from earthquake events has been reported in Westmoreland County.

Table 4.3.3-3. Modified Mercalli Intensity Scale with Associated Impacts

Scale	Intensity	Description Of Effects	Corresponding Richter Scale Magnitude
I	Instrumental	Detected only on seismographs	<4.2
II	Feeble	Some people feel it	
III	Slight	Felt by people resting; feels like a truck rumbling by	
IV	Moderate	Felt by people walking	
V	Slightly Strong	Sleepers awake; church bells ring	<4.8
VI	Strong	Trees sway; suspended objects swing; objects fall off shelves	<5.4
VII	Very Strong	Mild alarm; walls crack; plaster falls	<6.1
VIII	Destructive	Moving cars uncontrollable; masonry fractures; poorly constructed buildings are damaged	<6.9
IX	Ruinous	Some houses collapse; ground cracks; pipes break open	
X	Disastrous	Ground cracks profusely; many buildings are destroyed; liquefaction and landslides are widespread	<7.3
XI	Very Disastrous	Most buildings and bridges collapse; roads, railways, pipes, and cables are destroyed; general triggering of other hazards occurs	<8.1
XII	Catastrophic	Total destruction; trees fall; ground rises and falls in waves	>8.1

Source: Freeman et al. (Purdue University) 2004
Note: PGA Peak Ground Acceleration

Seismic hazards are often expressed in terms of Peak Ground Acceleration (PGA) and Spectral Acceleration (SA). USGS defines PGA and SA as the following: "PGA is what is experienced by a particle on the ground. SA is approximately what is experienced by a building, as modeled by a particle mass on a massless vertical rod

having the same natural period of vibration as the building" (USGS 2012). Both PGA and SA can be measured in *g* (the acceleration caused by gravity) or expressed as a percent acceleration force of gravity (percent g). PGA and SA hazard maps provide insight into location-specific vulnerabilities (New York State Disaster Preparedness Commission [NYSDPC] 2011).

PGA is a common earthquake measurement that indicates three factors: (1) geographic area affected, (2) probability of an earthquake at each level of severity, and (3) strength of ground movement (severity) expressed in percent g. In other words, PGA expresses the severity of an earthquake and is a measure of how hard the earth shakes (or accelerates) in a given geographic area (NYSDPC 2011). Damage levels from an earthquake vary with intensity of ground shaking and with seismic capacity of structures, as noted in Table 4.3.3-4.

Table 4.3.3-4. Damage Levels Experienced in Earthquakes

Ground Motion Percentage	Explanation of Damages
1-2% g	Motions are widely felt by people; hanging plants and lamps swing strongly, but damage levels, if any, are usually very low.
Below 10% g	Usually causes only slight damage, except in unusually vulnerable facilities.
10-20% g	May cause minor-to-moderate damage in well-designed buildings, with higher levels of damage in poorly designed buildings. At this level of ground shaking, only unusually poor buildings would be subject to potential collapse.
20-50% g	May cause significant damage in some modern buildings and very high levels of damage (including collapse) in poorly designed buildings.
≥50% g	May causes higher levels of damage in many buildings, even those designed to resist seismic forces.

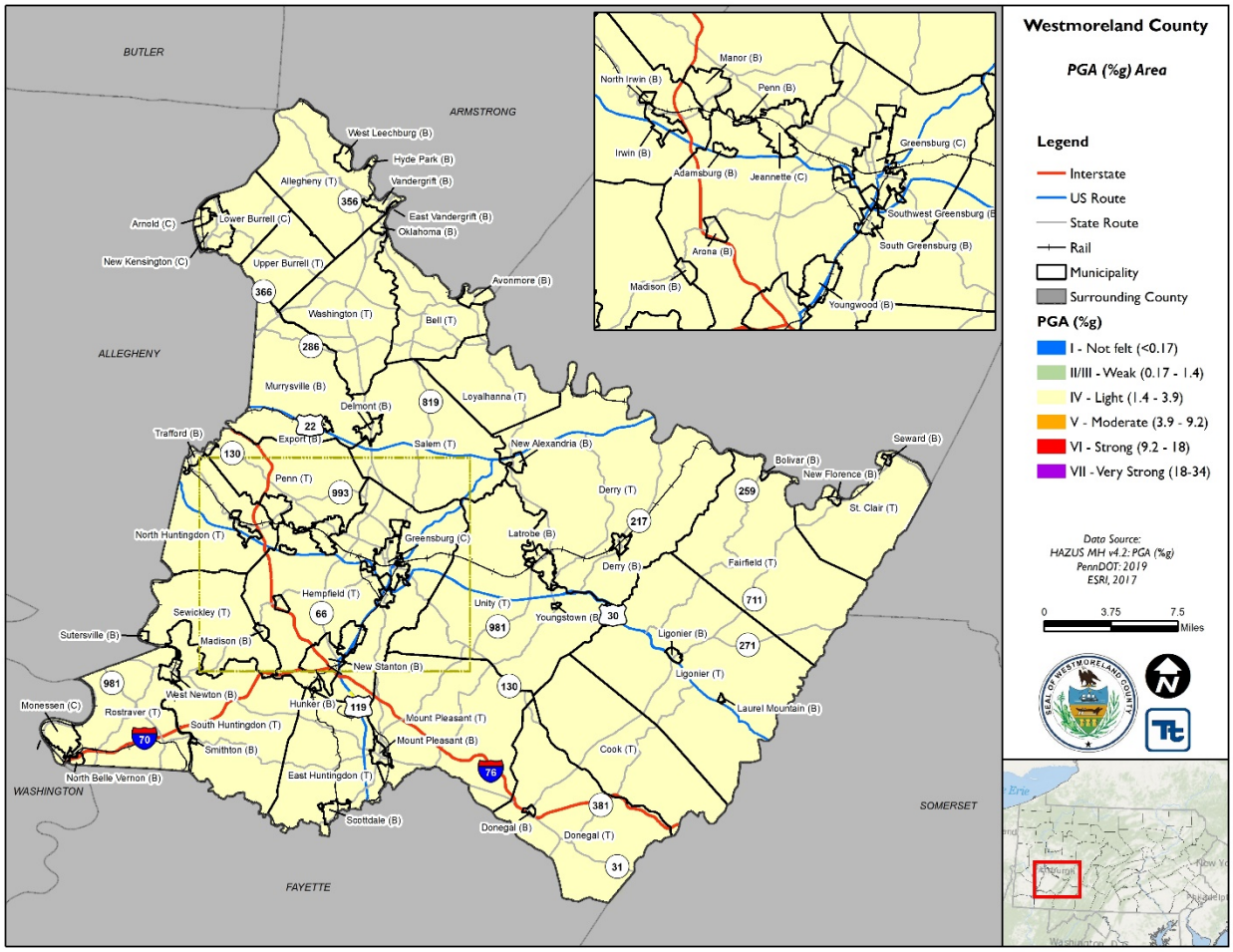
Source: NJOEM 2014
Note: % g Peak Ground Acceleration

National maps of earthquake shaking hazards have been produced since 1948. These maps provide information essential for creating and updating seismic design requirements for building codes, insurance rate structures, earthquake loss studies, retrofit priorities, and land use planning applied in the United States. Scientists frequently revise these maps to reflect new information and knowledge. Buildings, bridges, highways, and utilities built to meet modern seismic design requirements are typically able to withstand earthquakes better, with less damage and disruption. After thoroughly reviewing the studies, professional organizations of engineers update seismic-risk maps and seismic design requirements specified in building codes (Brown and others 2001).

To analyze the earthquake hazard in Westmoreland County, a probabilistic assessment was conducted for the 500-year mean return period (MRP) in Hazards U.S.–Multi-Hazard (HAZUS-MH) v4.2. A HAZUS analysis evaluates statistical likelihood that a specific event will occur and the consequences of that event. A 500-year MRP event is an earthquake with a 0.2-percent chance that the mapped ground motion levels (PGA) will be exceeded in any given year.

Figure 4.3.3-5 illustrates the geographic distribution of PGA (percent *g*) across Westmoreland County for the 500-year MRP event. Potential losses estimated by HAZUS-MH v4.2 for the MRP and the associated PGA are discussed in the Vulnerability Assessment section (Section 4.3.3.5) of this profile.

Figure 4.3.3-5. Peak Ground Acceleration Modified Mercalli Scale in Westmoreland County for a 500-Year MRP Earthquake Event

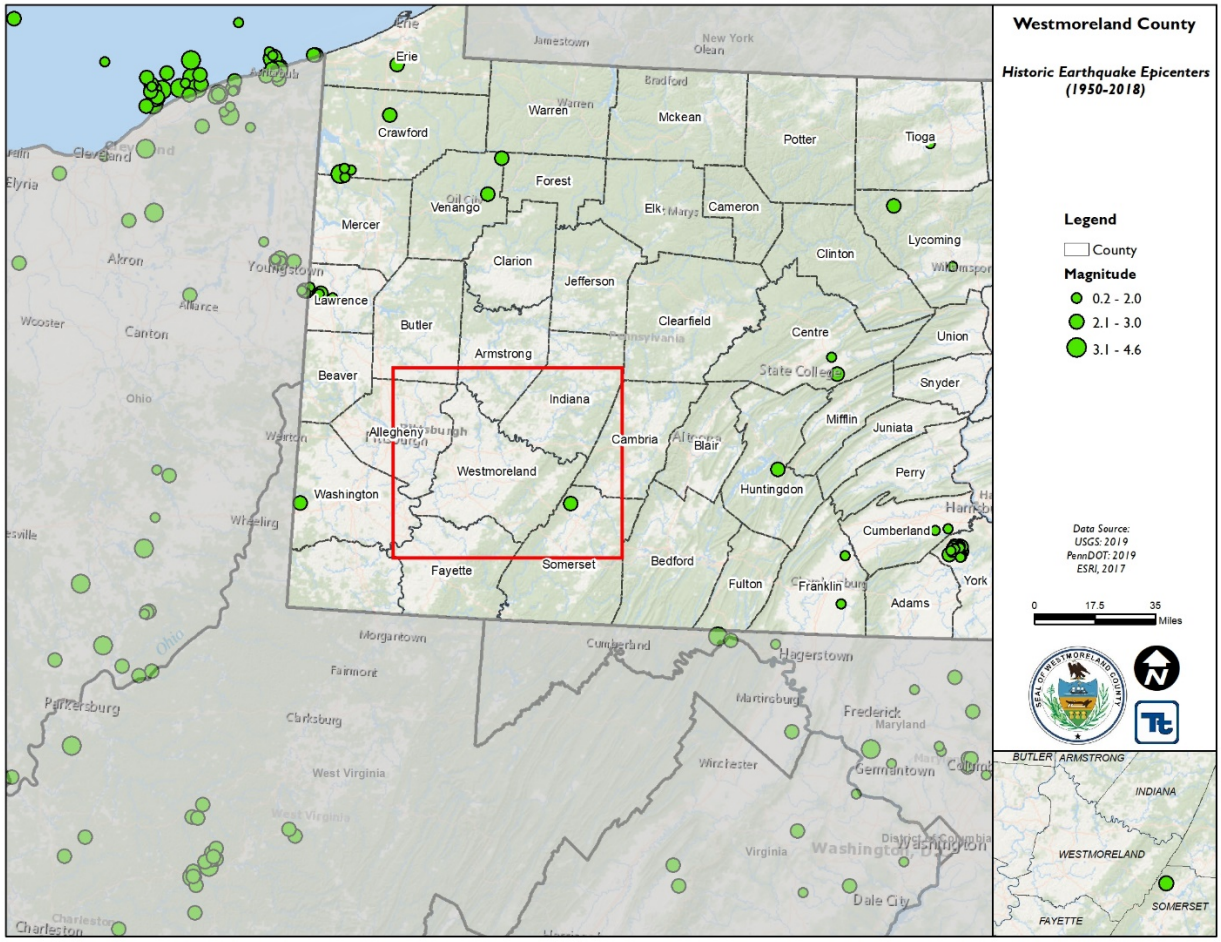


Note: The Peak Ground Acceleration for the 500-year MRP is 2.73-2.83%g.

4.3.3.3 Past Occurrence

The historical record of earthquakes goes back approximately 200 years. In Pennsylvania, about 35 earthquakes have caused light damage since the Colonial period. Nearly half of these events had out-of-state epicenters (PEMA 2018). Figure 4.3.3-6 is a map of earthquake epicenters in Pennsylvania and the surrounding states from 1950 to 2018. No damages were reported in Westmoreland County. In April 2016, during a hydraulic fracturing operation in the Utica Shale formation in Lawrence County, Pennsylvania, 5 earthquakes registering between 1.8 and 2.3 on the Richter Scale were detecting by nearby seismic monitors. The well operator was utilizing a "zipper" fracturing technique, which two parallel, horizontal wells are fracked in tandem to increase the pressure for oil and gas extraction. Since this event, the PA DEP has ordered a stop to zipper fractures in the area, and has also established a "stop-light" procedure to halt extraction operations if an earthquake greater than 2.0 on the Richter scale or three successive quakes between 1.5 and 1.9 in magnitude occur (State Impact Pennsylvania, 2017).

Figure 4.3.3-6. Historic Earthquake Epicenters (1950-2018)



Historically, large earthquakes in eastern North America have occurred in three regions: (1) Mississippi Valley near the Town of New Madrid, Missouri; (2) St. Lawrence Valley region of Quebec, Canada; and (3) Charleston, South Carolina. In February 1925, one of the region's largest earthquakes on record occurred (magnitude near 7.0) with its epicenter in a region of Quebec. If a similar-magnitude earthquake would occur in the western part of the Quebec region, some moderate damage might be expected in one or more counties of Pennsylvania's northern tier. An earthquake with an estimated magnitude of about 7.5 occurred on August 31, 1886, in Charleston, South Carolina. The earthquake was felt in most of Pennsylvania. Since then, an earthquake with a magnitude of 5.8 occurred in Louisa County, Virginia; it was felt throughout Pennsylvania, causing evacuations, minor damage, and emergency infrastructure inspections (PEMA 2018).

Other earthquakes have occurred in east coast areas, including eastern Massachusetts, southeastern New York, and northern New Jersey. Moderate earthquakes occurred in southeastern New York and northern New Jersey and were felt in eastern Pennsylvania. If an earthquake of magnitude 6.0 or greater would occur in that area, damage would likely result in easternmost counties of Pennsylvania, but not in Westmoreland County.

4.3.3.4 Future Occurrence

Earthquakes cannot be predicted and could occur any time of the day or year. Major earthquakes are infrequent in the state and county and may occur only once every few hundred years or longer, but the consequences of major earthquakes may potentially be very high. Based on the historic record, the future probability of damaging

earthquakes impacting Westmoreland County is low. With the presence of the oil and gas industry in Westmoreland County, specifically hydraulic fracturing wells, there is potential for increased earthquake risk from induced seismicity caused by fluid injection into geologic formations. Induced seismicity can lead to a higher risk of earthquakes, and to date these have been minor seismic events, but there are multiple factors which contribute to induced earthquakes, so there is not an established confidence in these assumptions as this research is currently ongoing.

According to the USGS earthquake catalog, between 1950 and 2019, there have been no earthquakes with epicenters in Westmoreland County. Based on available historical data, future occurrences of earthquake events are considered *unlikely* as defined by the Risk Factor Methodology probability criteria (refer to Section 4.4 of this plan).

4.3.3.5 Vulnerability Assessment

A probabilistic assessment was conducted for the 500-year MRPs through a Level 2 analysis in HAZUS-MH v4.2 to analyze the earthquake hazard and provide a range of loss estimates.

Impact on Life, Health, and Safety

Overall, the entire population of Westmoreland County is exposed to the earthquake hazard event. According to the 2013-2017 American Community Survey 5-Year Estimates, Westmoreland County has an estimated total population of 356,835 people. The numbers in the vulnerability assessment reflect the 2010 U.S. Census data because HAZUS-MH v4.2 uses that as the default database for demographics data. The impact of earthquakes on life, health, and safety depends on the severity of the event. Risks to public safety and loss of life from an earthquake in Westmoreland County are minimal, with higher risk occurring in buildings as a result of damage to the structure, or people walking below building ornamentation and chimneys that may be shaken loose and fall as a result of the quake.

Populations considered most vulnerable are located in the built environment, particularly near unreinforced masonry construction. In addition, the vulnerable population includes the elderly (persons over the age of 65) and individuals living below the Census poverty threshold. These socially vulnerable populations are most susceptible, based on a number of factors including their physical and financial ability to react or respond during a hazard, and locations and construction quality of their housing.

Residents may be displaced or require temporary to long-term sheltering as a result of the event. The number of people requiring shelter is generally less than the number displaced, as some displaced persons use hotels or stay with family or friends after a disaster event. Table 4.3.3-5 summarizes the estimated sheltering needs for Westmoreland County.

Table 4.3.3-5. Summary of Estimated Sheltering Needs for Westmoreland County

Scenario	Displaced Households	Persons Seeking Short-Term Shelter
500-Year Earthquake	14	8

Source: HAZUS-MH 4.2

Structural building damage correlates strongly to the number of injuries and casualties from an earthquake event (NYCEM 2003). Furthermore, different sectors of the community would be exposed to the hazard depending on time of day of occurrence. For example, HAZUS considers that maximum residential occupancy occurs at 2:00 a.m.; educational, commercial, and industrial sectors maximum occupancy at 2:00 p.m.; and peak commute time at 5:00 p.m. Whether affected directly or indirectly, the entire population would have to deal with consequences of earthquakes to some degree. Business interruption could prevent people from working, road

closures could isolate populations, and loss of functions of utilities could affect populations that suffered no direct damage from an event. Table 4.3.3-6 summarizes estimated number of injuries, hospitalizations, and casualties as a result of the 500-year MRP event.

Table 4.3.3-6. Estimated Number of Injuries, Hospitalizations, and Casualties from the 500-Year MRP Earthquake Event

Level of Severity	Time of Day		
	2:00 a.m.	2:00 p.m.	5:00 p.m.
Injuries	10	8	7
Hospitalization	1	1	1
Casualties	0	0	0

Source: HAZUS-MH 4.2

Impact on General Building Stock

The entire study area's general building stock is considered at risk and exposed to this hazard. The HAZUS-MH v4.2 model estimates value of exposed building stock and loss (in terms of damage to exposed stock). The County Profile section of this HMP (Section 2) presents statistics on replacement values of general building stock (structure and contents).

A probabilistic model was run to estimate annualized dollar losses within Westmoreland County by application of HAZUS-MH v4.2. Annualized losses are useful for mitigation planning because they provide a baseline that can be used to compare (1) risk of one hazard across multiple jurisdictions, and (2) degree of risk of all hazards within each participating jurisdiction. Notably, annualized loss does not predict losses in any particular year. Estimated earthquake annualized losses are approximately $163K per year (building and contents) within the County.

According to NYCEM, where earthquake risks and mitigation were evaluated in the New York, New Jersey, and Connecticut region, most damage and loss caused by an earthquake would directly or indirectly result from ground shaking (NYCEM 2003). NYCEM found a strong correlation between PGA and damage a building might undergo. The HAZUS-MH v4.2 model is based on the best available earthquake science and aligns with these statements. HAZUS-MH v4.2 methodology and model were used to analyze the earthquake hazard for the general building stock within Westmoreland County. Figure 4.3.3-5 earlier in this profile illustrates the geographic distribution of PGA (%*g*) across the County for the 500-year MRP event.

In addition, according to NYCEM (NYCEM 2003), a building's construction determines how well it can withstand the force of an earthquake. The NYCEM report indicates that unreinforced masonry buildings are most at risk during an earthquake because the walls are prone to collapse outward, whereas steel and wood buildings absorb more of the earthquake's energy. Additional attributes that affect a building's capability to withstand an earthquake's force include its age, number of stories, and quality of construction. HAZUS-MH considers building construction and age of buildings in its analysis. Default building ages and building types already incorporated into the inventory were used because the default general building stock was used for this HAZUS-MH analysis.

Potential building damage was evaluated by HAZUS-MH v4.2 across the following damage categories: none, slight, moderate, extensive, and complete. Table 4.3.3-7 provides definitions of these categories of damage for a light wood-framed building; definitions for other building types are included in the HAZUS-MH technical manual documentation. General building stock damage for these damage categories by occupancy class on a countywide basis is summarized for the 500-year event in Table 4.3.3-8.

Table 4.3.3-7. Example of Structural Damage State Definitions for a Light Wood-Framed Building

Damage Category	Description
Slight	Small plaster or gypsum-board cracks at corners of door and window openings and wall-ceiling intersections; small cracks in masonry chimneys and masonry veneer.
Moderate	Large plaster or gypsum-board cracks at corners of door and window openings; small diagonal cracks across shear wall panels exhibited by small cracks in stucco and gypsum wall panels; large cracks in brick chimneys; toppling of tall masonry chimneys.
Extensive	Large diagonal cracks across shear wall panels or large cracks at plywood joints; permanent lateral movement of floors and roof; toppling of most brick chimneys; cracks in foundations; splitting of wood sill plates or slippage of structure over foundations; partial collapse of room-over-garage or other soft-story configurations.
Complete	Structure may have large permanent lateral displacement, may collapse, or be in imminent danger of collapse because of the crippled wall failure or the failure of the lateral load resisting system; some structures may slip and fall off the foundations; large foundation cracks.

Source: FEMA 2015a

Table 4.3.3-8. Estimated Buildings Damaged by General Occupancy for 500-year MRP Earthquake Event

	Average Damage State				
	500-Year MRP				
Category	None	Slight	Moderate	Extensive	Complete
Residential	148,118 (91.1%)	1,866 (1.1%)	540 (0.3%)	52 (0.0%)	6 (0.0%)
Commercial	7,802 (7.8%)	117 (0.1%)	32 (0.0%)	3 (0.0%)	0 (0.0%)
Industrial	2,283 (1.4%)	31 (0.0%)	8 (0.0%)	1 (0.0%)	0 (0.0%)
Education, Government, Religious, and Agricultural	1,728 (1.1%)	24 (0.0%)	7 (0.0%)	1 (0.0%)	0 (0.0%)

Source: HAZUS-MH v4.2

Table 4.3.3-9 summarizes estimated building value (buildings and contents) for the 500-year MRP earthquake event. Damage loss estimates include structural and non-structural damage to buildings and loss of contents. Potential losses for the 500-year MRP earthquake event were less than 1-percent of the total replacement cost value for each jurisdiction.

Table 4.3.3-9. Estimated Building Value (Building and Contents) Damaged by the Annualized, 500-Year MRP Earthquake Event

Municipality	Total Replacement Cost Value (Building and Contents)	Estimated Total Damages*		Estimated Residential Damage	Estimated Commercial Damage
		Annualized Loss	500-Year	500-Year	500-Year
Adamsburg Borough	$33,710,000	<$1000	$9,559	$8,020	$1,177
Allegheny Township	$1,477,670,000	$3,331	$392,019	$313,198	$52,827
Arnold, City of	$982,657,000	$2,112	$238,543	$177,511	$25,303
Arona Borough	$54,508,000	<$1000	$16,067	$14,963	$453
Avonmore Borough	$297,296,000	<$1000	$75,010	$59,974	$5,003
Bell Township	$351,372,000	<$1000	$88,653	$70,883	$5,913
Bolivar Borough	$64,192,000	<$1000	$17,639	$14,969	$1,408
Cook Township	$322,402,000	<$1000	$93,710	$79,841	$7,977
Delmont Borough	$588,678,000	$1,284	$150,825	$108,447	$26,919
Derry Borough	$410,373,000	<$1000	$105,455	$84,634	$9,482
Derry Township	$2,149,630,000	$4,899	$575,366	$461,239	$55,500
Donegal Borough	$19,585,000	<$1000	$5,693	$4,850	$485
Donegal Township	$482,046,000	$1,150	$140,113	$119,375	$11,927
East Huntingdon Township	$1,365,245,000	$3,211	$372,994	$244,508	$86,577
East Vandergrift Borough	$108,645,000	<$1000	$27,824	$22,006	$2,874
Export Borough	$221,524,000	<$1000	$56,757	$40,809	$10,130
Fairfield Township	$289,624,000	<$1000	$79,584	$67,536	$6,354
Greensburg, City of	$3,859,723,000	$8,261	$923,651	$557,864	$282,543
Hempfield Township	$7,618,366,000	$17,348	$2,110,571	$1,764,563	$238,760
Hunker Borough	$51,852,000	<$1000	$13,853	$9,753	$2,804
Hyde Park Borough	$200,590,000	<$1000	$49,050	$34,261	$9,064
Irwin Borough	$875,822,000	$1,865	$215,783	$157,770	$34,565
Jeannette, City of	$2,049,741,000	$4,371	$502,597	$344,807	$92,297
Latrobe, City of	$1,902,472,000	$3,969	$438,836	$262,588	$94,530
Laurel Mountain Borough	$56,349,000	<$1000	$13,306	$8,242	$4,391
Ligonier Borough	$477,076,000	$1,040	$116,093	$64,681	$33,709
Ligonier Township	$1,690,025,000	$3,717	$417,852	$287,215	$110,824
Lower Burrell, City of	$2,167,800,000	$4,858	$565,968	$425,851	$92,302
Loyalhanna Township	$305,072,000	<$1000	$76,972	$61,543	$5,134
Madison Borough	$88,528,000	<$1000	$23,651	$16,651	$4,787
Manor Borough	$550,925,000	$1,228	$148,203	$122,322	$13,223
Monessen City	$1,378,401,000	$3,138	$378,053	$289,673	$58,477
Mt. Pleasant Borough	$1,473,911,000	$3,220	$345,063	$154,911	$125,346
Mt. Pleasant Township	$2,164,407,000	$4,969	$583,254	$405,778	$118,645
Murrysville Borough	$4,679,858,000	$10,526	$1,261,398	$968,999	$212,802
New Alexandria Borough	$144,207,000	<$1000	$39,438	$32,352	$4,157
New Florence Borough	$99,781,000	<$1000	$27,418	$23,267	$2,189

Municipality	Total Replacement Cost Value (Building and Contents)	Estimated Total Damages*		Estimated Residential Damage	Estimated Commercial Damage
		Annualized Loss	500-Year	500-Year	500-Year
New Kensington, City of	$2,972,423,000	$6,415	$717,966	$478,946	$161,843
New Stanton Borough	$493,637,000	$1,116	$131,880	$92,846	$26,691
North Belle Vernon Borough	$374,204,000	<$1000	$102,624	$67,400	$29,768
North Huntingdon Township	$6,275,194,000	$14,280	$1,736,257	$1,405,242	$222,598
North Irwin Borough	$93,070,000	<$1000	$22,930	$16,766	$3,673
Oklahoma Borough	$110,545,000	<$1000	$27,891	$22,300	$1,860
Penn Borough	$65,127,000	<$1000	$15,785	$9,323	$4,143
Penn Township	$3,979,549,000	$8,884	$1,070,045	$880,397	$83,433
Rostraver Township	$2,119,205,000	$4,982	$605,611	$466,700	$104,159
Salem Township	$176,087,000	$4,209	$48,386	$261,092	$143,113
Scottdale Borough	$1,883,346,000	$2,170	$472,769	$145,652	$37,277
Seward Borough	$999,267,000	<$1000	$242,172	$20,458	$1,925
Sewickley Township	$87,732,000	$2,143	$24,107	$209,664	$23,306
Smithton Borough	$928,135,000	<$1000	$260,187	$43,898	$10,557
South Greensburg Borough	$214,269,000	$1,205	$59,106	$78,373	$48,758
South Huntingdon Township	$551,430,000	$1,860	$138,760	$167,912	$37,324
Southwest Greensburg Borough	$803,093,000	<$1000	$223,733	$72,197	$22,748
St. Clair Township	$393,277,000	<$1000	$100,408	$41,061	$3,863
Sutersville Borough	$95,741,000	<$1000	$27,897	$23,276	$2,624
Trafford Borough	$837,649,000	$1,840	$211,448	$117,373	$81,022
Unity Township	$4,329,118,000	$9,774	$1,154,422	$894,784	$141,329
Upper Burrell Township	$513,830,000	$1,145	$131,565	$91,399	$17,976
Vandergrift Borough	$840,662,000	$1,814	$211,339	$165,645	$31,264
Washington Township	$1,110,239,000	$2,600	$319,570	$285,894	$20,058
West Leechburg Borough	$219,980,000	<$1000	$53,792	$37,572	$9,940
West Newton Borough	$459,333,000	$1,022	$121,203	$87,175	$19,413
Youngstown Borough	$76,023,000	<$1000	$21,614	$19,054	$1,770
Youngwood Borough	$772,223,000	$1,669	$188,321	$109,052	$35,563
Westmoreland County	**$72,828,451,000**	**$162,892**	**$19,138,606**	**$14,197,302**	**$3,178,856**

Source: HAZUS-MH v4.2
Notes:
Total amount is sum of damages for all occupancy classes (residential, commercial, industrial, agricultural, educational, religious, and government).

An estimated $19 million in damages would occur to buildings in the County during a 500-year earthquake event. This takes into account structural damage, non-structural damage, and loss of contents, representing less than 1 percent of total replacement value for general building stock in Westmoreland County (total replacement value within the County would exceed $72 billion). Earthquakes can cause secondary hazard events such as fires. According to the HAZUS-MH v4.2 earthquake model, no fires are anticipated as a result of the 500-Year MRP event.

Impact on Critical Facilities

After consideration of general building stock exposed to and damaged by each earthquake event, critical facilities were evaluated. All critical facilities (essential facilities, transportation systems, lifeline utility systems, high-potential loss facilities, and user-defined facilities) in Westmoreland County are considered exposed and vulnerable to the earthquake hazard. The Critical Facilities subsection of this HMP in Section 2 (County Profile) discusses the inventory of critical facilities in Westmoreland County.

HAZUS-MH v4.2 estimates the probability that critical facilities may sustain damage as a result of the 500-year MRP earthquake event. Additionally, HAZUS-MH v4.2 estimates percent functionality of each facility days after the event. Table 4.3.3-10 (500-year MRP earthquake event) lists percent probabilities that critical facilities and utilities would sustain damages within the damage categories (column headings), and list percent functionalities after different numbers of days following those events (column headings).

Table 4.3.3-10. Estimated Damage to and Loss of Functionality of Critical Facilities and Utilities in Westmoreland County for the 500-Year MRP Earthquake Event

Name	Percent Probability of Sustaining Damage					Percent Functionality			
	None	Slight	Moderate	Extensive	Complete	Day 1	Day 7	Day 30	Day 90
Critical Facilities									
Medical	95	3	1	<1	<1	95	98	100	100
Police	95	3-4	1	<1	<1	95	98-99	100	100
Fire	95	3	1	<1	<1	95	98-99	100	100
EOC	95	3	1	<1	<1	95	98	100	100
School	95	3-4	1	<1	<1	95	98	100	100
Utilities									
Potable	98	1	<1	<1	0	99	100	100	100
Wastewater	98	1	<1	<1	0	99	100	100	100
Electric	98	1	<1	<1	0	100	100	100	100

Source: HAZUS-MH v4.2
Notes: EOC Emergency Operations Center

Impact on Economy

Earthquakes also impact the economy, including loss of business function, damage to inventory (buildings, transportation, and utility systems), relocation costs, wage loss, and rental loss due to repair and replacement of buildings. HAZUS-MH v4.2 estimates building-related economic losses, including income losses (wage, rental, relocation, and capital-related losses) and capital stock losses (structural, non-structural, content, and inventory losses). Economic losses estimated by HAZUS-MH v4.2 are summarized in Table 4.3.3-11.

Table 4.3.3-11. Building-Related Economic Losses from the 500-Year MRP Earthquake Event

Level of Severity	Mean Return Period 500-year
Income Losses	
Wage	$1,475,500
Capital Related	$980,200
Rental	$1,758,800
Relocation	$4,352,200

Level of Severity	Mean Return Period
	500-year
Subtotal	**$8,566,700**
Capital Stock Losses	
Structural	$7,950,200
Non-Structural	$10,119,800
Content	$1,427,700
Inventory	$41,700
Subtotal	**$19,179,400**

Source: HAZUS-MH v4.2.

For a 500-year event, HAZUS-MH 4.2 estimates that the County would incur approximately $8.5 million in income losses (wage, rental, relocation, and capital-related losses) in addition to structural, non-structural, and content building stock losses ($19.2 million).

The HAZUS-MH v4.2 analysis did not take into account damage to roadway segments. However, these features assumedly would undergo damage as a result of ground failure, and an earthquake event thus would interrupt regional transportation and distribution of materials. According to HAZUS-MH Earthquake User Manual, losses to the community resulting from damages to lifelines could be much greater than costs of repair (FEMA 2015a).

Earthquake events can significantly damage road bridges; this is important because they often provide the only access to certain neighborhoods. Because softer soils can generally follow floodplain boundaries, bridges that cross watercourses should be considered vulnerable. A key factor in degree of vulnerability is age of a facility, which helps indicate the standards the facility was built to achieve.

HAZUS-MH Earthquake User's Manual also estimates volume of debris that may be generated as a result of an earthquake event to enable the study region to prepare and rapidly and efficiently manage debris removal and disposal. Debris estimates are divided into two categories: (1) reinforced concrete and steel that require special equipment to break up before transport, and (2) brick, wood, and other debris that can be loaded directly onto trucks with bulldozers (FEMA 2015a).

Table 4.3.3-12 summarizes the estimated debris generated by the earthquake scenario in HAZUS-MH v4.2.

Table 4.3.3-12. Estimated Debris Generated by 500-year MRP Earthquake Event

Municipality	Debris Type	
	Brick/Wood (tons)	Concrete/ Steel (tons)
Adamsburg Borough	67	13
Allegheny Township	389	78
Arnold, City of	204	45
Arona Borough	365	69
Avonmore Borough	227	45
Bell Township	227	45
Bolivar Borough	174	32
Cook Township	197	38
Delmont Borough	329	75
Derry Borough	95	19
Derry Township	508	106

Table 4.3.3-12. Estimated Debris Generated by 500-year MRP Earthquake Event

Municipality	Debris Type	
	Brick/Wood (tons)	Concrete/ Steel (tons)
Donegal Borough	197	38
Donegal Township	197	38
East Huntingdon Township	284	72
East Vandergrift Borough	100	18
Export Borough	329	75
Fairfield Township	174	32
Greensburg, City of	927	229
Hempfield Township	1,936	421
Hunker Borough	213	48
Hyde Park Borough	182	39
Irwin Borough	355	77
Jeannette, City of	428	97
Latrobe, City of	356	86
Laurel Mountain Borough	222	52
Ligonier Borough	90	23
Ligonier Township	315	68
Lower Burrell, City of	453	94
Loyalhanna Township	227	45
Madison Borough	213	48
Manor Borough	217	44
Monessen City	332	68
Mt. Pleasant Borough	259	78
Mt. Pleasant Township	455	105
Murrysville Borough	1,031	225
New Alexandria Borough	202	40
New Florence Borough	174	32
New Kensington, City of	560	127
New Stanton Borough	213	48
North Belle Vernon Borough	90	20
North Huntingdon Township	1,380	282
North Irwin Borough	190	42
Oklahoma Borough	227	45
Penn Borough	112	28
Penn Township	1,193	254
Rostraver Township	458	95
Salem Township	332	90
Scottdale Borough	199	47
Seward Borough	174	32
Sewickley Township	234	47
Smithton Borough	104	21
South Greensburg Borough	115	28
South Huntingdon Township	238	49
Southwest Greensburg Borough	91	20
St. Clair Township	174	32
Sutersville Borough	99	19
Trafford Borough	167	39
Unity Township	873	204
Upper Burrell Township	101	24
Vandergrift Borough	430	81

Table 4.3.3-12. Estimated Debris Generated by 500-year MRP Earthquake Event

Municipality	Debris Type	
	Brick/Wood (tons)	Concrete/ Steel (tons)
Washington Township	569	114
West Leechburg Borough	182	39
West Newton Borough	240	50
Youngstown Borough	185	36
Youngwood Borough	148	37
Westmoreland County (Total)	**21,728**	**4,711**

Source: HAZUS-MH v4.2

Impact on the Environment

Earthquakes can lead to numerous, widespread, and devastating environmental impacts. These impacts may include but are not limited to:

- Induced flooding or landslides
- Poor water quality
- Damage to vegetation
- Breakage in sewage or toxic material containments

Secondary impacts can include train derailments, roadway damages, spillage of hazardous materials (HazMat), and utility interruption.

Future Growth and Development

As discussed in Section 2.4 of this HMP, areas targeted for future growth and development have been identified across the county. Human exposure and vulnerability to earthquake impacts in newly developed areas are anticipated to be similar to those current within the county. Current building codes require seismic provisions that should render new construction less vulnerable to seismic impacts than older, existing construction that may have been built to lower construction standards.

Effect of Climate Change on Vulnerability

Impacts of global climate change on earthquake probability are unknown. Some scientists say that melting glaciers could induce tectonic activity. As ice melts and water runs off, tremendous amounts of weight are shifted on the Earth's crust. As newly freed crust returns to its original, pre-glacier shape, it could cause seismic plates to slip and stimulate volcanic activity, according to research into prehistoric earthquakes and volcanic activity. National Aeronautics and Space Administration (NASA) and USGS scientists found that retreating glaciers in southern Alaska might be opening the way for future earthquakes (NASA 2004).

Secondary impacts of earthquakes could be magnified by climate change. Soils saturated by repetitive storms could undergo liquefaction during seismic activity as a result of the increased saturation. Dams storing increased volumes of water as a result of changes in the hydrograph could fail during seismic events. No current models are available to estimate these impacts.

Additional Data and Next Steps

Ground shaking is the primary cause of earthquake damage to man-made structures, and soft soils amplify ground shaking. One contributor to site amplification is velocity at which rock or soil transmits shear waves (S-waves). The NEHRP developed five soil classifications defined by their shear-wave velocity that alter severity of an earthquake. These soil classifications range from A to E, whereby A represents hard rock that reduces

ground motions from an earthquake and E represents soft soils that amplify and magnify ground shaking and increase building damage and losses. When this soil information becomes available, it may be incorporated into HAZUS-MH v4.2 to further refine the County's vulnerability assessment.

A HAZUS-MH v4.2 earthquake analysis was conducted for Westmoreland County by use of the default model data. Additional data needed to further refine and enhance the County's vulnerability assessment includes identifications of unreinforced masonry critical facilities and privately-owned buildings (i.e., residences) via local knowledge and/or pictometry/orthophotos. Use of soil type data can also lead to more accurate estimates of potential losses to the County. These buildings may not withstand earthquakes of certain magnitudes and plans to provide emergency response/recovery efforts for these properties can be established. Further mitigation actions include training of County and municipal personnel to provide post-hazard event rapid visual damage assessments, increase of County and local debris management and logistic capabilities, and revised regulations to prevent additional construction of non-reinforced masonry buildings.

4.3.4 Extreme Temperature

This section provides a profile and vulnerability assessment of the extreme temperature hazard in Westmoreland County. Extreme temperature includes both heat and cold events, which can have a significant impact to human health, commercial/agricultural businesses and primary and secondary effects on infrastructure (e.g., burst pipes and power failure). What constitutes "extreme cold" or "extreme heat" can vary across different areas of the country, based on the conditions the population is accustomed to.

Extreme cold events are when temperatures drop well below normal in an area. In regions relatively unaccustomed to winter weather, near freezing temperatures are considered "extreme cold." Extreme cold temperatures are generally characterized in temperate zones by the ambient air temperature dropping to approximately 0ºF or below (Centers for Disease Control and Prevention [CDC] 2013). Extremely cold temperatures often accompany a winter storm, which can cause power failures and icy roads. Although staying indoors as much as possible can help reduce the risk of car crashes and falls on the ice, individuals may also face indoor hazards. Many homes will be too cold—either due to a power failure or because the heating system is not adequate for the weather. The use of space heaters and fireplaces to keep warm increases the risk of household fires and carbon monoxide poisoning (CDC 2007).

Conditions of extreme heat are defined as summertime temperatures that are substantially hotter and/or more humid than average for a location at that time of year (CDC 2009). An extended period of extreme heat of 3 or more consecutive days is typically called a heat wave and is often accompanied by high humidity (National Weather Service [NWS] 2005). "Heat wave" has no universal definition because the term is relative to the usual weather in a particular area. The term heat wave is applied both to routine weather variations and to extraordinary spells of heat that may occur only once per century (Meehl and Tebaldi 2004). A basic definition of a heat wave implies that it is an extended period of unusually high atmosphere-related heat stress, which causes temporary modifications in lifestyle and which may have adverse health consequences for the affected population (Robinson 2013). A heat wave is defined has 3 consecutive days of temperatures ≥90°F.

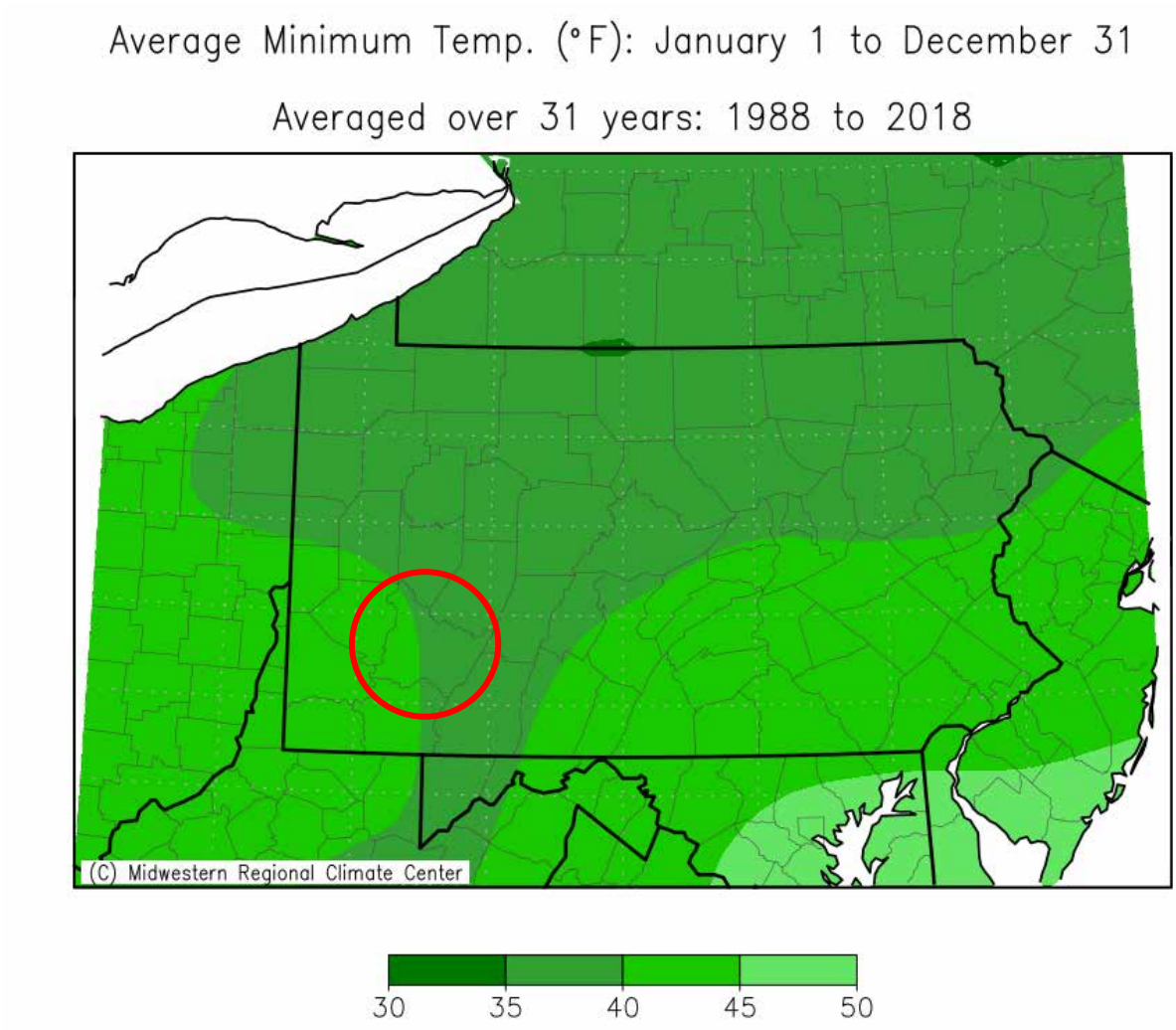
Extreme heat is the number one weather-related cause of death in the United States. In a 30-year average of weather fatalities across the nation from 1988 to 2017, excessive heat claimed more lives each year than floods, lightning, tornadoes, and hurricanes. In 2017, heat claimed 107 lives nationally, with no fatalities occurring in Pennsylvania (NWS 2018).

4.3.4.1 Location and Extent

Location

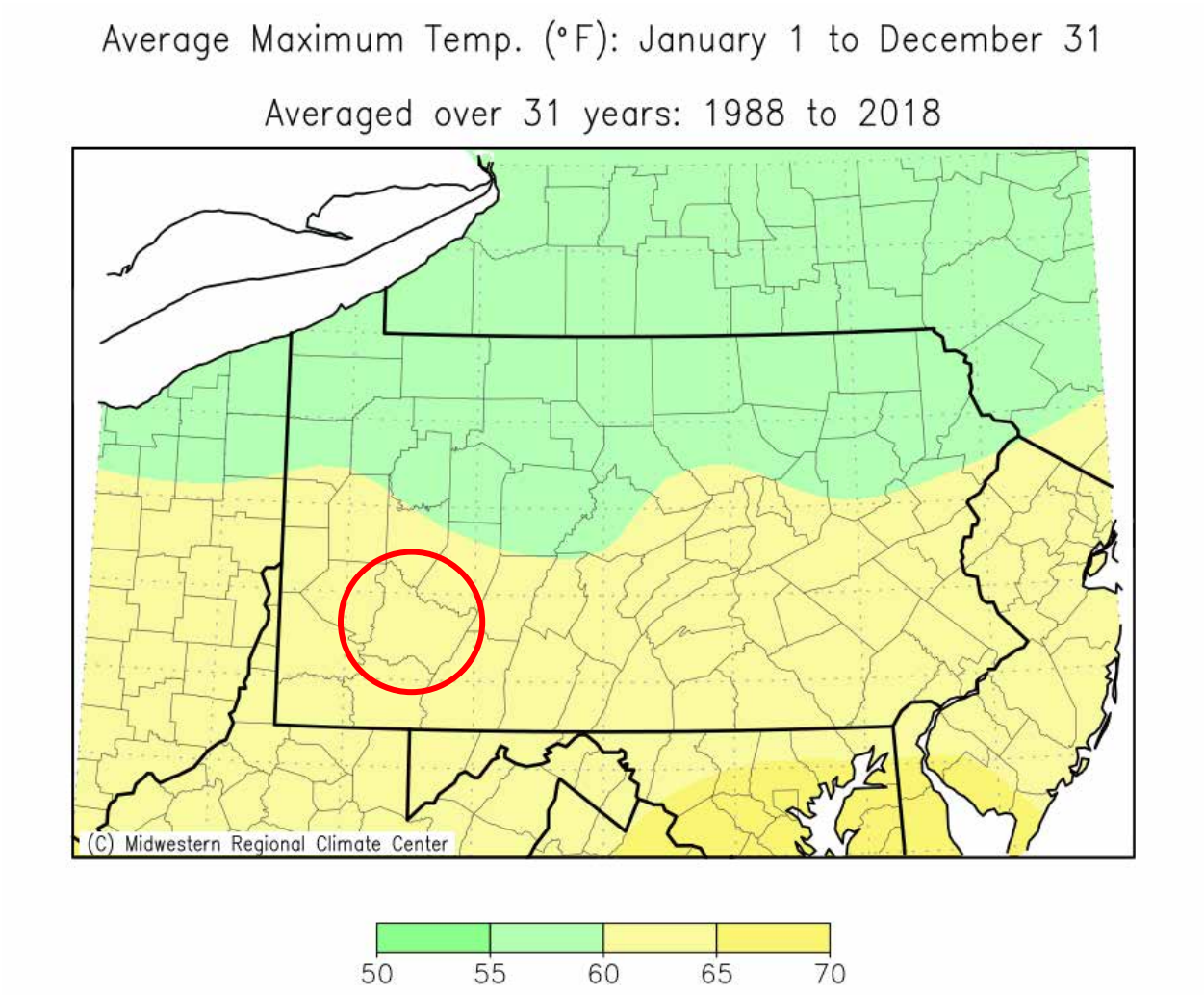
Westmoreland County is susceptible to extreme temperatures in the summer and winter seasons and they can occur anywhere in the County. The average low temperature in January is 20°F and the average high temperature in July is 82°F (U.S. Climate Data 2019). Average minimum temperatures in Westmoreland County ranged from 30°F to 40°F (Figure 4.3.4-1) and average maximum temperatures range from 60°F to 65°F (Figure 4.3.4-2.) (Midwestern Regional Climate Center [MRCC] 2019).

Figure 4.3.4-1. Average Minimum Temperature (1988-2018)



Source: MRCC 2019

Figure 4.3.4-2. Average Maximum Temperature (1981-2010)



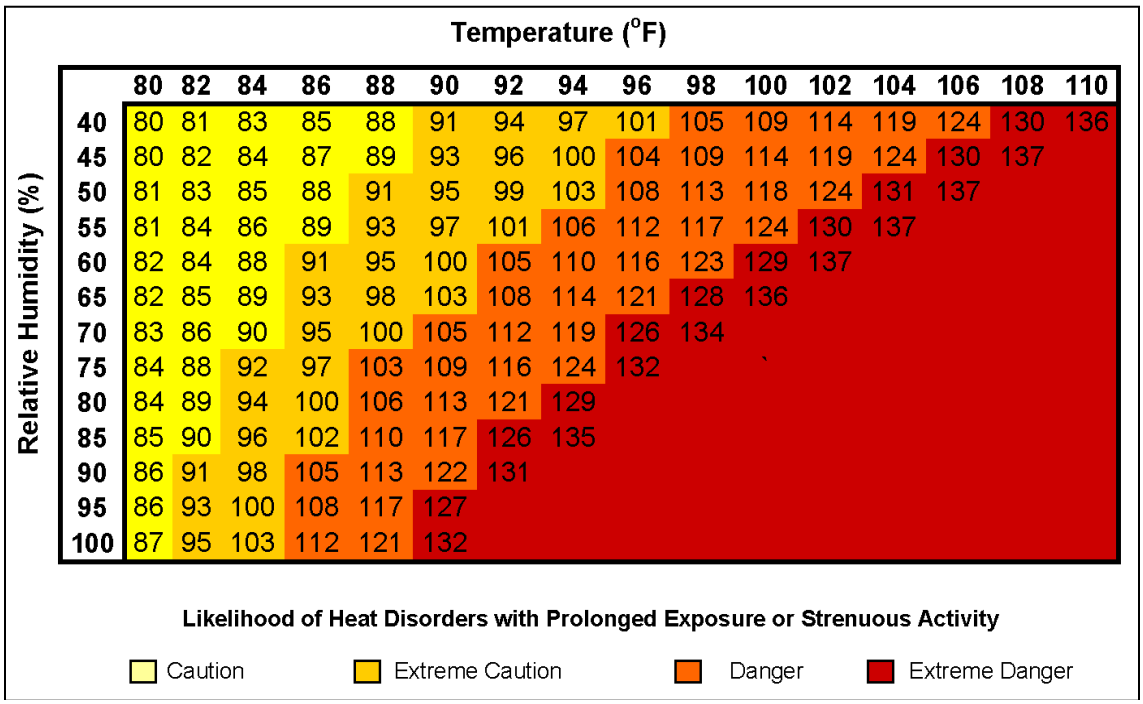
Source: MRCC 2019

Extent

Extreme Heat

NOAA's heat alert procedures are based mainly on heat index values. The heat index is given in degrees Fahrenheit. The heat index is a measure of how hot it really feels when relative humidity is factored in with the actual air temperature. To find the heat index temperature, the temperature and relative humidity need to be known. Once both values are known, the heat index will be the corresponding number with both values (Figure 4.3.4-3). The heat index indicates the temperature the body feels. It is important to know that the Heat Index values are devised for shady, light wind conditions. Exposure to full sunshine can increase heat index values by up to 15°F. Strong winds, particularly with very hot dry air, can also be extremely hazardous (NWS 2013).

Figure 4.3.4-3. NWS Heat Index Chart



Source: *NWS 2015*
°F *degrees Fahrenheit*
% *percent*

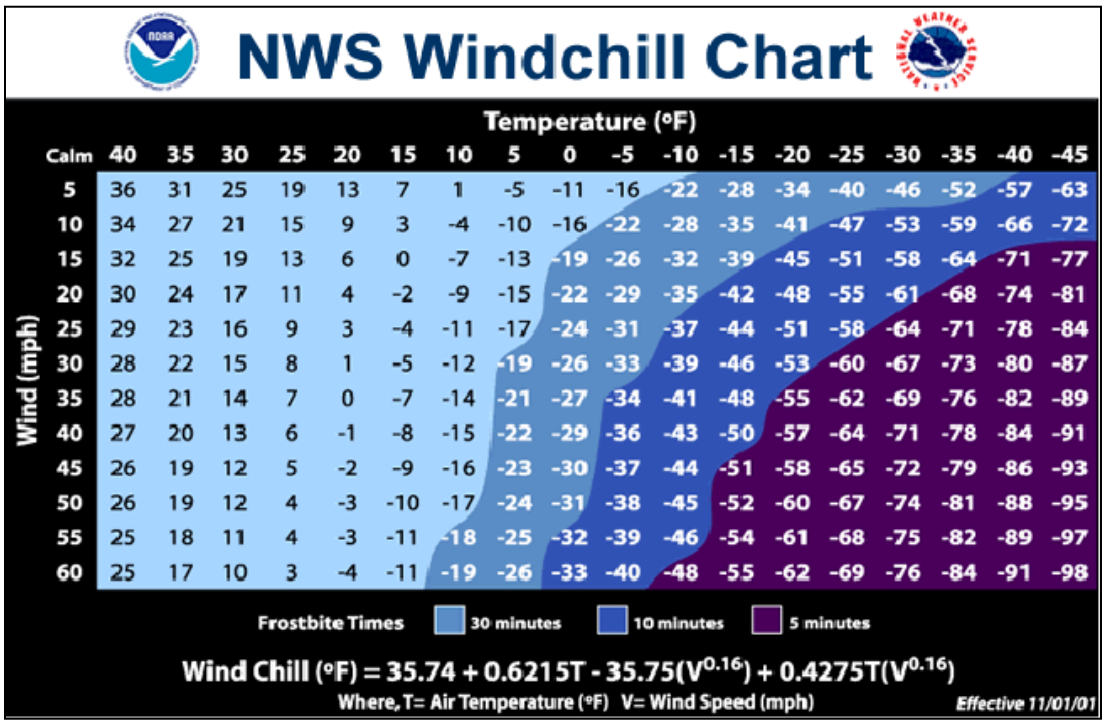
Extreme Cold

The extent (severity or magnitude) of extreme cold temperatures are generally measured through the wind chill temperature (WCT) index. Wind chill temperature is the temperature that people and animals feel when outside and it is based on the rate of heat loss from exposed skin by the effects of wind and cold. As the wind increases, the body is cooled at a faster rate causing the skin's temperature to drop (NWS, n.d.).

On November 1, 2001, the NWS implemented a new WCT index. It was designed to more accurately calculate how cold air feels on human skin. The table below shows the new WCT Index. The WCT index includes a frostbite indicator, showing points where temperature, wind speed, and exposure time will produce frostbite to humans. Figure 4.3.4-4 shows three shaded areas of frostbite danger. Each shaded area shows how long a person can be exposed before frostbite develops (NWS, n.d.).

In Pennsylvania, wind chill warnings are issued when wind chills drop to -25°F or lower. While this threshold applies to the entire state, the threshold for advisories vary based on regions. Wind chill advisories are issued in the southeast and western sections of Pennsylvania when wind chill values drop to -10°F. South-central to northern sections of the Commonwealth when wind chills drop to -15°F (Pennsylvania Emergency Management Agency [PEMA] 2018).

Figure 4.3.4-4. NWS Wind Chill Index



Source: *NWS, n.d.*
°F *degrees Fahrenheit*
mph *miles per hour*

4.3.4.2 Range of Magnitude

Extreme temperatures can cause a range of impacts to communities that include health impacts, transportation, agriculture, and energy. Meteorologists can accurately forecast extreme temperature event development and the severity of the associated conditions with several days lead time. These forecasts provide an opportunity for public health and other officials to notify vulnerable populations.

For heat events, the NWS issues excessive heat outlooks when the potential exists for an excessive heat event in the next 3 to 7 days. Watches are issued when conditions are favorable for an excessive heat event in the next 24 to 72 hours. Excessive heat warning/advisories are issued when an excessive heat event is expected in the next 36 hours (NWS 2013d). Winter temperatures may fall to extreme cold readings with no wind occurring. Currently, the only way to headline very cold temperatures is with the use of the NWS-designated wind chill advisory or warning products. When actual temperatures reach wind chill warning criteria with little to no wind, extreme cold warnings may be issued (NWS, n.d.).

Cold temperatures can be extremely dangerous to humans and animals exposed to the elements. Without heat and shelter, cold temperatures can cause hypothermia, frost bite, and death. Wind chill temperatures are often used in place of raw temperature values due to the effect of wind can have in drawing heat from the body under cold temperatures. These values represent what temperatures actually feel like to humans and animals under cold, windy conditions. Similar to high temperatures, the effect of cold temperatures will vary by individual (PEMA 2018).

Extremely high temperatures cause heat stress, which can be divided into four categories (Table 4.3.4-1). Each category is defined by apparent temperature, which is associated with a heat index value that captures the

combined effects of dry air temperature and relative humidity on humans and animals. Major human risks for these temperatures include heat cramps, heat syncope, heat exhaustion, heatstroke, and death. Although the figure below serves as a guide for various danger categories, the impacts of high temperatures will vary from person to person based on age, health, and other factors. The elderly and very young are most vulnerable to health-related impacts of extreme temperatures (PEMA 2018).

Table 4.3.4-1. Adverse Effects of Prolonged Exposure to Heat on Individuals

Category	Heat Index	Health Hazards
Extreme Danger	130 °F – Higher	Heat Stroke / Sunstroke is likely with continued exposure.
Danger	105 °F – 129 °F	Sunstroke, muscle cramps, and/or heat exhaustion possible with prolonged exposure and/or physical activity.
Extreme Caution	90 °F – 105 °F	Sunstroke, muscle cramps, and/or heat exhaustions possible with prolonged exposure and/or physical activity.
Caution	80 °F – 90 °F	Fatigue possible with prolonged exposure and/or physical activity.

Source: NWS 2009

4.3.4.3 Past Occurrence

Many sources provided historical information regarding previous occurrences and losses associated with extreme temperature events throughout Westmoreland County. With so many sources reviewed for the purpose of this HMP, loss and impact information for many events could vary depending on the source. Therefore, the accuracy of monetary figures discussed is based only on the available information identified during research for this HMP.

Based on data from the Midwestern Regional Climate Center (MRCC), Table 4.3.4-2 presents the number of extreme cold (minimum) and hot (maximum) temperature records for the weather stations located in Westmoreland County between 1950 and April 2019.

Table 4.3.4-2. Number of Days with a Recorded Extreme Temperature (1950-2019)

NWS Station	# Days Above 90°F (Hot)	# Days Below 0°F (Cold)
Charleroi Lock 4	126	25
Derry 4 SW	483	229
Donegal 2 NW	165	499
Irwin	185	12
Laurel Mountain	24	215
Mount Pleasant	91	36
Murrysville 2 SW	168	39
New Stanton 1 SW	389	93
Rector 3 SSW	294	312
Salina 3 W	606	422
Average	253.1	188.2

Source: MRCC 2019

Note: There may be some potential problems with the data collected at the stations. The values of the all-time records for stations with brief histories are limited in accuracy and could vary from nearby stations with longer records. Although the data sets have been through quality control, there is still a need for more resources to quality control extremes. The record sets are for single stations in the cooperative observer network and are limited to the time of operation of each station under one coop number. The records for a place may need to be constructed from several individual station histories. Some of the data may vary from NWS records due to NWS using multiple stations and additional sources like record books (MRCC, n.d.).

Between 1954 and 2019, Pennsylvania has not been included in major disaster (DR) or emergency (EM) declarations as a result of extreme temperatures (FEMA 2019). Agriculture-related disaster declarations are quite common. One-half to two-thirds of the counties in the United States have been designated as disaster areas in each of the past several years. The U.S. Department of Agriculture (USDA) Secretary of Agriculture is authorized to designate counties as disaster areas to make emergency loans to producers suffering losses in those counties and in counties that are contiguous to a designated county. Between 2012 and 2018, Pennsylvania has been included in 26 USDA declarations related to extreme temperatures. Westmoreland County has not been included in these declarations.

Table 4.3.4-3 summarizes extreme temperature events that occurred in Westmoreland County. Between 1950 and 2019, Westmoreland County has experienced 116 extreme temperature events (Pennsylvania State Climatologist 2019; National Oceanic and Atmospheric Administration National Centers for Environmental Information [NOAA-NCEI] 2019). However, details for all events were not readily available. As stated above, many sources were researched for historical information regarding extreme temperature events; however, the table below is not inclusive of every extreme temperature event that has impacted Westmoreland County.

Table 4.3.4-3. Extreme Temperature Events in Westmoreland County, 2014 to 2019

Date(s) of Event	Event Type	Description
January 5-7, 2014	Extreme Cold/Wind Chill	An arctic cold front crossed into the Upper Ohio Valley bringing record-low temperatures and extreme wind chills. In Westmoreland County, a low temperature of -17°F with a wind chill of -39°F was recorded near Laurel Mountain on January 7.
January 27-29, 2014	Extreme Cold/Wind Chill	A strong arctic cold front moved across eastern Ohio, northern West Virginia, western Pennsylvania, and Garrett County Maryland on January 27. As higher pressures moved into the region on January 28 and 29, morning temperatures were reported from -5°F to -25°F. in Westmoreland County, morning low temperatures were recorded -21°F on January 28, and -23°F on January 29 in Donegal.
February 14-15, 2015	Extreme Cold/Wind Chill	A strong arctic cold front moved across eastern Ohio, northern West Virginia, western Pennsylvania, and Garrett County Maryland on February 14 with snow squalls causing reduced visibility and thunder snow. Wind gusts over 40 mph were reported. A wind chill of -25°F was recorded at Irwin on February 15, and a low temperature of -10°F was recorded at Greensburg on January 16. A wind chill of -27°F was recorded near Laurel Mountain on February 15, with a low temperature of -17°F on February 16.
February 19, 2015	Extreme Cold/Wind Chill	Bitter cold arctic high pressure brought temperatures well below 0 on February 20, with many low temperature records broken. A low temperature of -21°F was recorded at Saltsburg.
February 24, 2015	Extreme Cold/Wind Chill	An arctic air mass moved across eastern Ohio, western Pennsylvania, northern West Virginia, and Garrett county Maryland on February 24. Temperatures were well below zero with record lows across the region. A low temperature of -14°F was recorded at Donegal and a low of -10°F was recorded at Irwin.
January 4, 2018	Extreme Cold/Wind Chill	Seasonably frigid temperatures were in place at the beginning of January, which resulted in a prolonged period of wind chill headlines across the region. Low temperatures below zero to single digits above resulted in wind chill readings of -10°F to -30°F from January 3 to 7.
January 30, 2019	Extreme Cold/Wind Chill	An arctic airmass moved over central New York State and northeast Pennsylvania producing dangerously cold wind chill values as low as -30°F. In Westmoreland County, -8°F was recorded at the Hawley weather station.
January 30, 2019	Extreme Cold/Wind Chill	An arctic airmass moved over central New York State and northeast Pennsylvania producing dangerously cold wind chill values as low as -30°F. In Westmoreland County, -8°F was recorded at the Hawley weather station.

Sources: NOAA NCEI 2019

4.3.4.4 Future Occurrence

Extreme temperature events occur each year throughout Westmoreland County. It is estimated that the County will continue to experience temperature extremes annually that may induce secondary hazards such as potential snow, hail, ice or wind storms, thunderstorms, drought, human health impacts, utility failures, and transportation accidents.

For the 2019 HMP update, the most up-to-date data was collected to calculate the probability of future occurrence of extreme temperature events for Westmoreland County. Information from NOAA-NCEI storm events database and MRCC were used to identify the number of extreme temperature events that occurred between 1950 and 2019. Using these sources ensures the most accurate probability estimates possible. Table 4.3.4-4 shows these statistics, as well as the annual average number of events and the estimate percent chance of an incident occurring in a given year. Based on these statistics, there is an estimated 100-percent chance of an extreme temperature event occurring in any given year in Westmoreland County.

Table 4.3.4-4. Probability of Future Extreme Temperature Events

Hazard Type	Number of Occurrences Between 1950 and 2019	Rate of Occurrence or Annual Number of Events (average)	Recurrence Interval (in years) (# Years/Number of Events)	Probability of Event in any given year	Percent chance of occurrence in any given year
Extreme Temperature	116	1.68	0.60	1.65	100%

Sources: NOAA-NCEI 2019; MRCC 2019

Based on available historical data, the future occurrence of extreme temperatures can be considered *highly likely* as defined by the Risk Factor Methodology probability criteria (Section 4.4).

4.3.4.5 Vulnerability Assessment

To understand risk, a community must evaluate what assets are exposed or vulnerable in the identified hazard area. For the extreme temperature events, the entire County has been identified as the hazard area. Therefore, all assets in the County (population, structures, critical facilities and lifelines), as described in the County Profile (Section 2), are vulnerable. The following text evaluates and estimates the potential impact of extreme temperatures on Westmoreland County including:

- Overview of vulnerability
- Impact on (1) life, health, and safety of residents; (2) general building stock; (3) critical facilities; (4) economy; (5) the environment; and (6) future growth and development
- Effect of climate change on vulnerability
- Further data collections that will assist understanding of this hazard over time

Overview of Vulnerability

Extreme temperatures generally occur for a short period of time but can cause a range of impacts, particularly to vulnerable populations that may not have access to adequate cooling or heating. This natural hazard can also cause impacts to agriculture (crops and animals), infrastructure (for example, through pipe bursts associated with freezing, or power failure) and the economy.

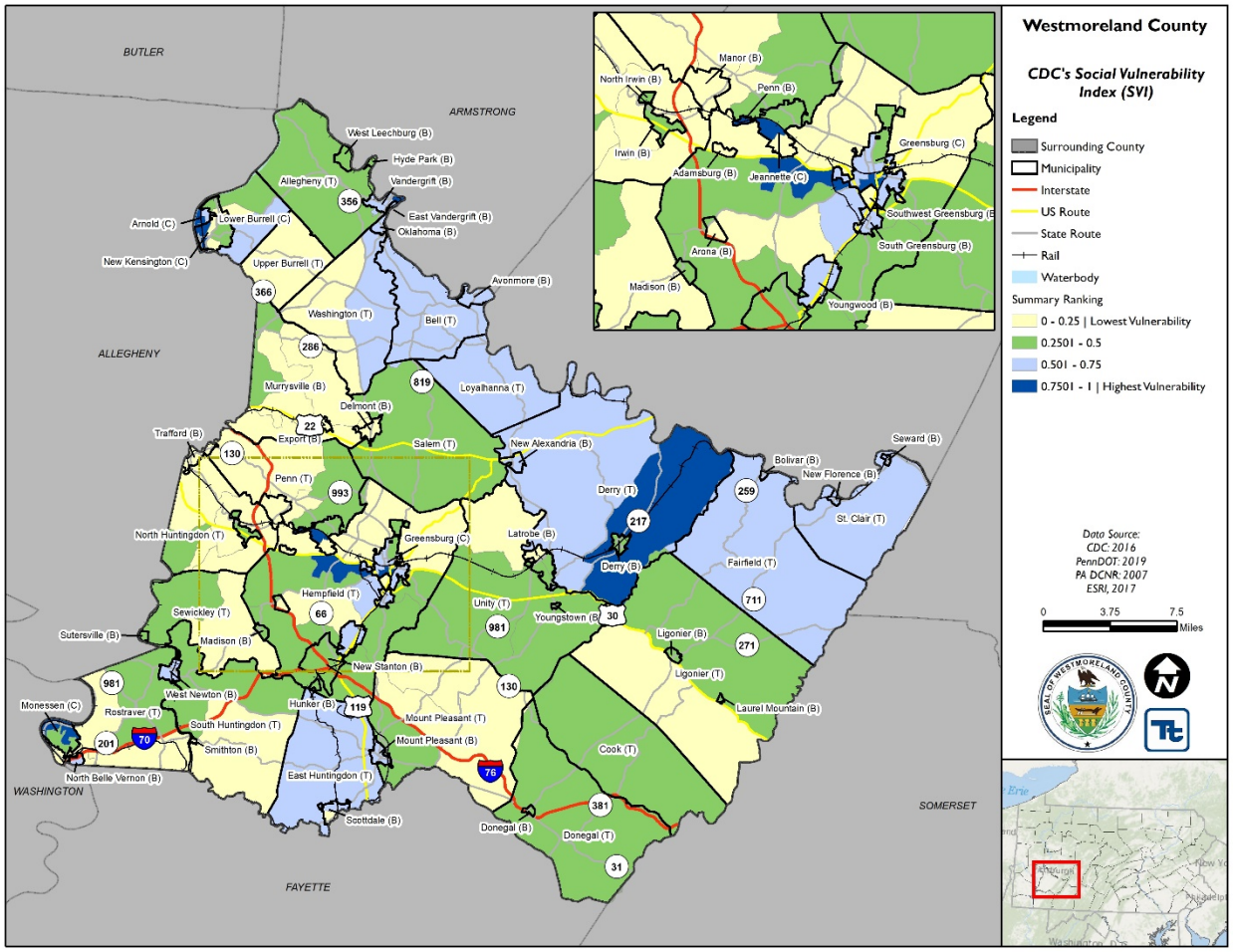
Impact on Life, Health, and Safety

For the purposes of this HMP, the entire population of Westmoreland County is considered exposed to extreme temperature events. The County Profile (Section 2) of this HMP provides population statistics regarding each participating municipality and a summary of the more vulnerable populations (over the age of 65 and individuals living below the U.S. Census poverty threshold). According to the CDC, populations most at risk to extreme cold and heat events include the following: (1) the elderly, who are less able to withstand temperature extremes due to their age, health conditions, and limited mobility to access shelters; (2) infants and children up to 4 years of age; (3) individuals with chronic medical conditions (e.g., heart disease, high blood pressure); (4) low-income persons that cannot afford proper heating and cooling; and (5) the general public who may overexert during work or exercise during extreme heat events or experience hypothermia during extreme cold events (CDC 2017a).

According to the 2017 ACS 5-Year Population Estimate, 21.1 percent of the population in Westmoreland County is 65 and over. In Westmoreland County, the boroughs and cities have the highest concentration of elderly population with densities decreasing outward into the surrounding townships. Section 2 (County Profile) displays the densities of populations over 65 in Westmoreland County. People experiencing homelessness and residents with low incomes may not have access to housing or their housing may be less able to withstand extreme temperatures (e.g., homes with poor insulation and heating supply or poor cooling systems). Section 2 (County Profile) also displays the densities of low-income populations in Westmoreland County.

According to CDC's 2016 Social Vulnerability Index, the most vulnerable populations are located within the following municipalities: City of Arnold, City of New Kensington, Borough of Vandergrift, City of Jeannette , Borough of Penn, City of Greensburg, Township of Hempfield, City of Monessen, and the Township of Derry. The vulnerable population located in these municipalities may be more susceptible to impacts from extreme temperatures. Figure 4.3.4-5 below displays the CDC 2016 Social Vulnerability Index by Census Tract for Westmoreland County.

Figure 4.3.4-5. CDC's Social Vulnerability Index 2016



Meteorologists can accurately forecast extreme heat event development and the severity of the associated conditions with several days of lead time. These forecasts provide an opportunity for public health and other officials to notify vulnerable populations, implement short-term emergency response actions and focus on surveillance and relief efforts on those at greatest risk. Adhering to extreme temperature warnings can significantly reduce the risk of temperature-related deaths.

Impact on General Building Stock

All of the building stock in the County is exposed to the extreme temperature hazard. Refer to Section 2 which summarizes the building inventory in Westmoreland County. Extreme heat generally does not impact buildings. Losses may be associated with the overheating of heating, ventilation, and air conditioning (HVAC) systems. Extreme cold temperature events can damage buildings through freezing/bursting pipes and freeze/thaw cycles. Additionally, manufactured homes (mobile homes) and antiquated or poorly constructed facilities may have inadequate capabilities to withstand extreme temperatures.

Impact on Critical Facilities

All critical facilities in the County are exposed to the extreme temperature hazard. Impacts to critical facilities are the same as described for general building stock. Additionally, it is essential that critical facilities remain operational during natural hazard events. Extreme heat events can sometimes cause short periods of utility

failures, commonly referred to as "brown-outs," due to increased usage from air conditioners and other appliances. Similarly, heavy snowfall and ice storms, associated with extreme cold temperature events, can cause power interruption as well. Backup power is recommended for critical facilities and infrastructure.

Impact on the Economy

Extreme temperature events also have impacts on the economy, including loss of business function and damage/loss of inventory. Business-owners may be faced with increased financial burdens due to unexpected repairs caused to the building (e.g., pipes bursting), higher than normal utility bills or business interruption due to power failure (i.e., loss of electricity, telecommunications).

The agricultural industry is most at risk in terms of economic impact and damage due to extreme temperature events. Extreme heat events can result in drought and dry conditions and directly impact livestock and crop production. Based on the 2017 Census of Agriculture, 1,099 farms were operating in Westmoreland County, with a total of 144,278 acres of farmland. The average farm size was 131 acres. Westmoreland County's farms had a total market value of products sold of over $66 million, averaging over $60,346 per farm. The Census indicated that 741 of farm operators reported farming as their primary occupation (USDA 2012).

An extreme heat event could result in drought conditions and have a serious impact on a community. During an extreme temperature event, water and electricity will likely be in increased demand, which may lead to shortages and a higher cost for these resources.

Impact on the Environment

Temporary periods of extreme hot or cold temperatures typically do not have significant environmental impacts but have serious health impacts, especially in urban areas experiencing the heat island effect. However, prolonged periods of hot temperatures could be associated with drought conditions and can damage or destroy vegetation, dry up rivers and streams, and reduce water quality. Prolonged exposure to extremely cold temperatures can kill wildlife and vegetation (PEMA 2018).

Extreme temperature events are also known to have an impact on utilities. In times of extreme heat, increased use of air conditioners can overload existing utility grids and spur localized or regionalized brownouts. Extreme cold events, especially when coupled with severe winter weather, can cause utility pipes to burst and interrupt the distribution of utilities. Prolonged extreme temperature events can also spur fuel shortages. The impact of extreme temperatures on utilities will depend on the overall use and duration of the event (PEMA 2018).

Future Growth and Development

Areas targeted for potential future growth and development within the next 5 years have been identified across Westmoreland County and are discussed in Section 2.4 of this HMP. Any areas of growth could be potentially impacted by the extreme temperature hazard because the entire County is exposed and potentially vulnerable.

Effect of Climate Change on Vulnerability

Climate is defined not simply as average temperature and precipitation but also by the type, frequency and intensity of weather events. Both globally and at the local scale, climate change has the potential to alter the prevalence and severity of extremes such as extreme temperature events. While predicting changes of extreme temperature events under a changing climate is difficult, understanding vulnerabilities to potential changes is a critical part of estimating future climate change impacts on human health, society and the environment (U.S. Environmental Protection Agency [EPA] 2006).

Additional Data and Next Steps

For future plan updates, the County can track data on extreme temperature events and obtain additional information on past and future events, particularly in terms of any injuries, deaths, shelter needs, pipe freeze, agricultural losses, and other impacts. This will help to identify any concerns or trends for which mitigation measures should be developed or refined. In time, quantitative modeling of estimated extreme heat and cold events may be feasible as data are gathered and improved.

4.3.5 Flood, Flash Flood, Ice Jam

This section provides a profile and vulnerability assessment of the flood hazard in Westmoreland County. Floods are one of the most common natural hazards in the United States and are the most prevalent type of natural disaster occurring in Pennsylvania. Over 94 percent of the State's municipalities have been designated as flood-prone areas. Both seasonal and flash floods have caused millions of dollars in annual property damages, loss of lives, and disruption of economic activities (Pennsylvania Emergency Management Agency [PEMA] 2013).

The Federal Emergency Management Agency's (FEMA) definition of flooding is "a general and temporary condition of partial or complete inundation of 2 or more acres of normally dry land area or of two or more properties from the overflow of inland or tidal waters or the rapid accumulation of runoff of surface waters from any source" (FEMA 2015a).

Most floods fall into three categories: riverine, coastal, and shallow (FEMA 2015a). Other types of floods may include ice jam floods, flash floods, stormwater floods, alluvial fan floods, dam failure floods, and floods associated with local drainage or high groundwater (as indicated in the previous flood definition). For the purpose of this plan and as deemed appropriate by the Planning Team, riverine, flash, ice jam, dam failure, and stormwater flooding are the main flood types of concern for Westmoreland County. These types of floods are further discussed below.

Riverine Floods

Riverine floods are the most common flood type and occur along a channel. Channels are defined features on the ground that carry water through and out of a watershed. They may be called rivers, creeks, streams, or ditches. When a channel receives too much water, the excess water flows over its banks and inundates low-lying areas. These floods usually occur after heavy rains, heavy thunderstorms, or snowmelt, and can be slow or fast-rising, and generally develop over a period of hours to days (FEMA 2015a; Illinois Association for Floodplain and Stormwater Management 2006).

Flash Floods

According to the National Weather Service (NWS), flash floods are a rapid and extreme flow of high water into a normally dry area, or a rapid water level rise in a stream or creek above a predetermined flood level, beginning within 6 hours of the causative event (e.g., intense rainfall, dam failure, or ice jam) (NWS 2015).

Flash floods can occur very quickly and with very little warning. This type of flood can be deadly because it produces rapid rises in water levels and has devastating flow velocities. Urban areas are more susceptible to flash floods because a high percentage of the surface area is impervious (Pennsylvania Emergency Management Agency [PEMA] 2013). Time elapsed before flash flooding occurs may vary in different parts of the country. Ongoing flooding can intensify to flash flooding where intense rainfall results in a rapid surge of rising flood waters (NWS 2015). A flash flood can have a dangerous wall of roaring water that carries rocks, mud, and other debris, and can sweep away most things in its path. Flash floods usually result from intense storms dropping large amounts of rain within a brief period with little or no warning, and can reach their peak within only a few minutes. They normally occur in the summer during the thunderstorm season. The most severe flooding conditions usually occur when direct rainfall is augmented by snowmelt. If the soil is saturated or frozen, stream flow may increase because of inability of the soil to absorb additional precipitation (FEMA 2008).

Ice Jam Floods

An ice jam is an accumulation of ice that acts as a natural dam and restricts flow of a body of water. Ice jams occur when warm temperatures and heavy rains cause rapid snow melt. The melting snow, combined with the

heavy rain, causes frozen rivers to swell. The rising water breaks the ice layers into large chunks, which float downstream and often pile up near narrow passages and obstructions (bridges and dams). Ice jams may build up to a thickness great enough to raise the water level and cause flooding (Northeast States Emergency Consortium [NESEC] n.d.; U.S. Army Corps of Engineers [USACE] 2002).

Ice jams are of two different types: freeze-up and breakup. Freeze-up jams occur in the early to mid-winter when floating ice may slow or stop due to a change in water slope as it reaches an obstruction to movement. Breakup jams occur during periods of thaw, generally in late winter and early spring. The ice cover breakup is usually associated with a rapid increase in runoff and corresponding river discharge caused by a heavy rainfall, snowmelt, or warmer temperatures (USACE 2002).

Dam Failure Floods

A dam is an artificial barrier that can impound water, wastewater, or any liquid-borne material for the purpose of storage or control of water (FEMA 2010). Dams are man-made structures built across a stream or river that impound water and reduce flow downstream (FEMA 2003). They are built for purposes of power production, agriculture, water supply, recreation, and flood protection. Dam failure is any malfunction or abnormality outside of the design that adversely affects a dam's primary function of impounding water (FEMA 2015b). Dams can fail for one or a combination of the following reasons:

- Overtopping caused by floods that exceed capacity of the dam (inadequate spillway capacity)
- Prolonged periods of rainfall and flooding
- Deliberate acts of sabotage (terrorism)
- Structural failure of materials used in dam construction
- Movement and/or failure of the foundation supporting the dam
- Settlement and cracking of concrete or embankment dams
- Piping and internal erosion of soil in embankment dams
- Inadequate or negligent operation, maintenance, and upkeep
- Failure of upstream dams on the same waterway
- Earthquake (liquefaction/landslides) (FEMA 2015b)

Flooding can occur when a dam fails or breaks, producing effects similar to flash floods. Areas most susceptible to effects of floods are low-lying areas near water or downstream from a dam (FEMA 2015b).

Flooding caused by dam failure is addressed in Section 4.3.15 of this plan.

Stormwater and Shallow Flooding

Stormwater flooding described below is due to local drainage issues and high groundwater levels. Locally, heavy precipitation may produce flooding in areas other than delineated floodplains or along recognizable channels. According to PEMA, 96 percent of flooding reporting to the NWS in Pennsylvania occurred outside of the 100-year floodplain since 1993.

If local conditions cannot accommodate intense precipitation through a combination of infiltration and surface runoff, water may accumulate and cause flooding problems. During winter and spring, frozen ground and snow accumulations may contribute to inadequate drainage and localized ponding. Flooding issues of this nature generally occur in areas with flat gradients and generally increase with urbanization, which speeds the accumulation of floodwaters because of impervious areas. Shallow street flooding can occur unless channels have been improved to account for increased flows (FEMA 1997).

High groundwater levels can be a concern and cause problems even without surface flooding. Basements are susceptible to high groundwater levels. Seasonally high groundwater is common in many areas, while elsewhere high groundwater occurs only after long period of above-average precipitation (FEMA 1997).

Urban drainage flooding is caused by increased water runoff due to urban development and drainage systems. Drainage systems are designed to remove surface water from developed areas as quickly as possible to prevent localized flooding on streets and other urban areas. They make use of a closed conveyance system that channels water away from an urban area to surrounding streams. This bypasses the natural processes of water filtration through the ground, containment, and evaporation of excess water. Since drainage systems reduce the amount of time the surface water takes to reach surrounding streams, flooding in those streams can occur more quickly and reach greater depths than prior to development in that area (FEMA 2007).

Flood Control Measures

Westmoreland County has numerous flood control structures. Lock and Dam numbers 3 and 4 along the Allegheny River are navigation structures that have limited flood control impact. At Braeburn, a 0.4-mile reach containing residential properties and the Braeburn Steel Company is protected from overbank flooding of the Allegheny River by a dike constructed in 1933 by the USACE.

In Westmoreland County, two flood protection structures exist on the Allegheny River from Locks and Dam Nos. 4 to 5. They are the Conemaugh River Dam and the Loyalhanna Creek Dam. Additionally, USACE operates a total of nine flood control dams and reservoirs within the Allegheny River Basin that are effective in reducing the flood levels on the Allegheny River. These dams and their reservoirs are as follows:

- Crooked Creek Dam, Crooked Creek Lake
- Tionesta Creek Dam, Tionesta Lake
- Mahoning Creek Dam, Mahoning Creek Lake
- Loyalhanna Creek Dam, Loyalhanna Creek Lake
- East Branch Dam, East Branch Clarion River Lake
- Conemaugh River Dam, Conemaugh River Lake
- Kinzua Dam, Allegheny Reservoir
- Union City Dam, Union City Reservoir
- Woodcock Dam, Woodcock Creek Lake

Together these dams and reservoirs control about 45 percent of the total watershed. On average, these dams reduce major flood peaks at Natrona by 4 to 8 feet and at Pittsburgh by 5 to 8 feet.

The Pennsylvania Department of Environmental Protection has been involved in flood protection projects in the Jeannette area for many years. They designed and constructed a dry dam that lessens flood flows from a fork of Bull Run, and in 1953, constructed an extensive channel modification project along Brush Creek through the City of Jeannette. During the construction of the project, an earth levee was constructed on the right side of Brush Creek within the Borough of Penn from the upstream face of the Coal Street bridge to the upstream borough limit. Although these projects have fallen into disrepair and the levee system has some gaps and deficiencies, they give the City of Jeannette and the Borough of Penn some measure of protection from the 1-percent annual chance flood.

Coal Tar Run is a stone-lined tunnel extending for 0.8 mile from its confluence with Jacks Run to the upstream side of the railroad embankment. Starting at Depot Street in the Borough of Youngwood and continuing approximately 1.04 miles upstream, Jacks Run has been straightened, and a trapezoidal channel has been

constructed with rip-rapped slopes. Approximately 0.3 mile of concrete trapezoidal channel has been constructed adjacent to the greater Greensburg Sewage Treatment Plant.

Two flood protection projects have been constructed on Jacks Run by the Commonwealth of Pennsylvania. An earthen trapezoidal channelization and construction consists of approximately 500 feet of concrete channel starting downstream of Keystone Avenue and extending just upstream of PA-119. Unit No. 2 starts at the upstream limit of Unit No. 1 and extends into the Borough of Greensburg to the railroad culvert located approximately 1,100 feet north of Pittsburgh Street. This consists of channel realignment and straightening, concrete channelization, and earthen trapezoidal channelization.

The flood retardation and flood prevention structures in Stauffer Run and Jacobs Creek in the Scottdale area are designed to accommodate a 1-percent annual chance flood. They are located in the upper third of the watershed.

The USACE has constructed two concrete gravity dams to control flooding on the Kiskiminetas River; the Loyalhanna Dam, near Saltsburg and the Conemaugh River Dam, near Tunnelton. these dams control about 87 percent of the total watershed, and will retard the 1-percent annual chance flood along the Kiskiminetas River. However, areas upstream of the Loyalhanna Lake along the Township of Unity's eastern boundary still tend to be flood-prone.

The Loyalhanna Creek in Latrobe has undergone a dike and channel modification project. Portions of Loyalhanna Creek have been channelized from the corporate limits of the Township of Ligonier to Longbridge and from the confluence with Mill Creek upstream past the Borough of Ligonier. The Loyalhanna Creek has been dammed in the Township of Derry downstream of the Township of Ligonier. The flood control damming in the Township of Derry has no effect on flood control in the Township of Ligonier.

The Pennsylvania Department of Environmental Protection has completed a flood protection project on the portion of McGee Run downstream of the railroad crossing. The 0.2-percent annual chance flood is contained within the channel banks for this portion of McGee Run in the Borough of Derry. In cooperation with the Commonwealth of Pennsylvania, portions of Mill Creek have been channelized to help avoid future flooding problems.

The USACE completed the Tygart Dam in the upper Monongahela River basin near Grafton, West Virginia to control an area of 1,184 square miles. The Stonewall Jackson Dam and Stonewall Jackson Lake control a drainage area of 102 square miles. Turtle Creek was dredged in 1964.

Two reservoirs are on the Youghiogheny River upstream of Smithton. The Deep Creek Reservoir near McHenry, Maryland has an earthfill embankment dam and was constructed for water-supply purposes but does provide some flood control. The second is Youghiogheny River Lake, which is operated jointly for flood control and low-flow augmentation to improve navigation and decrease pollution.

In total, Westmoreland County has six levee systems made up of 23 structures for a length of 2 miles.

4.3.5.1 Location and Extent

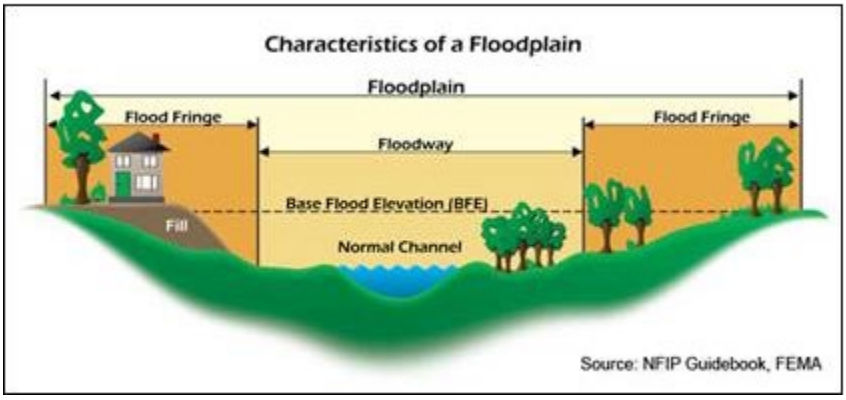
Flooding in Pennsylvania is typically associated with abnormally high and intense rainfall amounts. Flooding can also be caused by sudden snowmelt, landslides, or dam failures. In Pennsylvania, flooding usually occurs in the summer; however, flooding has occurred during the winter months as well.

Floodplains

A floodplain is defined as the land adjoining the channel of a river, stream, ocean, lake, or other watercourse or water body that becomes inundated with water during a flood. In Westmoreland County, floodplains line the

rivers and streams of the county. The boundaries of the floodplains are altered as a result of changes in land use, the amount of impervious surface, placement of obstructing structures in floodways, changes in precipitation and runoff patterns, improvements in technology for measuring topographic features, and utilization of different hydrologic modeling techniques. Figure 4.3.5-1 depicts the flood hazard area, the flood fringe, and the floodway areas of a floodplain.

Figure 4.3.5-1. Floodplain



Source: FEMA, 2009

Most often floodplains are referred to as 100-year floodplains. A 100-year floodplain is not a flood that will occur once every 100 years; the designation indicates a flood that has a 1-percent chance of being equaled or exceeded each year. Thus, the 100-year flood could occur more than once in a relatively short period of time. Because of this misleading term, FEMA has properly defined it as the 1-percent annual chance flood. Similarly, the 500-year floodplain will not occur every 500 years but is an event with a 0.2-percent chance of being equaled or exceeded each year. The "1-percent annual chance flood" is now the standard term used by most federal and state agencies and by the National Flood Insurance Program (NFIP) (FEMA 2003). The 1-percent annual chance floodplain establishes the area that has flood insurance and floodplain management requirements and is also referenced as the regulatory floodplain.

Flooding is the most significant natural hazard in Westmoreland County. Much of Westmoreland County's border is formed by a set of rivers: the Conemaugh to the north, the Monongahela to the southwest, the Youghiogheny to the west, and the Allegheny to the northwest. Numerous creeks and their tributaries also flow through the County: Kiskiminetas Creek in the north, Loyalhanna Creek in the east, Indian Creek in the southeast, Jacobs Creek in the south, Sewickley Creek in the southwest, Turtle Creek in the west, and Pucketa-Chartiers in the northwest.

Table 4.3.5-1 lists total land areas within the 1-percent and 0.2-percent annual chance flood zones calculated via a spatial analysis referencing the 2011 Digital Flood Insurance Rate Map (DFIRM).

Table 4.3.5-1. Total Land Areas in the 1-Percent and 0.2-Percent Annual Chance Flood Zones (Acres)

Municipality	NFIP-Participating Community	Total Area (acres)	1% Flood Event Hazard Area		0.2% Flood Event Hazard Area	
			Area (acres)	% of Total	Area (acres)	% of Total
Adamsburg Borough	X	180.2	0.0	0.0%	0.0	0.0%
Allegheny Township	X	20,474.7	1,142.9	5.6%	1,175.3	5.7%

Table 4.3.5-1. Total Land Areas in the 1-Percent and 0.2-Percent Annual Chance Flood Zones (Acres)

Municipality	NFIP-Participating Community	Total Area (acres)	1% Flood Event Hazard Area		0.2% Flood Event Hazard Area	
			Area (acres)	% of Total	Area (acres)	% of Total
Arnold, City of	X	534.8	78.9	14.8%	79.4	14.8%
Arona Borough	X	334.3	25.4	7.6%	25.4	7.6%
Avonmore Borough	X	992.9	88.6	8.9%	88.6	8.9%
Bell Township	X	14,089.8	871.5	6.2%	871.5	6.2%
Bolivar Borough	X	112.3	27.6	24.6%	27.6	24.6%
Cook Township	X	30,168.9	1,104.3	3.7%	1,104.3	3.7%
Delmont Borough	X	677.2	2.4	0.4%	3.2	0.5%
Derry Borough	X	518.5	62.9	12.1%	85.5	16.5%
Derry Township	X	62,250.3	4,246.5	6.8%	4,289.7	6.9%
Donegal Borough	X	151.0	953.8	631.7%	953.8	631.7%
Donegal Township	X	31,731.5	0.0	0.0%	0.0	0.0%
East Huntingdon Township	X	20,996.1	882.8	4.2%	916.1	4.4%
East Vandergrift Borough	X	98.8	26.9	27.2%	26.9	27.2%
Export Borough	X	267.8	31.8	11.9%	40.5	15.1%
Fairfield Township	X	38,818.3	1,294.2	3.3%	1,294.3	3.3%
Greensburg, City of	X	2,597.9	46.4	1.8%	101.3	3.9%
Hempfield Township	X	49,018.5	1,718.4	3.5%	1,872.3	3.8%
Hunker Borough	X	162.7	10.3	6.3%	12.7	7.8%
Hyde Park Borough	X	188.4	50.6	26.9%	50.6	26.9%
Irwin Borough	X	537.8	13.0	2.4%	17.8	3.3%
Jeannette, City of	X	1,542.5	61.8	4.0%	88.3	5.7%
Latrobe, City of	X	1,468.2	193.3	13.2%	276.4	18.8%
Laurel Mountain Borough	X	77.2	2.7	3.5%	2.7	3.5%
Ligonier Borough	X	308.5	65.1	21.1%	90.7	29.4%
Ligonier Township	X	58,974.2	3,132.9	5.3%	3,257.5	5.5%
Lower Burrell, City of	X	7,518.1	658.8	8.8%	706.3	9.4%
Loyalhanna Township	X	14,296.7	1,447.0	10.1%	1,447.0	10.1%
Madison Borough	X	276.0	0.0	0.0%	0.0	0.0%
Manor Borough	X	1,230.2	81.6	6.6%	86.3	7.0%
Monessen City	X	1,930.7	137.7	7.1%	309.9	16.1%
Mount Pleasant Borough	X	650.8	11.3	1.7%	11.3	1.7%
Mount Pleasant Township	X	35,724.4	1,630.6	4.6%	1,707.8	4.8%
Murrysville Borough	X	23,554.5	644.5	2.7%	715.5	3.0%
New Alexandria Borough		556.2	108.6	19.5%	108.6	19.5%

Table 4.3.5-1. Total Land Areas in the 1-Percent and 0.2-Percent Annual Chance Flood Zones (Acres)

Municipality	NFIP-Participating Community	Total Area (acres)	1% Flood Event Hazard Area		0.2% Flood Event Hazard Area	
			Area (acres)	% of Total	Area (acres)	% of Total
New Florence Borough	X	230.7	51.2	22.2%	121.7	52.8%
New Kensington, City of	X	2,530.9	122.6	4.8%	201.4	8.0%
New Stanton Borough	X	2,644.3	125.4	4.7%	150.5	5.7%
North Belle Vernon Borough	X	261.4	7.7	2.9%	7.9	3.0%
North Huntingdon Township	X	17,538.2	732.7	4.2%	804.0	4.6%
North Irwin Borough	X	127.3	0.7	0.5%	0.7	0.5%
Oklahoma Borough	X	422.9	38.3	9.1%	38.3	9.1%
Penn Borough	X	100.2	21.2	21.2%	26.0	25.9%
Penn Township	X	19,702.7	449.4	2.3%	466.2	2.4%
Rostraver Township	X	21,115.3	1,095.7	5.2%	1,255.8	5.9%
Salem Township	X	30,440.6	1,401.9	4.6%	1,404.3	4.6%
Scottdale Borough	X	744.7	101.8	13.7%	132.6	17.8%
Seward Borough	X	131.4	6.3	4.8%	16.9	12.9%
Sewickley Township	X	17,275.5	1,133.7	6.6%	1,208.8	7.0%
Smithton Borough	X	75.1	33.8	45.0%	38.4	51.1%
South Greensburg Borough	X	451.1	21.5	4.8%	38.9	8.6%
South Huntingdon Township	X	29,348.4	1,398.3	4.8%	1,431.3	4.9%
Southwest Greensburg Borough	X	254.0	19.3	7.6%	37.0	14.6%
St. Clair Township	X	18,567.4	1,651.2	8.9%	1,875.8	10.1%
Sutersville Borough	X	177.3	46.1	26.0%	52.6	29.7%
Trafford Borough	X	774.4	99.8	12.9%	128.8	16.6%
Unity Township	X	43,230.2	1,783.0	4.1%	1,858.2	4.3%
Upper Burrell Township	X	9,696.9	173.0	1.8%	184.9	1.9%
Vandergrift Borough	X	834.6	75.3	9.0%	75.5	9.0%
Washington Township	X	21,087.8	1,067.2	5.1%	1,081.6	5.1%
West Leechburg Borough	X	627.4	18.7	3.0%	18.7	3.0%
West Newton Borough	X	716.4	205.7	28.7%	226.6	31.6%
Youngstown Borough		71.6	3.6	5.0%	3.6	5.0%
Youngwood Borough	X	1234.3	82.5	6.7%	172.1	13.9%
Westmoreland County (TOTAL)	**X**	**663,423.9**	**32,822.7**	**4.9%**	**34,904.3**	**5.3%**

Source: FEMA 2011
Note: Areas listed include areas of inland waterways.

In accordance with the 1978 Pennsylvania Stormwater Management Act (Act 167), counties are required to prepare stormwater management plans on a watershed-by-watershed basis that provide for the improved management of the stormwater impacts associated with the development of land. In 2010, Westmoreland developed and implemented Phase I of the County Stormwater Management Plan. This phase of the Plan

includes the Scope of Study – Establishing procedures used to prepare the Plan. These procedures are determined by an overall survey of the following parameters:

- Specific watershed characteristics and hydrologic conditions
- Stormwater related problems and significant obstructions
- Alternative measures for control
- Goals, objectives, solution strategies, and estimated costs for Phase 2 of the Plan

Westmoreland County's 2019 Integrated Water Resources Plan (IWRP) is available for viewing at www.wcdpa.com and at the IWRP website www.westmorelandstormwater.org. The IWRP is Phase 2 of the Stormwater Management Plan and is written to be in concert with the Comprehensive Plan.

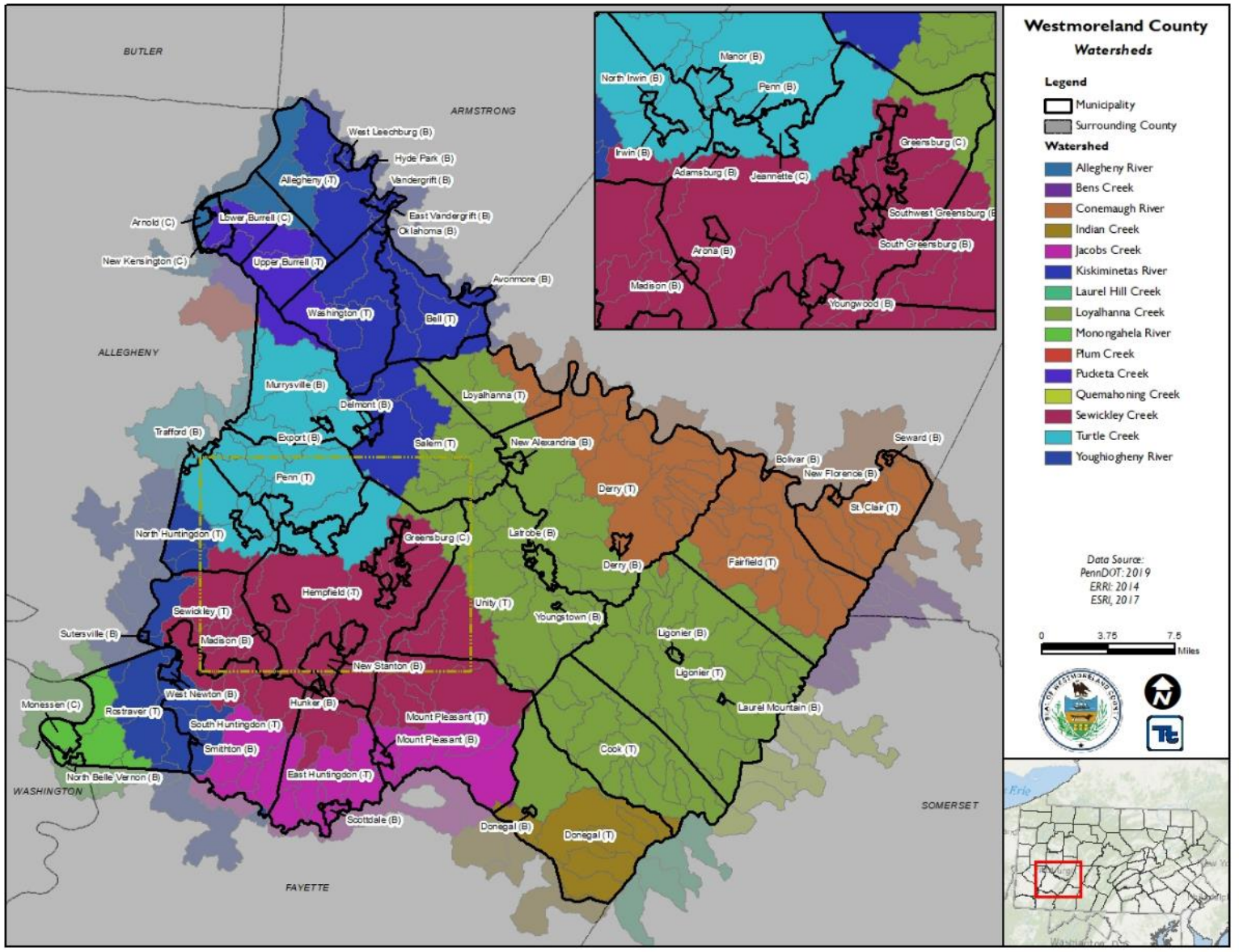
The Plan develops a scope of work for actions to be taken. Based on feedback from hundreds of residents, municipal leaders, engineers, developers and natural resource agencies, the IWRP offers 25 strategies to address the issues of water resource management across the County.

The Plan broadens the scope from only addressing stormwater management to including a comprehensive approach to all County water resources including flooding. The Plan identifies and maps areas that are susceptible to flooding and includes resources and potential solutions to flooding.

The Plan establishes a watershed plan advisory committee to guide Phase 2 of the County's Act 167 Plan and IWRP in data collection, review, analysis and, decision making. The Appendix of the Plan includes the model stormwater management ordinance that municipalities can adopt. The Appendix also includes watershed plans, educational materials for homeowners, and other resources.

Figure 4.3.5-2 shows the Pennsylvania Department of Environmental Protection (PADEP)-designated watersheds in Westmoreland County.

Figure 4.3.5-2. PADEP-Designated Watersheds



The 2011 FEMA Flood Insurance Study (FIS) for Westmoreland County also documents the major flooding problems in the County. The main flood season in Westmoreland County is usually December through April with most flooding attributed to heavy rain and snowmelt. Overbank flooding of the Allegheny River is the principal flooding problem within the county (FEMA 2011).

The following are specific problem areas in the county that were identified through the 2011 FIS or identified by municipal emergency management coordinators:

- The Township of Allegheny experiences minor flooding from the Allegheny and Kiskiminetas Rivers.
- In the Borough of Derry, the channel capacities of Garlane Mills Run and the portion of McGee Run upstream of the railroad crossing are less than the 1-percent annual chance flood along most of both stream reaches within the Borough of Derry. Inadequate street culverts limit the channel capacity even further.
- The flooding problems of the Township of Derry are limited to small local streams, such as Miller, Saxman, and McGee Runs.
- Major floods have taken place in the Township of Donegal on Four Mile Run and Indian Creek.
- The Townships of East Huntingdon and Mount Pleasant and the Borough of Scottdale have experienced flooding of Jacobs Creek and its tributaries.
- Within the City of Greensburg and the Borough of South Greensburg, the channelization of Jacks Run has eliminated a large part of the annual spring flooding; however, it is still not adequate for severe floods. A particular problem on Jacks Run is near Lynch Field, which is located upstream of the channelization project. This portion overtops its banks annually, particularly at the confluence with Tributary No. 4 to Jacks Run, and aggravates the flooding problem on the tributary.
- Some overbank flooding occurs near the mouth of Slate Creek where it joins Jacks Run in the Borough of South Greensburg. The flooding is caused mainly by a backwater effect from Jacks Run causing higher flood elevations. Slate Creek near Mount Pleasant Street also floods frequently during severe rainstorms.
- In the Township of Hempfield, Sewickley Creek and Jacks Run are the principal flooding sources. Serious flooding has occurred on Sewickley Creek at Armbrust, at the mouth of Jacks Run, and near the Borough of Hunker. The floodplain at the confluence of Sewickley Creek and Jacks Run is particularly susceptible to flooding.
- In the City of New Kensington, much of the damage caused by flooding from Little Pucketa Creek has been a direct result of the topography in the Linden Avenue area on the western side of Stevenson Boulevard. Debris clogging the Fourth Street Bridge can also increase flood elevations upstream.
- In the Borough of Ligonier, flooding occurs mainly on Mill Creek in an area from the abandoned railroad bridge to U.S. Route 30.
- The flooding problems in the Township of Ligonier are Loyalhanna Creek flooding PA-381 from U.S. Route 30 to a point approximately 1.0 mile south; Loyalhanna Creek flooding PA-711 from the Borough of Ligonier corporate limits to a point approximately 0.5 mile south; Loyalhanna Creek flooding U.S. Route 30 from Peters Road to Peoples Road; Four Mile Run flooding Melville Road from Darlington Road to Hidden Valley Road; Two Mile Run flooding Two Mile Run Road from Freeman Road to Loyalhanna Creek.
- Mill Creek floods various spots of PA-711 from the Borough of Ligonier to the Village of Waterford.
- Linn Run floods parts of Rector from PA-381 to Loyalhanna Creek.
- In the Borough of Manor, smaller streams are subject to flash floods and continued development of the watershed is likely to increase the probability of a larger flood.
- Low-lying areas of the City of Monessen are subject to periodic flooding caused by overflow of the Monongahela River.

- The Municipality of Murrysville has experienced flooding problems along Turtle Creek, near the railroad culvert, just upstream of the Borough of Export. A reduction of the culvert opening due to sedimentation causes water to pond along the railroad track.
- In the Township of North Huntingdon, Long Run, Tinkers Run, and Tributary No. 1 to Tinkers Run experience frequent flooding due to their confined channels receiving rapid runoff.
- The most extensive flooding in the Township of Rostraver occurs in Webster, where homes facing the river are flooded to the first floor. Also in the Township of Rostraver, Pollock Run and Speers Run have topped their banks several times in the past, causing damage to residences. According to township residents, flooding along these streams tends to damage the contents of structures more than the structures themselves. In 1954, 314 acres in the Borough of Scottdale were flooded, resulting in damages of $943,785. This damage occurred to 80 residences, 19 businesses, 8 industries, 1 public park, utilities, roads, and bridges.
- In the past, flooding in the Township of Sewickley has occurred along the Youghiogheny River, Sewickley Creek, and Little Sewickley Creek.
- Serious flooding has occurred at the Graztown area on the Youghiogheny River, within the Lowber and Yukon areas on Sewickley Creek, and near Herminie on Little Sewickley Creek.
- In the Township of St. Clair, major floods can occur on Tubmill Creek, Baldwin Creek, or Shannon Run.
- Within the Borough of Trafford has historically had few flooding issues though development may increase flood risk.
- In the Borough of Vandergrift along Pine Run, shallow overbanks and backwater caused by the railroad bridge cause some flooding. Residential development has increased flood flows in the Pucketa Creek watershed. When debris clogs several driveway culverts and footbridges upstream of Ludwig Road, residences in this area experience flood problems from ponded water.
- The major flooding problems along Pucketa Creek and Chartiers Run occur from the backwaters of the Allegheny River. Minor flooding of low-lying areas occurs along Pucketa Creek, with Little Pucketa Creek and Chartiers Run occasionally having flooding as well.
- Tributary No. 6 To Turtle Creek is subject to flooding near William Penn Highway due to undersized and debris-clogged culverts (FEMA 2011).
- The Crabtree Fire Chief has noted that Crabtree Creek floods two to three times a year resulting in damages to basements, garages, and sheds. Roadways need to be shutdown on a consistent basis. A minimum of 2.5 inches of rain in a 48-hour period of time is enough to cause flooding problems (Westmoreland County 2019).
- Problematic flood areas reported in the Westmoreland County Stormwater Report map include Route 119 commercial area, Hannastown, Crabtree Creek, Derry Borough, Ligonier Borough, Fairview Avenue South in Greensburg, and along Loyalhanna Creek (Westmoreland County 2019).
- The Westmoreland County Stormwater Report also notes lack of stormwater infrastructure and enforcement in localized area around Westmoreland County, which leads to runoff from roads, blocked drainage infrastructure, or causing nuisance flooding in yards, basements, and on private property (Westmoreland County 2019).

FEMA Regulatory Flood Zones

According to FEMA, flood hazard areas are defined as areas on a map shown to be inundated by a flood of a given magnitude. These areas are determined by use of statistical analyses of records of river flow, storm tides, and rainfall; information obtained through consultation with the community; floodplain topographic surveys; and hydrologic and hydraulic analyses. Flood hazard areas are delineated on FEMA's Flood Insurance Rate Maps (FIRM), which are official maps of a community that the Federal Insurance and Mitigation Administration has delineated both Special Flood Hazard Areas (SFHA) and the risk premium zones applicable to the

community. These maps identify SFHAs, location of a specific property in relation to the SFHA, the base flood elevation (BFE) (1-percent annual chance) at a specific site, the magnitude of a flood hazard within a specific area, undeveloped coastal barriers where flood insurance is not available, and regulatory floodways and floodplain boundaries (1-percent and 0.2-percent annual chance floodplain boundaries) (FEMA 2003, 2005, 2008). Westmoreland County's FIRMs can be accessed online via the FEMA Flood Map Service Center (https://msc.fema.gov/portal).

The land area covered by flood waters of the base flood is the SFHA on a FIRM. The SFHA is the area where the NFIP's floodplain management regulations must be enforced, and the area where mandatory purchase of flood insurance applies. This regulatory boundary is a convenient tool for assessing vulnerability and risk in flood-prone communities because many communities have maps showing the extent of the base flood and likely depths that will occur.

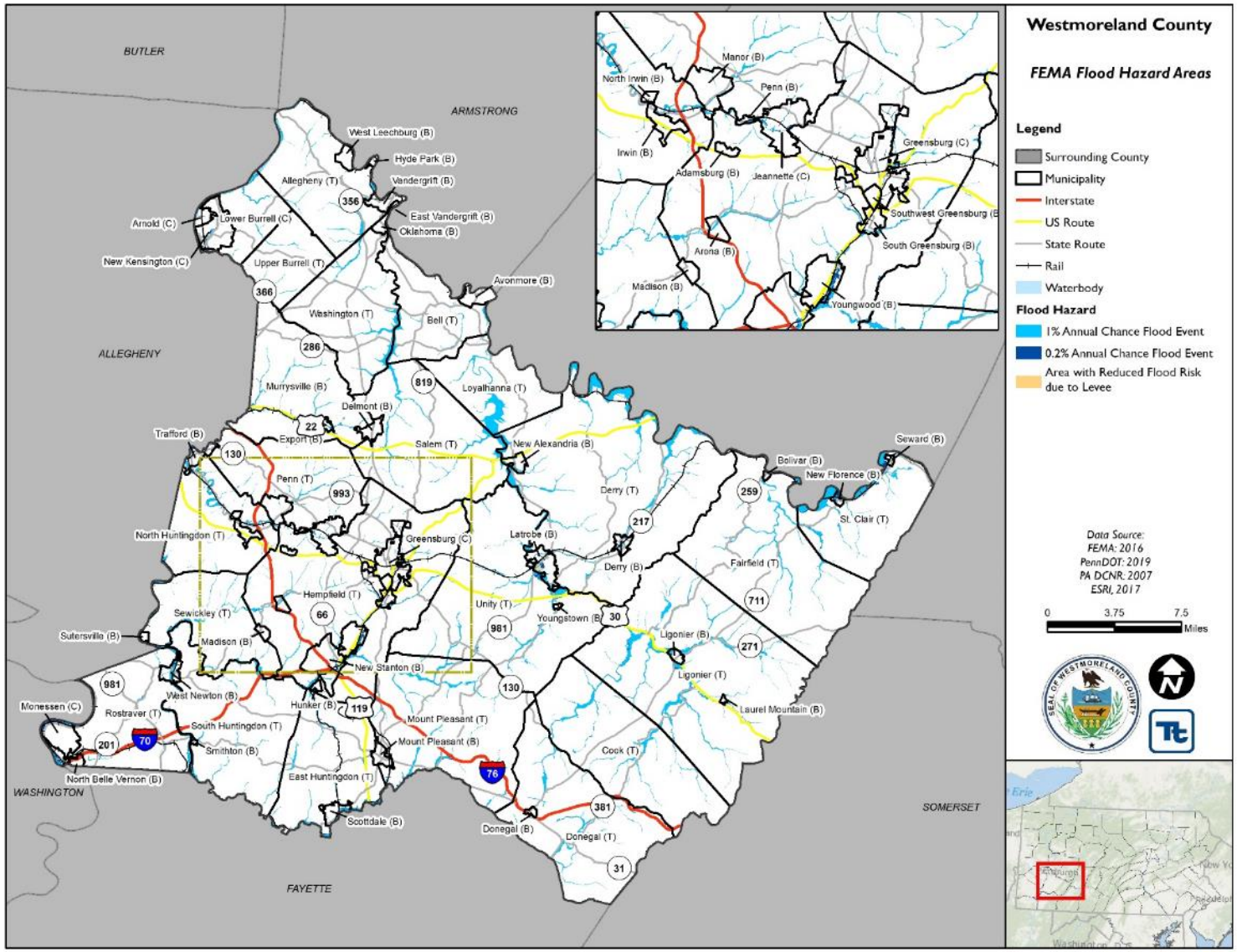
The 1-percent annual chance flood is referred to as the base flood. As defined by NFIP, the BFE on a FIRM is the elevation of a base flood event, or a flood that has a 1-percent chance of occurring in any given year. The BFE describes the exact elevation of the water that will result from a given discharge level, which is one of the most important factors used in estimating potential damage within a given area. A structure within a 1-percent annual chance floodplain has a 26 percent chance of undergoing flood damage during the term of a 30-year mortgage. The 1-percent annual chance flood is a regulatory standard used by federal agencies and most states to administer floodplain management programs. The 1-percent annual chance flood is used by NFIP as the basis for insurance requirements nationwide. FIRMs also depict 0.2-percent annual chance flood designations (FEMA 2017).

The SFHA serves as the primary regulatory boundary used by FEMA and Pennsylvania. Digital Flood Insurance Rate Maps (DFIRM), FIRMs, and other flood hazard information can be referenced to identify the expected spatial extent of flooding from a 1-percent annual chance event and 0.2-percent annual chance event.

At the time this plan was written, the March 2011 DFIRMs were considered the best available and were used for the risk analysis.

Figure 4.3.5-3 illustrates NFIP flood zones in Westmoreland County. Maps of each municipality's flood zones are shown at the end of this profile.

Figure 4.3.5-3. NFIP Floodplains in Westmoreland County



Note: Area with reduced flood risk due to levee is located in the Borough of Latrobe and is displayed on the community's flood map at the end of this plan section.

While the FIRMs provide a creditable source to document extent and location of the flood hazard, accuracy of data reflected on these maps has limitations. Notably, FIRMs are based on existing hydrological conditions at the time of map preparation. FIRMs are not set up to account for possible changes in hydrology over time.

Flood Insurance Study

In addition to FIRM and DFIRMs, FEMA also provides FIS of entire counties and individual jurisdictions. These studies aid in administration of the National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973. They are narrative reports of Countywide flood hazards, including descriptions of flood areas studied and engineered methods used, principal flood problems, flood protection measures, and graphic profiles of flood sources (FEMA 2016). A Countywide FIS for Westmoreland County was last completed in 1997 and revised with updated information in 2000, 2002, and 2011.

Warning Time

Because of the sequential pattern of meteorological conditions needed to cause serious flooding in an area, it is unusual for a flood to occur without warning. Warnings times for floods can be between 24 and 48 hours. Flash flooding can be less predictable, but potential hazard areas can be warned in advanced of potential flash flooding danger.

The NWS issues flood watches and warnings when forecasts indicate rivers may approach bank-full levels or when other types of localized flooding are possible. The watches and warnings are as follows:

Flash Flood Warning is issued to inform the public, emergency management and other cooperating agencies that flash flooding is in progress, imminent, or highly likely. Flash Flood Warnings are urgent messages as dangerous flooding can develop very rapidly, with a serious threat to life and/or property. Flash Flood Warnings are usually issued minutes to hours in advance of the onset of flooding.

Flash Flood Watch is issued to indicate current or developing conditions that are favorable for flash flooding. The occurrence is neither certain nor imminent. A watch is typically issued within several hours to days ahead of the onset of possible flash flooding.

Flood Warning is issued to inform the public of flooding that poses a serious threat to life and/or property. A Flood Warning may be issued hours to days in advance of the onset of flooding based on forecast conditions. Floods occurring along a river usually contain river stage (level) forecasts.

Flood Watch is issued to indicate current or developing conditions that are favorable for flooding. The occurrence is neither certain nor imminent. A watch is typically issued within several hours to days ahead of the onset of possible flooding. In situations where a river or stream is expected to be the main source of the flooding, forecast confidence may allow for a Flood Watch to be issued several days in advance.

Flood Advisory is issued when a flood event warrants notification but is less urgent than a warning. Advisories are issued for conditions that could cause a significant inconvenience, and if caution is not exercised, could lead to situations that may threaten life and/or property.

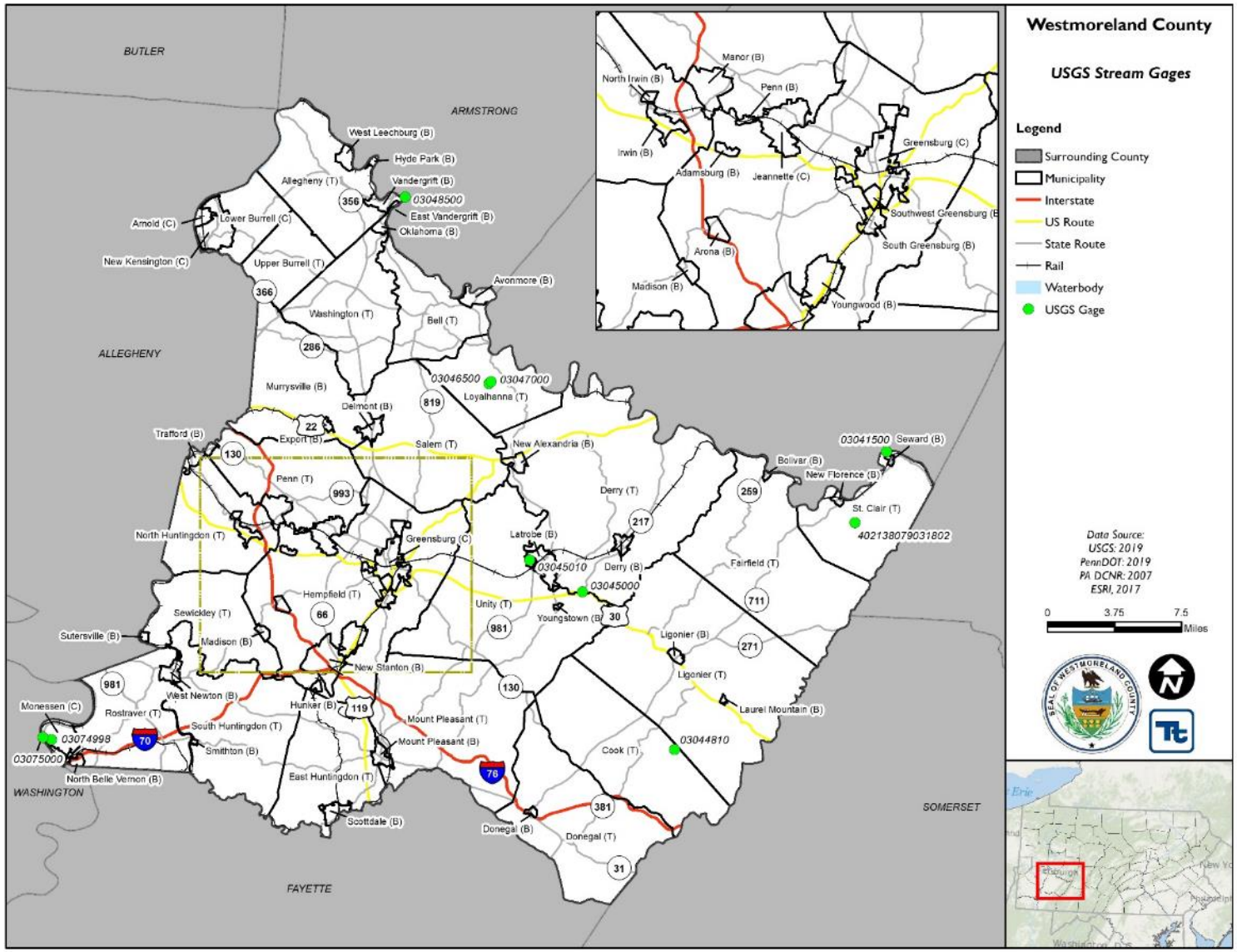
USGS Stream Gauges

USGS operates stream gauges throughout Westmoreland County, including several on the county's border. Table 4.3.5-2 lists the USGS stream gauges found in the County. Figure 4.3.5-4 shows the location of the USGS stream gauges.

Table 4.3.5-2. USGS Stream Gauges

Gage Site Number	Site Name	Action Stage (feet)	Flood Stage (feet)	Moderate Flood Stage (feet)	Major Flood Stage (feet)	Record Flood (feet)
USGS 03039041	Allegheny River bl Lock & Dam 5 near Freeport, PA	16	23	24	26	33.3 on 3/18/1936
USGS 03049500	Allegheny River at Natrona, PA	17.2	21	24	26	32.1 on 3/18/1936
USGS 03048500	Kiskiminetas River at Vandergrift, PA	19.3	25	27	28	41.64 on 3/18/1936
USGS 03047000	Loyalhanna Creek at Loyalhanna Dam, PA	-	5.5	-	-	-
USGS 03044000	Conemaugh River at Conemaugh Lake Tailwater	-	13.2	-	-	-
USGS 03043500	Conemaugh River at Conemaugh Lake Pool	-	974.2	-	-	-
USGS 03045010	Loyalhanna Creek at Latrobe, PA	14	17	19	-	20.10 on 10/30/2012
USGS 03045000	Loyalhanna Creek at Kingston, PA	13	17	18	20	15.8 on 10/15/1954
USGS 03083500	Youghiogheny River at Sutersville, PA	14.9	20	21	23	32.5 on 10/16/1954
USGS 03041500	Conemaugh River at Seward, PA	8.8	12	14	16	27.06 on 7/20/1977
USGS 03075000	Monongahela River at Charleroi Lock and Dam	22.6	28	31	35	42.7 on 11/05/1985

Figure 4.3.5-4. USGS Stream Gauges in Westmoreland County



Ice Jam Hazard Areas

Ice jams are common in northeastern United States, and the State of Pennsylvania is not an exception. The Ice Jam Database, maintained by the Ice Engineering Group at the USACE Cold Regions Research and Engineering Laboratory (CRREL), currently consists of ice jam records from across the United States. According to the USACE-CRREL, Westmoreland County experienced 19 historic ice-jam events between 1780 and 2019 (USACE 2019). Historical events are further mentioned in the "Past Occurrence" section of this hazard profile.

4.3.5.2 Range of Magnitude

Both localized and widespread floods are considered hazards when people and property are affected. Injuries and deaths can occur when people are swept away by flood currents, or bacteria and disease are spread by moving or stagnant flood waters. Most property damage results from inundation by sediment-filled water. A large amount of rainfall over a short period of time can result in flash floods. Small amounts of rain can cause flooding in areas with frozen soil or saturated soils from a previous event, or if the rain is concentrated in areas with impervious surfaces (PEMA 2018).

Several factors determine severity of floods, including intensity and duration, topography, ground cover, and rate of snowmelt. Water runoff is greater in areas with steep slopes and little or no vegetative ground cover. Many areas in Pennsylvania have relatively steep slopes that promote quick surface water runoff. Most storms track from west to east; however, some originate in the Great Lakes or the Atlantic Ocean (PEMA 2018).

Rainfall in Pennsylvania is about average for the eastern United States. Amounts of precipitation can be divided into the following six categories:

- Very light rain – precipitation rate of <0.01 inch per hour
- Light rain – precipitation rate between 0.01 inch and 0.04 inch per hour
- Moderate rain – precipitation rate between 0.04 inch and 0.16 inch per hour
- Heavy rain – precipitation rate between 0.16 inch and 0.63 inch per hour
- Very heavy rain – precipitation rate between 0.63 inch and 2 inches per hour
- Extreme rain – precipitation rate greater than 2 inches per hour (PEMA 2018)

The severity of a flood depends not only on the amount of water that accumulates within a period of time, but also on the land's ability to manage this water. One element is the size of rivers and streams in an area, but an equally important factor is the land's absorbency. When it rains, soil acts as a sponge. When the land is saturated or frozen, infiltration into the ground slows, and any more water that accumulates must flow as runoff (Harris 2008).

In the case of riverine or flash flooding, once a river reaches flood stage, the flood extent or severity categories used by NWS include minor flooding, moderate flooding, and major flooding. Each category has a definition based on property damage and public threat:

- Minor Flooding – minimal or no property damage, but possibly some public threat or inconvenience.
- Moderate Flooding – some inundation of structures and roads near streams. Some evacuations of people and/or transfer of property to higher elevations are necessary.
- Major Flooding – extensive inundation of structures and roads. Significant evacuations of people and/or transfer of property to higher elevations are necessary (NWS 2011).

The worst flooding to occur in Westmoreland County was flash flooding on June 17-18, 2009. Major flash flooding occurred over eastern Allegheny and western Westmoreland Counties with estimated damage of $18 million to public infrastructure and private buildings. Widespread flash flooding occurred across much of western and central Westmoreland County from Murrysville to Greensburg and Mount Pleasant. At least 1,192 buildings were affected, with 136 buildings having major damage and 11 buildings destroyed. Most major roadways had flooding and some were closed well after the water receded to clear debris. Westmoreland County suffered $9 million in property damages.

4.3.5.3 Past Occurrence

Westmoreland County has a long history of flooding events. While flooding is often localized to streets and small neighborhoods, the County has historically experienced periodic storm events that affect multiple communities over a large area. Past building practices often resulted in homes being constructed in the FEMA-designated floodplains, exacerbating flooding problems within certain communities.

According to the National Oceanic and Atmospheric Administration's National Center for Environmental Information (NOAA-NCEI) storm event database, Westmoreland County experienced 114 flood events between January 1, 1950 and May 1, 2019 (the date range of data availability). These events resulted in no reported injuries or fatalities but $14.797 million in reported property damages and $152,500 in reported crop damages. Table 4.3.5-3 documents historical flood events from 1950 to May 2019 in Westmoreland County based on data collected from the NCEI, National Performance of Dams Program (NPDP), and Cold Regions Research and Engineering Laboratory (CRREL) databases.

Table 4.3.5-3. Flood Events 1950-2019

Hazard Type	Number of Occurrences Between 1950 and 2019	Total Fatalities	Total Injuries	Total Property Damage ($)	Total Crop Damage ($)
Flash Flood	83	0	0	$14.3 million	$152,500
Flood	34	0	0	$461,000	$0
Ice Jam	8	-	-	-	-
Total	125	0	0	$14.797 million	$152,500

Source: NOAA-NCEI 2019; NPDP 2019; CRREL 2019
Note: Ice Jam data from CRREL does not have fatalities, injuries, property damage, or crop damage data available

Between 1954 and May 2019, the Commonwealth of Pennsylvania underwent 52 FEMA-declared, flood-related disaster declarations (DR) or emergencies classified as one or a combination of the following disaster types: severe storms, winter storm, mudslides, flash flooding, tropical storms, tropical depressions, high winds, and rains. Typically, these disasters covered a wide region of the State; therefore, they may have impacted many counties. However, not all counties were included in the disaster declarations (FEMA 2019). Westmoreland County was included in 16 of the declarations, as listed in Table 4.3.5-4.

Table 4.3.5-4. FEMA DR and EM Declarations for Flood Events in Westmoreland County, 1954 to 2019

FEMA Declaration Number	Date(s) of Event	Event Type
DR-340	June 23, 1972	Flood: Tropical Storm Agnes
EM-3026	January 29, 1977	Snow: Snowstorms
DR-537	July 21, 1977	Flood: Severe Storms and Flooding

FEMA Declaration Number	Date(s) of Event	Event Type
EM-3081	June 3, 1980	Tornado: Severe Storms and Tornado
DR-721	August 27, 1984	Flood: Severe Storms and Flooding
DR-754	November 3, 1985	Flood: Severe Storms and Flooding
EM-3105	March 13-17, 1993	Snow: Severe Snowfall and Winter Storm
DR-1015	January 4-February 25, 1994	Severe Storms: Severe Winter Storms
DR-1085	January 6-12, 1996	Snow: Blizzard of 96
DR-1093	January 19-30, 1996	Flood: Severe Storms and Flooding
EM-3180	February 14-19, 2003	Severe Storms: Snow
DR-1555	September 8-9, 2004	Severe Storms: Severe Storms and Flooding Associated with Tropical Depression Frances
DR-1557	September 17-October 1, 2004	Hurricane: Tropical Depression Ivan
DR-1898	February 5-11, 2010	Snow: Severe Winter Storms and Snowstorms
EM-3356	October 26-November 8, 2012	Hurricane: Hurricane Sandy
DR-4267	January 22-23, 2016	Snow: Severe Winter Storm and Snowstorm

Source: FEMA 2019

Based on all sources researched, known flooding events resulting in property damages that have affected Westmoreland County and its municipalities since June 1968 are listed in Table 4.3.5-5. No deaths or injuries caused by flooding have been recorded in Westmoreland County. With flood documentation for the Commonwealth of Pennsylvania so extensive, not all sources have been identified or researched. Therefore, Table 4.3.5-5 may not include all events that have occurred throughout the County.

Table 4.3.5-5. Flooding Events between 1972 and 2019 in Westmoreland County

Date of Event	Event Type	Location	FEMA Declaration Number (if applicable)	County Designated?	Losses/Impacts
June 5-7, 1968	Flooding - Severe Storm/Thunder Storm	Information on location unavailable	N/A	N/A	$3846.15 in property damages; $384.62 in crop damages
April 2, 1970	Flooding - Severe Storm/Thunder Storm	Information on location unavailable	N/A	N/A	$263.16 in property damages
September 18, 1971	Flooding	Information on location unavailable	DR-312	Yes	Heavy, intermittent thunderstorms caused flooding.
June 21-26, 1972	Flooding - Severe Storm/Thunder Storm (Tropical Storm Agnes)	Information on location unavailable	DR-340	Yes	$7,462,686.57 in property damages; $746,268.66 in crop damages
November 5, 1985	Flooding	Information on location unavailable	DR-754	Yes	$846,000 in property damages
February 4, 1986	Flooding	Information on location unavailable	N/A	N/A	$500 in property damages
July 8-9, 1986	Flooding	Information on location unavailable	N/A	N/A	$50,000 in property damages
May 26, 1987	Flooding - Lightning	Information on location unavailable	N/A	N/A	$5,000 in property damages
June 1, 1987	Flooding	Information on location unavailable	N/A	N/A	$5,000 in property damages
June 22, 1987	Flooding	Information on location unavailable	N/A	N/A	$500 in property damages
June 22, 1987	Flooding	Information on location unavailable	N/A	N/A	$500 in property damages
August 2, 1987	Flooding	Information on location unavailable	N/A	N/A	$5,000 in property damages
August 23, 1989	Flooding	Information on location unavailable	N/A	N/A	$50,000 in property damages
August 23, 1989	Flooding	Information on location unavailable	N/A	N/A	$5,000 in property damages
November 27, 1993	Flood/Flash Flood	Information on location unavailable	N/A	N/A	$500 in property damages
January 26, 1994	Flood/Flash Flood	Information on location unavailable	DR-1015	Yes	An ice jam on Loyalhanna Creek caused $500 in property damages.
January 28-29, 1994	Flood/Flash Flood	Information on location unavailable	DR-1015	Yes	Widespread flooding was observed. An ice jam on Four Mile Run Creek in Ligonier Township resulted in flooding of several homes. An ice jam also caused flooding on Pierces Run Creek. 50 to 60 homes were evacuated along the swollen Youghiogheny River. About 40 of these homes sustained water damage. At Lock

Date of Event	Event Type	Location	FEMA Declaration Number (if applicable)	County Designated?	Losses/Impacts
					4 on the Monongahela River the stage reached 32.8 feet; flood stage is 28 feet. $500,000 in property damages.
June 25, 1995	Flood/Flash Flood	Information on location unavailable	N/A	N/A	Small streams were out of their banks and roads flooded near Delmont and Export. Turtle Creek was out of its banks in Export, flooding 20 homes and a few businesses. $2,000,000 in property damages.
July 17, 1995	Flood/Flash Flood	Information on location unavailable	N/A	N/A	Flood waters covered roads in New Kensington and Arnold. $25,000 in property damages.
January 19-21, 1996	Flash Flood	Ligonier	DR-1093	Yes	Flash flooding caused extensive damage in Ligonier where the Loyalhanna and Mills Creeks converge. Several basements were also flooded across the County. Numerous other creeks went out of their banks and flooded roads. $2.54 million in property damages.
February 28, 1996	Flash Flood	Greensburg	N/A	N/A	Some basements and roads were flooded in Greensburg. $5,000 in property damages.
June 19, 1996	Flash Flood	North Washington	DR-1120	No	Flooding occurred along Pine Run near North Washington. $3,000 in property damages.
July 19-20, 1996	Flood	Information on location unavailable	DR-1130	No	$12,750 in property damages
August 8, 1996	Flash Flood	Northwest Westmoreland County	N/A	N/A	Flash floods occurred over mainly the northwest parts of Westmoreland County. $8,000 in property damages.
May 25-26, 1997	Flash Flood	Darlington, Seward	N/A	N/A	Widespread 3 to 4-inch rainfall totals were common across the County. Numerous roads were flooded and several basements were flooded. 60-70 people were evacuated in the Darlington area. Evacuations were also ordered in Wilpen. Major road flooding was reported between Darlington and Ligonier. Numerous small streams and creeks went out of their banks. A large amount of runoff led to the flooding of the Conemaugh River at Seward. $200,000 in property damages.
June 18, 1997	Flood	Information on location unavailable	N/A	N/A	$1,000 in property damages
July 1, 1997	Flash Flood	Information on location unavailable	N/A	N/A	$10,000 in property damages
November 7-8, 1997	Flash Flood	South Greensburg, Seward, Latrobe, Youngwood, Florence, Lingonier	N/A	N/A	Widespread rainfall amounts of 3 to 4 inches were quite common throughout the County. Basements were flooded in Latrobe. Interstate 70 through South Huntingdon was flooded. A rock/mudslide covered a portion of Interstate 70 at the Smithton Bridge. Street flooding was reported in South Greensburg. Rt. 981 was closed due to flooding of the Loyalhanna Creek near Seward. Rt. 982 between Rt. 30 and Eaton Road in Latrobe was closed in Latrobe also because of the Loyalhanna Creek. Firefighters rescued a family of 3 when a car became partially submerged as Sewickley Creek overflowed onto Fairground Road near Youngwood. Water to 3 feet deep flowed across the road. Rt. 711 between New Florence and Seward was closed due to high water on the Conemaugh River and its tributaries. Numerous roads were flooded and 1 house was evacuated near Ligonier. $40,000 in property damages.

Date of Event	Event Type	Location	FEMA Declaration Number (if applicable)	County Designated?	Losses/Impacts
June 2, 1998	Flash Flood	Lower Burrell	DR-1219	No	Street and basement flooding reported in Lower Burrell. $20,000 in property damages.
June 15, 1998	Flash Flood	Latrobe	N/A	N/A	Minor stream flooding that closed Eaton Road and Hillview Avenue in Latrobe. Several basements also flooded in this area. A mudslide was reported on Beatty Road just southwest of Latrobe. $20,000 in property damages.
June 19, 1998	Flash Flood	Latrobe	N/A	N/A	Many flooded basements were reported across the area. Several roads were closed due to localized flooding, including State Highway 711 and Church Hollow Road. A mudslide occurred just east of Latrobe that forced the closing of U.S. Route 30. $50,000 in property damages.
June 19, 1998	Flash Flood	Information on location unavailable	N/A	N/A	Several small creeks flooded from thunderstorm rains. Many basements were flooded across the area. $100,000 in property damages.
April 9-10, 1999	Flash Flood	Westmoreland County	N/A	N/A	Thunderstorm rains produced several incidents of flash flooding across the County. In addition, many reports of basement flooding were received from across the County. $50,000 in property damages.
July 28, 1999	Flash Flood	Information on location unavailable	N/A	N/A	Storms produced torrential amounts of rainfall that flooded roadways, under-passes, and other low-lying areas, stranding several people in their cars. Several mud and rock slides were also reported. Numerous incidents of basement flooding were reported across the region. $2,000 in property damages.
February 19-20, 2000	Flood	Information on location unavailable	N/A	N/A	$1.25 million in property damages
July 28, 2000	Flood	Information on location unavailable	N/A	N/A	Heavy thunderstorms passing over western Pennsylvania produced rainfall of up to 2 inches in 1 hour over several counties, producing numerous instances of flash flooding. $10,000 in property damages.
August 6, 2000	Flood	Irwin, South Greensburg	N/A	N/A	Street and roadway flooding was reported in the Irwin and South Greensburg areas. Flooding was also reported along Indian Head Creek in the Jones Mills area. $5,000 in property damages.
August 6, 2000	Flood	Scottdale	N/A	N/A	Street and basement flooding was reported in the Irwin area. In Scottdale, some smaller tributaries of Jacobs Creek were flooding onto PA- 819, and widespread flash flooding problems were reported. $20,000 in property damages.
August 6-7, 2000	Flood	Westmoreland County	N/A	N/A	Widespread flash flooding was reported across Westmoreland County. State Emergency Management officials estimate that across the county, 2 homes were destroyed, 25 homes received major damage, 60 homes receive minor damage, 3 apartment buildings received minor damage, and 6 businesses were impacted. The American Red Cross estimated that around 40 families were forced from their homes by the flooding. $500,000 in property damages.
August 4, 2001	Flood	Acme	N/A	N/A	Several reports of stream and basement flooding were received from the Town of Acme. $50,000 in property damages.
March 26, 2002	Flood	Information on location unavailable	N/A	N/A	$10,625 in property damages

Date of Event	Event Type	Location	FEMA Declaration Number (if applicable)	County Designated?	Losses/Impacts
May 9, 2002	Flood	Scottdale	N/A	N/A	Thunderstorm rains produced minor roadway flooding in the Scottdale area. $5,000 in property damages.
July 2, 2002	Flood	Information on location unavailable	N/A	N/A	Heavy thunderstorm rains produced minor street and basement flooding. $10,000 in property damages.
July 27, 2002	Flood	Information on location unavailable	N/A	N/A	Torrential thunderstorm rains produced numerous cases of minor roadway flooding. Some basement flooding was also reported. $25,000 in property damages.
August 12, 2002	Flood	Murrysville	N/A	N/A	Torrential thunderstorm rains produced roadway and basement flooding in and around the Murrysville area. $15,000 in property damages.
July 10, 2003	Flash Flood	Kingston, Idlewild Park	N/A	N/A	Route 30 from Kingston eastward flooded and 20 families evacuated. A mud slide was reported near Idlewild Park, and another mud slide pushed a mobile home into Loyalhanna Creek. $10,000 in property damages.
July 23, 2003	Flash Flood	Information on location unavailable	DR-1485	No	A basement was flooded. $2,000 in property damages.
July 23, 2003	Flash Flood	Greensburg Road, Chicago Avenue	DR-1485	No	Flooding reported on Route 945 (Greensburg Road) and 67 (Chicago Avenue). Business institute was also flooded. $5,000 in property damages.
August 3, 2003	Flash Flood	Ligonier, Derry	DR-1485	No	Basement was flooded on Fairfield Street in Ligonier. Idlewild Park closed because of flooding. A bridge covered by water was impassable on Derbytown Road in Derry. $5,000 in property damages.
August 6, 2003	Flash Flood	Lingonier	DR-1485	No	Route 981 at Latrobe-Derry Road was flooded, as was Ligonier St, in Ligonier. At least 2 basements suffered flood damage. $10,000 in property damages.
August 12, 2003	Flash Flood	Unity Township	DR-1485	No	Many basements were flooded in Unity Twp. $10,000 in property damages.
November 19, 2003	Flash Flood	Darlington	N/A	N/A	Streams flooded roads, 60 houses, and basements on West Loyalhanna, South Fairfield, Walnut Street, and North Avenue. Local YMCA was flooded. 6 residents in Darlington evacuated due to high water. 2 people were stranded in cars. $250,000 in property damages.
February 6-7, 2004	Flood	Information on location unavailable	N/A	N/A	$14,000 in property damages
May 18, 2004	Flash Flood	Irwin, Greensburg	N/A	N/A	Basements were flooded in Irwin and Greensburg. Roads were flooded. $10,000 in property damages.
June 14, 2004	Flood	Information on location unavailable	N/A	N/A	$5,000 in property damages
June 17-18, 2004	Flash Flood	Information on location unavailable	N/A	N/A	Roads were washed out and basements were flooded. $10,000 in property damages.
July 27, 2004	Flood	Information on location unavailable	DR-1538	No	$30,000 in property damages
September 17-18, 2004	Flood (Tropical Depression Ivan)	Information on location unavailable	DR-1557	Yes	$5 million in property damages

Date of Event	Event Type	Location	FEMA Declaration Number (if applicable)	County Designated?	Losses/Impacts
January 6, 2005	Flood	Information on location unavailable	N/A	N/A	$45,000 in property damages
June 28, 2005	Flash Flood	Latrobe, Youngstown	N/A	N/A	4 basements flooded in Latrobe and Youngstown. $8,000 in property damages.
June 25, 2006	Flash Flood	Information on location unavailable	DR-1649	No	A few basements flooded. $7,000 in property damages.
June 8, 2007	Flash Flood	Information on location unavailable	N/A	N/A	$3,000 in property damages
July 5, 2007	Flash Flood	Information on location unavailable	N/A	N/A	Water in homes and streets closed due to flash flooding. $25,000 in property damages.
July 5, 2007	Flash Flood	Avonmore	N/A	N/A	Roads were closed in Avonmore with small streams out of their banks. $25,000 in property damages.
August 6, 2007	Flash Flood	Adamsburg	N/A	N/A	Law enforcement in Adamsburg reported water in homes due to flash flooding. $25,000 in property damages.
August 6, 2007	Flash Flood	Grapeville	N/A	N/A	Flash flooding with water running into homes was reported in Grapeville. $25,000 in property damages.
August 9, 2007	Flash Flood	Information on location unavailable	N/A	N/A	$10,000 in property damages
August 9, 2007	Flash Flood	Export, Murrysville	N/A	N/A	Widespread flash flooding was reported in both Export and Murrysville areas. $50,000 in property damages.
December 13, 2007	Flood	Information on location unavailable	N/A	N/A	Minor flooding of small streams and roadways was reported. $5,000 in property damages.
August 14, 2008	Flash Flood	Greensburg and Hempfield Township	N/A	N/A	Flash flooding was reported, with several roads flooded in Greensburg and Hempfield Townships. $50,000 in property damages.
December 19-20, 2008	Flood	Latrobe	N/A	N/A	Flooding was reported along the Loyalhanna Creek near Latrobe. $5,000 in property damages.
June 17-18, 2009	Flash Flood	Western and central Westmoreland County	N/A	N/A	Significant flash flooding occurred over eastern Allegheny and western Westmoreland counties in Pennsylvania with estimated damage of $18 million to public infrastructure and private buildings. Widespread flash flooding occurred across much of western and central Westmoreland County from Murrysville to Greensburg and Mount Pleasant. At least 1,192 buildings were affected, with 136 having major damage and 11 buildings destroyed. Most major roadways had flooding and some were closed well after the water receded to clear debris. $9 million in property damages.
July 9, 2010	Flash Flood	New Kensington	N/A	N/A	Flash flooding was reported in New Kensington with Pucketa Creek flooding Seventh Street and closing the roadway. $10,000 in property damages.
May 13, 2011	Flood	Information on location unavailable	N/A	N/A	$20,000 in property damages
May 15-16, 2011	Flood	Information on location unavailable	N/A	N/A	$15,000 in property damages
July 28, 2011	Flood	Poplar Street	N/A	N/A	Flooding occurred on Poplar Street. $10,000 in property damages.

Date of Event	Event Type	Location	FEMA Declaration Number (if applicable)	County Designated?	Losses/Impacts
May 8, 2012	Flash Flood	Greensburg	N/A	N/A	Church basement was flooded in Greensburg. $5,000 in property damages.
May 8, 2012	Flash Flood	Information on location unavailable	N/A	N/A	Flooding of a personal care home was reported west of the airport. $10,000 in property damages.
May 8, 2012	Flash Flood	Hempfield Township	N/A	N/A	Numerous roads were flooded in Hempfield Township. $25,000 in property damages.
May 8, 2012	Flash Flood	Jeannette	N/A	N/A	Flooded homes were reported on 14th Street in Jeannette. $50,000 in property damages.
May 8, 2012	Flash Flood	Information on location unavailable	N/A	N/A	Flash flooding was reported across numerous roads and on private properties across the County. $75,000 in property damages.
October 29-30, 2012	Flood (Hurricane Sandy)	Information on location unavailable	DR-4099, EM-3356	Yes, EM-3356	Several roads and two bridges were flooded. $190,000 in property damages.
June 13, 2013	Flood	Information on location unavailable	N/A	N/A	The public reported flooded yards and water in at least one basement. $5K in property damages
June 25, 2013	Flood	Cribb	N/A	N/A	Emergency management in Hempfield Township reported that they closed Cribb Station Road between Route 136 and Middletown Road due to flooding. $5K in property damage.
June 26, 2013	Flood	Denison, Loyalhanna	N/A	N/A	In addition to widespread reports of wind damage and hail, training thunderstorms dumped two to four inches of rain and caused areas of flooding across east central Ohio and adjacent areas in western Pennsylvania. State official reported flooding in Unity Square. $5K in property damages.
June 28, 2013	Flash Flood	Scottdale	N/A	N/A	Numerous reports of wind damage were recorded across western Pennsylvania. In addition, training thunderstorms produced several areas of flooding, including some flash flooding across several counties in western Pennsylvania. Emergency manager reported that Pittsburgh Street in Scottdale is flooded. $5K in property damage.
July 1, 2013	Flood	Scottdale, Mount Pleasant, Alverton	N/A	N/A	Flooding of roadways and areas of poor drainage was reported. Scottdale law enforcement reported water in the basement of the Scottdale Borough Building resulting in $2K in property damage. Law enforcement reported water in basements in Mount Pleasant resulting in $10K in property damages. Law enforcement in Alverton reported water in basements along SR 981 resulting in $10K in property damages.
July 10, 2013	Flash Flood	Guffey, Scottdale	N/A	N/A	Emergency management in Guffey reported a mudslide due to flash flooding on Turner Valley Road resulting in $25K in property damages. State official reported several roads closed due to flooding in Scottdale and Mount Pleasant
February 21, 2014	Flood	West Bolivar	N/A	N/A	Milder temperatures ahead of a cold front combined with moderate rainfall produced ice jam flooding on numerous streams and creeks. Emergency management reported an ice jam quickly formed on streams and creeks then broke near Bolivar and Fairfield Townships. Water was into 5 homes but quickly receded. Property damages totaled $25K.

Date of Event	Event Type	Location	FEMA Declaration Number (if applicable)	County Designated?	Losses/Impacts
May 27, 2014	Flood	Loyalhanna, Humphries	N/A	N/A	Heavy rain caused flooding to several portions of Westmoreland County, PA including Latrobe. Emergency manager reported flooding across Latrobe and Derry in Westmoreland County. The area around Kelly Village trailer park was flooded including Raymond Ave, Route 982 and Blaney Drive. Approximately 3 feet of water was reported to have covered Raymond Drive and the entrance to the trailer park was blocked by trees and debris. About 3 feet of water also covered Route 30 at the Latrobe 30 Plaza. $15K in property damages were reported. Emergency manager reported flooded basements on Snyder Avenue in Unity Township resulting in $2K in property damages.
August 3, 2014	Flood	Greensburg	N/A	N/A	Thunderstorms with heavy rainfall produced scattered flooding across portions of Allegheny and Westmoreland County. The 9-1-1 Call Center reported roads closed in and around Greensburg due to flooding. $5K in property damages were reported.
May 29, 2015	Flash Flood	Newtonsburg	N/A	N/A	Emergency manager reported approximately 2 feet of water was over the road at the intersection of Old William Penn Route 22 and School Road. $5K in property damages were reported.
June 15-16, 2015	Flash Flood	South Greensburg, Youndwood, Buttermilk Falls, Kingston, Carbon, Latrobe, Weinel Crossroads, Salina, Milligantown, Paulton	N/A	N/A	Thunderstorms produced very heavy rainfall, with local reports of near 4 inches of rain for the event. This brought flash flooding to portions of southwest Pennsylvania. The 9-1-1 Call Center in South Greensburg reported a vehicle stuck in a roadway due to flash flooding resulting in $5K in property damages. The 9-1-1 Call Center reported flooding in Youngwood resulting in $5K in property damages. The 9-1-1 Call Center reported Darlington Road closed in Buttermilk Falls due to flash flooding with $5K in property damages reported. In Kingston, flash flooding left debris on PA- 30, PENNDOT using snow plows to remove. $10K in property damages were reported. The 9-1-1 Call Center reported 2 occupied vehicles stuck in water along Willow Crossing Road and PA- 119 in Carbon. $10K in property damages were reported. The 9-1-1 Call Center reported PA- 982 closed between U.S. 30 and Mission Road in Latrobe. $10K in property damages were reported. The 9-1-1 Call center reported flash flooding along South Leechburg Hill Road through the intersection of Route 356 in Weinel Crossroads. One vehicle was stranded in high water and $10K in property damages were reported. The 9-1-1 Call Center reported Route 981 washed out in Salina. $5K in property damages were reported. The 9-1-1 Call Center reported flash flooding from Markle Road to Spring Hollow Road, and Bowman Road with $10K in property damages reported. Law enforcement reported Route 356 closed from Labell Vue Drive to Orr Avenue due to flash flooding in Paulton with $10K in property damages reported.
June 18, 2015	Flash Flood	Hunker, New Stanton	N/A	N/A	Scattered severe thunderstorms developed ahead of an approaching cold front the afternoon of the 18th, with localized flash flooding also occurring into the early

Date of Event	Event Type	Location	FEMA Declaration Number (if applicable)	County Designated?	Losses/Impacts
					morning of the 19th. The public reported flash flooding with water running into a home in Hunker with $5K in property damages reported.
May 28, 2016	Flood	New Derry	N/A	N/A	Emergency management reported several roads closed due to flooding in Westmoreland County including Westinghouse Road, Route 217 in Derry Township, and Pizza Barn Road, where there was a water rescue of two people. In addition, basement flooding was reported. $20K in property damages were reported.
June 2-3, 2016	Flash Flood	Manor, Waterford	N/A	N/A	Storms produced isolated flash flooding in Westmoreland County. The 9-1-1 Call Center reported numerous roads flooded from Jeannette to Harrison City and South Greensburg. Some manhole covers were dislodged with tributaries of Brush Creek out of their banks. $50K in property damages were reported. The 9-1-1 Call Center reported flash flooding northeast of Ligonier with multiple roads closed due to flash flooding. The water rescue team was deployed to help a woman evacuate a home surrounded by water in Ligonier, with a water rescue from a stranded car on SR 711. A bridge was also washed out on Clifford Woods Road. $300K in property damages were reported in Waterford.
June 16, 2016	Flash Flood	Monessen Station	N/A	N/A	Thunderstorms produced flash flooding and flooding in some areas. A trained spotter reported flash flooding on Tyrol Blvd and the 9-1-1 Call Center reported flooding along Grand Blvd with $8K in property damages were reported.
August 14, 2016	Flash Flood	SR 3091	N/A	N/A	Flash flooding caused a traffic lane restriction on SR 3091 northbound between the turnpike ramps and the Route 119 S ramp.
August 17, 2016	Flash Flood	Mount Pleasant Township, South Huntingdon Township, Rostraver Township, Hempfield Township, Sewickley Township.	N/A	N/A	Residential flooding was reported in Mount Pleasant Township, South Huntingdon Township, Rostraver Township, Hempfield Township, and Sewickley Township.
August 28, 2016	Flood	Kinlock, Crisp, Oak Grove	N/A	N/A	The 9-1-1 Call Center reported several roads flood in Kinlock with $5K in property damages and water in residences in Crisp with $25K in property damages. Emergency management reported SR 711 flooded in Oak Grove with $2K in property damages. Numerous flooded roadways were reported.
December 18, 2016	Flood	Bradenville	N/A	N/A	A period of heavy rain ahead of a cold front, combined with snow melt produced flooding of streams and some roadways across western Pennsylvania. Emergency management reported some roads flooded across the county. The Loyalhanna Creek was also above flood stage at Latrobe. $25K in property damages were reported in Bradenville. Water rescue team was dispatched and an evacuation took place.
May 5, 2017	Flash Flood, Flood	Yukon, West Leechburg, East Vandergrift	N/A	N/A	Flash flooding was reported across Westmoreland County. County official reported that Waltz Mill Road was flooded in Yukon with $3K in property damages reported. County official reported that South Gosser Hill Road in West Leechburg was closed due to damage from flood waters. $8K in property

Date of Event	Event Type	Location	FEMA Declaration Number (if applicable)	County Designated?	Losses/Impacts
					damages were reported. County official reported flooding on Chestnut Street in East Vandergrift. The road was closed and $2K in property damages were reported.
July 28, 2017	Flash Flood	Cooperstown, Weinel Crossroads, New Kensington	N/A	N/A	Emergency manager reported one male stranded in vehicle on the 2000 block of Ligonier Street in Cooperstown with flooding extending through the intersection with Highway 982. $1K in property damages were reported. Local 9-1-1 call center reported Flooding at 1199 Leechburg Road, the intersection of Leechburg Road and Puckety Church Road in Weinel Crossroads with $2K in property damages reported. Local 9-1-1 reported Industrial Blvd at 7th St in New Kensington was underwater with the sewers overflowing. Roadway was also flooded at 205 9th St in New Kensington. $10K in property damages were reported.
June 10, 2018	Flash Flood	Countywide	N/A	N/A	A severe storm resulted in flooded roadways around the county.
June 20-21, 2018	Flash Flood	Loyalhanna, Derry, Keffer, Ligonier	N/A	N/A	Heavy rain with little, if any, lightning moved along a stationary front in a tropical environment. Rainfall totals reached levels that were 350% of flash flood guidance, with 1-hour rainfall totals approaching levels that were 350% above guidance and had a 0.5% annual occurrence probability. Numerous flooding incidents were reported, and approximately 66 water rescues were needed. In Westmoreland County, flash floods and heavy rains occurred throughout the Ligonier Borough, Ligonier Township, Cook Township areas of the of the Loyalhanna and Mill Creek watershed in Westmoreland County causing localized flooding, road closures, wires down, and requiring multiple water rescues to be conducted of individuals in vehicles in flooded roadways. The Ligonier Valley area in eastern Westmoreland County was especially hard hit by flooded roadways that necessitated water rescues. The Westmoreland County EOC was activated for the flooding. The Johnstown, Cambria County Fire Department Swift Water Rescue Team was dispatched to assist in Ligonier Township. Several areas in the county experienced heavy basement flooding and Cook Township had first floor flooding of a residence on Green Hollow Lane that required three occupants to be rescued from a rooftop. Four adults, two children, and one dog were evacuated from two other residences. Residential flooding occurred in the area of Snowman Lane and Blouch Lane that required a water rescue of one resident. The 9-1-1 Call Center reported a number of roads in the city of Latrobe have been flooded with $5K in property damages reported in Loyalhanna. The 9-1-1 Call Center reported that a number of roads have been flooded in the City of Derry with $5K in property damages reported. The county 9-1-1 Call Center reported residential flooding. Loyalhanna Creek is out of its banks. Many water rescues had to be performed; in some homes residents had to be rescued from their roof. The Loyalhanna Creek at Kingston, PA gage rose from 3ft to 11.7ft (crest) in roughly 10 hours. $1M in property damages and $100K in crop damages were

Date of Event	Event Type	Location	FEMA Declaration Number (if applicable)	County Designated?	Losses/Impacts
					reported in Keffer. The 9-1-1 Call Center has reported numerous water rescues in Ligonier Township. The local Giant Eagle was surrounded by water and intersections on Route 30 were closed. $1.5M in property damages and $50K in property damages were reported in Ligonier.
July 2, 2018	Flash Flood	New Kensington	N/A	N/A	A 9-1-1 Call Center reported flooding in New Kensington along Freeport Road. $1K in property damages and $0.5K in crop damages.
July 3-4, 2018	Flash Flood	Laughlintown, Arnold	N/A	N/A	The 9-1-1 Call Center reported Nature Run Road and Route 381 was also flooded in Laughlintown. $1K in property damages and $0.5K in crop damages were reported. The 9-1-1 Call Center reported that 2300 Block of Freeport Road and the intersection of Route 356 and Leechburg Road in Arnold with $1K in property damages and $0.5K in crop damages.
July 21, 2018	Flash Flood	Pennsylvania	N/A	N/A	Though not heavily impacted, Westmoreland County was declared eligible for SBA Economic Injury Disaster Loans after an Agricultural Disaster was declared for flash flooding on July 21, 2018.
September 8-10, 2018	Flood	Ruffs Dale, West Newton, Breinizer, North Irwin, Bradenville, Murrysville, East Vandergrift, Arnola, Manor	DR-1555	Yes	Tropical Storm Gordon came ashore along the central Gulf Coast on the night of September 4th. Moisture from the decaying tropical system interacted with a surface low and frontal boundary, spreading widespread heavy rainfall across the region over a 3-day period and creating widespread flooding. Disaster declarations were made in Westmoreland County. The U.S. Small Business Administration awarded low-interest loans to qualifying victims of flooding. A 9-1-1 Call Center reported that Ruffsdale Road was closed in Ruffs Dale with $1K in property damages. A 9-1-1 Call Center reported a vehicle was stuck in high water in West Newton with $5K in property damages. A 9-1-1 Call Center reported Route 56 is closed due to flooding in Breinizer with $1K in property damages. A 9-1-1 Call Center reported a water rescue on Mineral Street in North Irwin with $5K in property damages. The 9-1-1 Call Center reported Koontz Road had a water rescue in Bradenville with $5K in property damages. A 9-1-1 Call Center reported that a water rescued was done on Hills Church Road in Murrysville with $5K in property damages. The public reported that numerous roads were closed around Vandergrift with $1K in property damages. A trained spotter reported that Little Pucketa Creek was out of its banks and Valley High School released children early. Arnola reported $5K in property damages. A trained spotter reported roads were closed in Manor with $1K in property damages reported.
October 4, 2018	Flash Flood	Penns Woods, Carbon, Hannastown, Webster	N/A	N/A	Thunderstorms resulted in several reports of flash flooding, including several water rescues. The county emergency manager received a report of flooding on Herold Drive in Penns Woods with $2K in property damages. County 9-1-1 officials reported that several roads were flooded in Hempfield Township with $5K in property damages reported in Carbon. The county emergency manager reported flooding

Date of Event	Event Type	Location	FEMA Declaration Number (if applicable)	County Designated?	Losses/Impacts
					on Front Street in Hannastown with $2K in property damages. County 9-1-1 officials reported that several roads were flooded in Rostraver Township. $5K in property damages were reported in Webster.

Sources: NOAA-NCEI 2019; FEMA 2019; Knowledge Center 2019

DR	*Federal Disaster Declaration*	*NOAA*	*National Oceanic and Atmospheric Administration*
EM	*Emergency Management*	*N/A*	*Not applicable*
EMA	*Emergency Management Agency*	*SBA*	*Small Business Administration*
FEMA	*Federal Emergency Management Agency*	*US*	*United States*
NCEI	*National Centers for Environmental Information*		

Based on review of the CRREL database, Table 4.3.5-6 lists the ice jam events that have been recorded in or near the County between 1780 and 2019. Events listed below that occurred outside of the County were included because they were close enough to the County borders to cause possible flooding impacts on Westmoreland County. Information regarding losses associated with these reported ice jams was limited.

Table 4.3.5-6. Ice Jam Events in Westmoreland County between 1780 and 2019

City (Additional Geographic Identifier)	River	Jam Date	Water Year	Gage Number	Impact
West Newton	Youghiogheny	February 1, 1926	1926	Not identified	-
West Newton	Youghiogheny	January 9, 1931	1931	Not identified	-
West Newton	Youghiogheny	March 12, 1932	1932	Not identified	-
West Newton	Youghiogheny	January 12, 1933	1933	Not identified	-
West Newton	Youghiogheny	February 19, 1934	1934	Not identified	-
Sutersville	Youghiogheny	December 25, 1936	1937	3083500	-
Sutersville	Youghiogheny	January 18, 1940	1940	3083500	-
Sutersville	Youghiogheny	December 25, 1942	1943	3083500	-
Sutersville	Youghiogheny	December 28, 1943	1944	3083500	-
Sutersville	Youghiogheny	January 27, 1945	1945	3083500	-
Vandergrift	Kiskiminetas	January 1, 1946	1946	3048500	Freeze up
Murrysville	Abers Creek	January 1, 1979	1979	3084000	-
Sutersville	Youghiogheny	February 23, 1979	1979	3083500	-
Sutersville	Youghiogheny	February 1, 1982	1982	3083500	-
Latrobe	Loyalhanna Creek	January 26, 1994	1994	Not identified	Road flooding
Ligonier Township	Four Mile Run Creek	January 28, 1994	1994	Not identified	A breakup resulted in home flooding.
Ligonier Township	Loyalhanna Creek	February 1, 1996	1996	Not identified	Break up
Sutersville	Youghiogheny	January 21, 2003	2003	3083500	Break up
Smithton	Youghiogheny	February 18, 2003	2003	Not identified	Freeze up

Source: USACE 2019

Notes:

Although events were reported for Westmoreland County, information pertaining to every event was not easily ascertainable; therefore, this table may not list all ice jams in the County.

4.3.5.4 Future Occurrence

Floods are described in terms of their extent (including the horizontal area affected and the vertical depth of flood waters) and the related probability of occurrence. The NFIP uses historical records to determine the probability of occurrence for different extents of flooding. The probability of occurrence is expressed in percentages as the chance of a flood of a specific extent occurring in any given year.

The NFIP recognizes the 1-percent annual chance flood, also known as the *base flood*, as the standard for identifying properties subject to federal flood insurance purchase requirements. A 1-percent annual chance flood is a flood that has a one percent chance of occurring over a given year. The DFIRMs identify areas subject to the 1-percent and 0.2-percent annual chance flooding. Areas subject to 2-percent and 10-percent annual chance events are not shown on maps; however, water surface elevations associated with these events are included in

the flood source profiles contained in the Flood Insurance Study Report. Table 4.3.5-7 shows a range of flood recurrence intervals and associated probabilities of occurrence.

Table 4.3.5-7. Recurrence intervals and associated probabilities of occurrence

Flood Recurrence Interval	Chance of Occurrence in Any Given Year (%)	Flows
5 year	20	Mild
10 year	10	Light
25 year	4	Light to moderate
50 year	2	Moderate
100 year	1	Heavy to extreme
500 year	0.2	Extreme

Based on the historic and more recent flood events in Westmoreland County, it is clear that the County has a high probability of flooding for the future. The fact that the elements required for flooding exist and that major flooding has occurred throughout the County in the past, whether major or minor, suggests that many people and properties are at risk from the flood hazard in the future.

For the 2019 HMP update, the most up-to-date data was collected to calculate the probability of future occurrence of flooding events for Westmoreland County. Information from NOAA-NCEI storm events database, FEMA, and the CRREL ice jam database were used to identify the number of flood events that occurred between 1950 and 2019. Using these sources ensures the most accurate probability estimates possible. Table 4.3.5-8 shows these statistics, as well as the annual average number of events and the estimate percent chance of an incident occurring in a given year.

Table 4.3.5-8. Probability of Future Flooding Events

Hazard Type	Number of Occurrences between 1950 and 2019	Rate of Occurrence or Annual Number of Events (Average)	Recurrence Interval (in Years) (# Years/Number of Events)	Percent Chance of Occurrence in Any Given Year
Flash Flood	83	1.22	0.83	100%
Flood	34	0.50	2.03	49%
Ice Jam	19	0.28	3.63	28%
Total	136	2.00	0.51	100%

Sources: NOAA-NCEI 2019; USACE 2019; FEMA 2019

It is estimated that Westmoreland County will continue to experience direct and indirect impacts of flooding events annually that may induce secondary hazards such as infrastructure deterioration or failure, utility failures, power outages, water quality and supply concerns, and transportation delays, accidents and inconveniences. Therefore, the future occurrence of floods in Westmoreland County has been adjusted and characterized as *highly likely*, when taking into consideration flash flooding, as defined by the Risk Factor Methodology probability criteria (Table 4.4-1).

4.3.5.5 Vulnerability Assessment

To understand risk, a community must evaluate the assets exposed and vulnerable within the identified hazard area. For the flood hazard, the 1- and 0.2-percent annual chance flood events were examined. The following section discusses potential flood impacts, including:

- Impacts on (1) life, health, and safety; (2) general building stock and critical facilities; (3) the economy; (4) the environment; and (5) future growth and development
- Effect of climate change on vulnerability
- Further data collections that will assist in understanding this hazard over time.

The 1- and 0.2-percent annual chance flood events were examined to evaluate Westmoreland County's flood risk. Polygons representing the 1- and 0.2-percent annual chance events from the FEMA Risk Map products dated March 2011 with a latest effective Letter of Map Revision (LOMR) date of January 21, 2016 were used to estimate exposure. Figure 4.3.5-3 presented earlier in this section illustrates the flood boundaries used for the vulnerability assessment. The 1-percent annual chance flood depth grid generated for the FEMA Risk Map program was imported into FEMA's Hazards U.S.—Multi-Hazard tool (HAZUS-MH) v4.2 riverine flood model to estimate potential losses.

Impact on Life, Health, and Safety

Impacts of flooding on life, health, and safety depend on several factors including severity of the event and whether or not adequate warning time is provided to residents. Assumedly, the population living in or near floodplain areas that could be impacted by a flood would be exposed. However, exposure should not be limited only to those who reside within a defined hazard zone, but everyone who may be affected by a hazard event (e.g., people are at risk while traveling in flooded areas, or their access to emergency services is compromised during an event); the degree of that impact varies and is not strictly measurable.

To estimate the population exposed to the 1-percent annual chance flood event, the FEMA DFIRM floodplain boundaries were overlaid upon the 2010 U.S. Census population data in Geographic Information Systems (GIS). Census blocks are not consistent with boundaries of the floodplain, and gross overestimate or underestimate of exposed population can occur via use of the centroid or intersect of the Census block with these zones. Limitations of these analyses are recognized, and thus results are used only to provide a general estimate.

The 2010 Census blocks with their centroids located in the flood boundaries were used to calculate the estimated population exposed to this hazard. Table 4.3.5-9 lists the estimated population located within the 1-percent annual chance flood zone by municipality. Use of this approach resulted in an estimate of 6,670 people within the 1-percent annual chance floodplain (1.8 percent), and 9,426 people within the 0.2-percent annual chance floodplain (2.6 percent).

Table 4.3.5-9. Estimated Westmoreland County Population Exposed to the 1-Percent and 0.2-Percent Flood Hazard (2010 Census)

Municipality	Total Population	1-Percent Annual Chance Event		0.2-Percent Annual Chance Event	
		Population in Hazard Area	Percent Population in Boundary	Population in Hazard Area	Percent Population in Boundary
Adamsburg Borough	172	0	0.0%	0	0.0%
Allegheny Township	8,164	124	1.5%	158	1.9%
Arnold, City of	5,157	0	0.0%	0	0.0%

Municipality	Total Population	1-Percent Annual Chance Event		0.2-Percent Annual Chance Event	
		Population in Hazard Area	Percent Population in Boundary	Population in Hazard Area	Percent Population in Boundary
Arona Borough	370	5	1.5%	5	1.5%
Avonmore Borough	1,011	2	0.2%	2	0.2%
Bell Township	2,348	21	0.9%	21	0.9%
Bolivar Borough	465	40	8.6%	40	8.6%
Cook Township	2,250	136	6.1%	136	6.1%
Delmont Borough	2,686	0	0.0%	25	0.9%
Derry Borough	2,688	354	13.2%	548	20.4%
Derry Township	14,502	189	1.3%	244	1.7%
Donegal Borough	120	0	0.0%	0	0.0%
Donegal Township	2,403	49	2.0%	49	2.0%
East Huntingdon Township	7,963	132	1.7%	144	1.8%
East Vandergrift Borough	674	8	1.2%	8	1.2%
Export Borough	917	26	2.8%	53	5.8%
Fairfield Township	2,424	62	2.6%	62	2.6%
Greensburg, City of	14,892	44	0.3%	179	1.2%
Hempfield Township	43,241	565	1.3%	702	1.6%
Hunker Borough	291	6	2.1%	11	3.9%
Hyde Park Borough	500	5	1.0%	5	1.0%
Irwin Borough	3,973	29	0.7%	55	1.4%
Jeannette, City of	9,654	122	1.3%	180	1.9%
Latrobe, City of	8,338	148	1.8%	395	4.7%
Laurel Mountain Borough	167	3	1.8%	3	1.8%
Ligonier Borough	1,573	177	11.2%	278	17.7%
Ligonier Township	6,603	665	10.1%	737	11.2%
Lower Burrell, City of	11,761	73	0.6%	107	0.9%
Loyalhanna Township	2,382	5	0.2%	5	0.2%
Madison Borough	387	0	0.0%	0	0.0%
Manor Borough	3,239	28	0.9%	28	0.9%
Monessen, City of	7,720	3	0.0%	74	1.0%
Mount Pleasant Borough	4,454	14	0.3%	14	0.3%
Mount Pleasant Township	10,911	160	1.5%	198	1.8%
Murrysville, Municipality of	20,079	155	0.8%	236	1.2%
New Alexandria Borough	560	0	0.0%	0	0.0%
New Florence Borough	689	41	6.0%	315	45.7%
New Kensington, City of	13,116	193	1.5%	368	2.8%
New Stanton Borough	2,173	27	1.2%	35	1.6%
North Belle Vernon Borough	1,971	1	0.1%	1	0.1%
North Huntingdon Township	30,609	218	0.7%	249	0.8%
North Irwin Borough	846	0	0.0%	0	0.0%
Oklahoma Borough	809	2	0.2%	2	0.2%

Municipality	Total Population	1-Percent Annual Chance Event		0.2-Percent Annual Chance Event	
		Population in Hazard Area	Percent Population in Boundary	Population in Hazard Area	Percent Population in Boundary
Penn Borough	475	87	18.4%	117	24.7%
Penn Township	20,005	139	0.7%	173	0.9%
Rostraver Township	11,363	411	3.6%	494	4.3%
St. Clair Township	1,518	23	0.3%	24	0.4%
Salem Township	6,623	100	2.3%	139	3.2%
Scottdale Borough	4,384	42	8.5%	107	21.7%
Seward Borough	495	222	3.7%	257	4.3%
Sewickley Township	5,996	72	18.0%	112	28.1%
Smithton Borough	399	15	0.7%	47	2.2%
South Greensburg Borough	2,117	350	6.0%	392	6.8%
South Huntingdon Township	5,796	12	0.6%	19	0.9%
Southwest Greensburg Borough	2,115	102	6.7%	234	15.4%
Sutersville Borough	605	155	25.6%	185	30.6%
Trafford Borough	3,113	34	1.1%	48	1.6%
Unity Township	22,607	435	1.9%	566	2.5%
Upper Burrell Township	2,326	46	2.0%	53	2.3%
Vandergrift Borough	5,205	2	0.0%	2	0.0%
Washington Township	7,422	88	1.2%	109	1.5%
West Leechburg Borough	1,294	0	0.0%	0	0.0%
West Newton Borough	2,633	481	18.3%	622	23.6%
Youngstown Borough	326	1	0.4%	1	0.4%
Youngwood Borough	3,050	20	0.7%	52	1.7%
Westmoreland County	**365,169**	**6,670**	**1.8%**	**9,426**	**2.6%**

Sources: U.S. Census 2010; FEMA 2016
Note: % Percent

The table above shows that 1.8 percent of the total County population is exposed to the 1-percent annual chance flood event, and that approximately 2.6 percent of the total County population is exposed to the 0.2-percent annual chance flood event. Sutersville Borough has the largest portion of its population within the 1-percent annual chance event floodplain—25.6 percent of the population. New Florence Borough has the largest population within the 0.2-percent annual chance event; 45.7 percent of its population is exposed. For this project, potential population exposed is used as a guide for planning purposes.

Of the population exposed, the most vulnerable include the economically disadvantaged and the population over the age of 65. Economically disadvantaged populations are more vulnerable because they are likely to evaluate their risk and make decisions to evacuate based on net economic impact on their families. The population over the age of 65 is also more vulnerable because they are more likely to seek or need medical attention that may not be available because of isolation during a flood event, and they may have more difficulty evacuating.

Using 2010 U.S. Census data, HAZUS-MH v4.2 estimates potential sheltering needs based on a 1-percent annual chance flood event. During the 1-percent flood event, HAZUS-MH v4.2 estimates 10,065 people will be displaced, and 158 people will seek short-term sheltering, representing less than 1 percent of the Westmoreland County population seeking short-term shelter. These statistics, by municipality, are listed in Table 4.3.5-10.

The estimated displaced population and number of persons seeking short-term sheltering differ from the number of persons exposed to the 1-percent annual chance flood, because the displaced population numbers take into consideration that not all residents will be significantly impacted enough to be displaced or to require short-term sheltering during a flood event.

Table 4.3.5-10. Estimated Population Displaced or Seeking Short-Term Shelter from the 1-Percent Annual Chance Flood Event

Municipality	Total Population (2010 Census)	1-Percent Annual Chance Event	
		Displaced Population	Persons Seeking Short-Term Sheltering
Adamsburg Borough	172	0	0
Allegheny Township	8,164	190	1
Arnold, City of	5,157	2	0
Arona Borough	370	20	0
Avonmore Borough	1,011	1	0
Bell Township	2,348	45	0
Bolivar Borough	465	55	0
Cook Township	2,250	141	1
Delmont Borough	2,686	24	0
Derry Borough	2,688	389	3
Derry Township	14,502	337	5
Donegal Borough	120	0	0
Donegal Township	2,403	86	1
East Huntingdon Township	7,963	262	1
East Vandergrift Borough	674	23	0
Export Borough	917	78	0
Fairfield Township	2,424	81	0
Greensburg, City of	14,892	89	0
Hempfield Township	43,241	1,136	18
Hunker Borough	291	13	0
Hyde Park Borough	500	3	0
Irwin Borough	3,973	35	1
Jeannette, City of	9,654	181	0
Latrobe, City of	8,338	288	14
Laurel Mountain Borough	167	2	0
Ligonier Borough	1,573	217	5
Ligonier Township	6,603	629	6
Lower Burrell, City of	11,761	191	7
Loyalhanna Township	2,382	15	0
Madison Borough	387	0	0
Manor Borough	3,239	120	2

Municipality	Total Population (2010 Census)	1-Percent Annual Chance Event	
		Displaced Population	Persons Seeking Short-Term Sheltering
Monessen, City of	7,720	5	0
Mount Pleasant Borough	4,454	17	0
Mount Pleasant Township	10,911	305	2
Murrysville, Municipality of	20,079	448	3
New Alexandria Borough	560	22	1
New Florence Borough	689	65	0
New Kensington, City of	13,116	296	13
New Stanton Borough	2,173	53	2
North Belle Vernon Borough	1,971	4	0
North Huntingdon Township	30,609	452	4
North Irwin Borough	846	1	0
Oklahoma Borough	809	0	0
Penn Borough	475	91	1
Penn Township	20,005	366	7
Rostraver Township	11,363	412	7
St. Clair Township	1,518	110	0
Salem Township	6,623	145	1
Scottdale Borough	4,384	43	1
Seward Borough	495	246	6
Sewickley Township	5,996	86	2
Smithton Borough	399	49	2
South Greensburg Borough	2,117	257	2
South Huntingdon Township	5,796	14	0
Southwest Greensburg Borough	2,115	160	3
Sutersville Borough	605	165	6
Trafford Borough	3,113	50	0
Unity Township	22,607	720	8
Upper Burrell Township	2,326	89	0
Vandergrift Borough	5,205	3	0
Washington Township	7,422	131	0
West Leechburg Borough	1,294	2	0
West Newton Borough	2,633	554	22
Youngstown Borough	326	15	0
Youngwood Borough	3,050	36	0
Westmoreland County	**365,169**	**10,065**	**158**

Source: HAZUS-MH v4.2
Note: The population displaced and seeking shelter was calculated using 2010 U.S. Census data.

Total number of injuries and casualties resulting from typical riverine flooding is generally limited because of advance weather forecasting, blockades, and warnings. Therefore, injuries and deaths generally are not anticipated if proper warning occurs and precautions are in place. Warning time for flash flooding is often limited. Flash flood events are frequently associated with other natural hazard events such as earthquakes, landslides, or severe weather, which limits their predictability and compounds the hazard. Populations without adequate warning of the event are highly vulnerable to this hazard. Ongoing mitigation efforts should help to avoid the most likely cause of injury—persons trying to cross flooded roadways or channels. Mitigation action items addressing this issue are included in Section 6 (Mitigation Strategies) of this plan.

Cascading impacts may also include exposure to pathogens such as mold. After flood events, excess moisture and standing water contribute to growth of mold in buildings. Mold may present a health risk to building occupants, especially those with already compromised immune systems such as infants, children, the elderly, and pregnant women. The degree of impact will vary and is not strictly measurable. Molds can grow in as short a period as 24-48 hours in wet and damaged areas of buildings that have not been properly cleaned. Very small mold spores can easily be inhaled, creating potential for allergic reactions, asthma episodes, and other respiratory problems. Buildings should be properly cleaned and dried out to safely prevent mold growth (Centers for Disease Control and Prevention [CDC] 2015).

Molds and mildews are not the only public health risk associated with flooding. Flood waters can be contaminated by pollutants such as sewage, human and animal feces, pesticides, fertilizers, oil, asbestos, and rusting building materials. Common public health risks associated with flood events also include:

- Unsafe food
- Contaminated drinking and washing water and poor sanitation
- Mosquitos and animals
- Carbon monoxide poisoning
- Secondary hazards associated with re-entering/cleaning flooded structures
- Mental stress and fatigue.

Current loss estimation models such as HAZUS-MH are not equipped to measure public health impacts. The best mitigation measures for these impacts is to be aware that they can occur, educate the public on prevention, and be prepared to deal with these vulnerabilities in responding to flood events.

Impact on General Building Stock

After consideration of the population exposed and vulnerable to the flood hazard, the built environment was evaluated. Exposure to the flood hazard includes those buildings within the flood zone. Potential damage is the modeled loss that could occur to the exposed inventory, including structural and content value.

To estimate replacement cost value exposure and number of structures in the hazard area, default dasymetric building stock data from HAZUS-MH v4.2 and the building footprint layer from the County were used. Replacement cost values of the dasymetric Census blocks with their centroids in the floodplain were totaled. Table 4.3.5-11 lists building stock exposure per municipality, and Table 4.3.5-12 lists building stock potential loss to the 1-percent annual chance flood event.

In total, 6,355 structures, or 2.4 percent of the building stock, are within the 1-percent annual chance flood zone; and 8,678 structures, or 3.3 percent of the building stock, are within the 0.2-percent flood zone. Approximately $2.2 billion of building/contents are within the 1-percent annual chance flood zone in Westmoreland County. This represents approximately 3.1 percent of the County's total general building stock replacement value inventory ($72 billion). Also, an estimated $3.1 billion of building/contents is within the 0.2-percent annual chance flood zone (4.2 percent of the County's total).

Potential damage estimated to the Westmoreland County general building stock inventory associated with the 1-percent annual chance flood exceeds $1.1 billion. Estimated building stock potential loss estimates per municipality are listed in Table 4.3.5-12.

Table 4.3.5-11. Estimated General Building Stock Exposure to the 1-Percent Annual Chance Flood Event

Municipality	Total # Buildings	Total RCV (Structure and Contents)	Total (All Occupancies)							
			1-Percent Annual Chance Event				0.2-Percent Annual Chance Event			
			# Buildings	% Total	Total RCV (Structure and Contents)	% Total	# Buildings	% Total	Total RCV (Structure and Contents)	% Total
Adamsburg Borough	163	$33,710,000	0	0.0%	$0	0.0%	0	0.0%	$0	0.0%
Allegheny Township	6,738	$1,477,670,000	138	2.0%	$25,500,000	1.7%	174	2.6%	$25,500,000	1.7%
Arnold, City of	2,852	$982,657,000	0	0.0%	$0	0.0%	0	0.0%	$0	0.0%
Arona Borough	319	$54,508,000	6	1.9%	$0	0.0%	6	1.9%	$0	0.0%
Avonmore Borough	809	$297,296,000	3	0.4%	$0	0.0%	3	0.4%	$0	0.0%
Bell Township	2,450	$351,372,000	34	1.4%	$243,000	0.1%	34	1.4%	$243,000	0.1%
Bolivar Borough	366	$64,192,000	36	9.8%	$8,862,000	13.8%	36	9.8%	$8,862,000	13.8%
Cook Township	2,957	$322,402,000	214	7.2%	$15,290,000	4.7%	214	7.2%	$15,290,000	4.7%
Delmont Borough	1,408	$588,678,000	0	0.0%	$0	0.0%	3	0.2%	$8,876,000	1.5%
Derry Borough	1,715	$410,373,000	210	12.2%	$69,689,000	17.0%	311	18.1%	$112,404,000	27.4%
Derry Township	14,018	$2,149,630,000	210	1.5%	$23,899,000	1.1%	273	1.9%	$27,678,000	1.3%
Donegal Borough	139	$19,585,000	0	0.0%	$0	0.0%	0	0.0%	$0	0.0%
Donegal Township	3,586	$482,046,000	79	2.2%	$9,332,000	1.9%	79	2.2%	$9,332,000	1.9%
East Huntingdon Township	7,556	$1,365,245,000	127	1.7%	$12,500,000	0.9%	151	2.0%	$12,500,000	0.9%
East Vandergrift Borough	574	$108,645,000	10	1.7%	$485,000	0.4%	10	1.7%	$485,000	0.4%
Export Borough	628	$221,524,000	24	3.8%	$23,951,000	10.8%	48	7.6%	$30,298,000	13.7%
Fairfield Township	2,994	$289,624,000	86	2.9%	$1,792,000	0.6%	86	2.9%	$1,792,000	0.6%
Greensburg, City of	6,793	$3,859,723,000	38	0.6%	$19,810,000	0.5%	107	1.6%	$90,631,000	2.3%
Hempfield Township	27,298	$7,618,366,000	408	1.5%	$177,429,000	2.3%	541	2.0%	$210,869,000	2.8%
Hunker Borough	265	$51,852,000	6	2.3%	$0	0.0%	12	4.5%	$0	0.0%
Hyde Park Borough	379	$200,590,000	7	1.8%	$0	0.0%	7	1.8%	$0	0.0%
Irwin Borough	1,679	$875,822,000	14	0.8%	$9,782,000	1.1%	22	1.3%	$13,149,000	1.5%
Jeannette, City of	5,587	$2,049,741,000	110	2.0%	$67,490,000	3.3%	162	2.9%	$81,331,000	4.0%
Latrobe, City of	5,256	$1,902,472,000	55	1.0%	$39,309,000	2.1%	183	3.5%	$89,899,000	4.7%
Laurel Mountain Borough	157	$56,349,000	6	3.8%	$0	0.0%	6	3.8%	$0	0.0%
Ligonier Borough	1,129	$477,076,000	144	12.8%	$71,500,000	15.0%	187	16.6%	$89,091,000	18.7%

Municipality	Total # Buildings	Total RCV (Structure and Contents)	Total (All Occupancies)							
			1-Percent Annual Chance Event				0.2-Percent Annual Chance Event			
			# Buildings	% Total	Total RCV (Structure and Contents)	% Total	# Buildings	% Total	Total RCV (Structure and Contents)	% Total
Ligonier Township	7,513	$1,690,025,000	919	12.2%	$96,868,000	5.7%	1010	13.4%	$99,965,000	5.9%
Lower Burrell, City of	7,109	$2,167,800,000	80	1.1%	$30,380,000	1.4%	127	1.8%	$44,460,000	2.1%
Loyalhanna Township	2,299	$305,072,000	7	0.3%	$0	0.0%	7	0.3%	$0	0.0%
Madison Borough	327	$88,528,000	0	0.0%	$0	0.0%	0	0.0%	$0	0.0%
Manor Borough	1,751	$550,925,000	37	2.1%	$26,600,000	4.8%	40	2.3%	$26,600,000	4.8%
Monessen City	5,035	$1,378,401,000	17	0.3%	$4,776,000	0.3%	178	3.5%	$119,385,000	8.7%
Mount Pleasant Borough	2,585	$1,473,911,000	7	0.3%	$4,634,000	0.3%	7	0.3%	$4,634,000	0.3%
Mount Pleasant Township	10,537	$2,164,407,000	192	1.8%	$68,312,000	3.2%	236	2.2%	$86,127,000	4.0%
Murrysville Borough	11,490	$4,679,858,000	133	1.2%	$70,915,000	1.5%	188	1.6%	$97,440,000	2.1%
New Alexandria Borough	467	$144,207,000	0	0.0%	$0	0.0%	0	0.0%	$0	0.0%
New Florence Borough	584	$99,781,000	41	7.0%	$10,550,000	10.6%	300	51.4%	$56,315,000	56.4%
New Kensington, City of	7,352	$2,972,423,000	137	1.9%	$41,896,000	1.4%	276	3.8%	$79,781,000	2.7%
New Stanton Borough	1,318	$493,637,000	28	2.1%	$6,496,000	1.3%	36	2.7%	$6,496,000	1.3%
North Belle Vernon Borough	1,292	$374,204,000	0	0.0%	$0	0.0%	0	0.0%	$0	0.0%
North Huntingdon Township	18,046	$6,275,194,000	180	1.0%	$42,673,000	0.7%	210	1.2%	$52,578,000	0.8%
North Irwin Borough	467	$93,070,000	0	0.0%	$0	0.0%	0	0.0%	$0	0.0%
Oklahoma Borough	611	$110,545,000	6	1.0%	$0	0.0%	6	1.0%	$0	0.0%
Penn Borough	332	$65,127,000	71	21.4%	$14,203,000	21.8%	97	29.2%	$14,203,000	21.8%
Penn Township	12,063	$3,979,549,000	104	0.9%	$25,146,000	0.6%	124	1.0%	$31,769,000	0.8%
Rostraver Township	9,025	$2,119,205,000	329	3.6%	$70,574,000	3.3%	417	4.6%	$96,857,000	4.6%
Salem Township	6,774	$1,883,346,000	32	0.5%	$9,882,000	0.5%	33	0.5%	$9,882,000	0.5%
Scottdale Borough	2,766	$999,267,000	109	3.9%	$38,658,000	3.9%	146	5.3%	$58,221,000	5.8%
Seward Borough	390	$87,732,000	29	7.4%	$14,363,000	16.4%	78	20.0%	$28,906,000	32.9%
Sewickley Township	5,486	$928,135,000	195	3.6%	$16,646,000	1.8%	220	4.0%	$18,525,000	2.0%
Smithton Borough	294	$214,269,000	65	22.1%	$111,555,000	52.1%	99	33.7%	$163,638,000	76.4%
South Greensburg Borough	1,414	$551,430,000	14	1.0%	$1,500,000	0.3%	44	3.1%	$45,423,000	8.2%
South Huntingdon Township	6,793	$803,093,000	423	6.2%	$43,142,000	5.4%	461	6.8%	$43,142,000	5.4%

Municipality	Total # Buildings	Total RCV (Structure and Contents)	Total (All Occupancies)							
			1-Percent Annual Chance Event				0.2-Percent Annual Chance Event			
			# Buildings	% Total	Total RCV (Structure and Contents)	% Total	# Buildings	% Total	Total RCV (Structure and Contents)	% Total
Southwest Greensburg Borough	1,351	$393,277,000	23	1.7%	$12,041,000	3.1%	53	3.9%	$13,663,000	3.5%
St. Clair Township	1,434	$176,087,000	110	7.7%	$13,622,000	7.7%	247	17.2%	$30,804,000	17.5%
Sutersville Borough	475	$95,741,000	147	30.9%	$29,672,000	31.0%	170	35.8%	$42,692,000	44.6%
Trafford Borough	1,768	$837,649,000	36	2.0%	$6,883,000	0.8%	57	3.2%	$8,084,000	1.0%
Unity Township	15,670	$4,329,118,000	341	2.2%	$588,229,000	13.6%	423	2.7%	$633,644,000	14.6%
Upper Burrell Township	2,160	$513,830,000	58	2.7%	$25,518,000	5.0%	66	3.1%	$27,947,000	5.4%
Vandergrift Borough	3,281	$840,662,000	2	0.1%	$0	0.0%	2	0.1%	$0	0.0%
Washington Township	6,393	$1,110,239,000	87	1.4%	$17,318,000	1.6%	103	1.6%	$17,568,000	1.6%
West Leechburg Borough	930	$219,980,000	0	0.0%	$0	0.0%	0	0.0%	$0	0.0%
West Newton Borough	1,810	$459,333,000	408	22.5%	$181,735,000	39.6%	505	27.9%	$187,149,000	40.7%
Youngstown Borough	299	$76,023,000	1	0.3%	$20,861,000	27.4%	1	0.3%	$20,861,000	27.4%
Youngwood Borough	1,992	$772,223,000	22	1.1%	$29,367,000	3.8%	56	2.8%	$63,233,000	8.2%
WESTMORELAND COUNTY (TOTAL)	**259,498**	**$72,828,451,000**	**6,355**	**2.4%**	**$2,251,878,000**	**3.1%**	**8,678**	**3.3%**	**$3,058,222,000**	**4.2%**

Source: HAZUS-MH v4.2; FEMA 2016
Notes:
% Percent
RCV Replacement cost value (structure and contents)

Table 4.3.5-12. Estimated General Building Stock Potential Loss to the 1-Percent Annual Chance Flood Event

Municipality	Total Replacement Cost Value	1-Percent Annual Chance Event							
		All Occupancies		Residential		Commercial		Industrial, Religious, Education and Government	
		Estimated Loss	% of Total	Estimated Loss	% of Total	Estimated Loss	% of Total	Estimated Loss	% of Total
Adamsburg Borough	$33,710,000	$0	0.0%	$0	0.0%	$0	0.0%	$0	0.0%
Allegheny Township	$1,477,670,000	$6,291,000	<1%	$3,413,000	<1%	$2,810,000	<1%	$68,000	<1%
Arnold, City of	$982,657,000	$2,471,000	<1%	$40,000	<1%	$372,000	<1%	$2,059,000	<1%
Arona Borough	$54,508,000	$638,000	1.2%	$425,000	<1%	$47,000	<1%	$166,000	<1%
Avonmore Borough	$297,296,000	$8,000	<1%	$2,000	<1%	$0	<1%	$6,000	<1%
Bell Township	$351,372,000	$643,000	<1%	$458,000	<1%	$6,000	<1%	$179,000	<1%
Bolivar Borough	$64,192,000	$2,551,000	4.0%	$1,435,000	2.2%	$1,019,000	1.6%	$97,000	<1%
Cook Township	$322,402,000	$3,674,000	1.1%	$3,673,000	1.1%	$0	0.0%	$1,000	<1%
Delmont Borough	$588,678,000	$553,000	<1%	$421,000	<1%	$107,000	<1%	$25,000	<1%
Derry Borough	$410,373,000	$5,989,000	1.5%	$3,809,000	<1%	$621,000	<1%	$1,559,000	<1%
Derry Township	$2,149,630,000	$22,709,000	1.1%	$4,680,000	<1%	$5,609,000	<1%	$12,420,000	<1%
Donegal Borough	$19,585,000	$0	0.0%	$0	0.0%	$0	0.0%	$0	0.0%
Donegal Township	$482,046,000	$1,411,000	<1%	$1,053,000	<1%	$181,000	<1%	$177,000	<1%
East Huntingdon Township	$1,365,245,000	$2,028,000	<1%	$1,828,000	<1%	$169,000	<1%	$31,000	<1%
East Vandergrift Borough	$108,645,000	$598,000	<1%	$598,000	<1%	$0	0.0%	$0	0.0%
Export Borough	$221,524,000	$3,455,000	1.6%	$480,000	<1%	$1,312,000	<1%	$1,663,000	<1%
Fairfield Township	$289,624,000	$1,927,000	<1%	$1,623,000	<1%	$121,000	<1%	$183,000	<1%
Greensburg, City of	$3,859,723,000	$3,594,000	<1%	$576,000	<1%	$2,303,000	<1%	$715,000	<1%
Hempfield Township	$7,618,366,000	$23,572,000	<1%	$17,345,000	<1%	$4,145,000	<1%	$2,082,000	<1%
Hunker Borough	$51,852,000	$84,000	<1%	$75,000	<1%	$9,000	<1%	$0	0.0%
Hyde Park Borough	$200,590,000	$46,000	<1%	$24,000	<1%	$4,000	<1%	$18,000	<1%

Municipality	Total Replacement Cost Value	1-Percent Annual Chance Event							
		All Occupancies		Residential		Commercial		Industrial, Religious, Education and Government	
		Estimated Loss	% of Total	Estimated Loss	% of Total	Estimated Loss	% of Total	Estimated Loss	% of Total
Irwin Borough	$875,822,000	$1,931,000	<1%	$588,000	<1%	$254,000	<1%	$1,089,000	<1%
Jeannette, City of	$2,049,741,000	$6,065,000	<1%	$2,367,000	<1%	$1,088,000	<1%	$2,610,000	<1%
Latrobe, City of	$1,902,472,000	$31,434,000	1.7%	$12,587,000	<1%	$6,675,000	<1%	$12,172,000	<1%
Laurel Mountain Borough	$56,349,000	$79,000	<1%	$78,000	<1%	$1,000	<1%	$0	0.0%
Ligonier Borough	$477,076,000	$8,977,000	1.9%	$5,039,000	1.1%	$3,683,000	<1%	$255,000	<1%
Ligonier Township	$1,690,025,000	$16,920,000	1.0%	$12,795,000	<1%	$3,313,000	<1%	$812,000	<1%
Lower Burrell, City of	$2,167,800,000	$8,703,000	<1%	$3,069,000	<1%	$1,754,000	<1%	$3,880,000	<1%
Loyalhanna Township	$305,072,000	$691,000	<1%	$666,000	<1%	$18,000	<1%	$7,000	<1%
Madison Borough	$88,528,000	$0	0.0%	$0	0.0%	$0	0.0%	$0	0.0%
Manor Borough	$550,925,000	$8,691,000	1.6%	$3,293,000	<1%	$3,133,000	<1%	$2,265,000	<1%
Monessen City	$1,378,401,000	$1,388,000	<1%	$22,000	<1%	$1,055,000	<1%	$311,000	<1%
Mount Pleasant Borough	$1,473,911,000	$455,000	<1%	$137,000	<1%	$245,000	<1%	$73,000	<1%
Mount Pleasant Township	$2,164,407,000	$13,103,000	<1%	$3,682,000	<1%	$3,617,000	<1%	$5,804,000	<1%
Murrysville Borough	$4,679,858,000	$27,318,000	<1%	$7,882,000	<1%	$12,953,000	<1%	$6,483,000	<1%
New Alexandria Borough	$144,207,000	$3,227,000	2.2%	$1,351,000	<1%	$130,000	<1%	$1,746,000	1.2%
New Florence Borough	$99,781,000	$1,625,000	1.6%	$1,367,000	1.4%	$253,000	<1%	$5,000	<1%
New Kensington, City of	$2,972,423,000	$13,406,000	<1%	$4,295,000	<1%	$3,380,000	<1%	$5,731,000	<1%
New Stanton Borough	$493,637,000	$3,503,000	<1%	$2,117,000	<1%	$821,000	<1%	$565,000	<1%
North Belle Vernon Borough	$374,204,000	$310,000	<1%	$242,000	<1%	$55,000	<1%	$13,000	<1%
North Huntingdon Township	$6,275,194,000	$24,919,000	<1%	$14,022,000	<1%	$5,693,000	<1%	$5,204,000	<1%
North Irwin Borough	$93,070,000	$2,000	<1%	$2,000	<1%	$0	0.0%	$0	0.0%
Oklahoma Borough	$110,545,000	$57,000	<1%	$57,000	<1%	$0	0.0%	$0	0.0%
Penn Borough	$65,127,000	$1,332,000	2.0%	$770,000	1.2%	$484,000	<1%	$78,000	<1%

Municipality	Total Replacement Cost Value	1-Percent Annual Chance Event							
		All Occupancies		Residential		Commercial		Industrial, Religious, Education and Government	
		Estimated Loss	% of Total	Estimated Loss	% of Total	Estimated Loss	% of Total	Estimated Loss	% of Total
Penn Township	$3,979,549,000	$8,832,000	<1%	$4,730,000	<1%	$3,662,000	<1%	$440,000	<1%
Rostraver Township	$2,119,205,000	$18,331,000	<1%	$8,504,000	<1%	$7,869,000	<1%	$1,958,000	<1%
Salem Township	$1,883,346,000	$19,262,000	1.0%	$2,250,000	<1%	$11,446,000	<1%	$5,566,000	<1%
Scottdale Borough	$999,267,000	$15,146,000	1.5%	$1,733,000	<1%	$1,237,000	<1%	$12,176,000	1.2%
Seward Borough	$87,732,000	$854,000	<1%	$465,000	<1%	$354,000	<1%	$35,000	<1%
Sewickley Township	$928,135,000	$9,597,000	1.0%	$8,268,000	<1%	$82,000	<1%	$1,247,000	<1%
Smithton Borough	$214,269,000	$30,649,000	14.3%	$3,037,000	1.4%	$10,904,000	5.1%	$16,708,000	7.8%
South Greensburg Borough	$551,430,000	$4,673,000	<1%	$1,412,000	<1%	$2,665,000	<1%	$596,000	<1%
South Huntingdon Township	$803,093,000	$11,077,000	1.4%	$10,004,000	1.2%	$868,000	<1%	$205,000	<1%
Southwest Greensburg Borough	$393,277,000	$3,667,000	<1%	$128,000	<1%	$3,362,000	<1%	$177,000	<1%
St. Clair Township	$176,087,000	$6,887,000	3.9%	$3,332,000	1.9%	$1,241,000	<1%	$2,314,000	1.3%
Sutersville Borough	$95,741,000	$7,033,000	7.3%	$4,699,000	4.9%	$2,160,000	2.3%	$174,000	<1%
Trafford Borough	$837,649,000	$15,042,000	1.8%	$1,215,000	<1%	$13,340,000	1.6%	$487,000	<1%
Unity Township	$4,329,118,000	$29,504,000	<1%	$9,277,000	<1%	$9,285,000	<1%	$10,942,000	<1%
Upper Burrell Township	$513,830,000	$2,499,000	<1%	$1,020,000	<1%	$119,000	<1%	$1,360,000	<1%
Vandergrift Borough	$840,662,000	$60,000	<1%	$29,000	<1%	$25,000	<1%	$6,000	<1%
Washington Township	$1,110,239,000	$2,801,000	<1%	$2,089,000	<1%	$521,000	<1%	$191,000	<1%
West Leechburg Borough	$219,980,000	$65,000	<1%	$27,000	<1%	$32,000	<1%	$6,000	<1%
West Newton Borough	$459,333,000	$40,084,000	8.7%	$11,498,000	2.5%	$17,139,000	3.7%	$11,447,000	2.5%
Youngstown Borough	$76,023,000	$151,000	<1%	$76,000	<1%	$75,000	<1%	$0	0.0%
Youngwood Borough	$772,223,000	$8,965,000	1.2%	$919,000	<1%	$3,315,000	<1%	$4,731,000	<1%
Westmoreland County (TOTAL)	**$72,828,451,000**	**$491,557,000**	**<1%**	**$193,098,000**	**<1%**	**$157,141,000**	**<1%**	**$141,318,000**	**<1%**

Source: HAZUS-MH v4.2 *Note: % Percent*

NFIP Statistics

In addition to total building stock modeling, individual data available regarding flood policies, claims, repetitive loss (RL) properties, and severe repetitive loss (SRL) properties were analyzed. According to Section 1361A of the National Flood Insurance Act (NFIA), as amended, 42 *United States Code* (U.S.C.) 4102a, the definition of an SRL property is a residential property covered by an NFIP flood insurance policy, and for which at least one of the following sets of claim payments have occurred:

- At least four NFIP claim payments (including building and contents) over $5,000 each, with the cumulative amount of these claims payments exceeding $20,000
- At least two separate claims payments (building payments only), with the cumulative amount of the building portion of these claims payments exceeding the market value of the building

Moreover, for both of the above, at least two of the referenced claims must have occurred within any 10-year period and must have been submitted separately on dates more than 10 days apart.

While the NFIP defines an RL property as a property for which 2 or more flood insurance claims over $1,000 have been paid in any 10-year rolling period since 1978, an RL property is defined by FEMA's Flood Mitigation Assistance (FMA) Program as an NFIP-insured structure that incurred flood-related damage on two occasions, and for which the cost of repair equaled or exceeded 25 percent of the market value of the structure at the time of each such flood.

Westmoreland County has 148 RL properties. RL and SRL statistics were not available from FEMA. Table 4.3.5-13 summarizes NFIP policies and claims, and numbers of RL properties, for Westmoreland County's municipalities.

Table 4.3.5-13. NFIP Policies, Claims, and Repetitive Loss Statistics

Municipality	# Policies (1)	# Claims (Losses) (1)	# Repetitive Loss Properties (1)	Total Loss Payments (2)
Adamsburg Borough	-	-	-	-
Allegheny Township	32	$8,600,500	3	$31,677
Arnold, City of	-	-	-	-
Arona Borough	-	-	-	-
Avonmore Borough	4	$653,700	1	$1,364
Bell Township	6	$1,503,500	-	$13,916
Bolivar Borough	1	$88,000	-	$2,765
Cook Township	18	$2,523,600	2	$18,271
Delmont Borough	4	$955,000	-	$3,343
Derry Borough	40	$5,589,100	1	$29,869
Derry Township	30	$5,275,300	1	$20,556
Donegal Borough	5	$1,349,000	0	$5,890
Donegal Township	5	$1,349,000	0	$5,890
East Huntingdon Township	13	$1,578,500	0	$13,823
East Vandergrift Borough	3	$345,000	0	$1,130
Export Borough	3	$600,000	2	$1,157
Fairfield Township	4	$504,000	0	$2,187
Greensburg, City of	22	$5,269,900	5	$40,287

Municipality	# Policies (1)	# Claims (Losses) (1)	# Repetitive Loss Properties (1)	Total Loss Payments (2)
Hempfield Township	125	$28,465,200	21	$214,312
Hunker Borough	1	$33,600	0	$433
Hyde Park Borough	-	-	-	-
Irwin Borough	5	$1,091,600	1	$8,178
Jeannette, City of	12	$3,089,500	3	$19,588
Latrobe, City of	16	$2,682,700	3	$10,684
Laurel Mountain Borough	1	$350,000	0	$643
Ligonier Borough	28	$3,352,300	6	$40,591
Ligonier Township	124	$25,402,000	31	$160,825
Lower Burrell, City of	18	$3,301,200	2	$13,012
Loyalhanna Township	2	$370,000	0	$792
Madison Borough	-	-	-	-
Manor Borough	4	$916,400	2	$13,212
Monessen City	5	$804,400	1	$3,552
Mount Pleasant Borough	-	-	-	-
Mount Pleasant Township	20	$3,196,000	1	$14,023
Murrysville Borough	55	$12,876,400	9	$53,813
New Alexandria Borough	-	-	-	-
New Florence Borough	6	$949,200	0	$5,195
New Kensington, City of	27	$7,297,400	3	$54,634
New Stanton Borough	2	$1,280,000	0	$6,361
North Belle Vernon Borough	-	-	-	-
North Huntingdon Township	63	$13,636,200	3	$65,225
North Irwin Borough	-	-	-	-
Oklahoma Borough	-	-	-	-
Penn Borough	10	$952,500	1	$10,833
Penn Township	40	$8,908,900	1	$38,569
Rostraver Township	48	$7,473,200	5	$64,793
Salem Township	7	$1,488,200	1	$3,449
Scottdale Borough	22	$4,674,500	1	$43,034
Seward Borough	2	$380,000	0	$1,023
Sewickley Township	33	$3,282,900	9	$33,246
Smithton Borough	4	$307,000	0	$3,380
South Greensburg Borough	5	$1,589,800	1	$9,370
South Huntingdon Township	26	$3,155,000	2	$13,710
Southwest Greensburg Borough	1	$42,000	0	$298
St. Clair Township	8	$931,200	0	$4,722
Sutersville Borough	19	$1,496,600	2	$22,553
Trafford Borough	10	$2,499,300	0	$8,347
Unity Township	61	$11,864,400	17	$55,283
Upper Burrell Township	14	$2,593,000	2	$9,955

Municipality	# Policies (1)	# Claims (Losses) (1)	# Repetitive Loss Properties (1)	Total Loss Payments (2)
Vandergrift Borough	-	-	-	-
Washington Township	20	$3,848,700	0	$13,936
West Leechburg Borough	-	-	-	-
West Newton Borough	83	$10,777,800	4	$166,236
Youngwood Borough	3	$1,213,400	1	$23,495
Westmoreland County	**1,120**	**$212,756,600**	**148**	**$1,403,430**

Source: FEMA 2019
Notes:
(1) Policies, claims, RL, and SRL statistics provided by FEMA, and are current as of June 30, 2019. Communities with SRL properties are noted in the column. The number of claims represents claims closed by June 30, 2019.
(2) Total building and content loss information was collected from the claims file provided by FEMA: http://bsa.nfipstat.fema.gov/reports/1040.htm#42.
FEMA Federal Emergency Management Agency
PEMA Pennsylvania Emergency Management Agency
RL Repetitive loss SRL Severe repetitive loss

Impact on Critical Facilities

Critical services during and after a flood event may not be available if critical facility structures are directly damaged or transportation routes to access these critical facilities are impacted. Roads that are blocked or damaged can isolate residents and can prevent access throughout the planning area, including for emergency service providers needing to get to vulnerable populations or to make repairs. Major roadways that may be impacted by the 1-percent annual chance flood event include I-70, US-22, US-30, PA-31, PA51, PA-56, PA-119, PA-130, PA-136, PA-201, PA-217, PA-259, PA-271, PA-286, PA-356, PA-366, PA-381, PA-400, PA-711, PA-819, PA-906, PA-981, and PA-993. Bridges washed out or blocked by floods or debris also can cause isolation. Water and sewer systems can be flooded or backed up, causing health problems. Floodwaters can get into drinking water supplies, causing contamination. Culverts can be blocked by debris from flood events, also causing localized urban flooding. Sewer systems can be backed up, causing wastewater to spill into homes, neighborhoods, rivers and streams.

Table 4.3.5-14 lists critical facilities and utilities within the 1-percent annual chance flood boundary. Table 4.3.5-15 lists critical facilities and utilities within the 0.2-percent annual chance flood boundary.

Table 4.3.5-14. Critical Facilities and Utilities Within the 1-Percent Annual Chance Flood Boundary

Municipality	Facility Types													
	College University	Dams	Day Care	EMS	EOC	Fire	Hazmat Facilities	Libraries	MDJ	Municipal Office	Police	School	School District Offices	Sewer Water Facilities
Allegheny Township	0	1	0	0	0	0	1	0	0	0	0	0	0	0
Avonmore Borough	0	0	0	0	0	0	1	0	0	0	0	0	0	1
Cook Township	0	1	0	0	0	0	2	0	0	0	0	0	0	0
Derry Borough	0	0	0	0	0	0	0	0	0	0	1	0	0	0
Derry Township	0	1	0	0	0	1	1	0	0	0	0	0	0	0
Donegal Township	0	1	0	0	0	0	0	0	0	0	0	0	0	0

Municipality	Facility Types													
	College University	Dams	Day Care	EMS	EOC	Fire	Hazmat Facilities	Libraries	MDJ	Municipal Office	Police	School	School District Offices	Sewer Water Facilities
East Huntingdon Township	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Export Borough	0	0	0	0	0	0	0	0	1	0	0	0	0	0
Fairfield Township	0	1	0	0	0	0	0	0	0	0	0	0	0	0
Hempfield Township	2	3	0	0	0	1	1	0	0	0	0	0	0	1
Irwin Borough	0	0	0	0	0	0	0	1	0	0	0	0	0	0
Ligonier Township	0	47	0	0	0	0	1	0	0	0	0	0	0	1
Lower Burrell City	0	0	0	0	0	0	2	0	0	0	0	0	0	0
Manor Borough	0	0	0	0	0	0	0	0	0	1	1	0	0	0
Monessen City	0	0	0	0	0	0	0	0	0	1	0	0	0	0
Mount Pleasant Township	0	3	0	0	0	0	1	0	0	0	0	0	0	0
Murrysville Borough	0	1	0	0	0	0	0	0	0	0	0	0	0	0
New Florence Borough	0	0	0	1	0	1	0	0	0	0	0	0	0	0
New Kensington City	0	0	0	0	0	0	1	0	0	0	0	0	1	0
North Huntingdon Township	0	0	0	0	0	0	2	0	0	0	0	1	0	0
Penn Borough	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Penn Township	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Rostraver Township	0	0	0	0	0	1	0	0	0	0	0	0	0	0
Salem Township	0	0	0	0	1	0	0	0	0	0	0	0	0	0
Scottdale Borough	0	0	0	0	0	0	2	0	0	0	0	0	0	0
Smithton Borough	0	0	0	0	0	1	0	1	0	1	1	0	0	0
St. Clair Township	0	4	0	0	0	0	0	0	0	1	0	0	0	0
Sutersville Borough	0	0	1	0	0	0	0	0	0	1	0	0	0	0
Trafford Borough	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Unity Township	0	1	1	0	0	0	1	0	0	0	0	0	0	0
Vandergrift Borough	0	0	0	0	0	0	1	0	0	0	0	0	0	0
West Newton Borough	0	0	0	0	0	1	1	1	0	1	1	0	0	0
Youngwood Borough	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Westmoreland County	**2**	**64**	**2**	**1**	**1**	**6**	**21**	**3**	**1**	**6**	**4**	**1**	**1**	**5**

Source: Westmoreland County 2019; FEMA 2016

Table 4.3.5-15. Critical Facilities and Utilities Within the 0.2-Percent Annual Chance Flood Boundary

Municipality	Facility Types													
	College University	Dams	Day Care	EMS	EOC	Fire	Hazmat Facilities	Libraries	MDJ	Municipal Office	Police	School	School District Offices	Sewer Water Facilities
Allegheny Township	0	1	0	0	0	0	1	0	0	0	0	0	0	0
Avonmore Borough	0	0	0	0	0	0	1	0	0	0	0	0	0	1
Cook Township	0	1	0	0	0	0	2	0	0	0	0	0	0	0
Derry Borough	0	0	0	0	0	0	1	0	0	0	1	0	0	0
Derry Township	0	1	0	0	0	1	1	0	0	0	0	0	0	0
Donegal Township	0	1	0	0	0	0	0	0	0	0	0	0	0	0
East Huntingdon Township	0	0	0	0	0	0	2	0	0	0	0	0	0	0
Export Borough	0	0	0	0	0	0	0	0	1	1	0	0	0	0
Fairfield Township	0	1	0	0	0	0	0	0	0	0	0	0	0	0
Hempfield Township	5	3	0	0	0	1	1	0	0	0	0	0	0	1
Irwin Borough	0	0	0	0	0	0	0	1	0	0	0	0	0	0
Ligonier Borough	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Ligonier Township	0	47	0	0	0	0	1	0	0	0	0	0	0	1
Lower Burrell City	0	0	0	0	0	0	2	0	0	0	0	0	0	0
Manor Borough	0	0	0	0	0	0	0	0	0	1	1	0	0	0
Monessen City	0	0	1	0	0	0	2	1	0	1	1	0	0	0
Mount Pleasant Township	0	3	0	0	0	0	3	0	0	0	0	0	0	0
Murrysville Borough	0	1	0	0	0	0	0	1	0	0	0	0	0	0
New Florence Borough	0	0	0	1	0	1	0	1	0	0	1	0	0	0
New Kensington City	0	0	0	0	0	0	1	0	0	0	0	0	1	0
North Huntingdon Township	0	0	0	0	0	0	2	0	0	0	0	1	0	0
Penn Borough	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Penn Township	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Rostraver Township	0	0	0	0	0	1	0	0	0	0	0	0	0	0
Salem Township	0	0	0	0	1	0	0	0	0	0	0	0	0	0
Scottdale Borough	0	0	0	0	0	0	2	0	0	0	1	0	0	0
Seward Borough	0	0	0	0	0	0	0	0	0	1	0	0	0	0
Sewickley Township	0	0	0	0	0	1	0	0	0	0	0	0	0	0
Smithton Borough	0	0	0	0	0	1	0	1	0	1	1	0	0	0
Southwest Greensburg Borough	0	0	0	0	0	0	1	0	0	0	0	0	0	0
St. Clair Township	0	4	1	0	0	0	0	0	0	1	0	0	0	0
Sutersville Borough	0	0	1	0	0	0	0	0	0	1	0	0	0	0

Municipality	Facility Types													
	College University	Dams	Day Care	EMS	EOC	Fire	Hazmat Facilities	Libraries	MDJ	Municipal Office	Police	School	School District Offices	Sewer Water Facilities
Trafford Borough	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Unity Township	0	1	1	0	0	0	1	0	0	0	0	0	0	0
Vandergrift Borough	0	0	0	0	0	0	1	0	0	0	0	0	0	0
West Newton Borough	0	0	0	0	0	1	3	1	0	1	1	0	0	0
Youngwood Borough	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Westmoreland County (Total)	**5**	**64**	**4**	**1**	**1**	**7**	**30**	**6**	**1**	**8**	**7**	**1**	**2**	**5**

Source: Westmoreland County 2019; FEMA 2016

Impact on the Economy

Flood events can significantly impact the local and regional economy. This includes but is not limited to building damages and associated tax loss, impacts to utilities and infrastructure, agricultural losses, business interruption and effects on tourism. In areas that are directly flooded, commercial and industrial building repairs/renovations may be necessary, disrupting associated services.

Flooding can cause extensive damage to public utilities and disruptions to delivery of services. Loss of power and communications may occur and drinking water and wastewater treatment facilities may be temporarily out of operation. As presented above, several critical facilities and utilities are exposed and potentially vulnerable to the 1- and 0.-2 percent annual chance flood events.

Debris management may also be a large expense after a flood event. HAZUS-MH v4.2 estimates the amount of debris generated during a flood event. The model breaks down debris into three categories: (1) finishes (dry wall, insulation, etc.), (2) structural (wood, brick, etc.), and (3) foundations (concrete slab and block, rebar, etc.). These distinctions are necessary because of the different types of equipment needed to handle debris. Table 4.3.5-16 summarizes the debris estimates to result from a 1-percent annual chance flood event. Notably, this table lists estimated debris generated by riverine flooding only and does not include additional potential damage and debris possibly generated by force of wind that may be associated with storm events that cause flooding.

Table 4.3.5-16. Estimated Debris Generated from the 1-Percent Annual Chance Flood Event

Municipality	1-Percent Chance Flood Event			
	Total (tons)	Finish (tons)	Structure (tons)	Foundation (tons)
Adamsburg Borough	0	0	0	0
Allegheny Township	246	145	53	48
Arnold, City of	274	9	148	117
Arona Borough	44	30	7	8
Avonmore Borough	2	0	1	1
Bell Township	57	29	15	13
Bolivar Borough	340	120	117	102
Cook Township	507	220	154	132

Municipality	1-Percent Chance Flood Event			
	Total (tons)	Finish (tons)	Structure (tons)	Foundation (tons)
Delmont Borough	13	13	0	0
Derry Borough	306	297	5	4
Derry Township	687	222	252	212
Donegal Borough	0	0	0	0
Donegal Township	132	73	21	37
East Huntingdon Township	275	120	62	93
East Vandergrift Borough	130	46	47	36
Export Borough	56	51	2	3
Fairfield Township	278	125	78	76
Greensburg, City of	57	43	8	5
Hempfield Township	1,133	588	296	249
Hunker Borough	3	3	0	0
Hyde Park Borough	7	2	3	3
Irwin Borough	58	53	3	2
Jeannette, City of	224	181	26	16
Latrobe, City of	6,115	970	2,887	2,259
Laurel Mountain Borough	7	6	1	0
Ligonier Borough	348	320	11	17
Ligonier Township	1,699	850	442	406
Lower Burrell, City of	496	194	169	134
Loyalhanna Township	157	38	66	54
Madison Borough	0	0	0	0
Manor Borough	530	169	204	157
Monessen City	4	4	0	0
Mount Pleasant Borough	13	13	0	0
Mount Pleasant Township	354	224	66	64
Murrysville Borough	599	438	87	75
New Alexandria Borough	535	104	228	204
New Florence Borough	193	120	36	36
New Kensington, City of	606	304	177	125
New Stanton Borough	321	139	101	81
North Belle Vernon Borough	60	18	23	18
North Huntingdon Township	2,167	652	869	647
North Irwin Borough	0	0	0	0
Oklahoma Borough	13	4	5	3
Penn Borough	173	44	75	54
Penn Township	287	229	32	26
Rostraver Township	862	481	190	191
Salem Township	2,892	293	1,525	1,074
Scottdale Borough	215	123	53	39
Seward Borough	63	47	6	11
Sewickley Township	1,642	474	650	518
Smithton Borough	1,321	367	541	413
South Greensburg Borough	142	112	18	12
South Huntingdon Township	2,431	698	984	750

Municipality	1-Percent Chance Flood Event			
	Total (tons)	Finish (tons)	Structure (tons)	Foundation (tons)
Southwest Greensburg Borough	17	11	4	2
St. Clair Township	890	265	349	276
Sutersville Borough	627	304	171	152
Trafford Borough	170	118	31	21
Unity Township	800	400	214	186
Upper Burrell Township	51	44	3	4
Vandergrift Borough	6	3	2	1
Washington Township	257	101	84	72
West Leechburg Borough	2	2	0	0
West Newton Borough	2,760	992	1,022	747
Youngstown Borough	8	6	0	1
Youngwood Borough	149	109	21	19
Westmoreland County (TOTAL)	**34,815**	**12,159**	**12,646**	**10,010**

Source: HAZUS-MH v4.2

Impact on the Environment

As discussed, floodplains serve beneficial and natural functions on ecological/environmental, social and economic levels. Areas in the floodplain that typically provide these natural functions and benefits are wetlands, riparian areas, sensitive areas and habitats for rare and endangered species. To determine exposure of natural and beneficial land in Westmoreland County to the flood hazard, the acreage of wetlands and forested land were calculated. To determine exposure of natural and beneficial land in Westmoreland County to the flood hazard, acreages of wetlands and forested land were calculated. Table 4.3.5-17 lists results of these calculations.

Table 4.3.5-17. Acreage of Natural and Beneficial Land Within the Floodplain

Wetlands	Area in the 1-Percent Annual Chance Floodplain (acres)	Area in the 0.2-Percent Annual Chance Floodplain (acres)
Wetlands	1,080	1,082
Forest	18,383	18,984

Sources: USGS National Land Cover Data (NLCD) 2016; FEMA 2016

Flooding can cause a wide range of environmental impacts including but not limited to erosion and loss of vegetation and habitats. These impacts in turn may lead to decreased protection of the waterbody from adjacent land uses, and to degraded water quality. Moreover, floods may generate large amounts of tree and construction debris, disperse household hazardous waste into the fluvial system, and contaminate water supplies and wildlife habitats with extremely toxic substances. Long-duration floods could exacerbate environmental problems because cleanup likely would be delayed and contaminants could remain in the environment for a longer period of time. Cleanup after a flood raises additional environmental concerns. The volume of debris to be collected, the extent to which public utilities (water supply systems and sewer operations) have been damaged, and the quantity of agricultural and industrial pollutants entering water bodies might present additional issues (Montz and Tobin 1997; Rubin 2013).

Future Growth and Development

As discussed in Section 2.4, areas targeted for future growth and development have been identified across the County. Any areas of growth could be impacted by the flood hazard if within identified hazard areas. The County intends to discourage development within vulnerable areas and to encourage higher regulatory standards on the local level.

Effect of Climate Change on Vulnerability

As discussed earlier, annual precipitation amounts in the region are projected to increase, primarily in the form of heavy rainfalls, which have the potential to affect drinking water, increase the risk to flash flooding and riverine flooding, and flood critical transportation corridors and infrastructure. Increases in precipitation may alter and expand the floodplain boundaries and runoff patterns, resulting in populations, buildings, and critical facilities and infrastructure that were previously outside the floodplain. This increase in exposure would result in an increased risk to life and health, an increase in structural losses, a diversion of additional resources to response and recovery efforts, and an increase in business closures affected by future flooding events due to loss of service or access.

Additional Data and Next Steps

A HAZUS-MH v4.2 riverine flood analysis of Westmoreland County was based on the most current and best available data and FEMA DFIRM. For future plan updates, more accurate exposure and loss estimates may be produced by updating the default general building stock inventory in HAZUS-MH with a Countywide inventory based on available footprints and associated building attributes, and conducting the loss estimates at the structure level.

Section 6 (Mitigation Strategy) of this HMP includes discussions of specific mitigation actions addressing improved data collection, and further vulnerability analysis.

Figure 4.3.5-5 through Figure 4.3.5-68 show the flood maps for each municipality in Westmoreland County.

Figure 4.3.5-5. Adamsburg Borough Municipal Flood Map

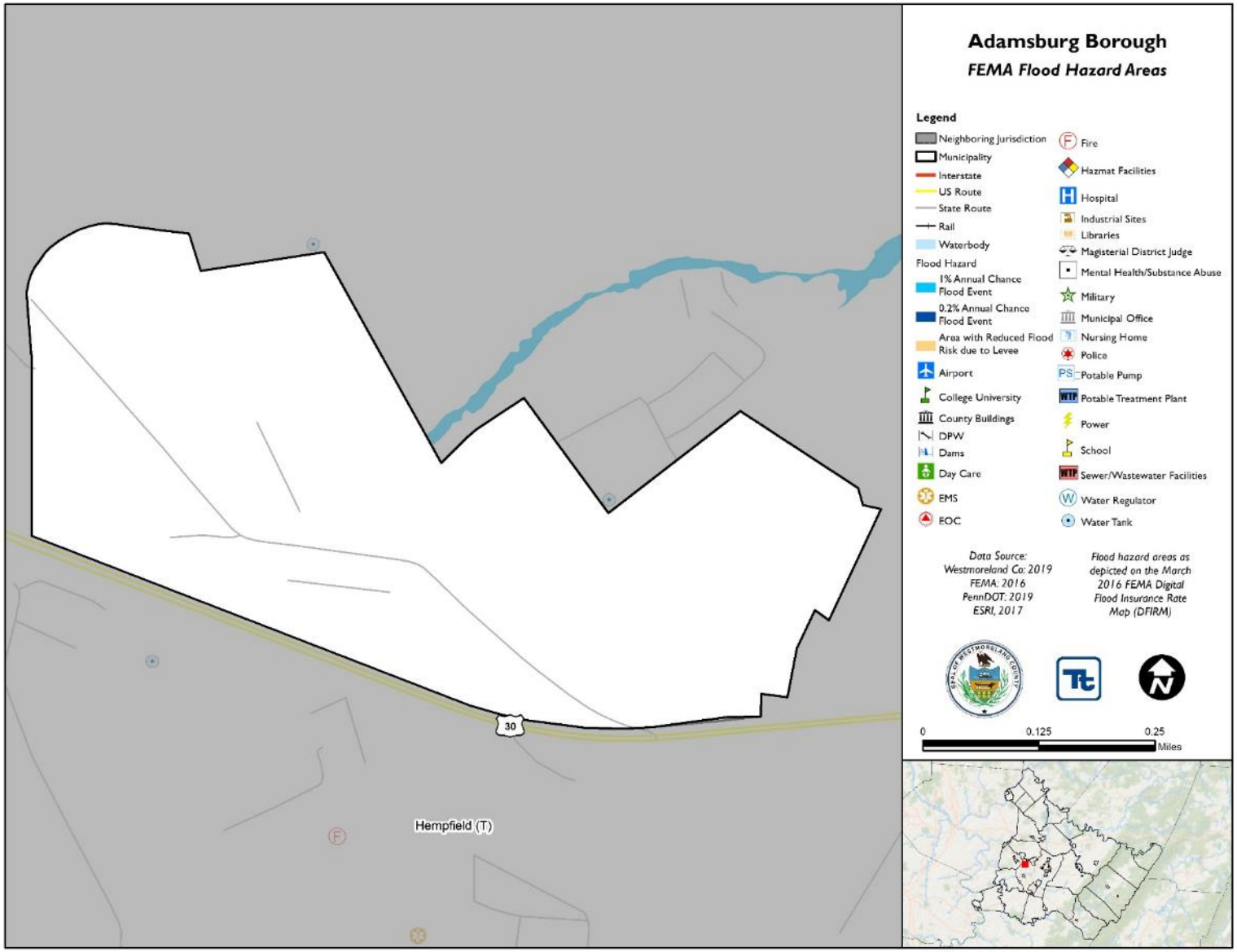


Figure 4.3.5-6. Allegheny Township Municipal Flood Map

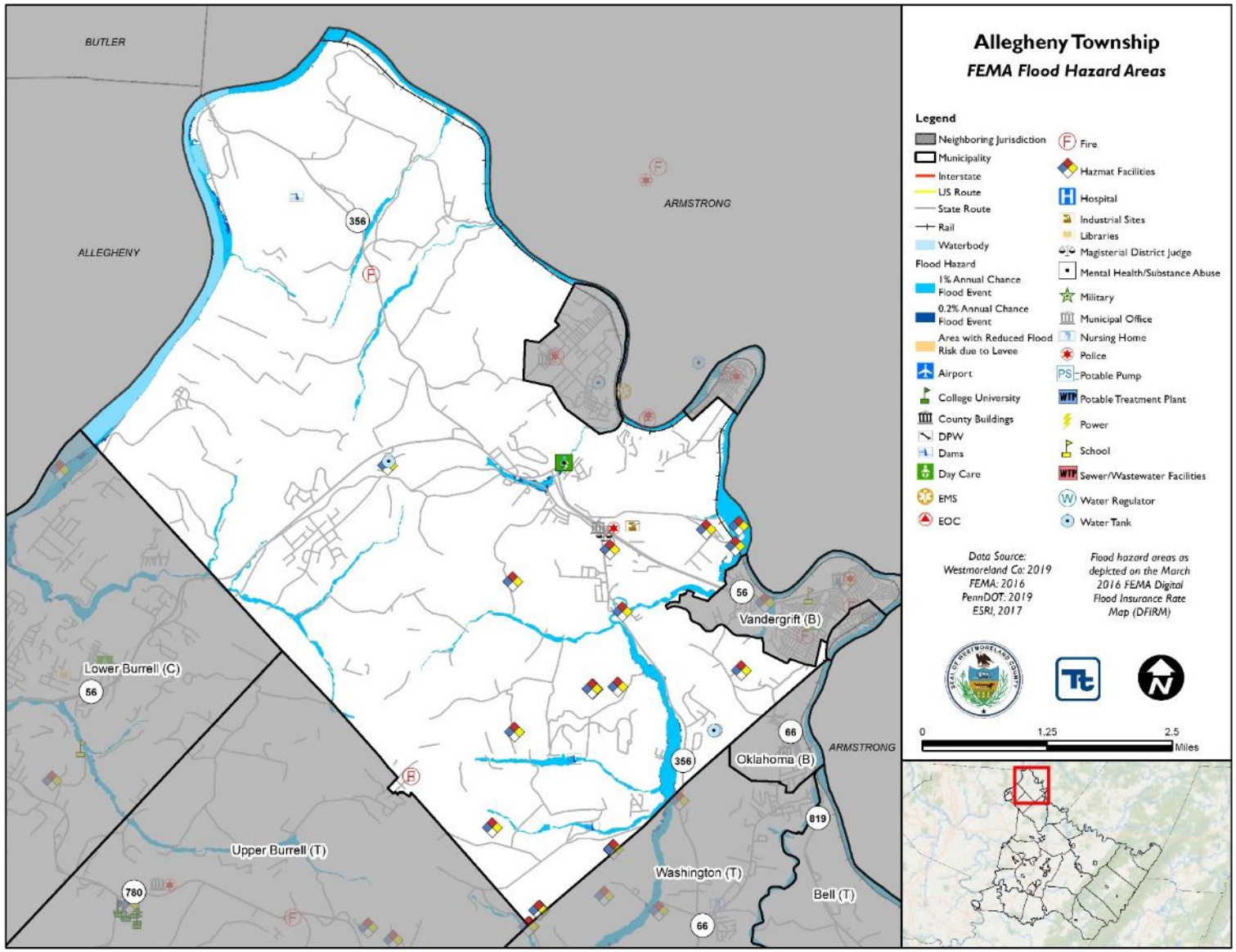


Figure 4.3.5-7. City of Arnold Municipal Flood Map

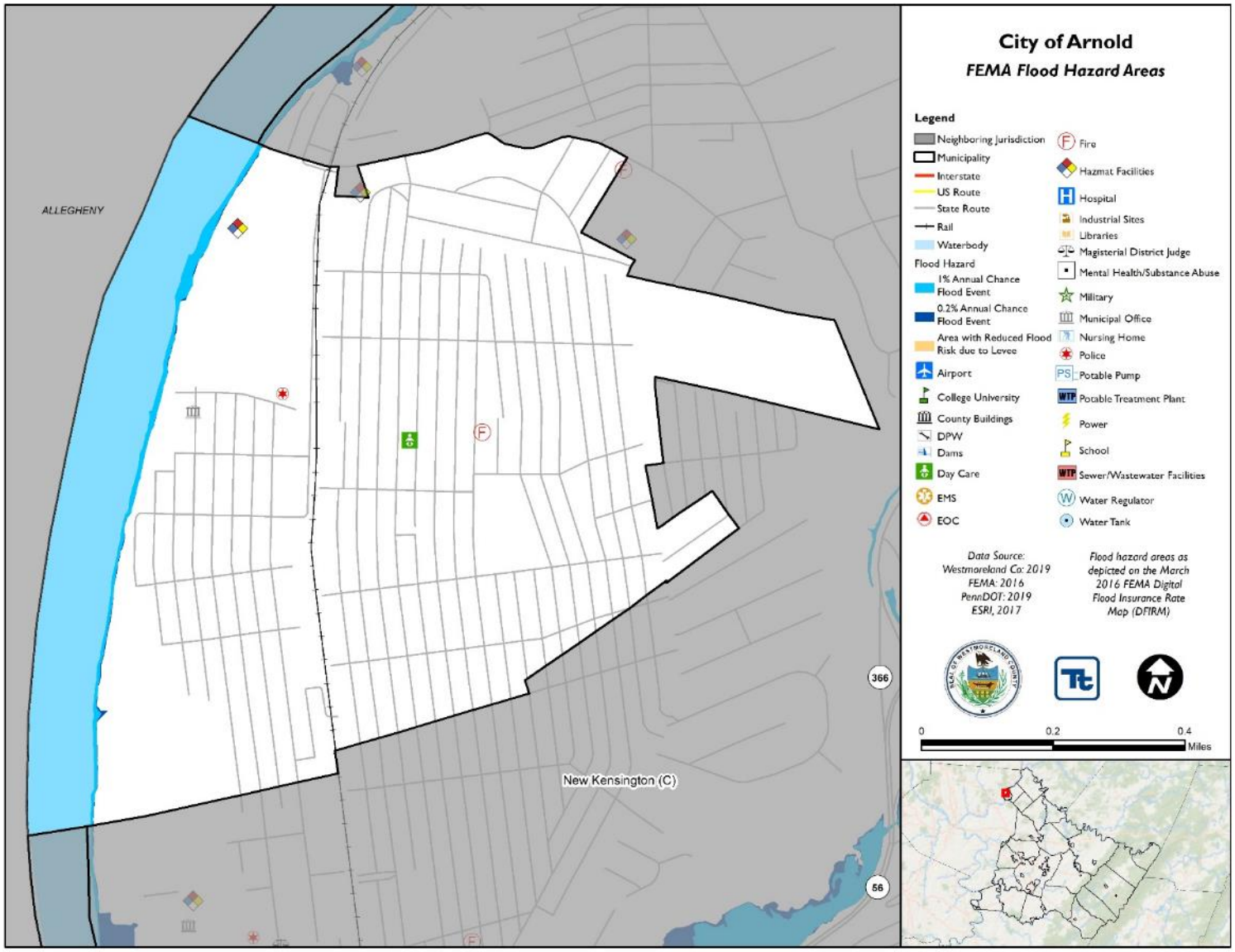


Figure 4.3.5-8. Arona Borough Municipal Flood Map

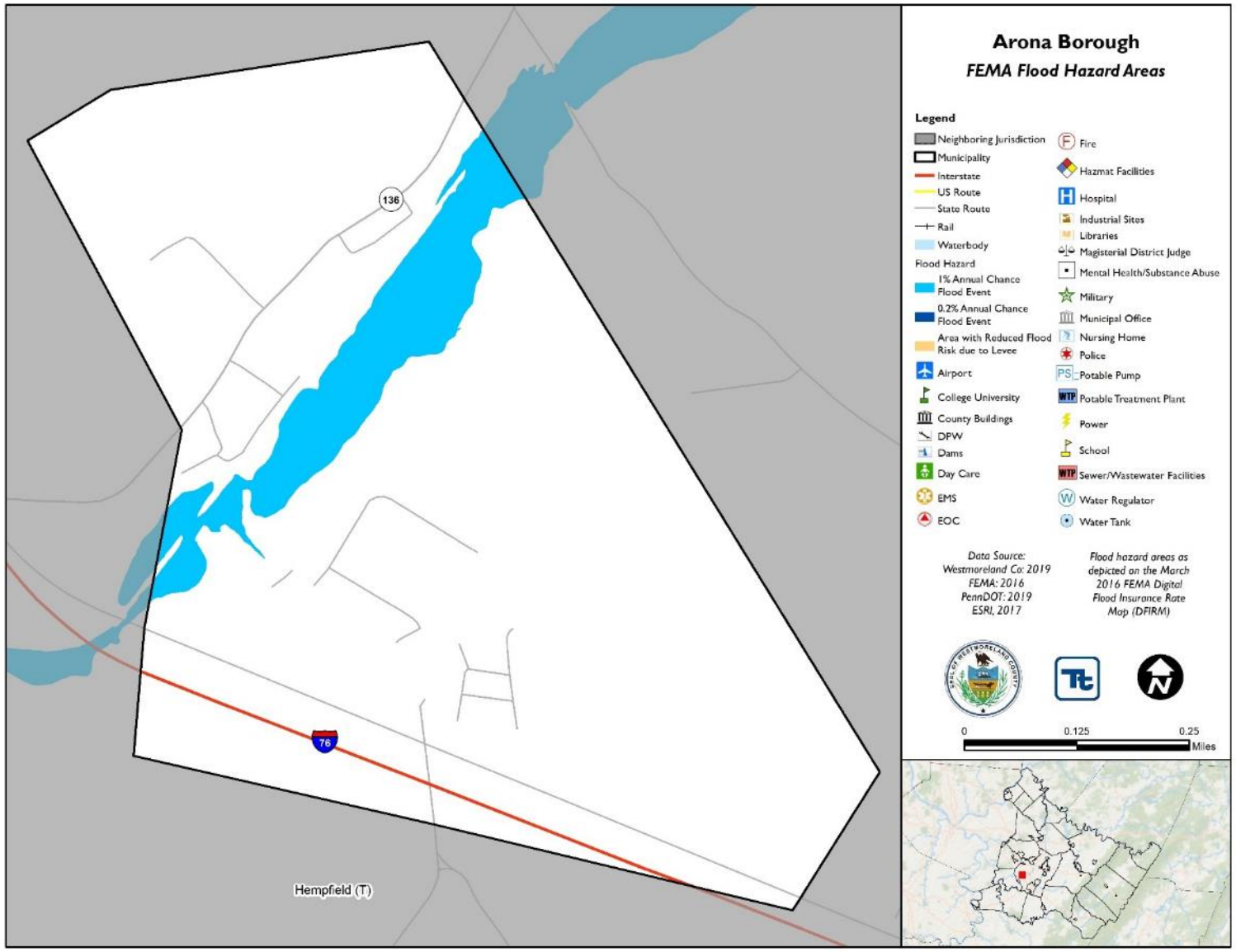


Figure 4.3.5-9. Avonmore Borough Municipal Flood Map

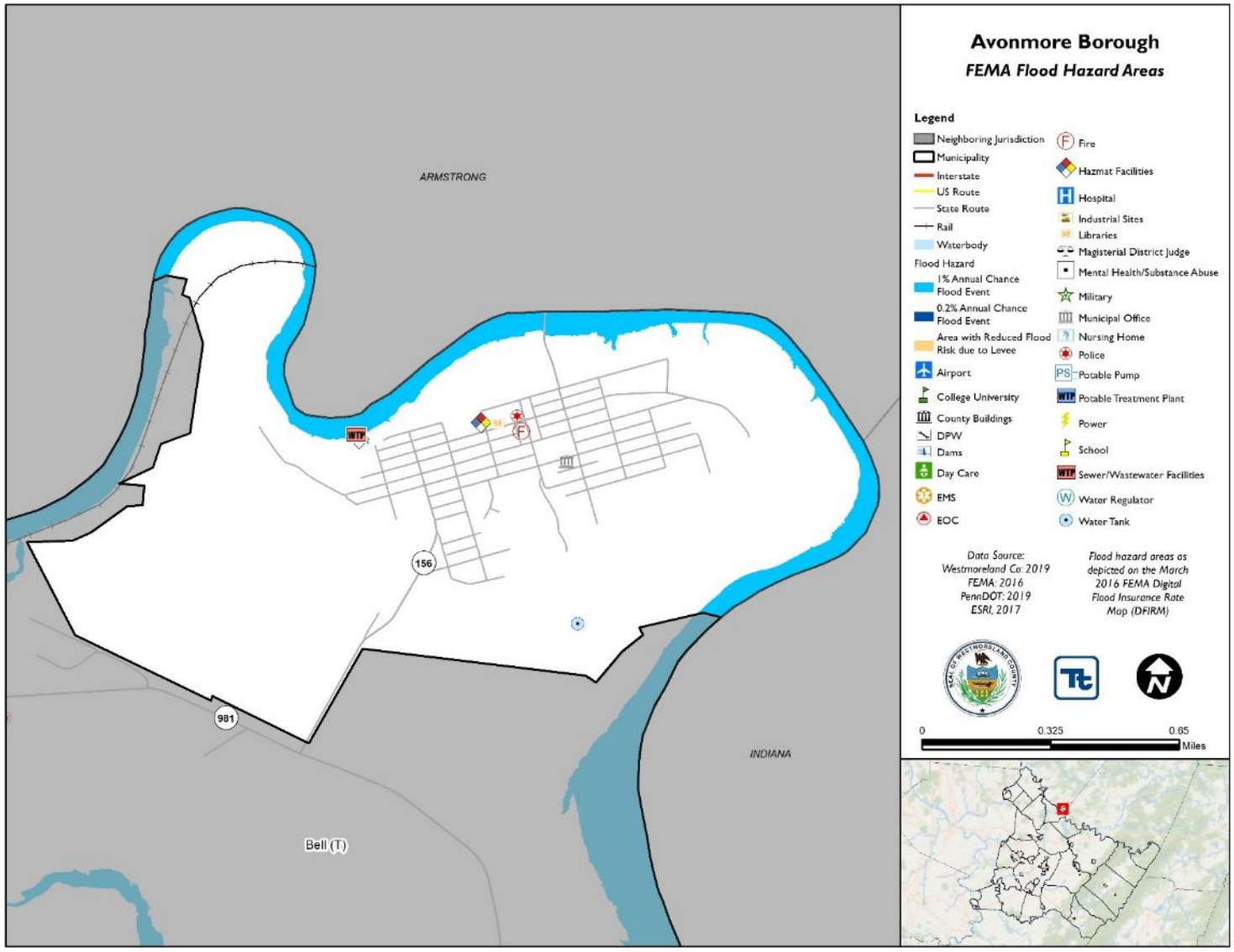


Figure 4.3.5-10. Bell Township Municipal Flood Map

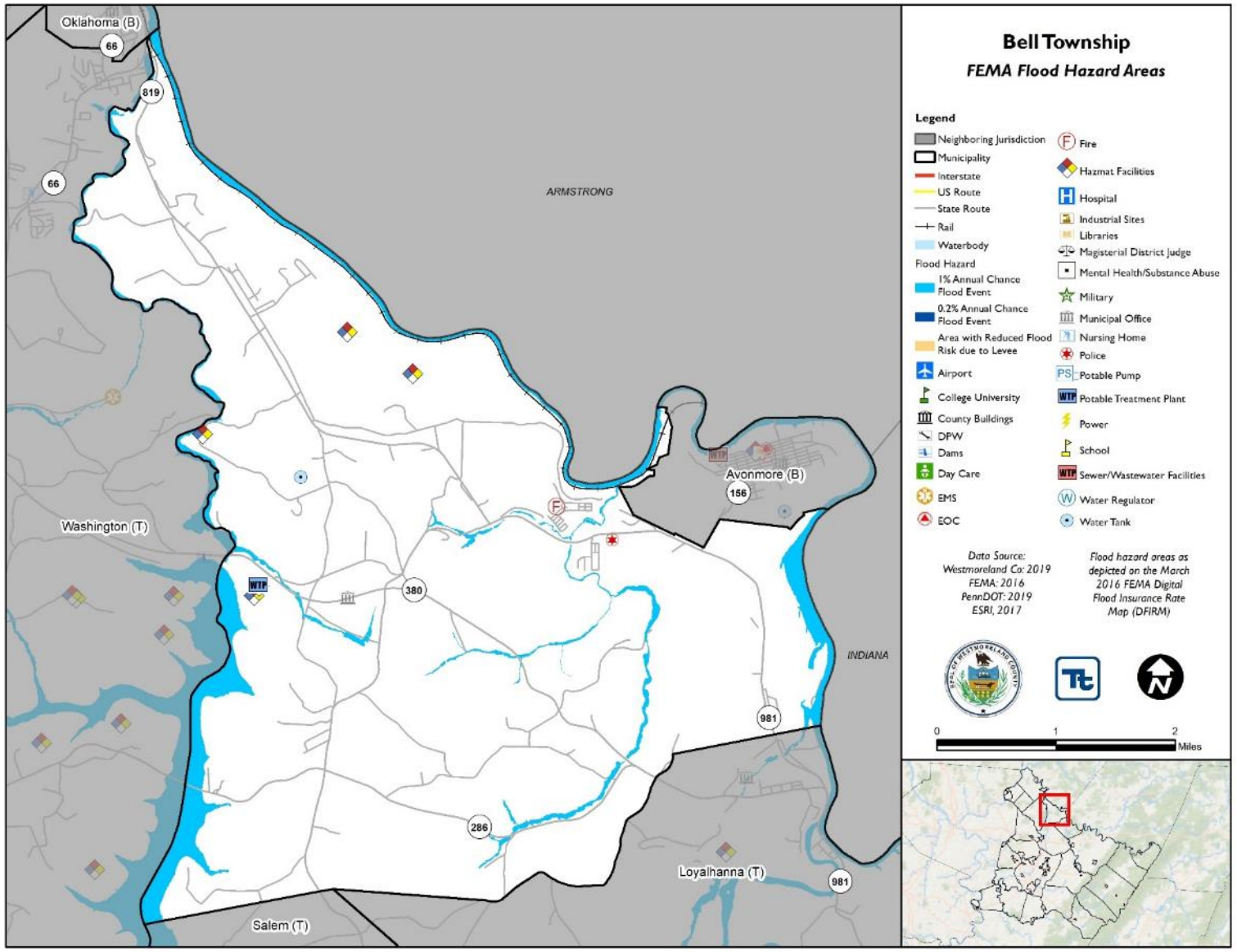


Figure 4.3.5-11. Bolivar Borough Municipal Flood Map

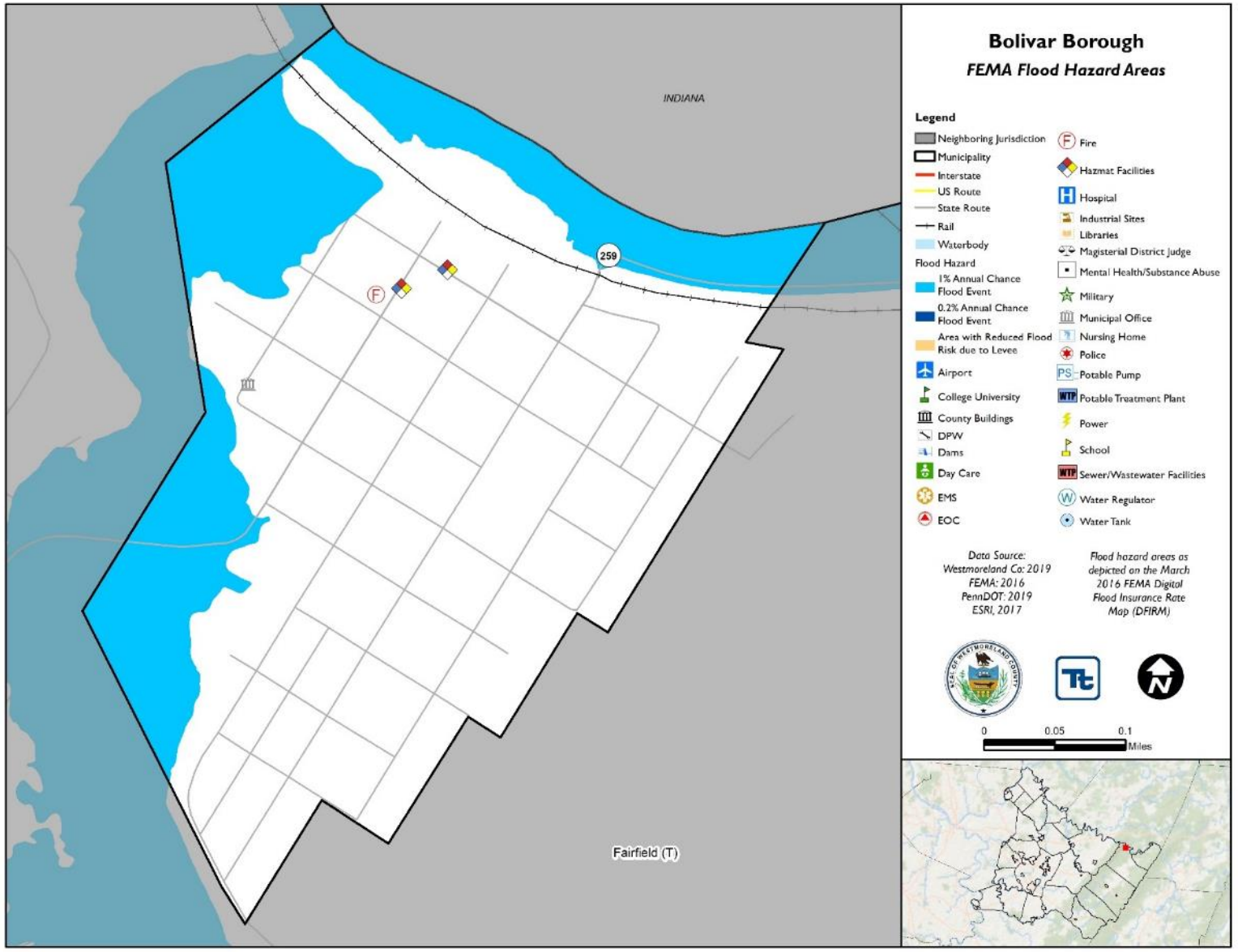


Figure 4.3.5-12. Cook Township Municipal Flood Map

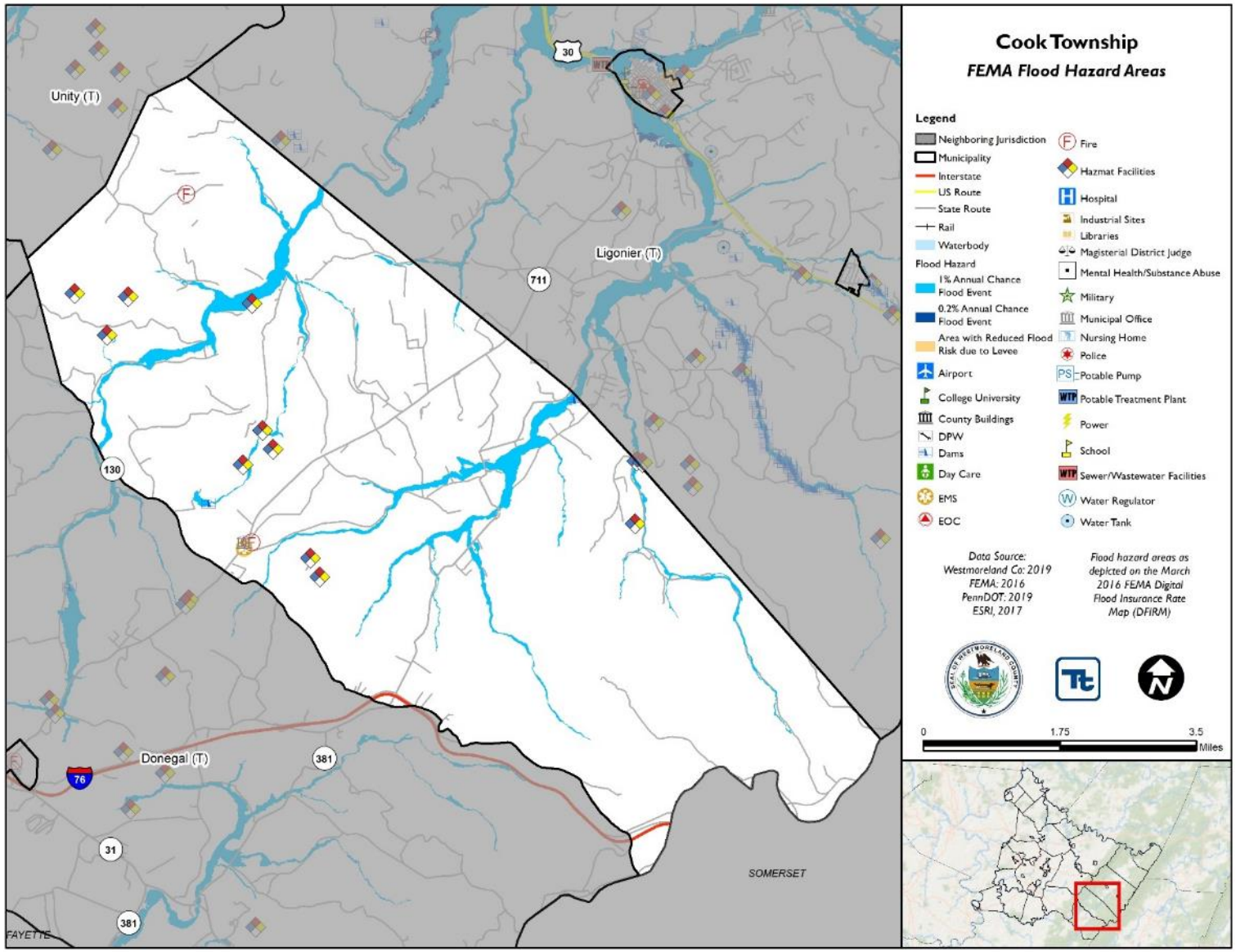


Figure 4.3.5-13. Delmont Borough Municipal Flood Map

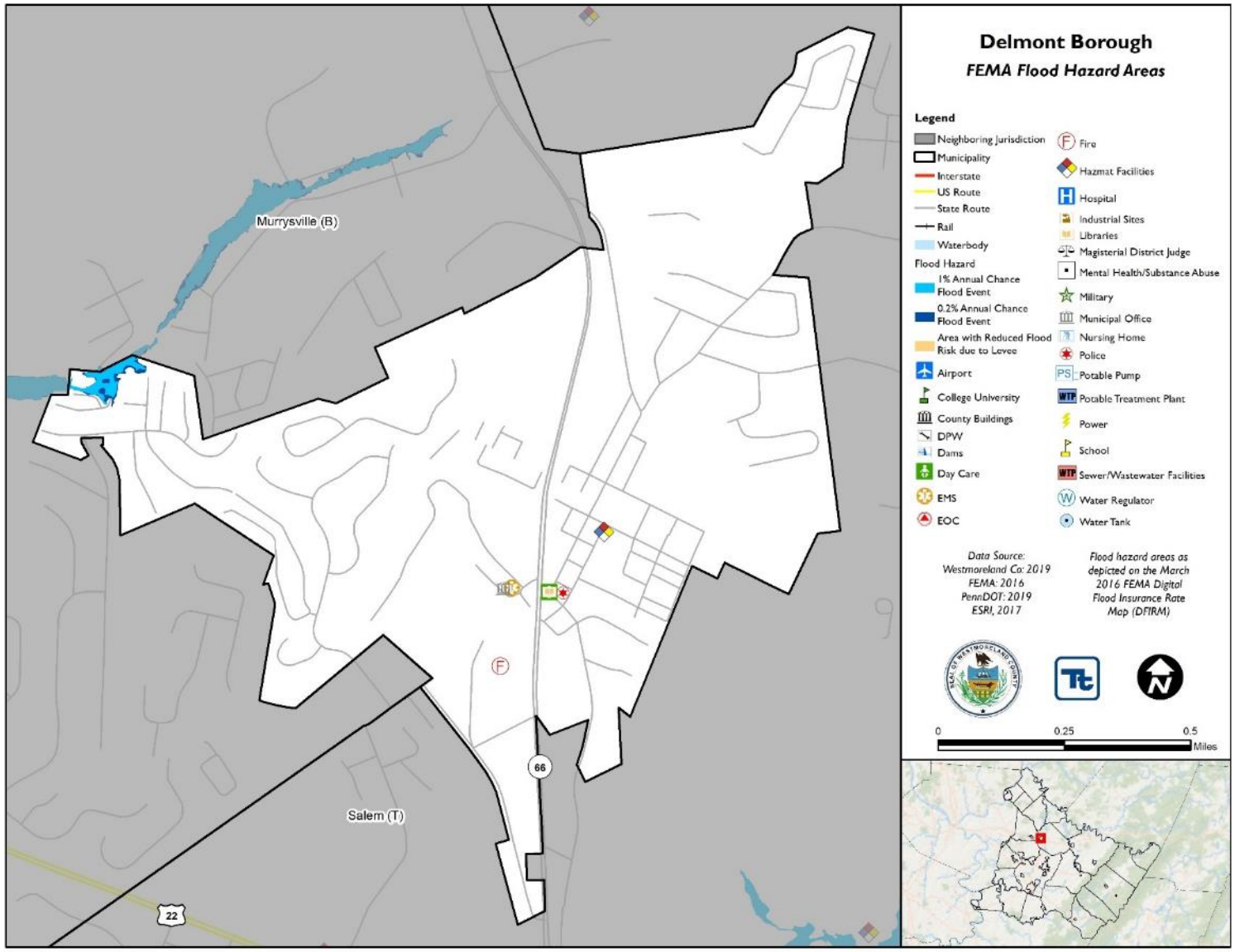


Figure 4.3.5-14. Derry Borough Municipal Flood Map

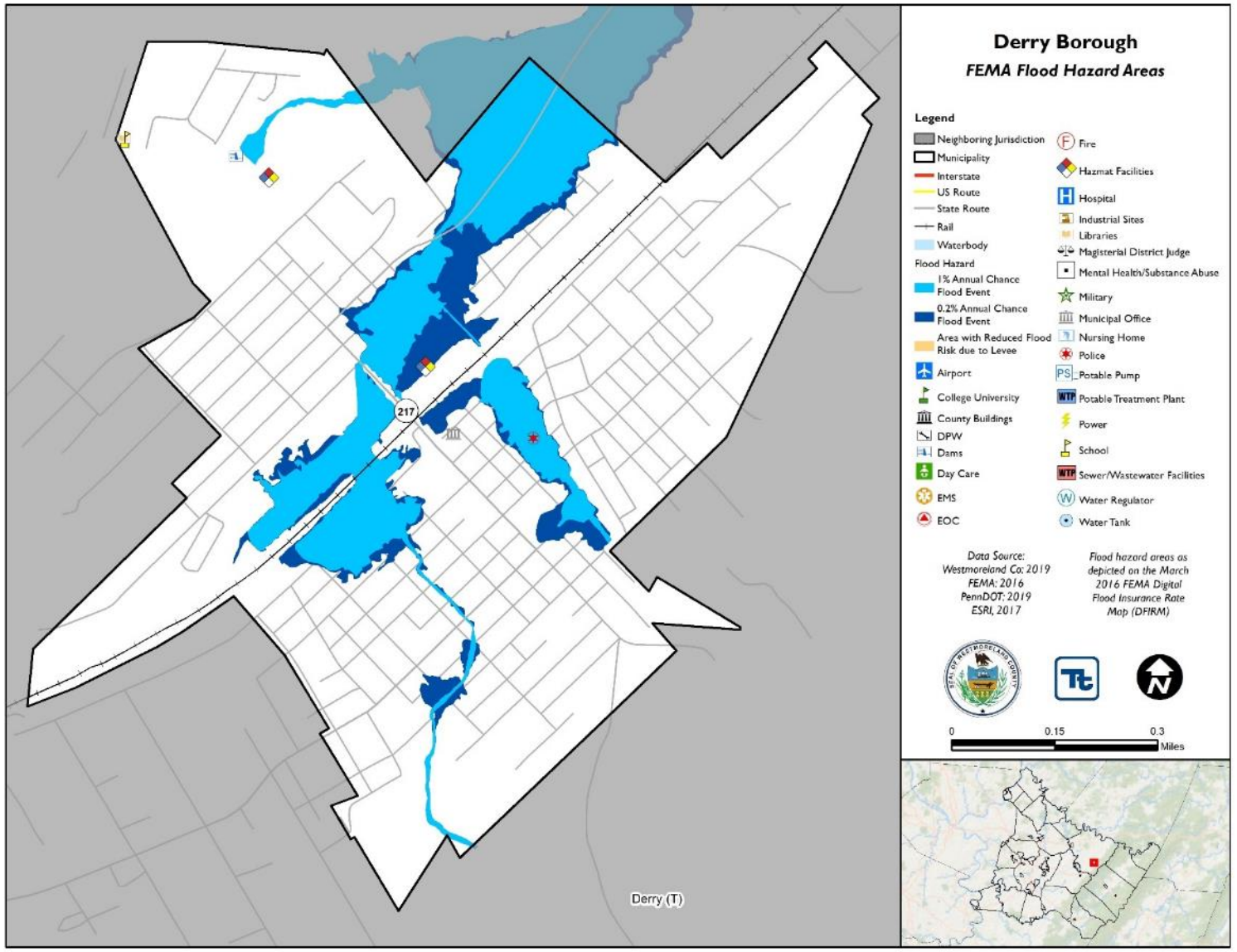


Figure 4.3.5-15. Derry Township Municipal Flood Map

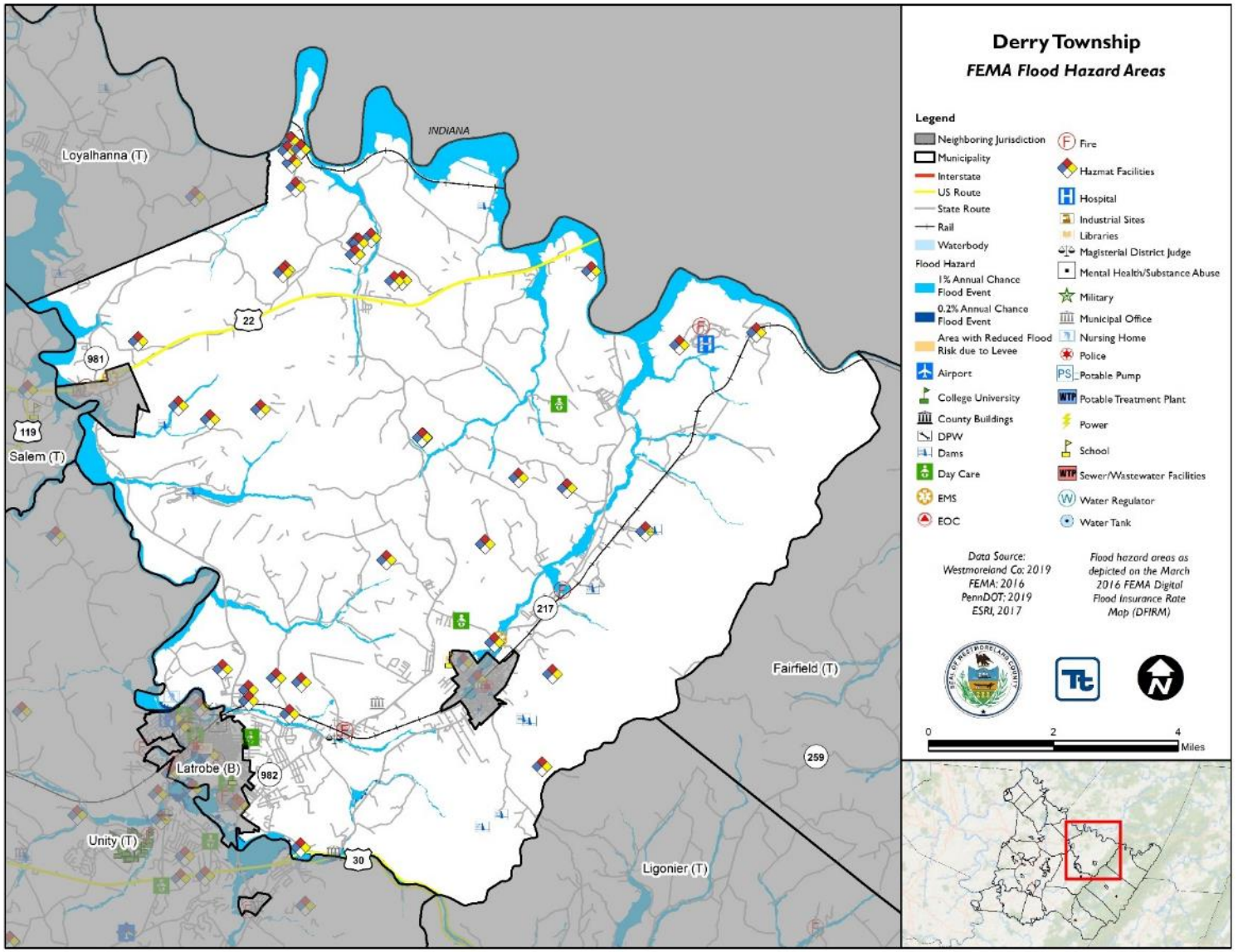


Figure 4.3.5-16. Donegal Borough Municipal Flood Map

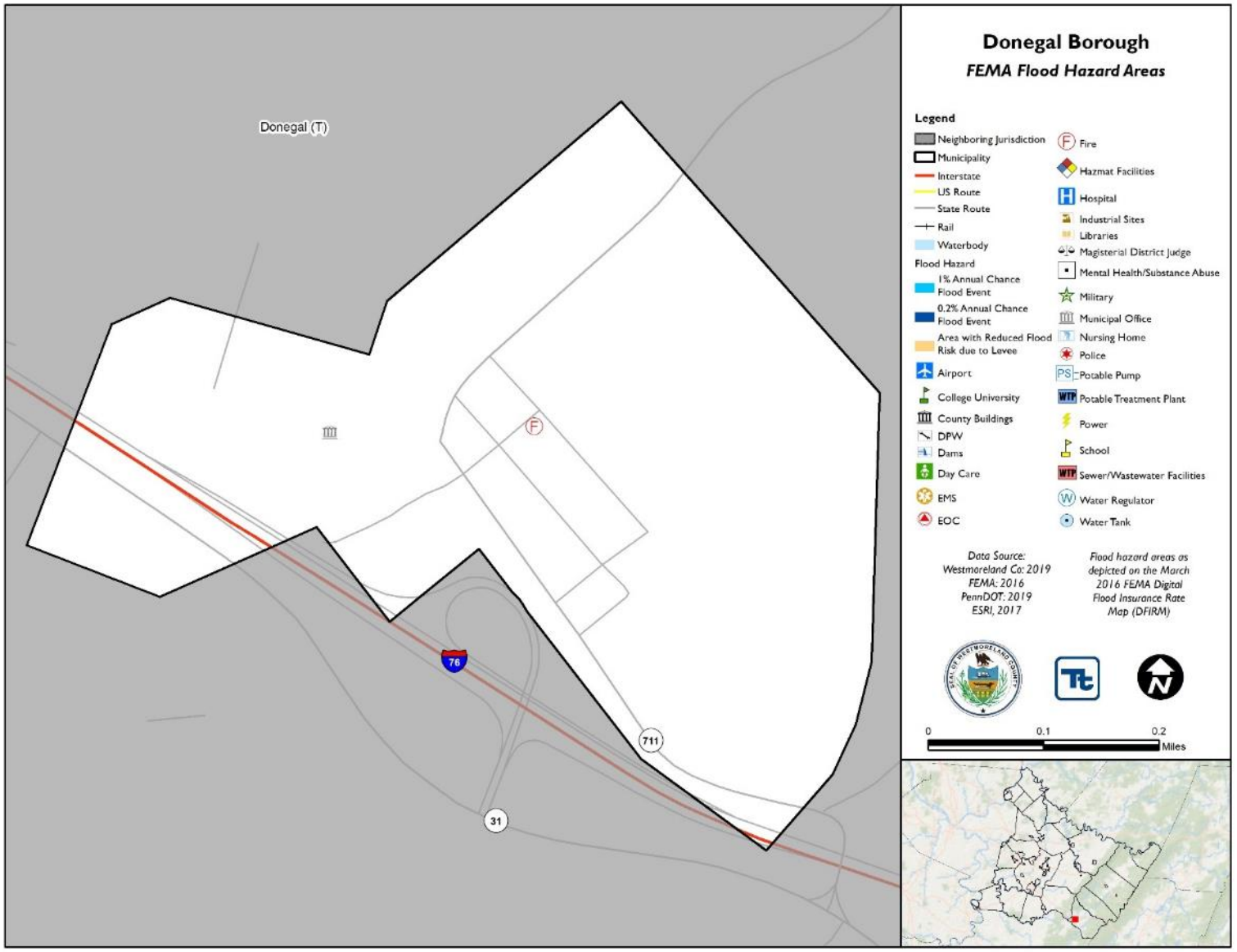


Figure 4.3.5-17. Donegal Township Municipal Flood Map

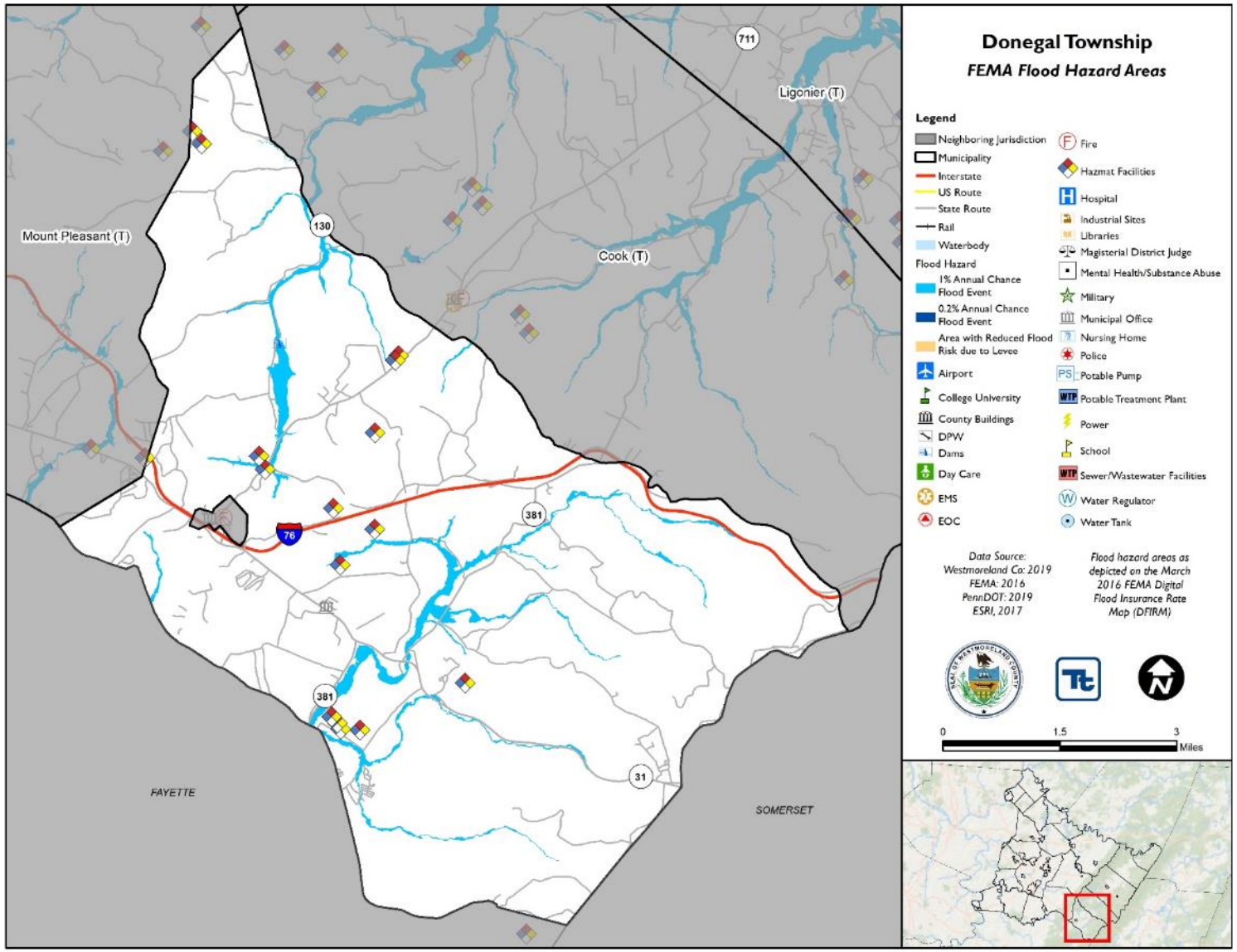


Figure 4.3.5-18. East Huntingdon Municipal Flood Map

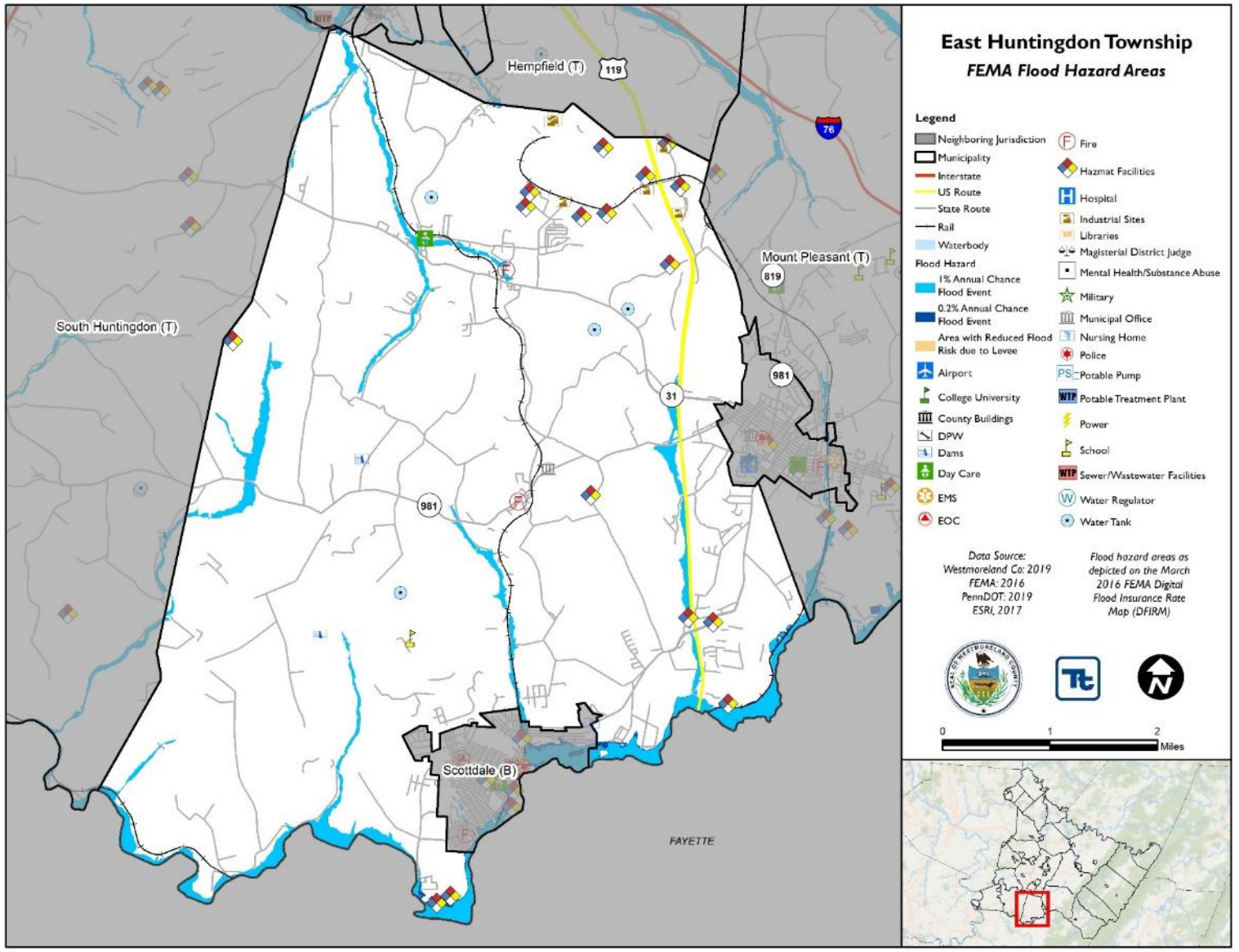


Figure 4.3.5-19. East Vandergrift Borough Municipal Flood Map

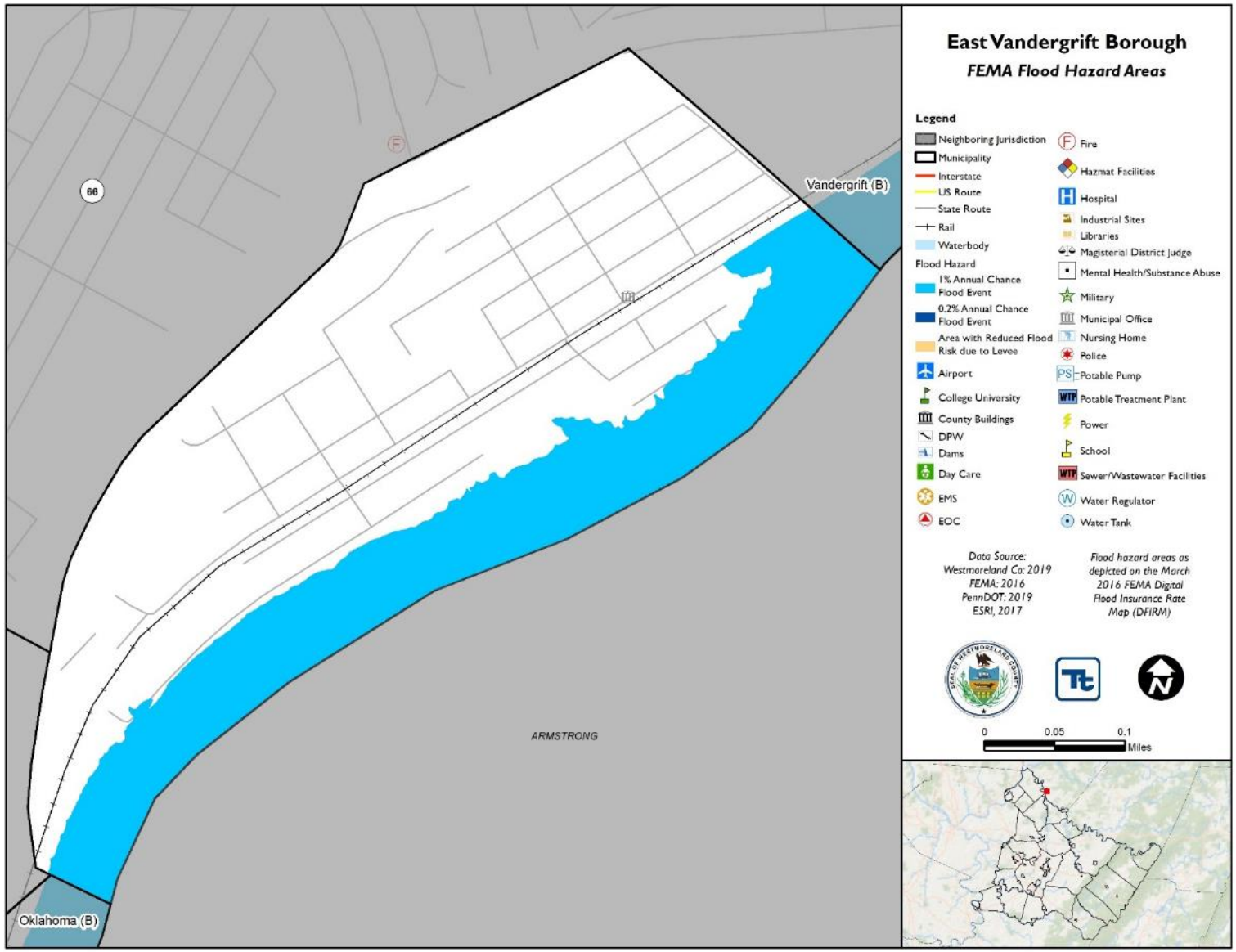


Figure 4.3.5-20. Export Borough Municipal Flood Map

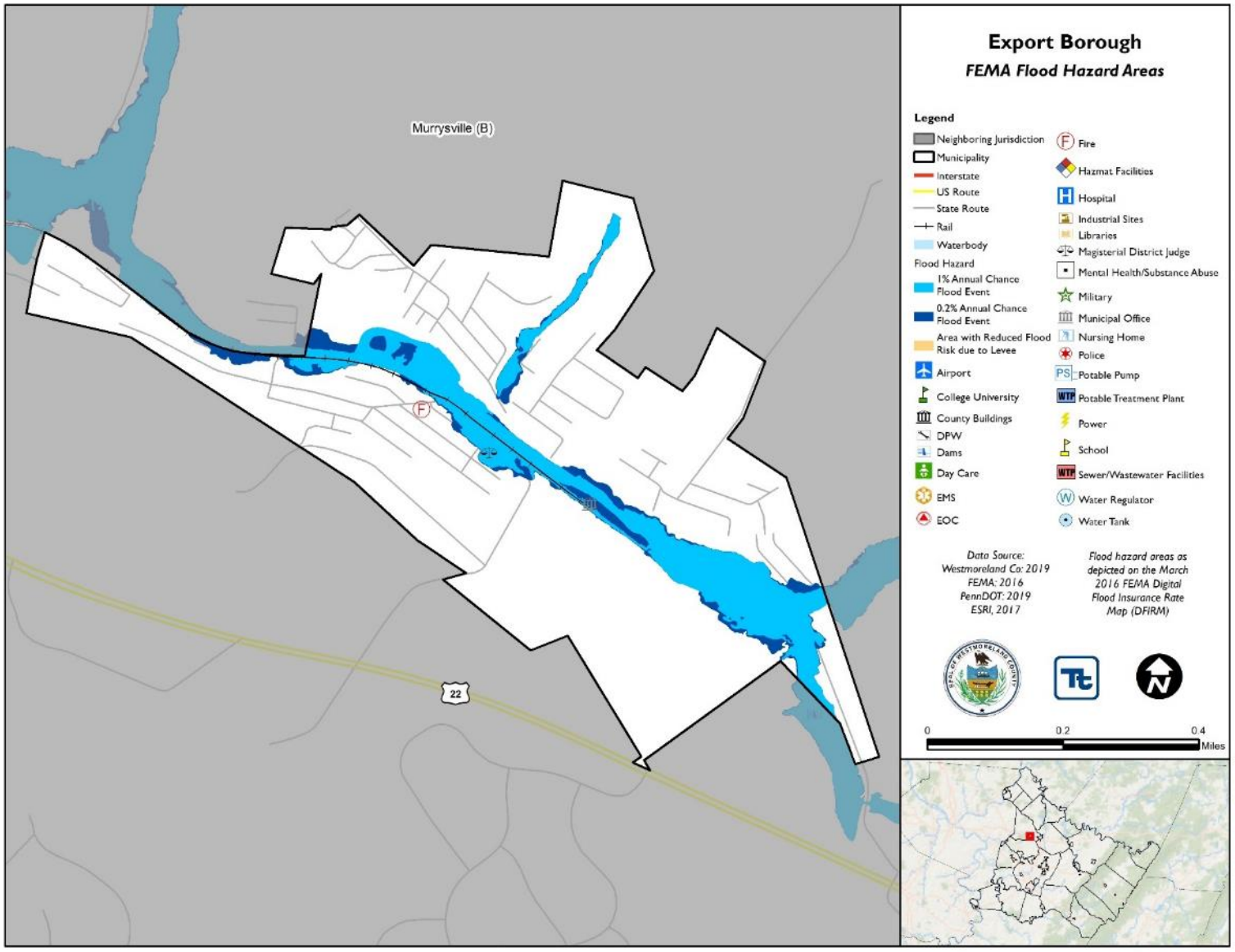


Figure 4.3.5-21. Fairfield Township Municipal Flood Map

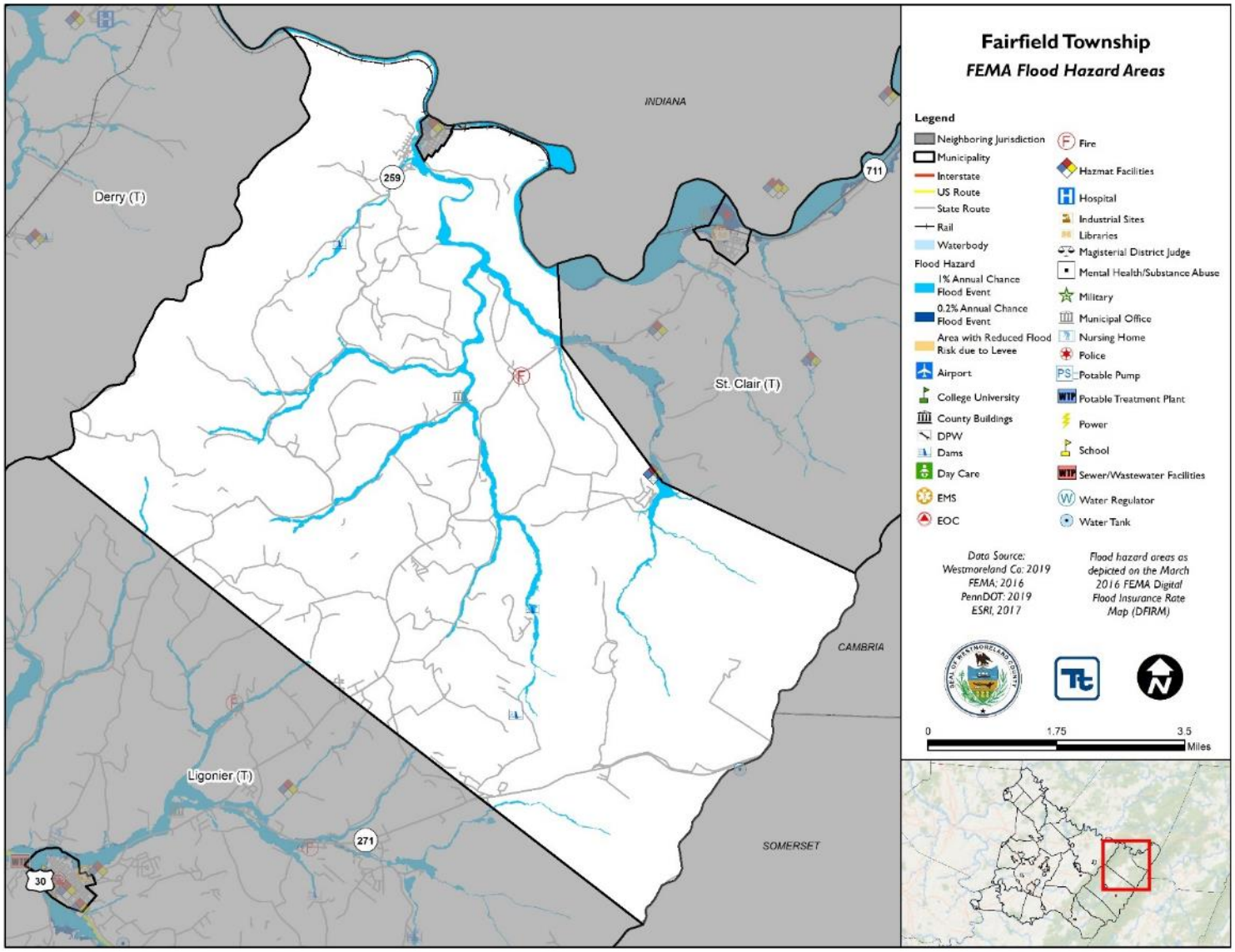


Figure 4.3.5-22. City of Greenburg Municipal Flood Map

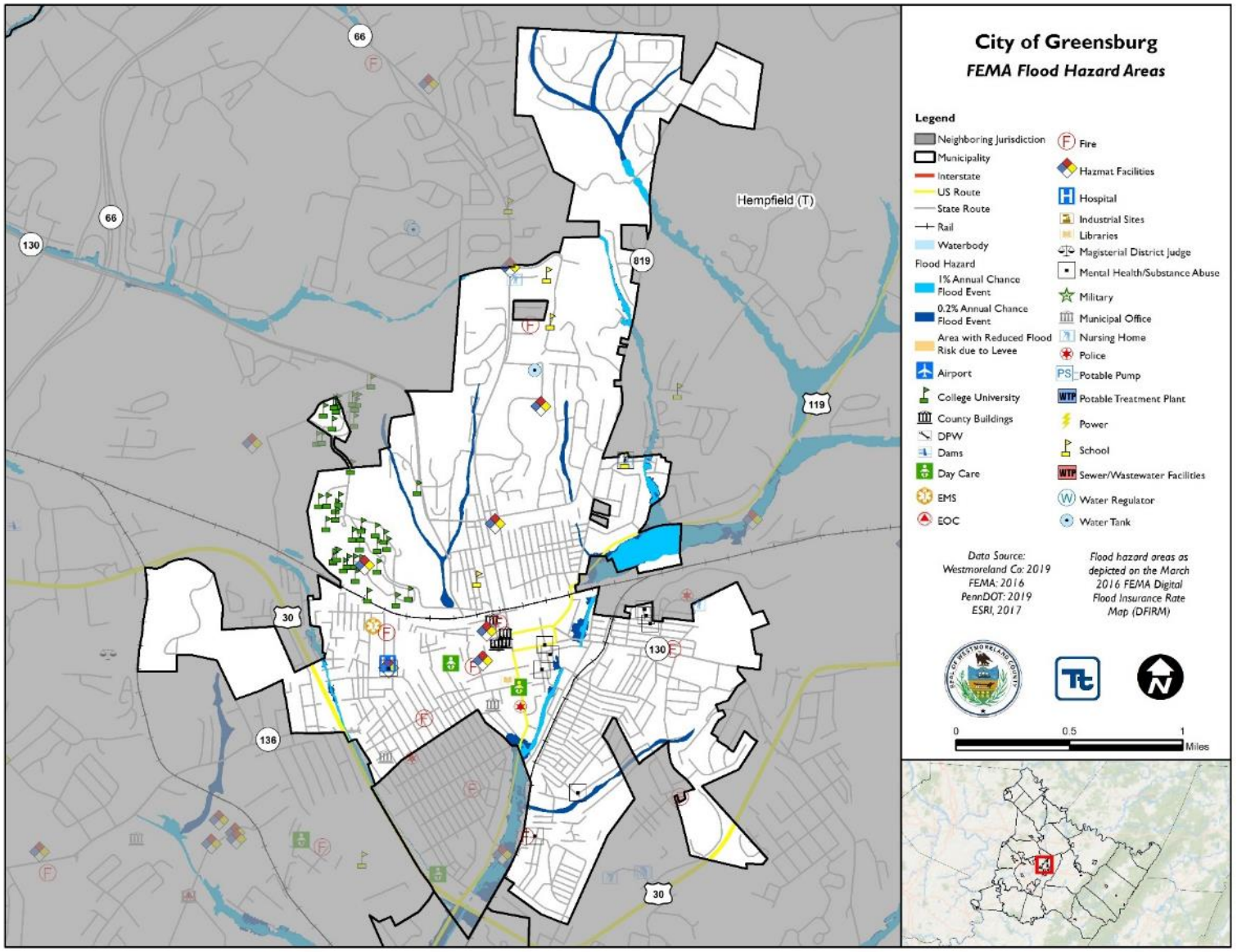


Figure 4.3.5-23. Hempfield Township Municipal Flood Map

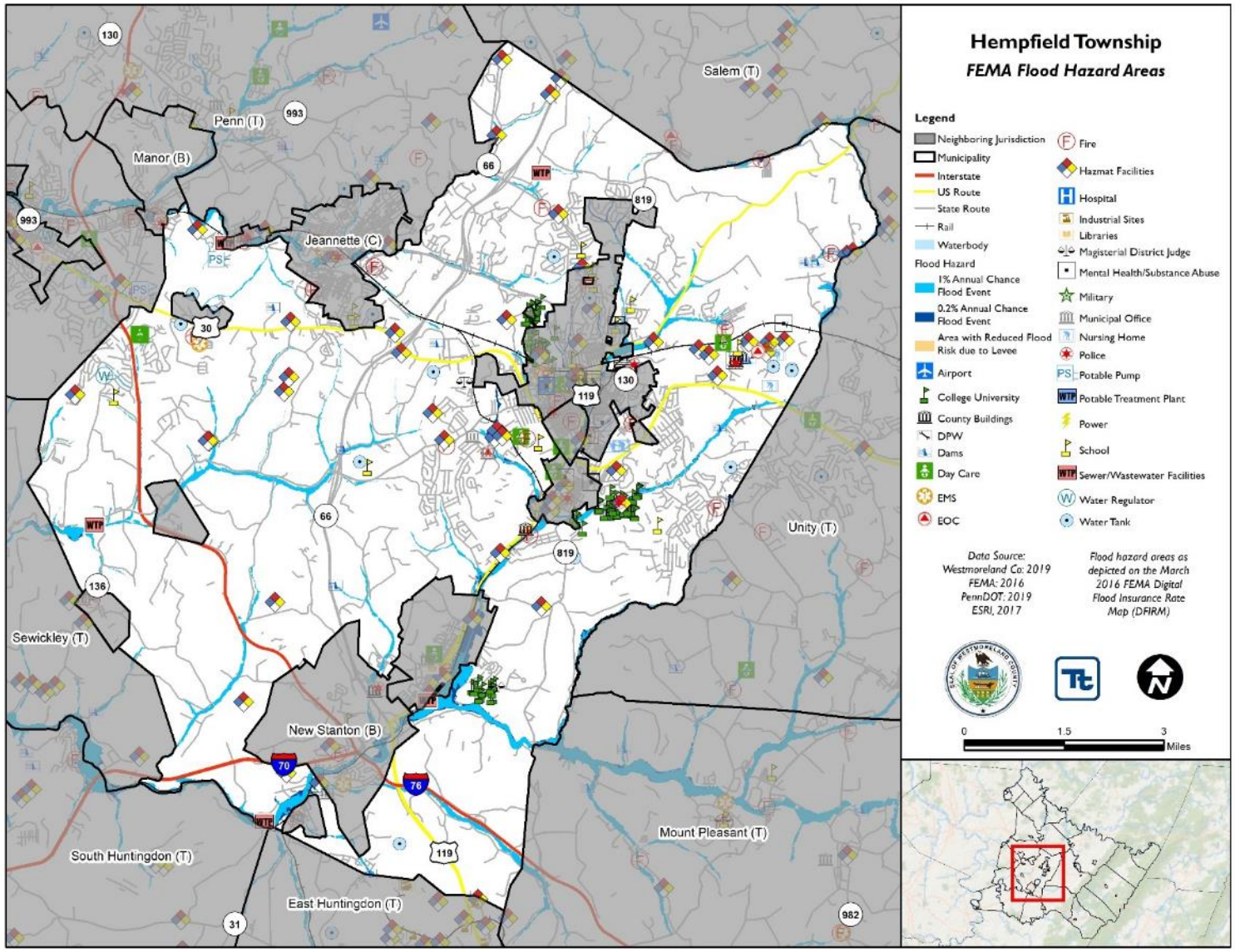


Figure 4.3.5-24. Hunker Borough Municipal Flood Map

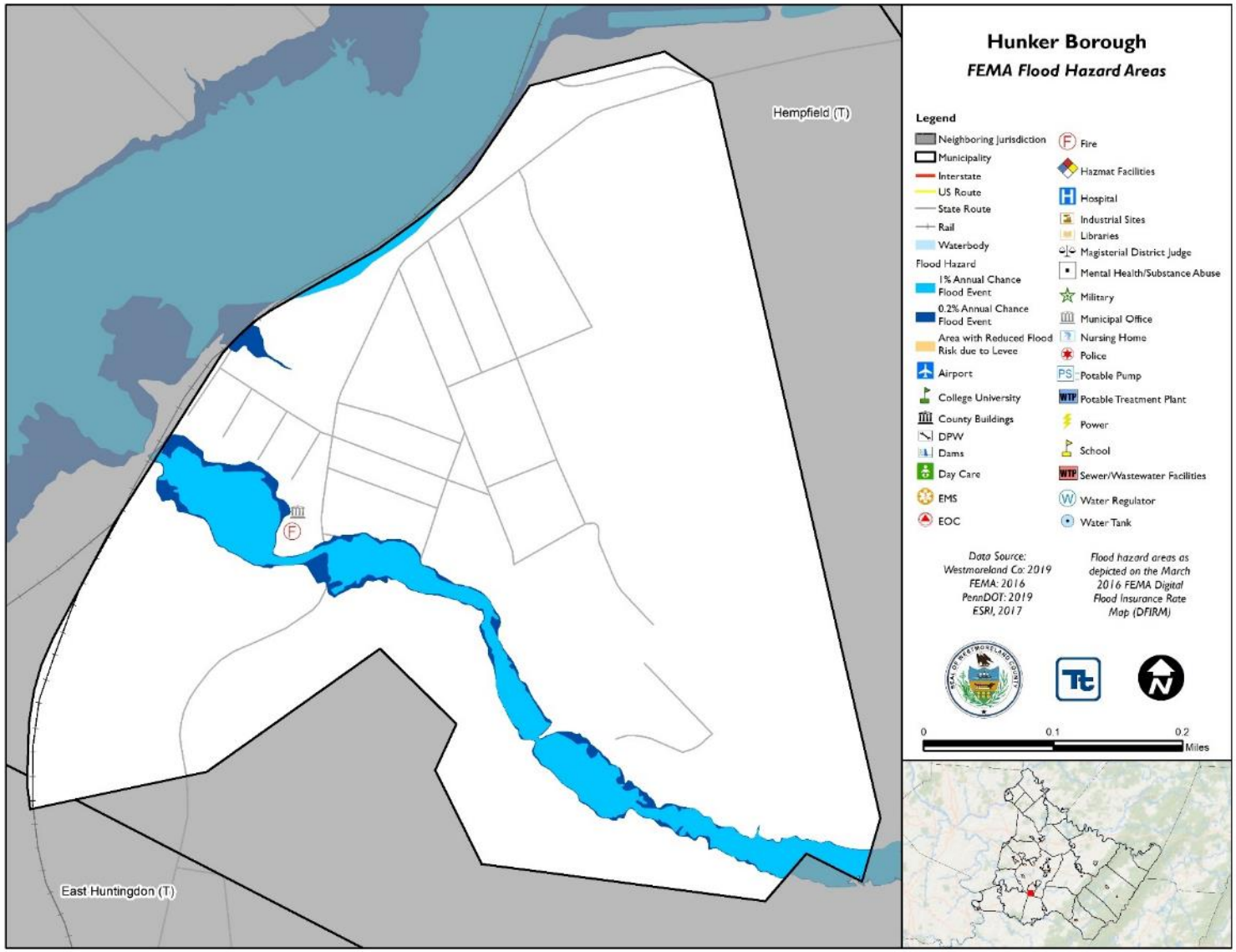


Figure 4.3.5-25. Hyde Park Borough Municipal Flood Map

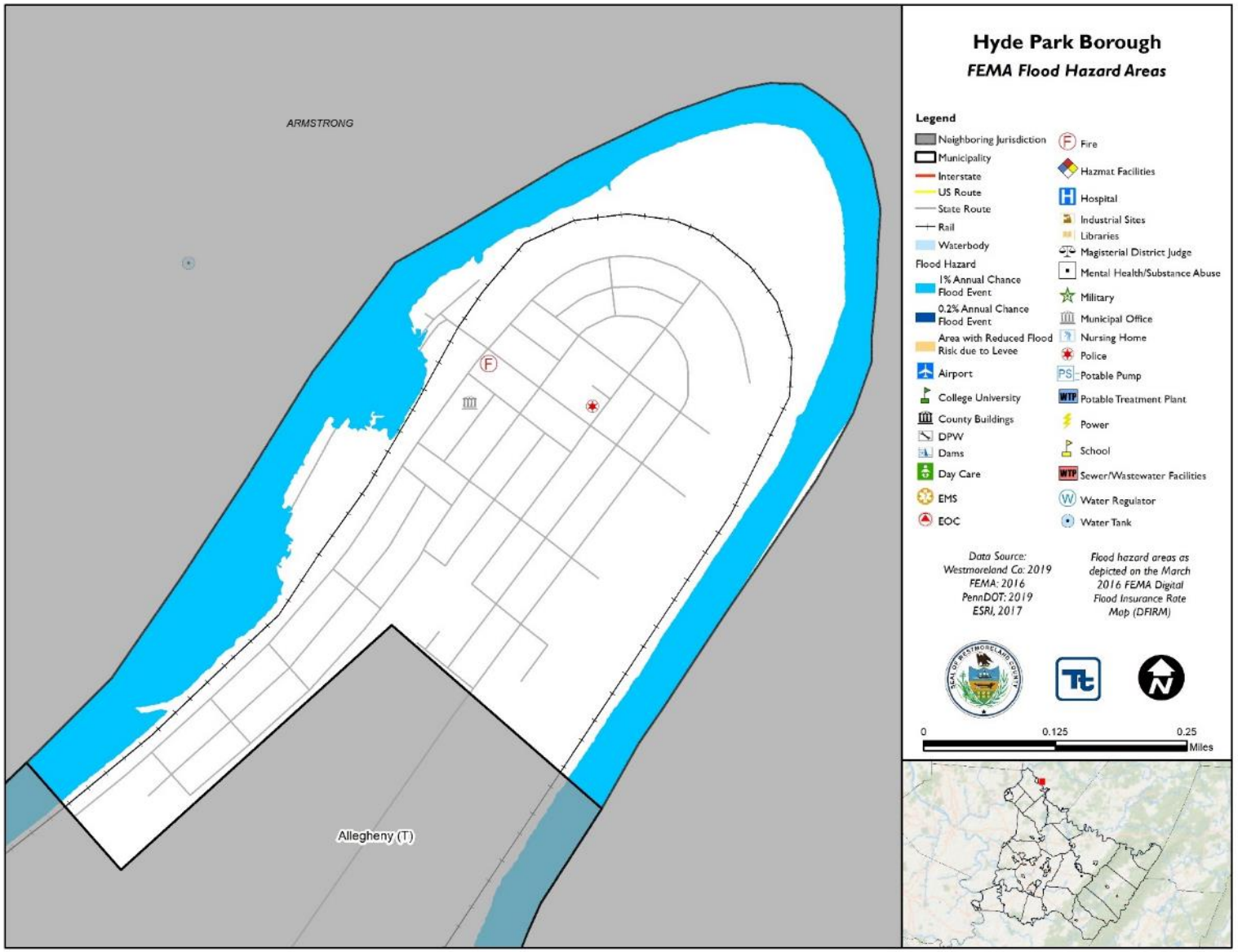


Figure 4.3.5-26. Irwin Borough Municipal Flood Map

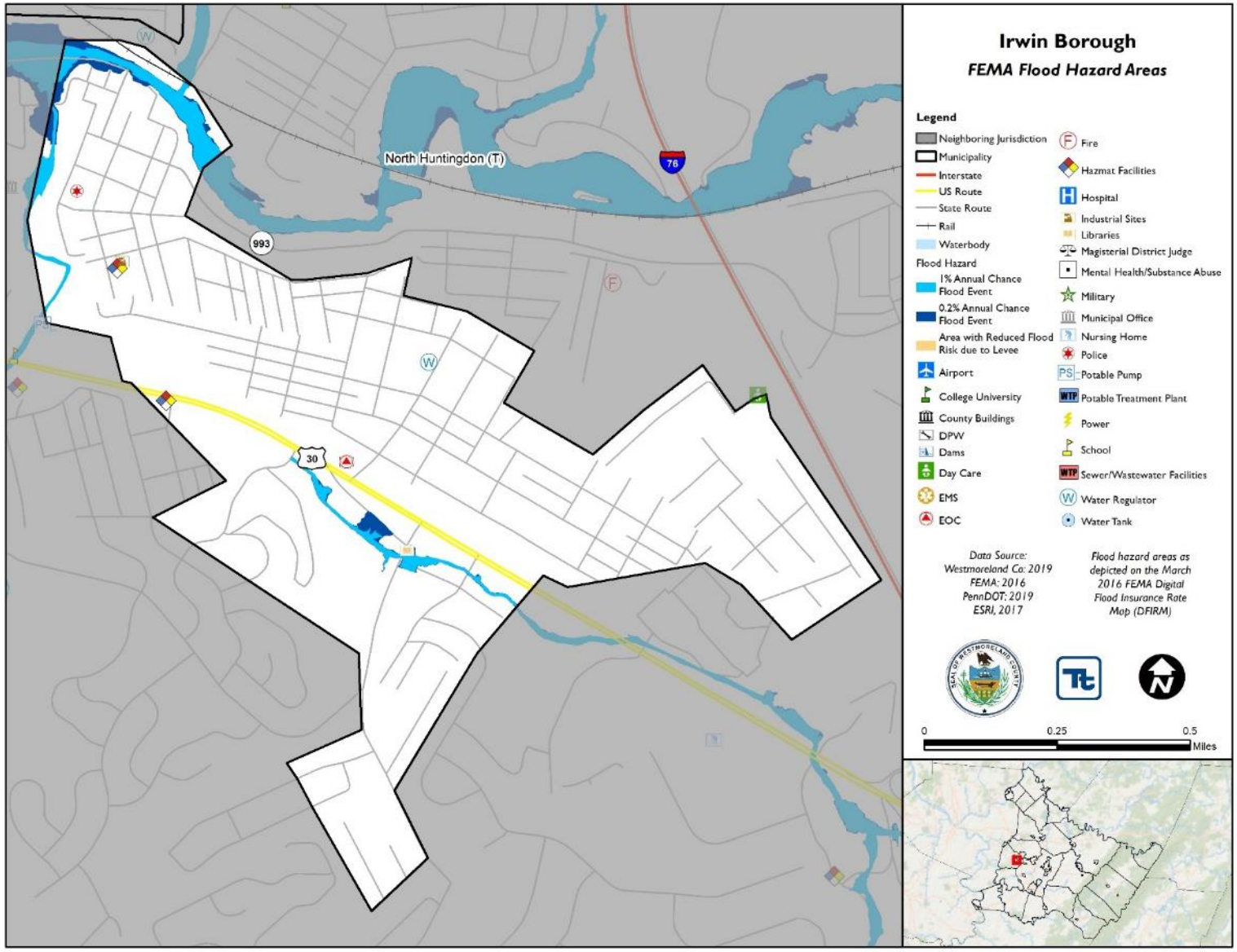


Figure 4.3.5-27. City of Jeannette Municipal Flood Map

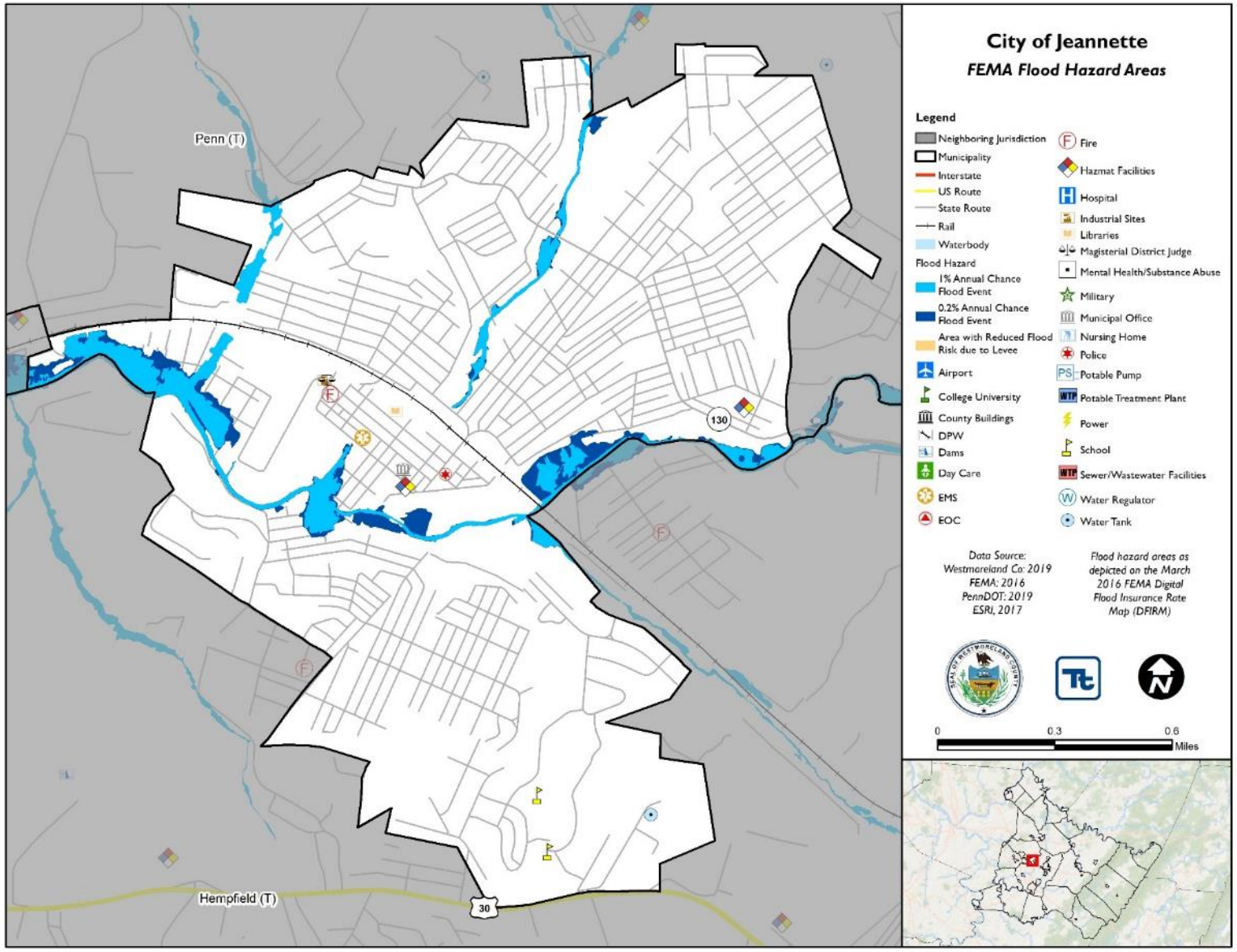


Figure 4.3.5-28. Latrobe Borough Municipal Flood Map

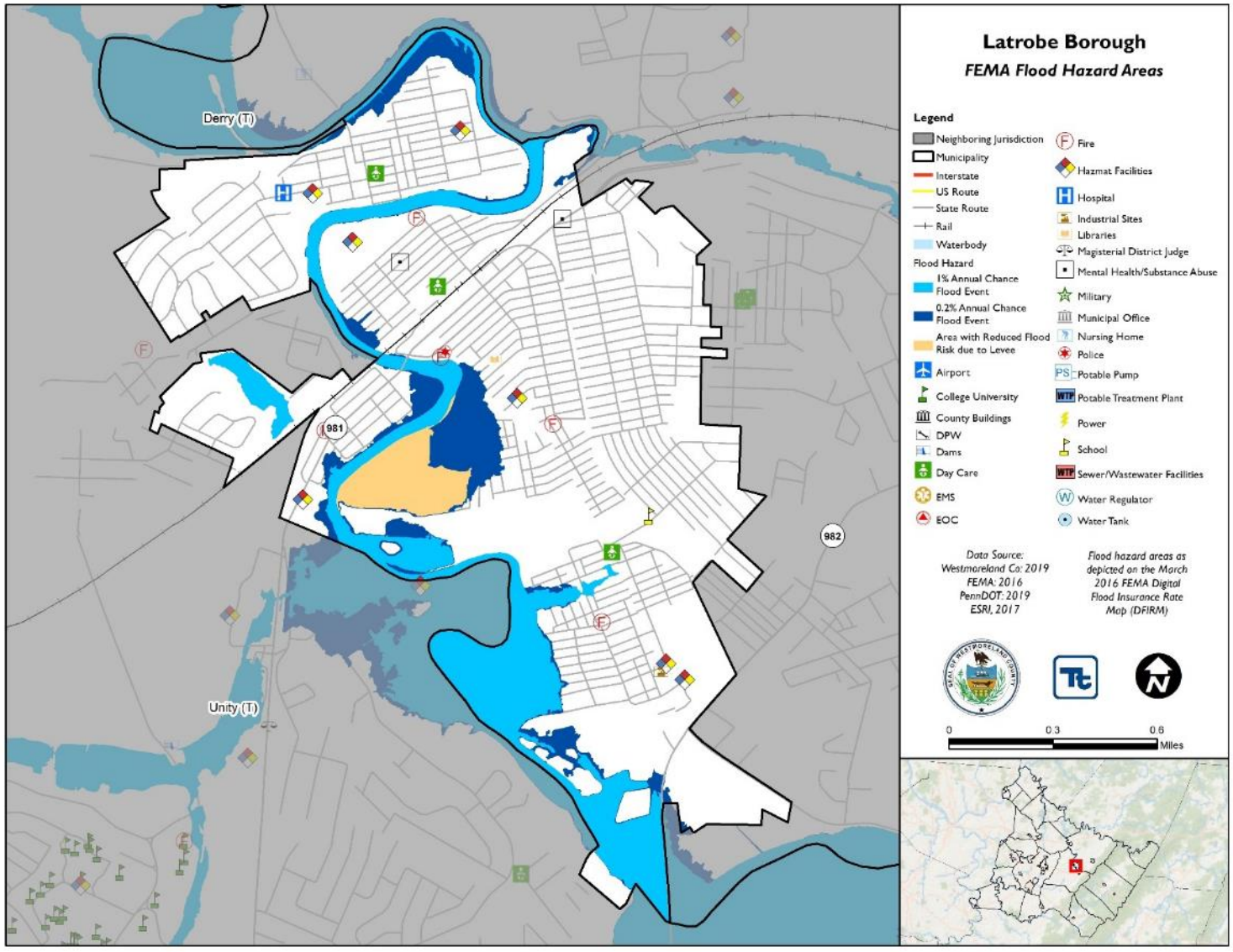


Figure 4.3.5-29. Laurel Mountain Borough Municipal Flood Map

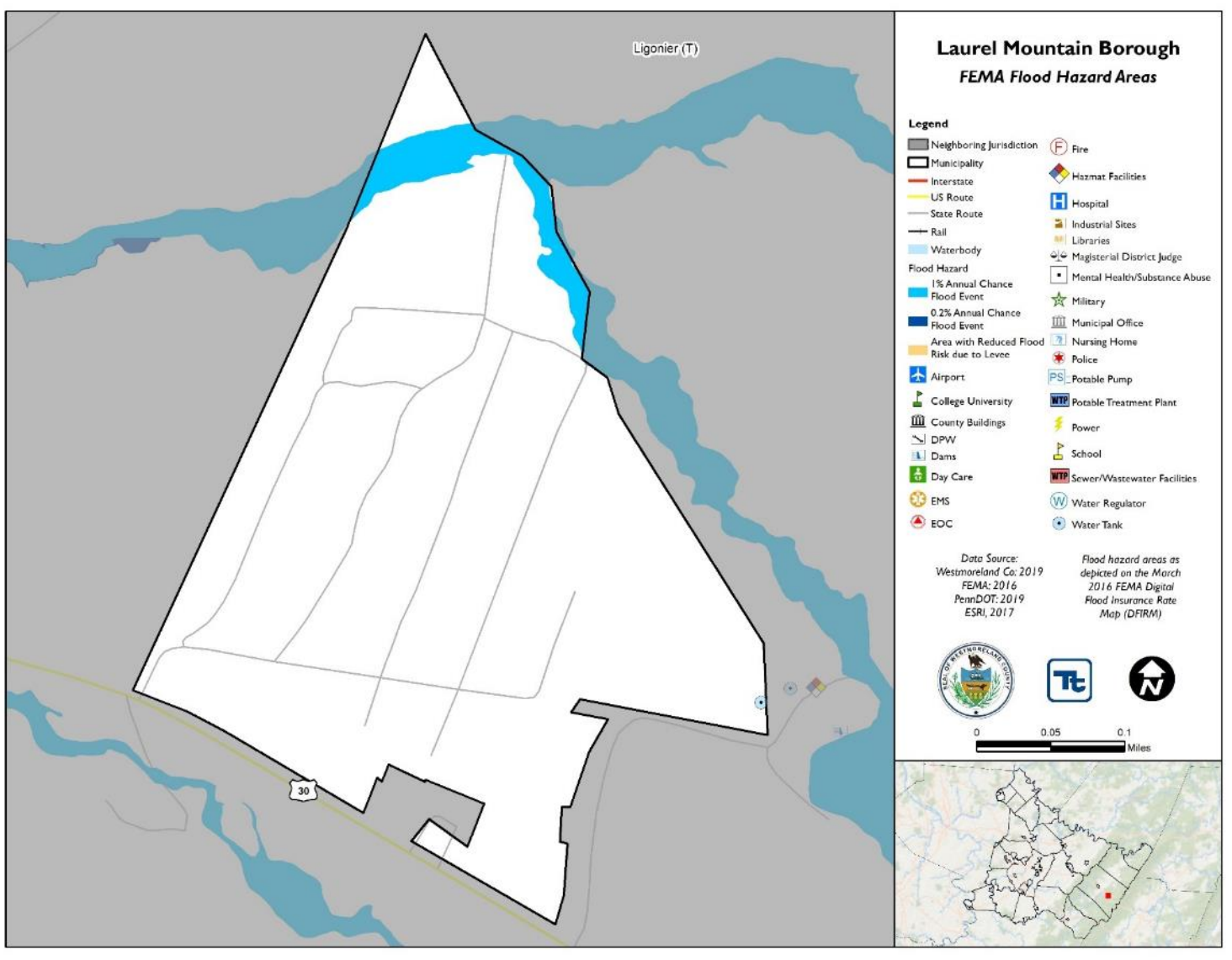


Figure 4.3.5-30. Ligonier Borough Municipal Flood Map

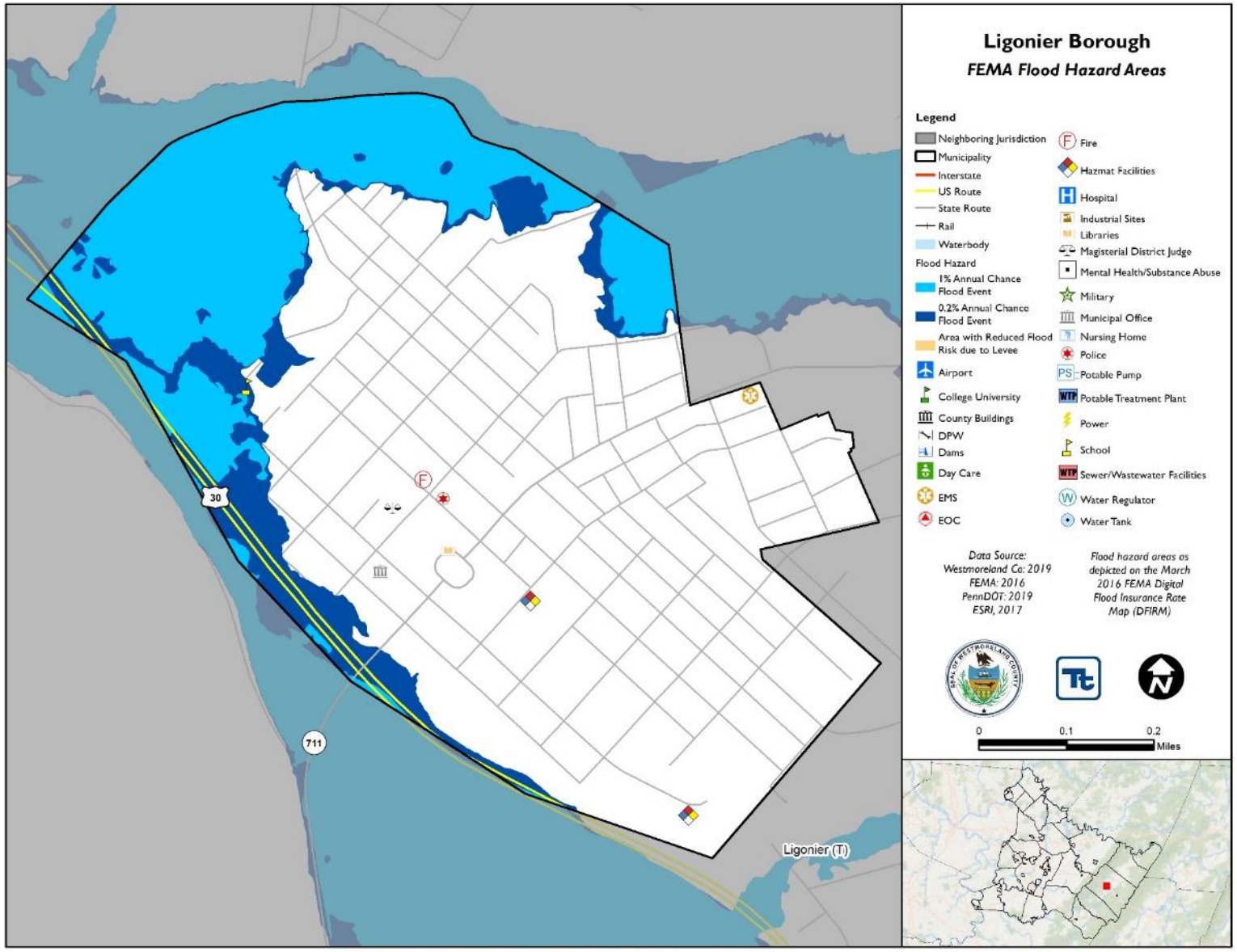


Figure 4.3.5-31. Ligonier Township Municipal Flood Map

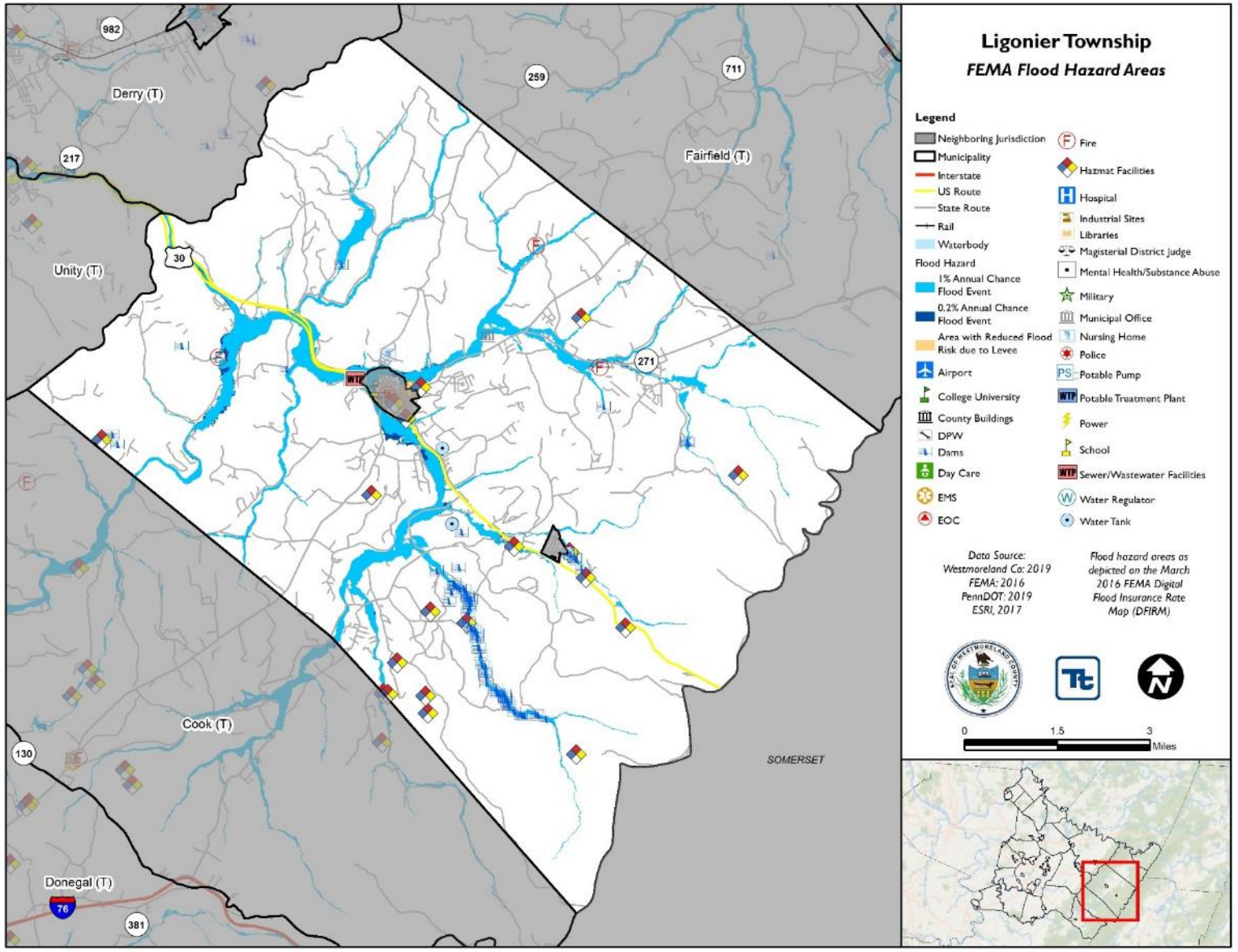


Figure 4.3.5-32. City of Lower Burrell Municipal Flood Map

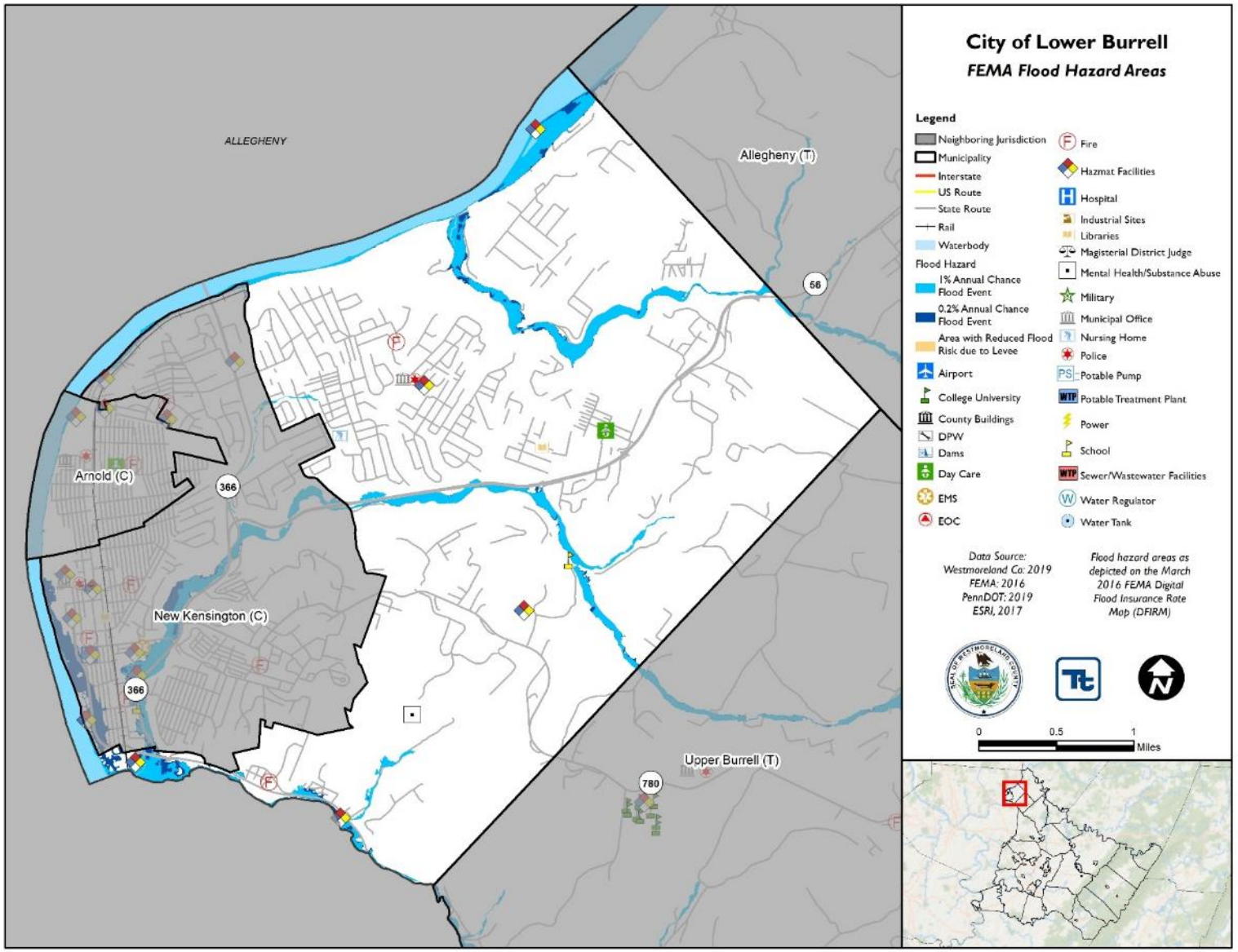


Figure 4.3.5-33. Loyalhanna Township Municipal Flood Map

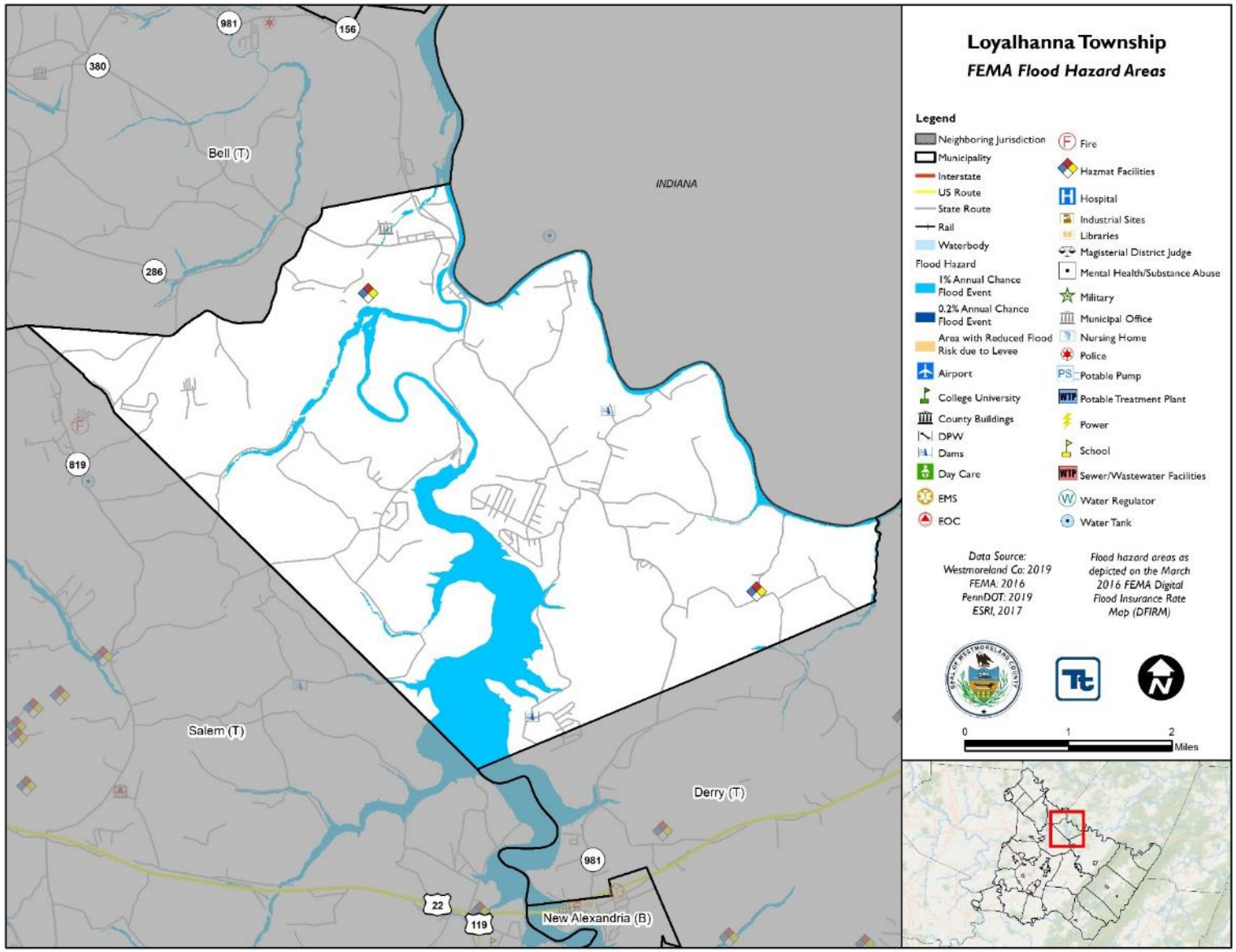


Figure 4.3.5-34. Madison Borough Municipal Flood Map

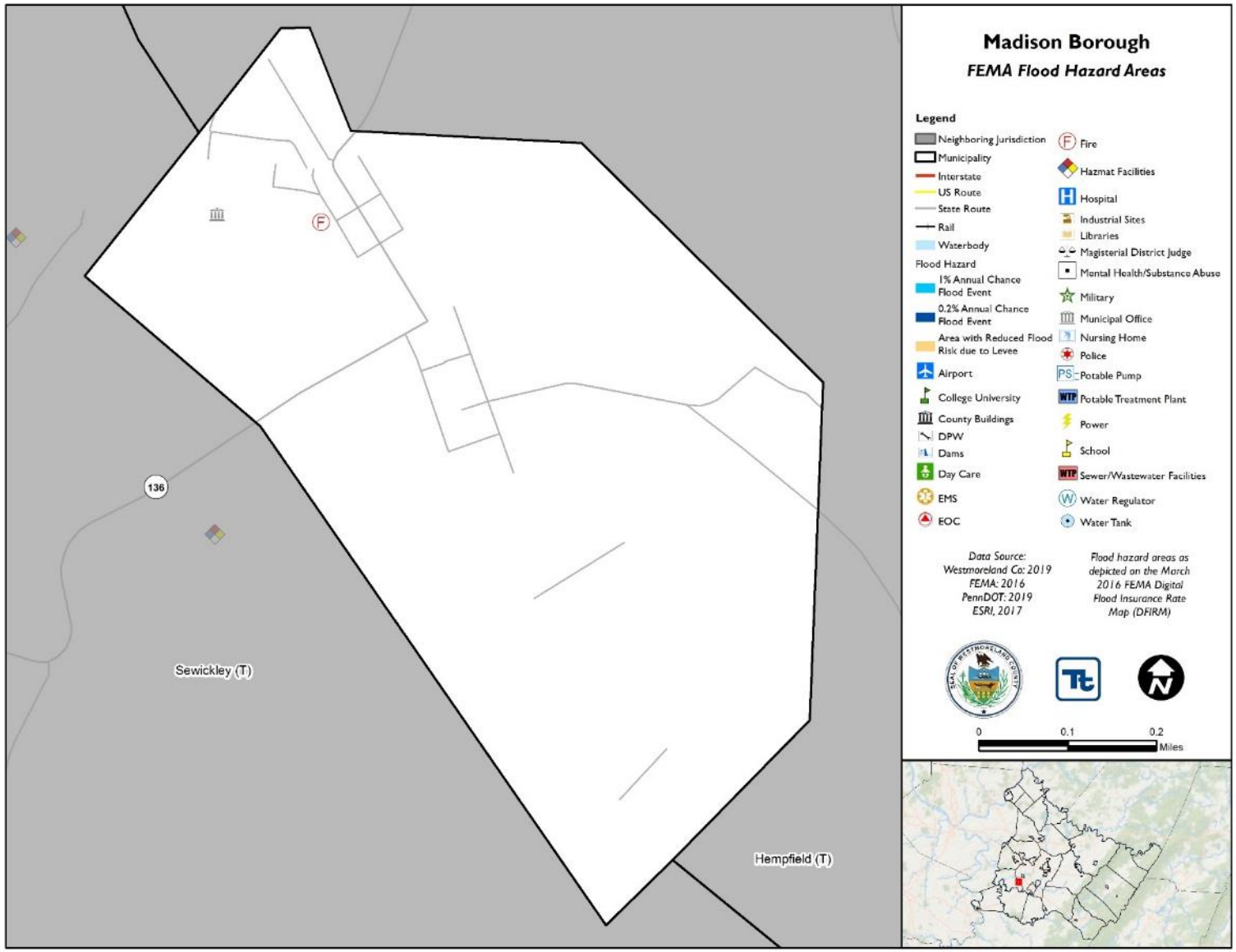


Figure 4.3.5-35. Manor Borough Municipal Flood Map

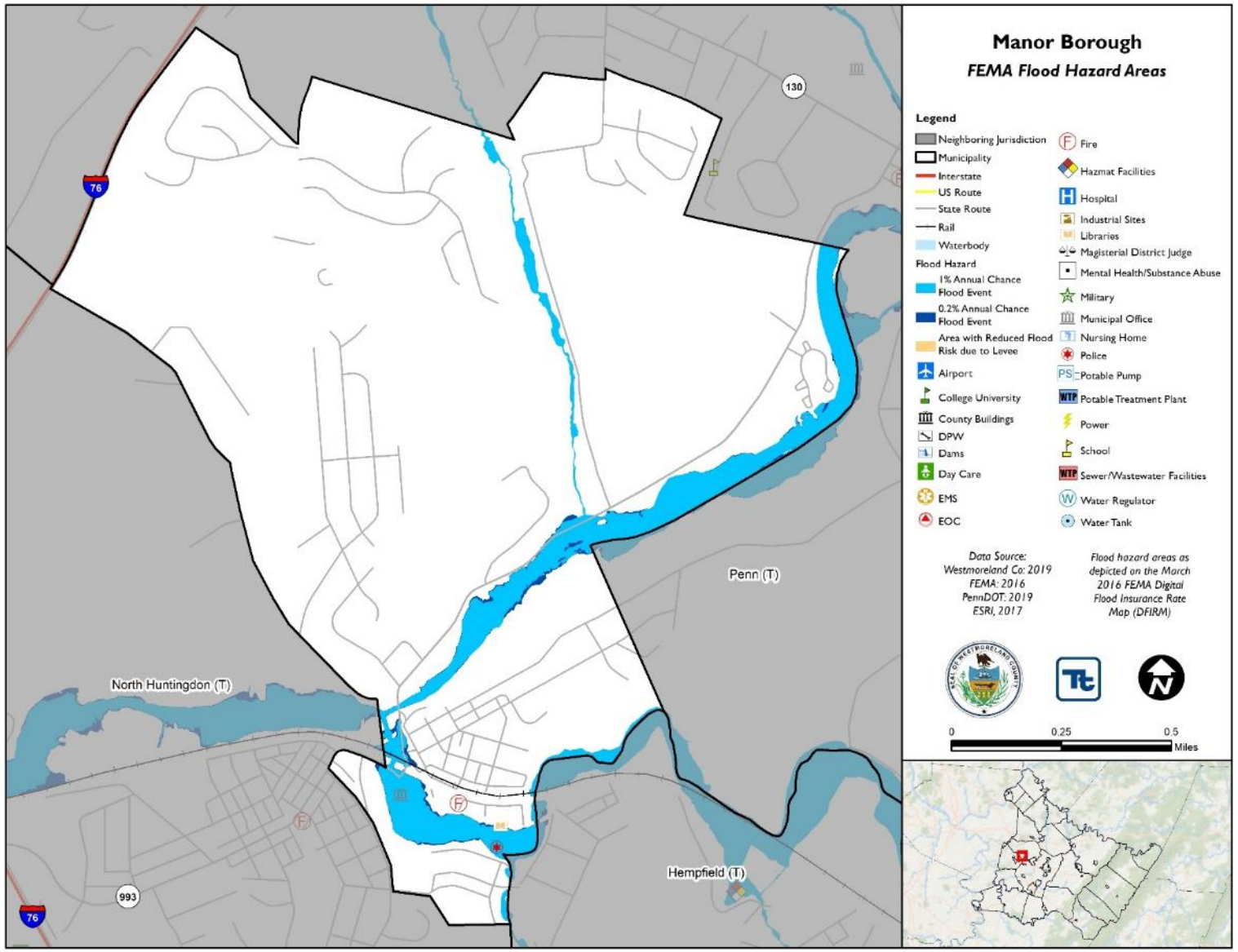


Figure 4.3.5-36. City of Monessen Municipal Flood Map

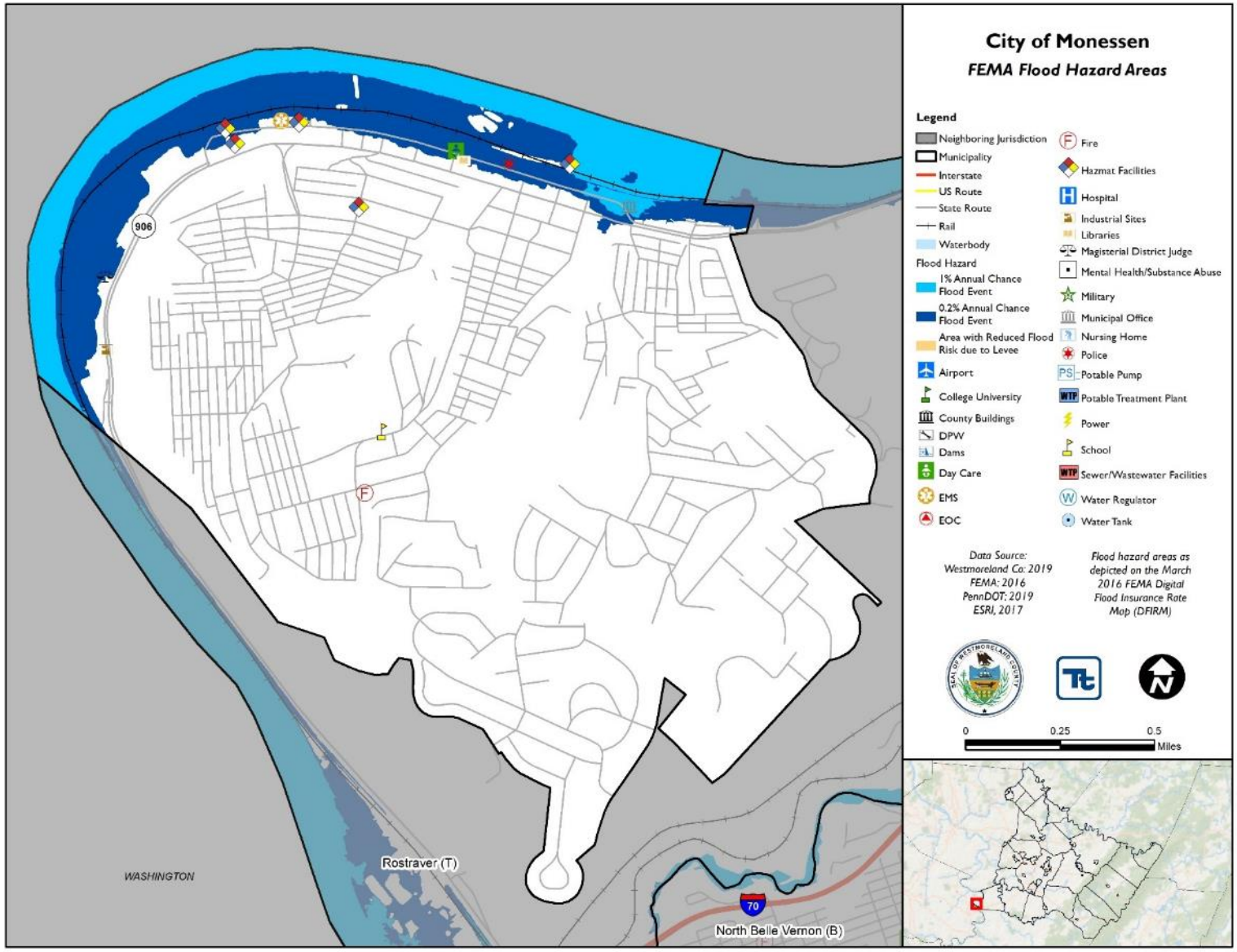


Figure 4.3.5-37. Mount Pleasant Borough Municipal Flood Map

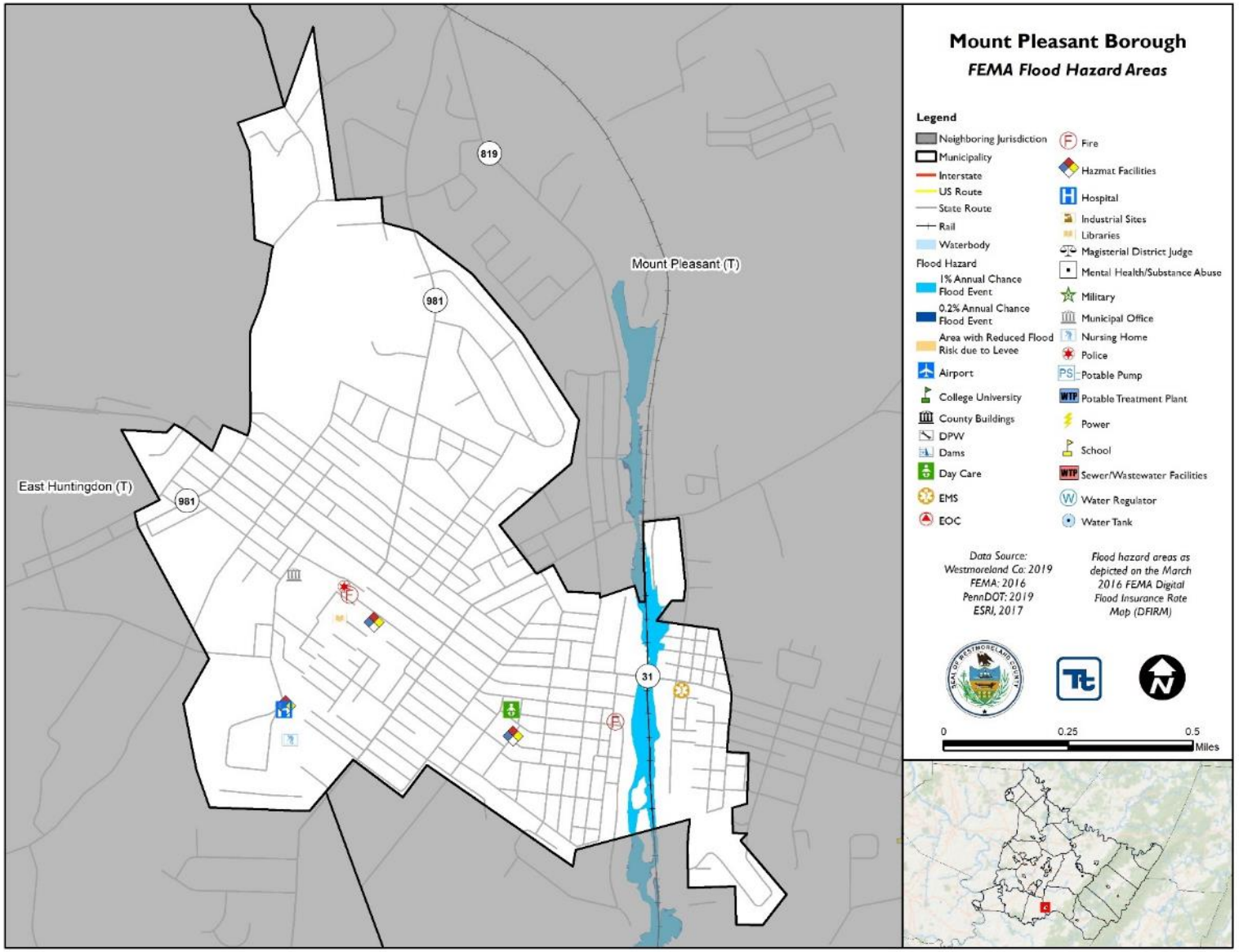


Figure 4.3.5-38. Mount Pleasant Township Municipal Flood Map

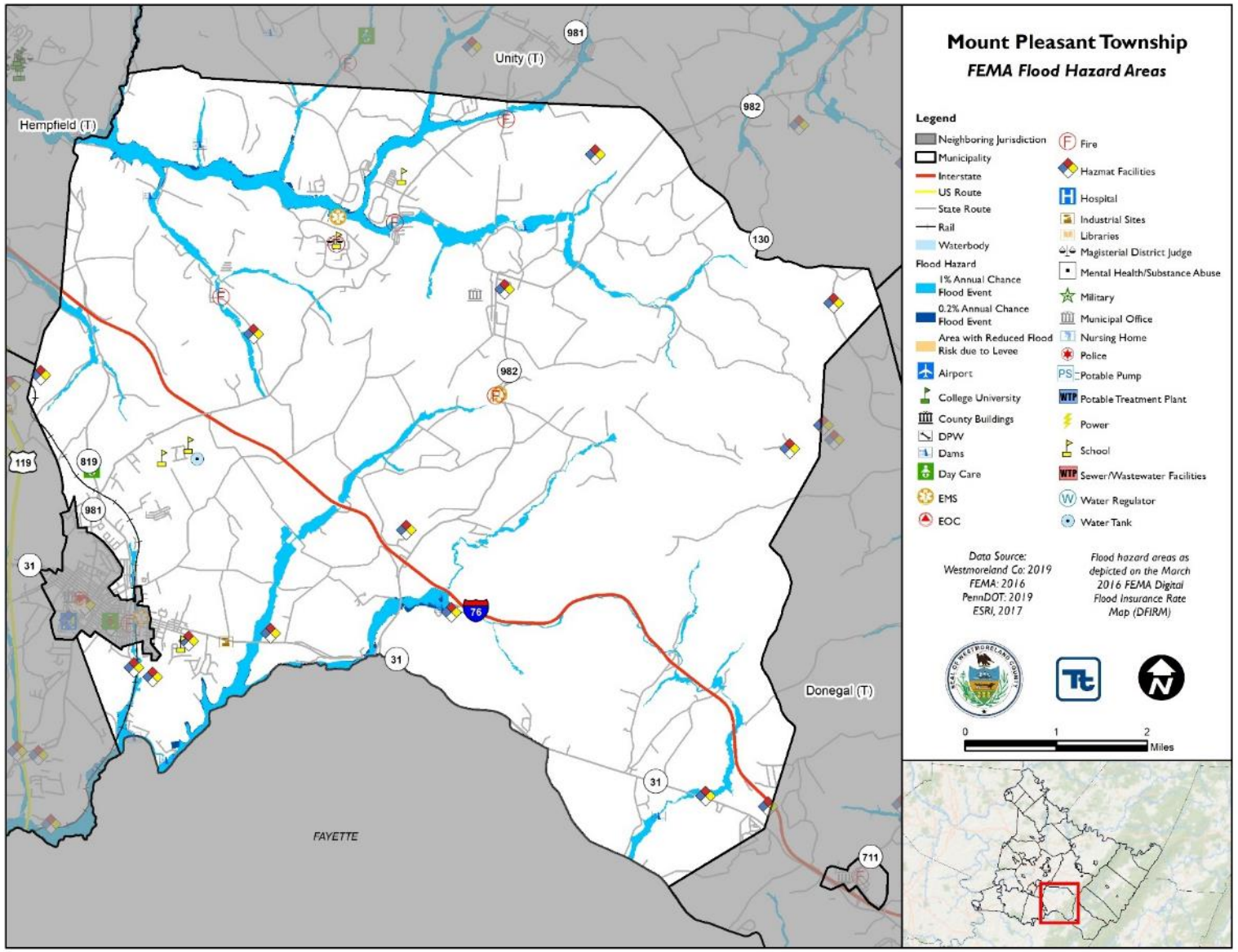


Figure 4.3.5-39. Murrysville Borough Municipal Flood Map

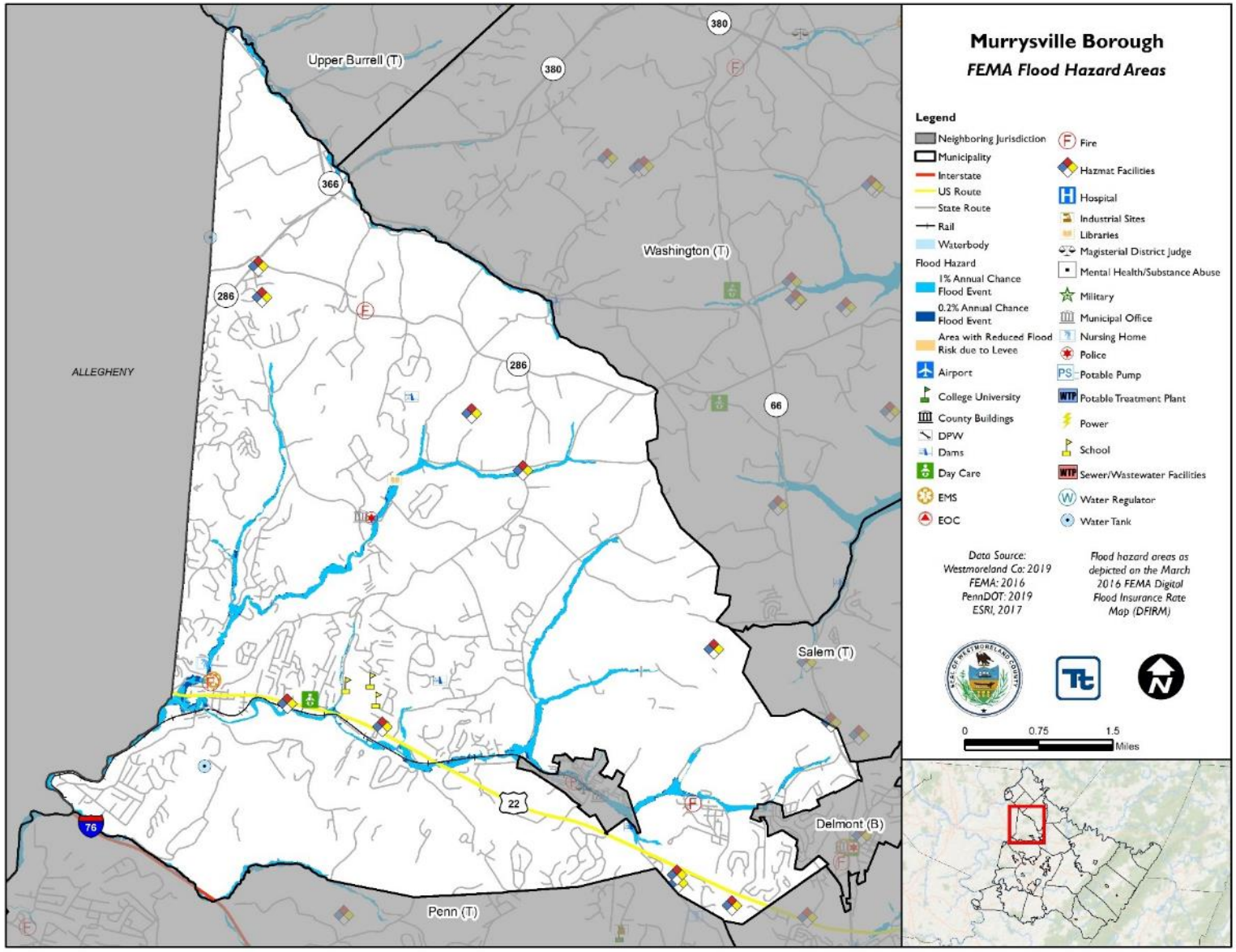


Figure 4.3.5-40. New Alexandria Borough Municipal Flood Map

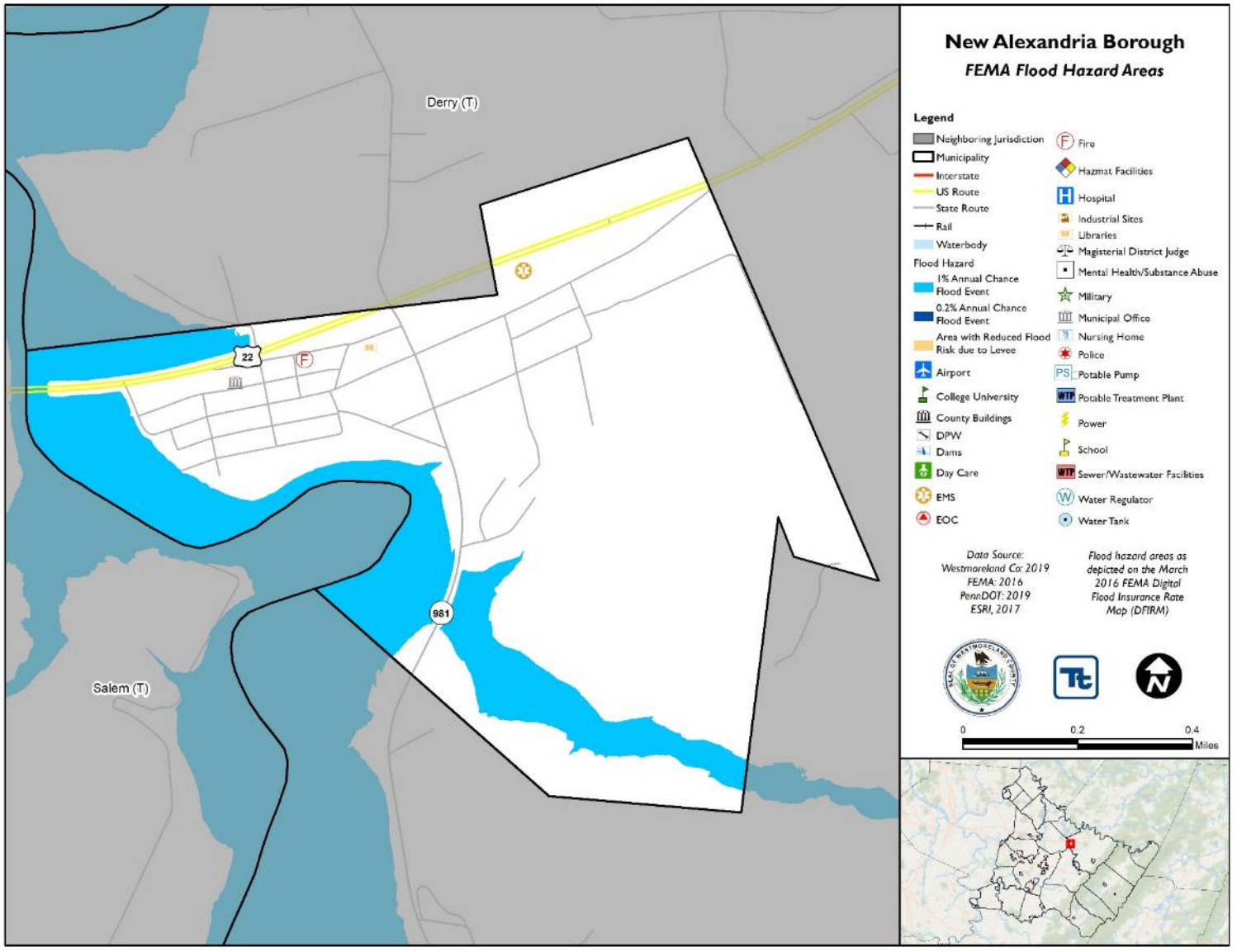


Figure 4.3.5-41. New Florence Borough Municipal Flood Map

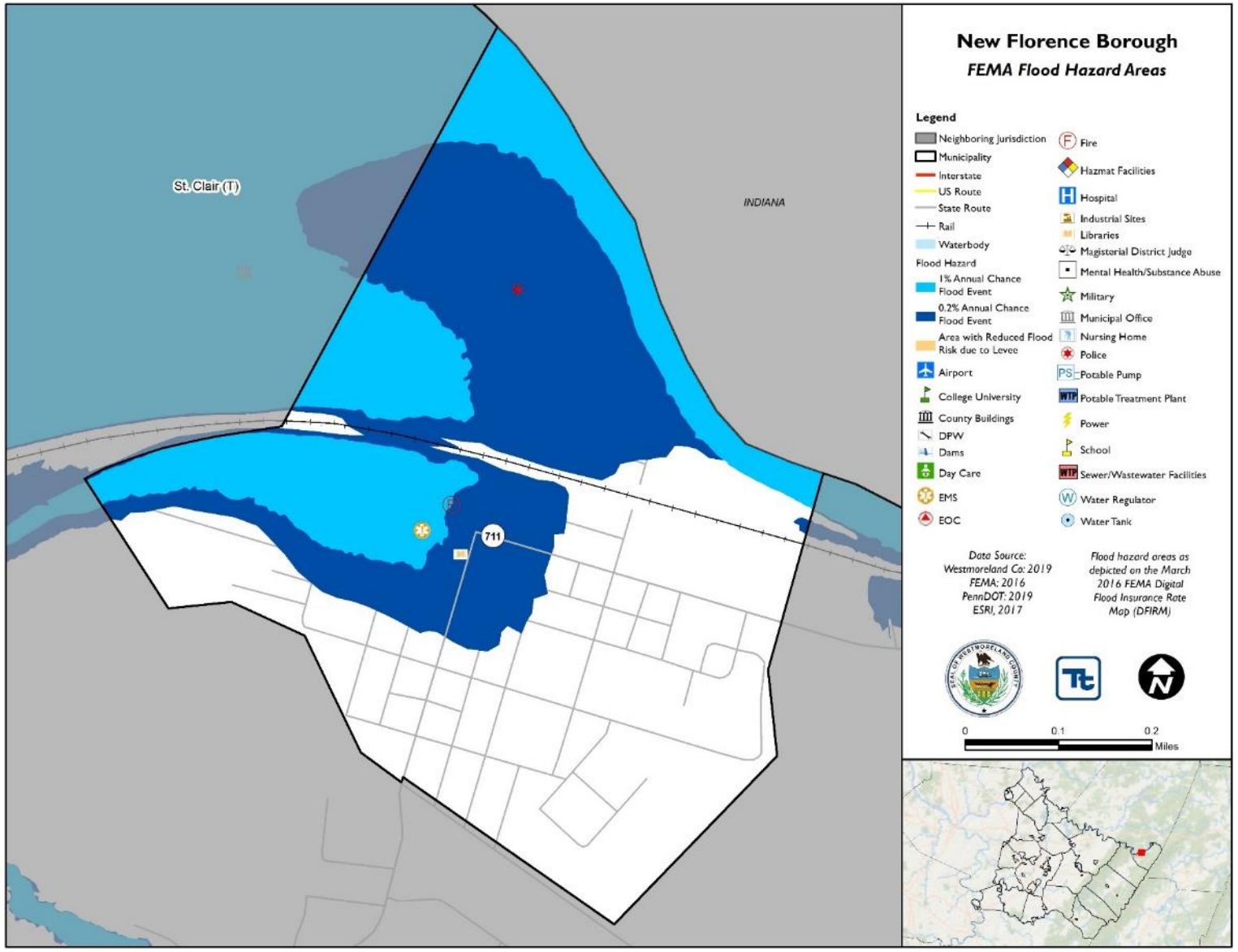


Figure 4.3.5-42. City of New Kensington Municipal Flood Map

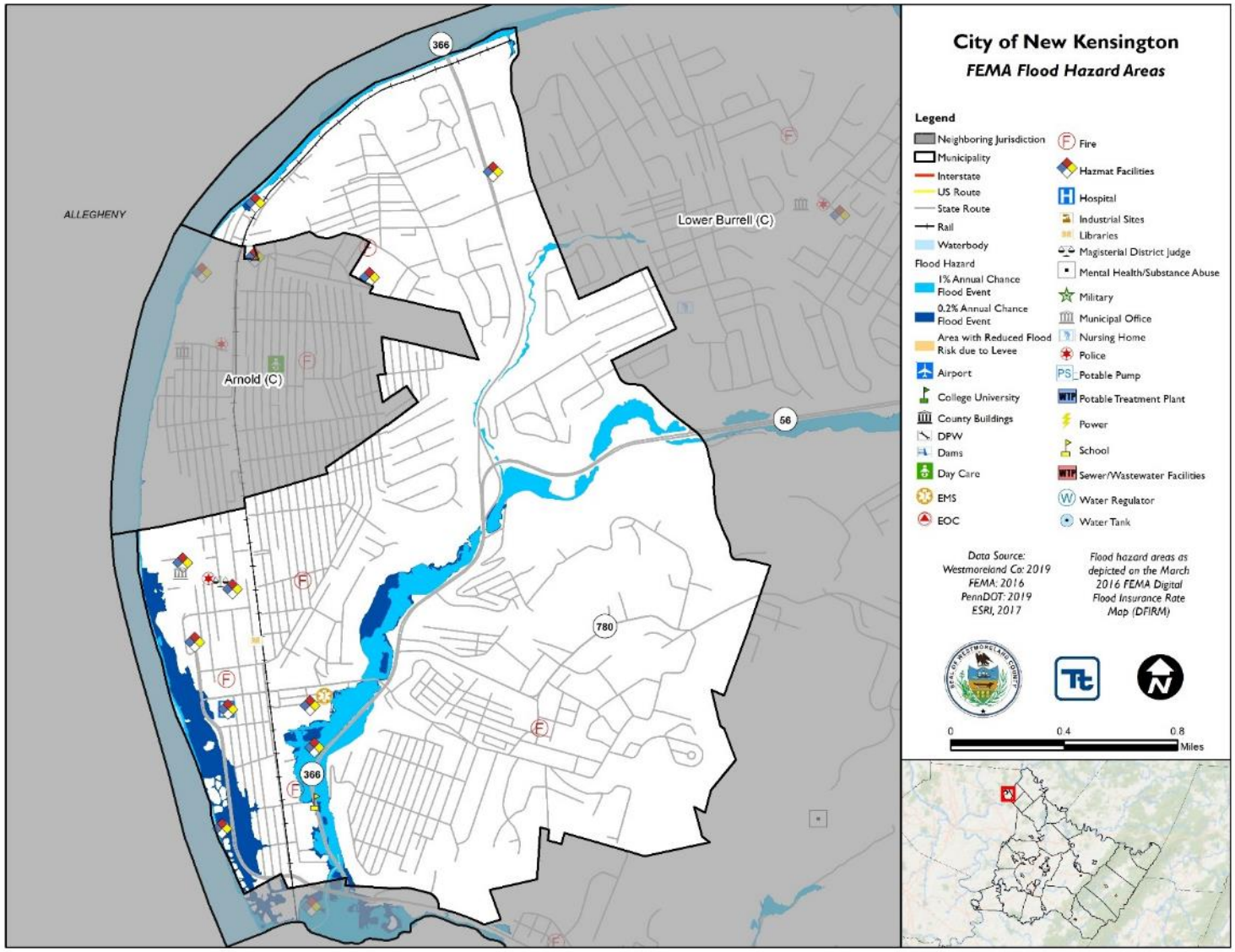


Figure 39. New Stanton Borough Municipal Flood Map

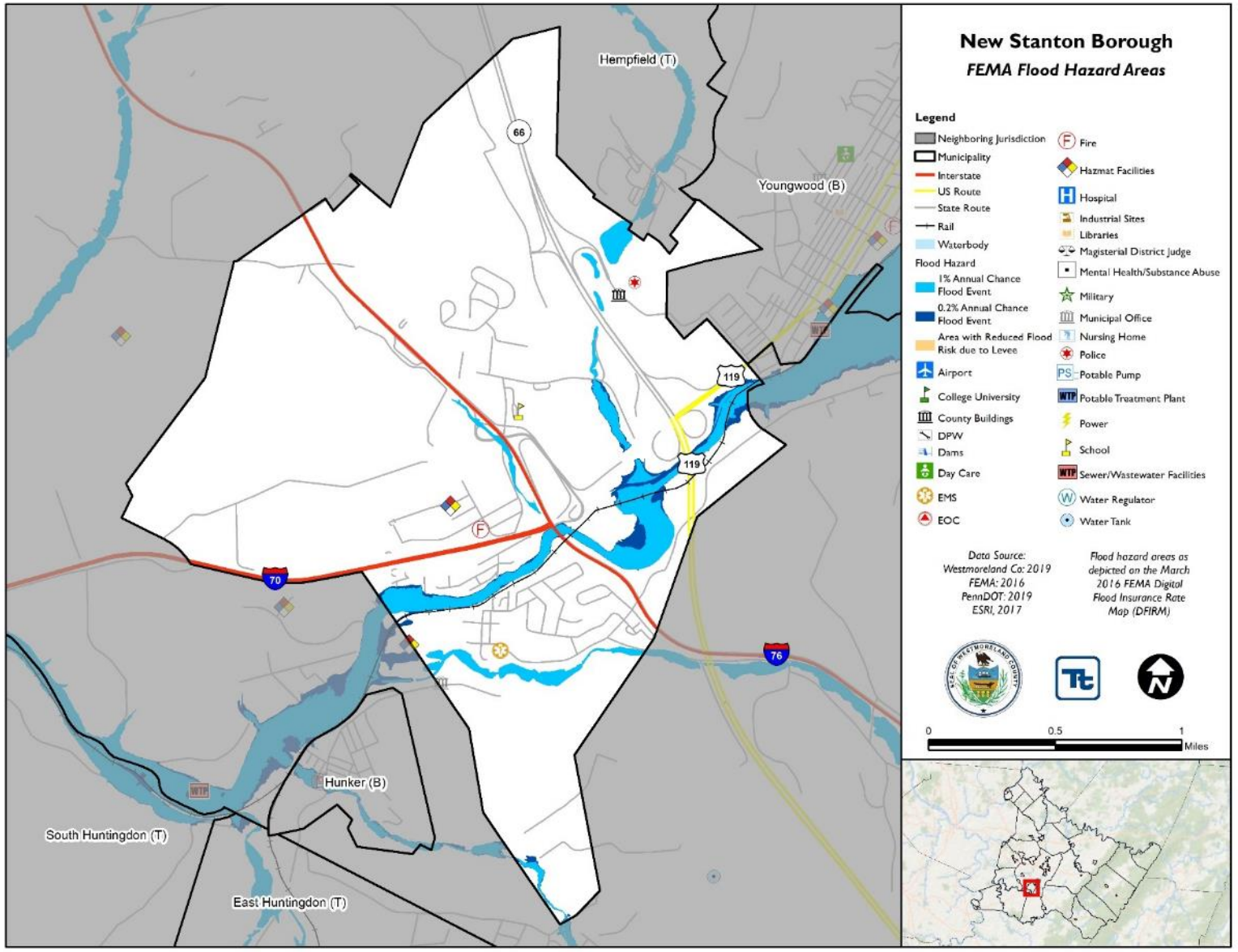


Figure 4.3.5-43. North Belle Vernon Borough Municipal Flood Map

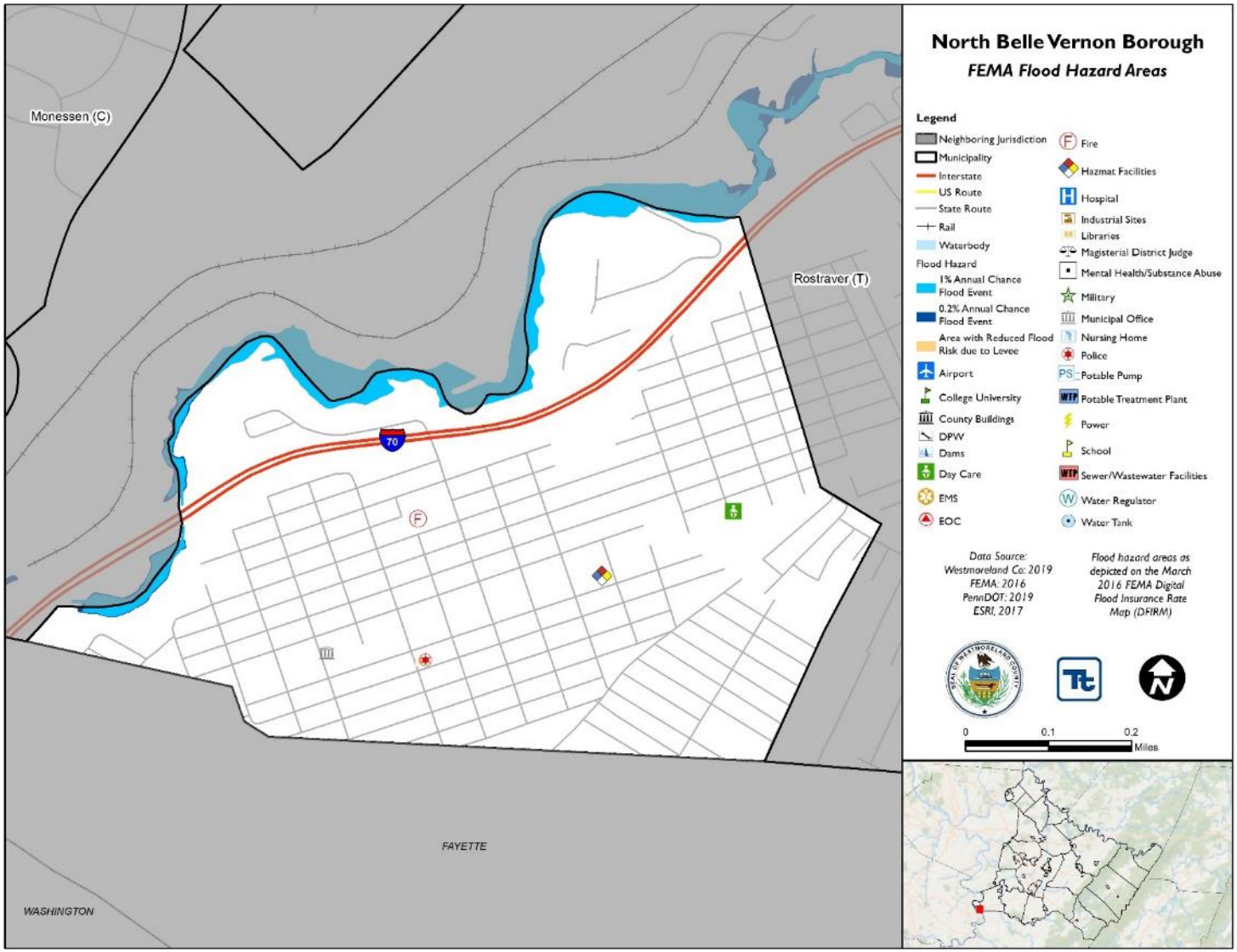


Figure 4.3.5-44. North Huntingdon Township Municipal Flood Map

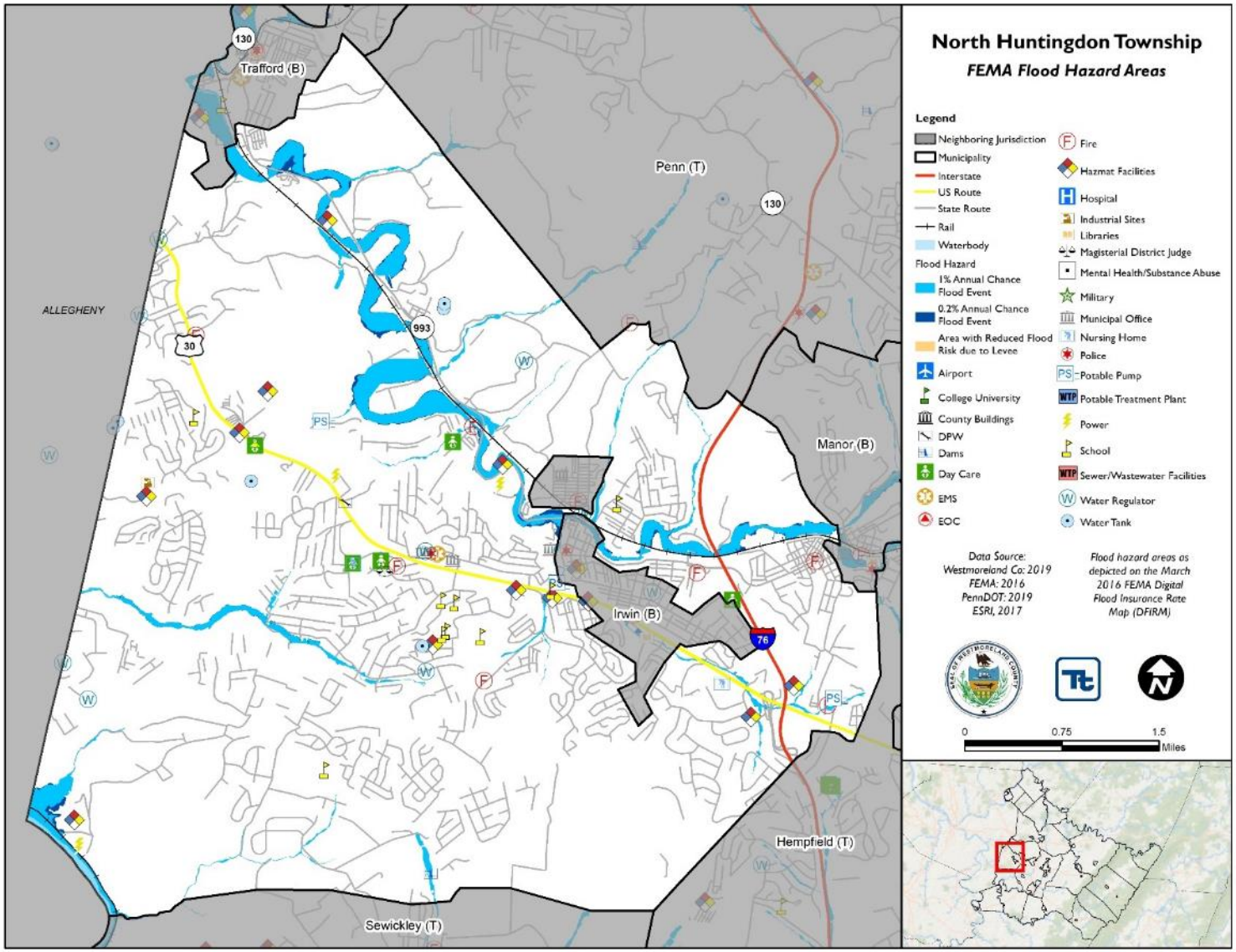


Figure 4.3.5-45. North Irwin Borough Municipal Flood Map

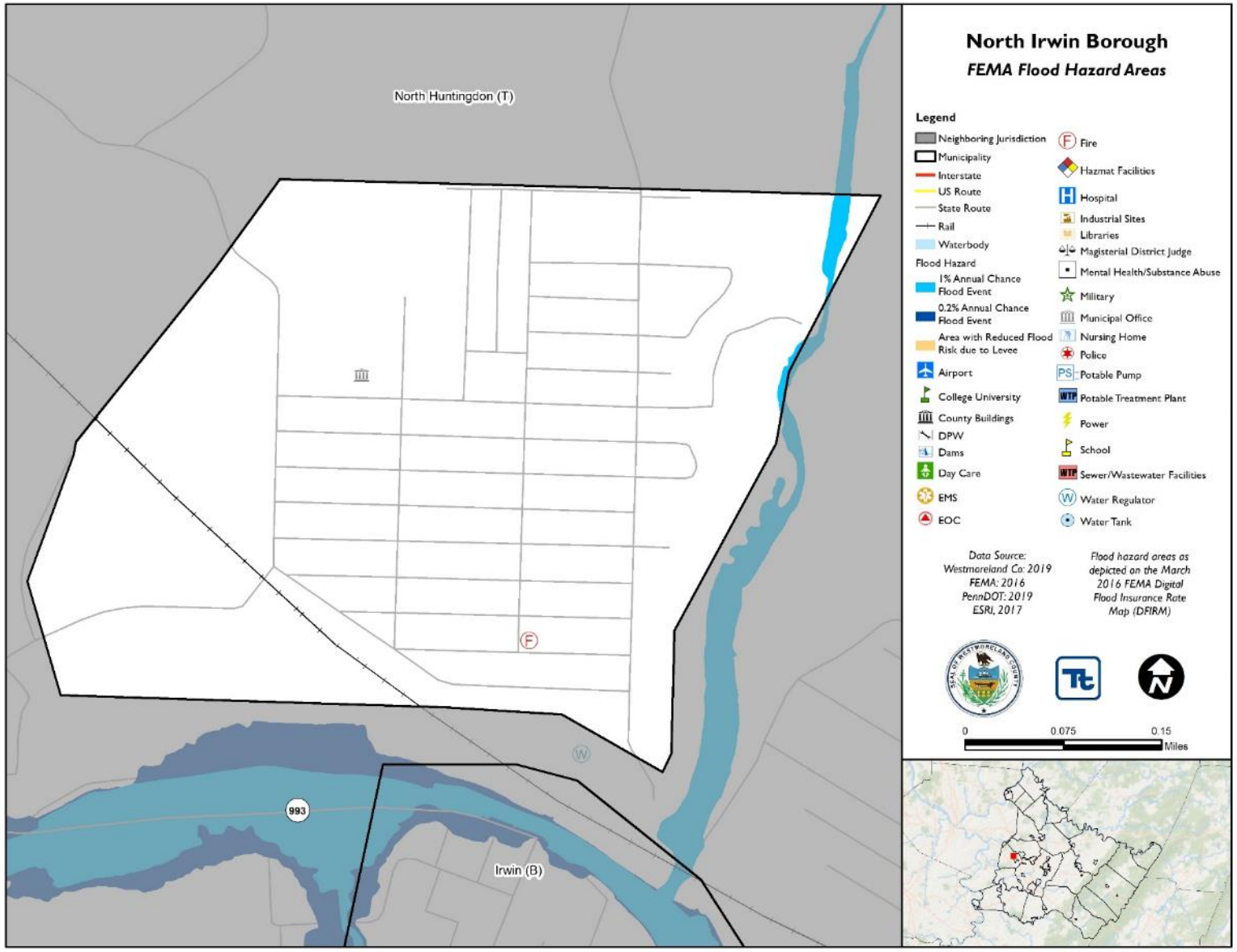


Figure 4.3.5-46. Oklahoma Borough Municipal Flood Map

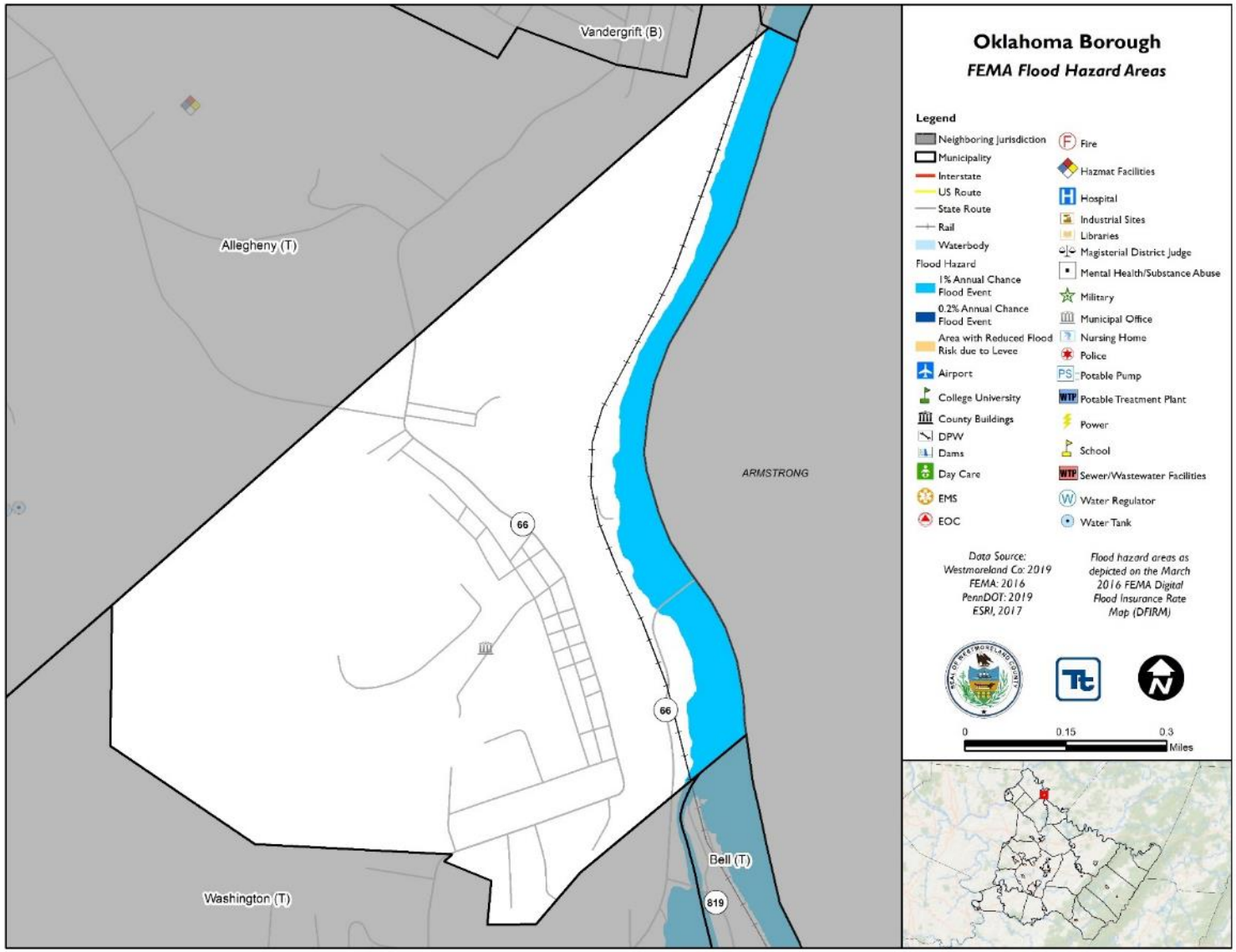


Figure 4.3.5-47. Penn Borough Municipal Flood Map

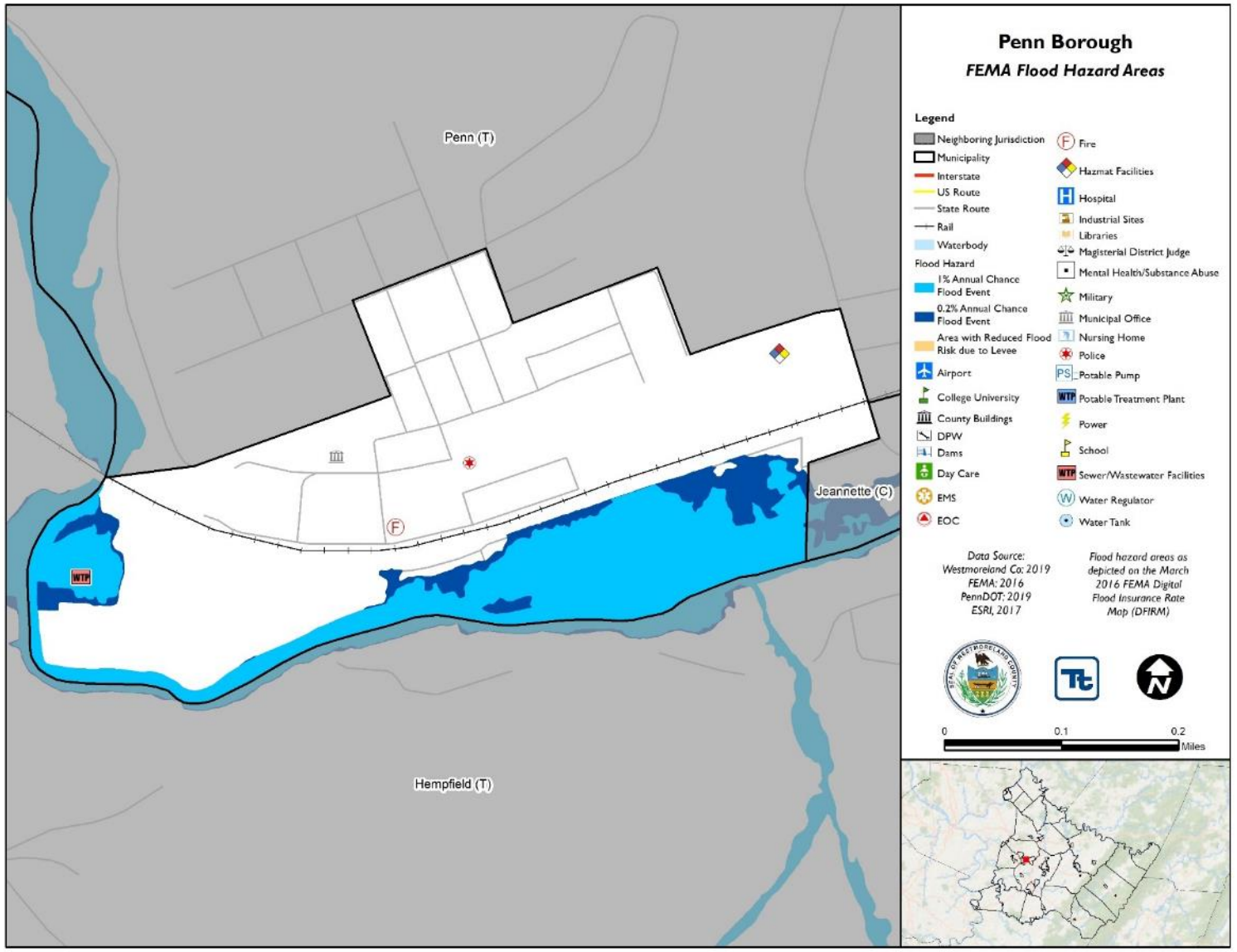


Figure 4.3.5-48. Penn Township Municipal Flood Map

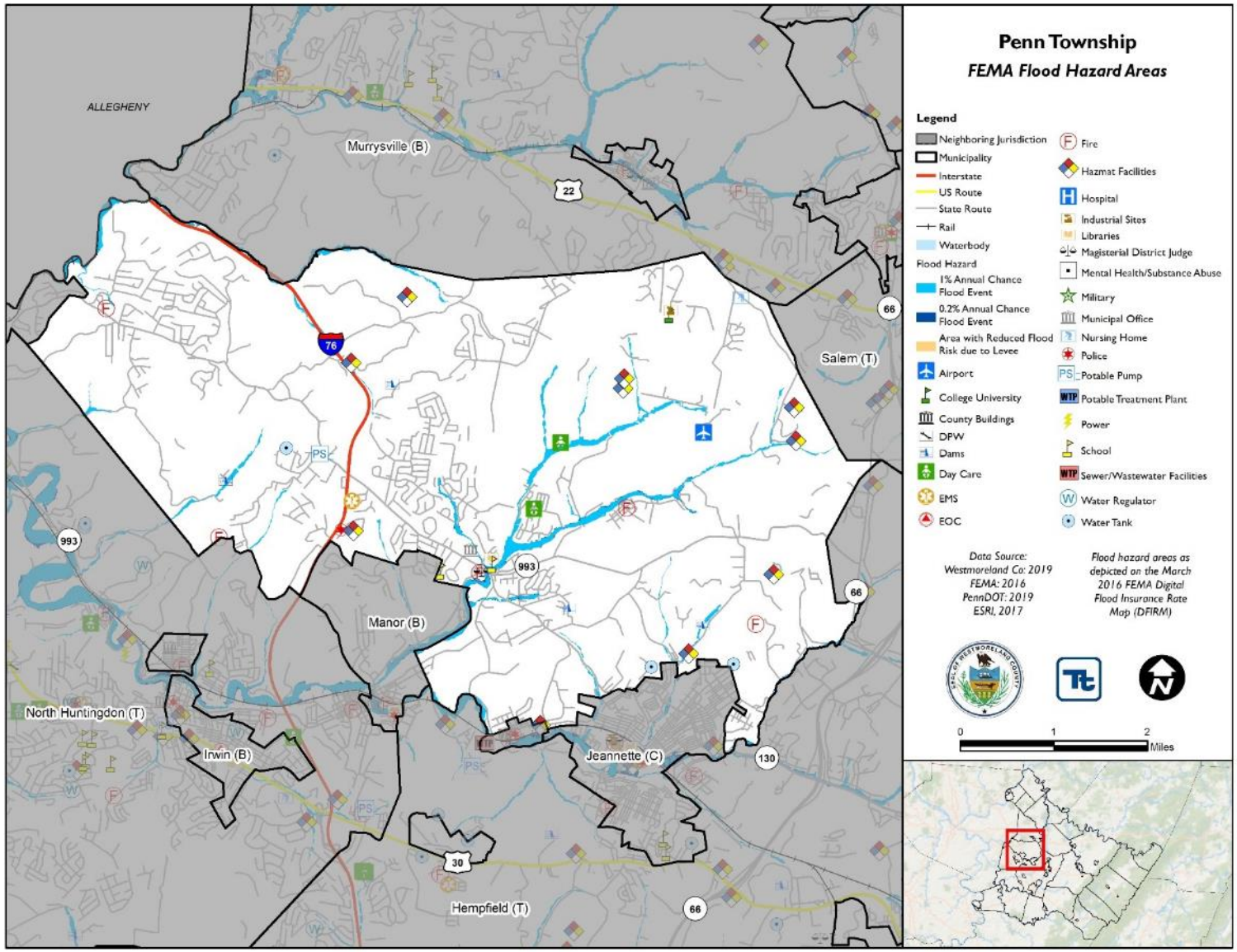


Figure 4.3.5-49. Rostraver Township Municipal Flood Map

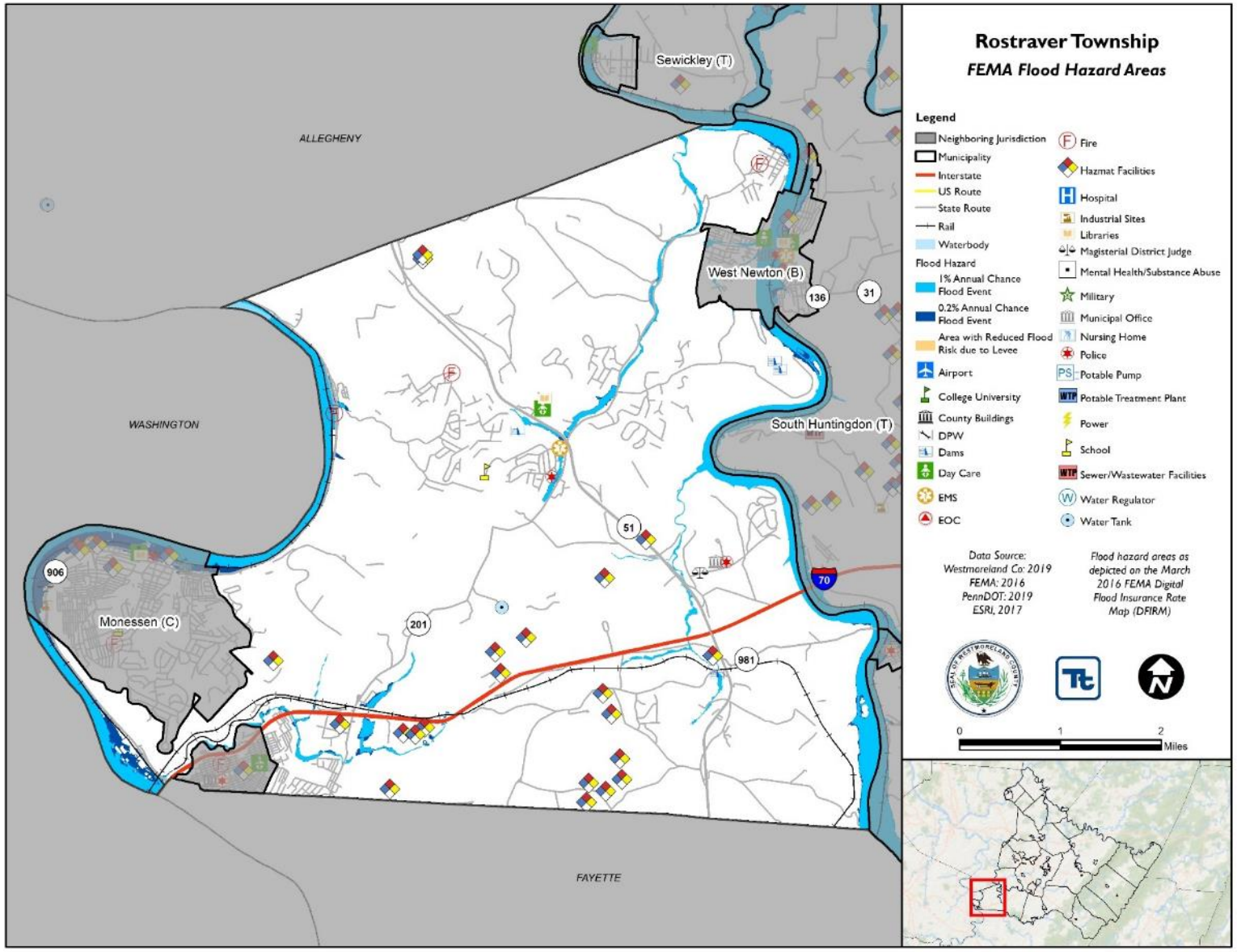


Figure 4.3.5-50. Salem Township Municipal Flood Map

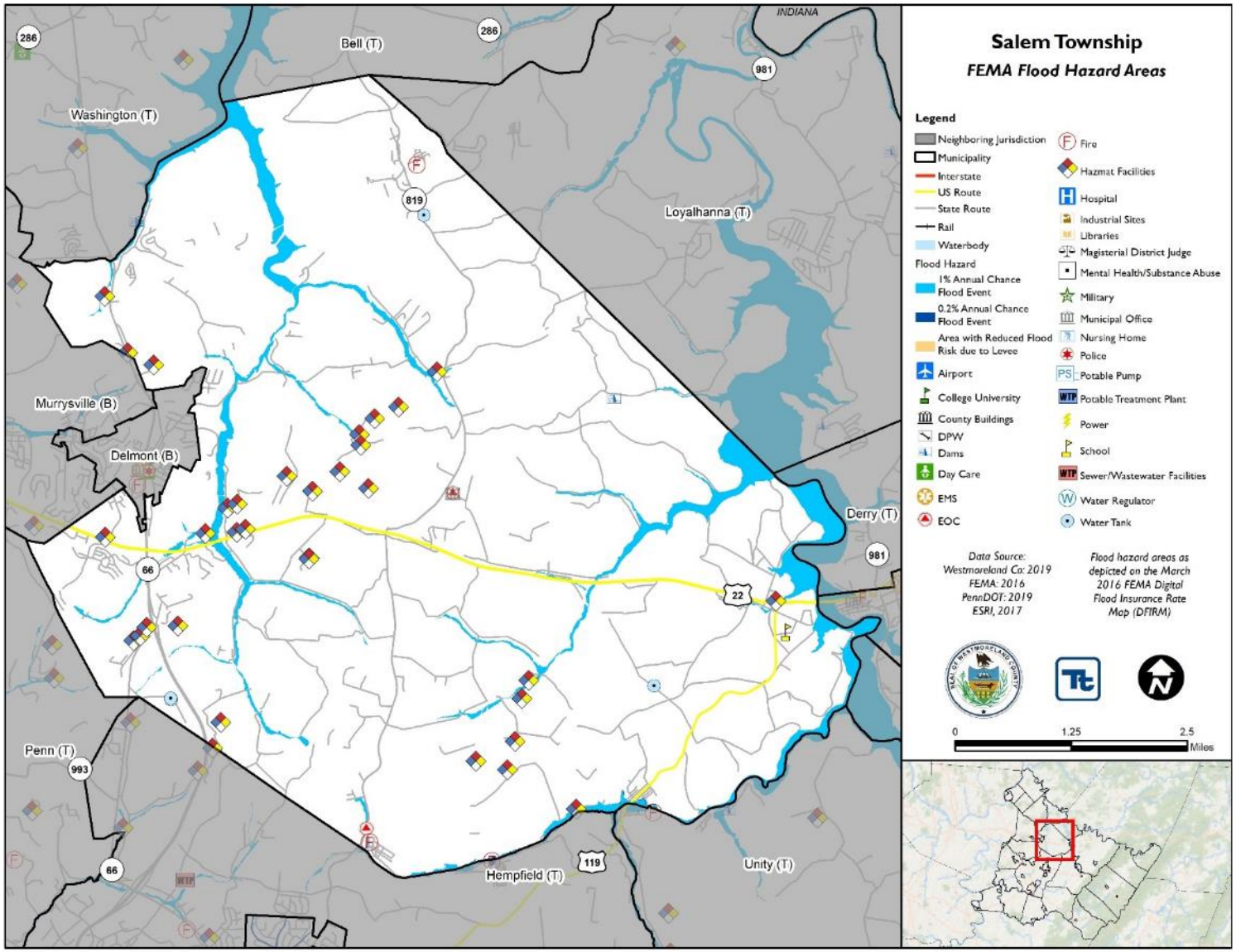


Figure 4.3.5-51. Scottdale Borough Municipal Flood Map

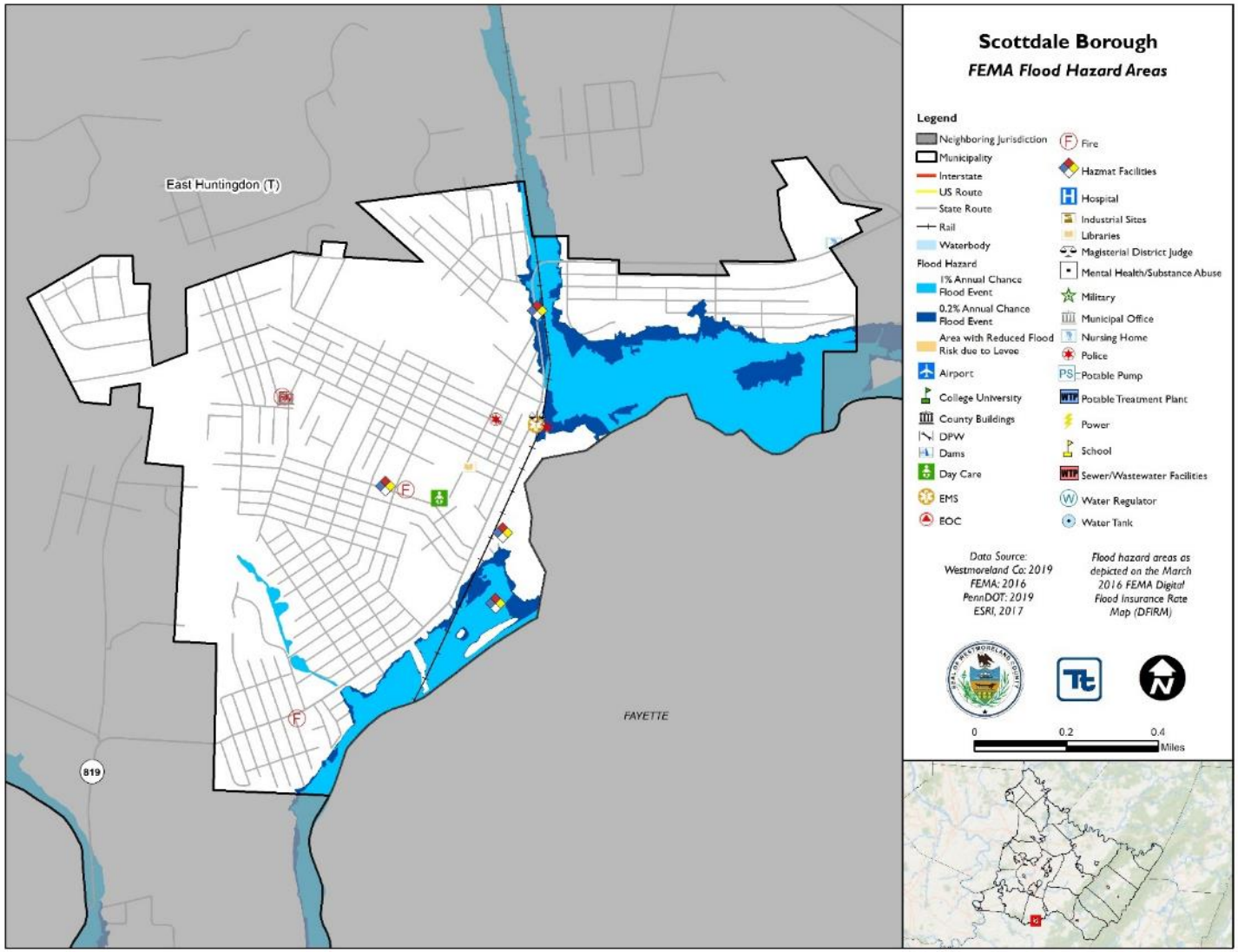


Figure 4.3.5-52. Seward Borough Municipal Flood Map

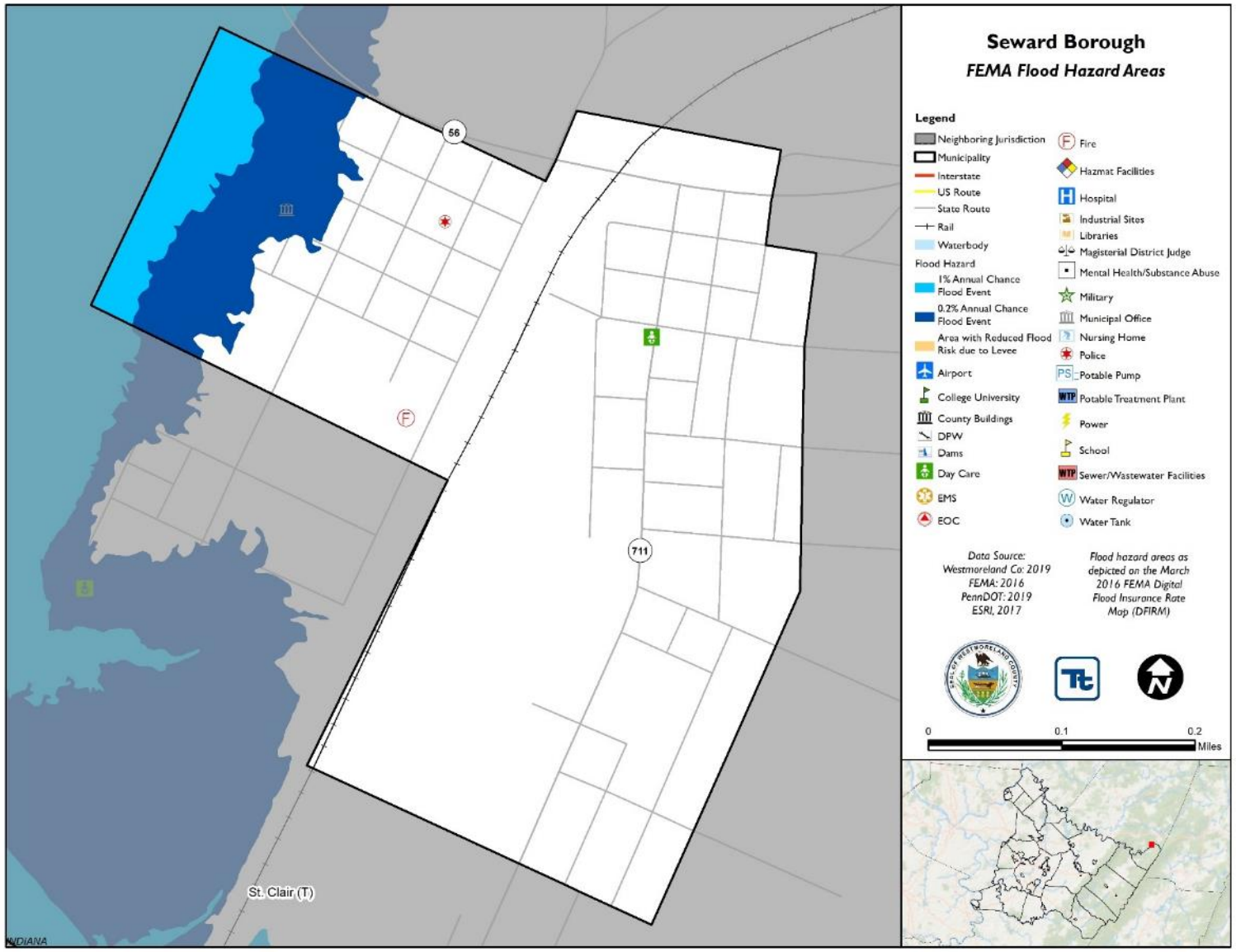


Figure 4.3.5-53. Sewickley Township Municipal Flood Map

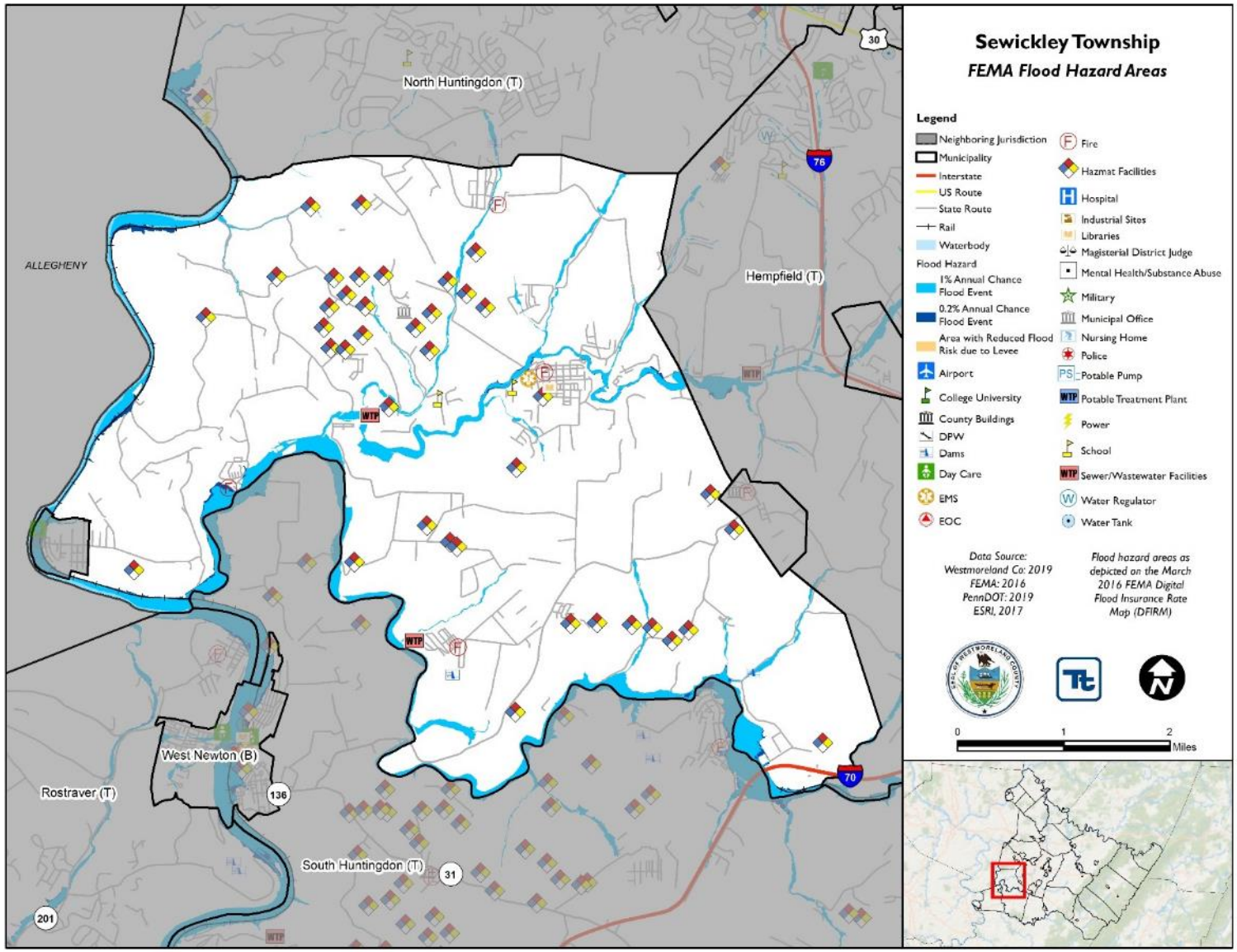


Figure 4.3.5-54. Smithton Borough Municipal Flood Map

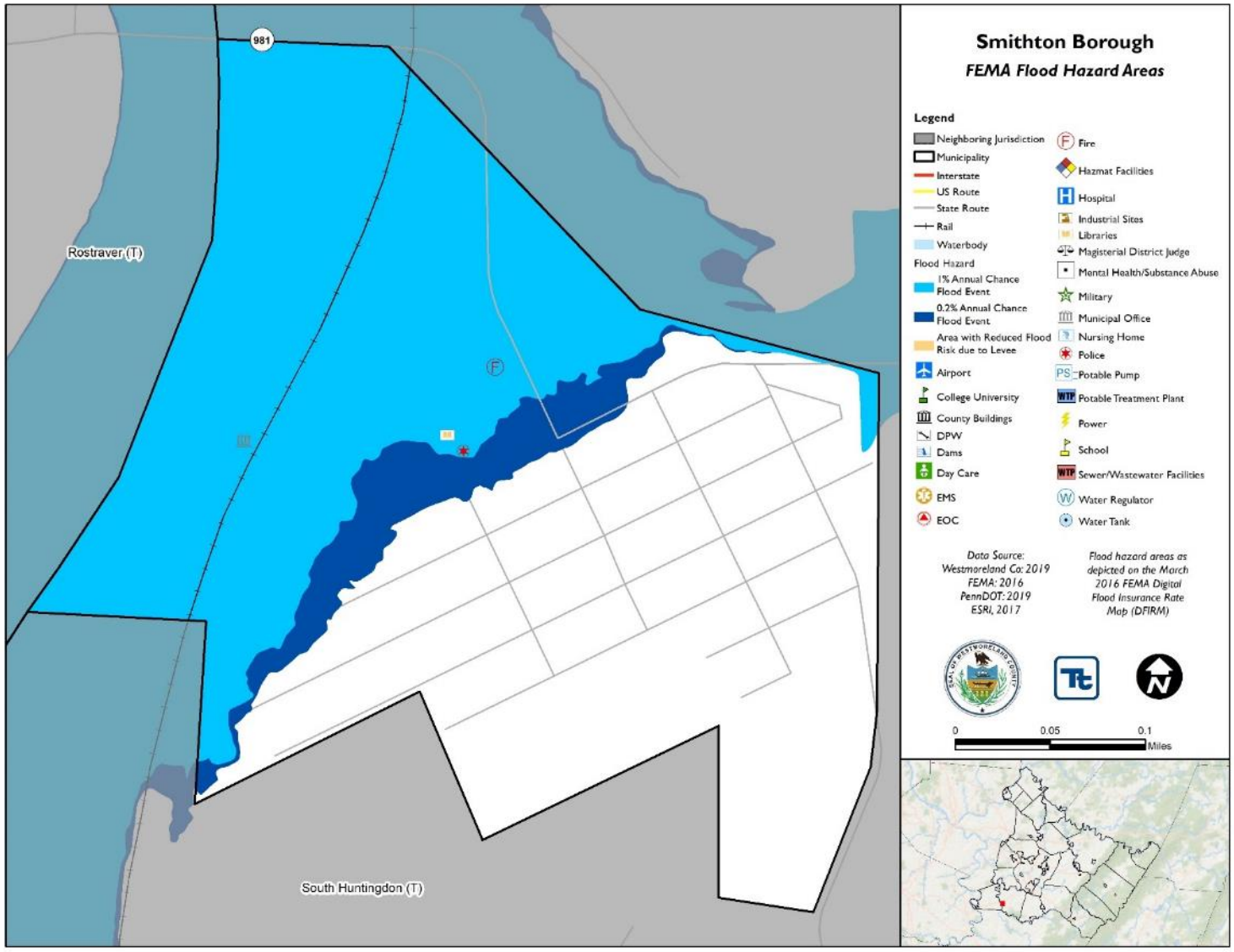


Figure 4.3.5-55. South Greensburg Borough Municipal Flood Map

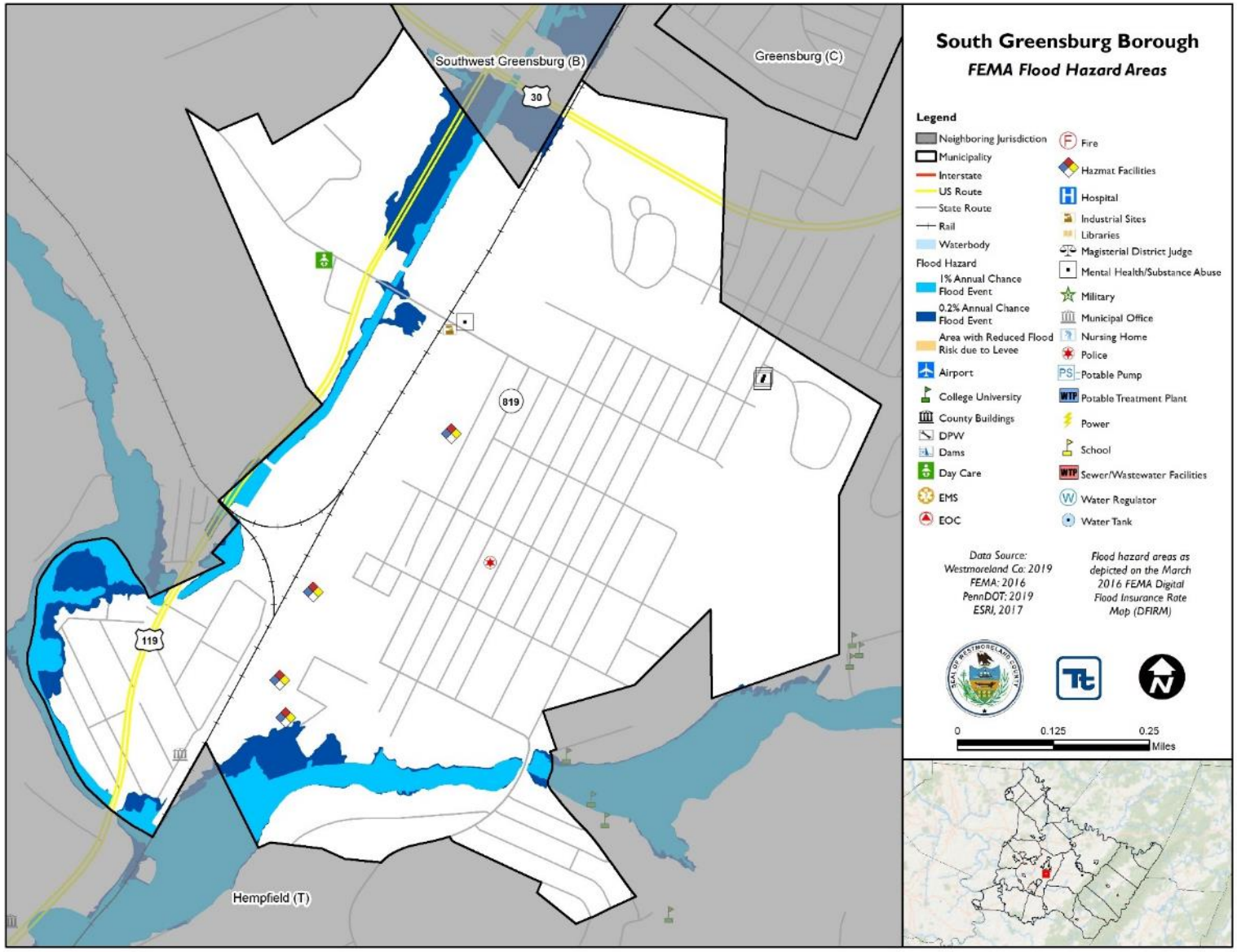


Figure 4.3.5-56. South Huntingdon Township Municipal Flood Map

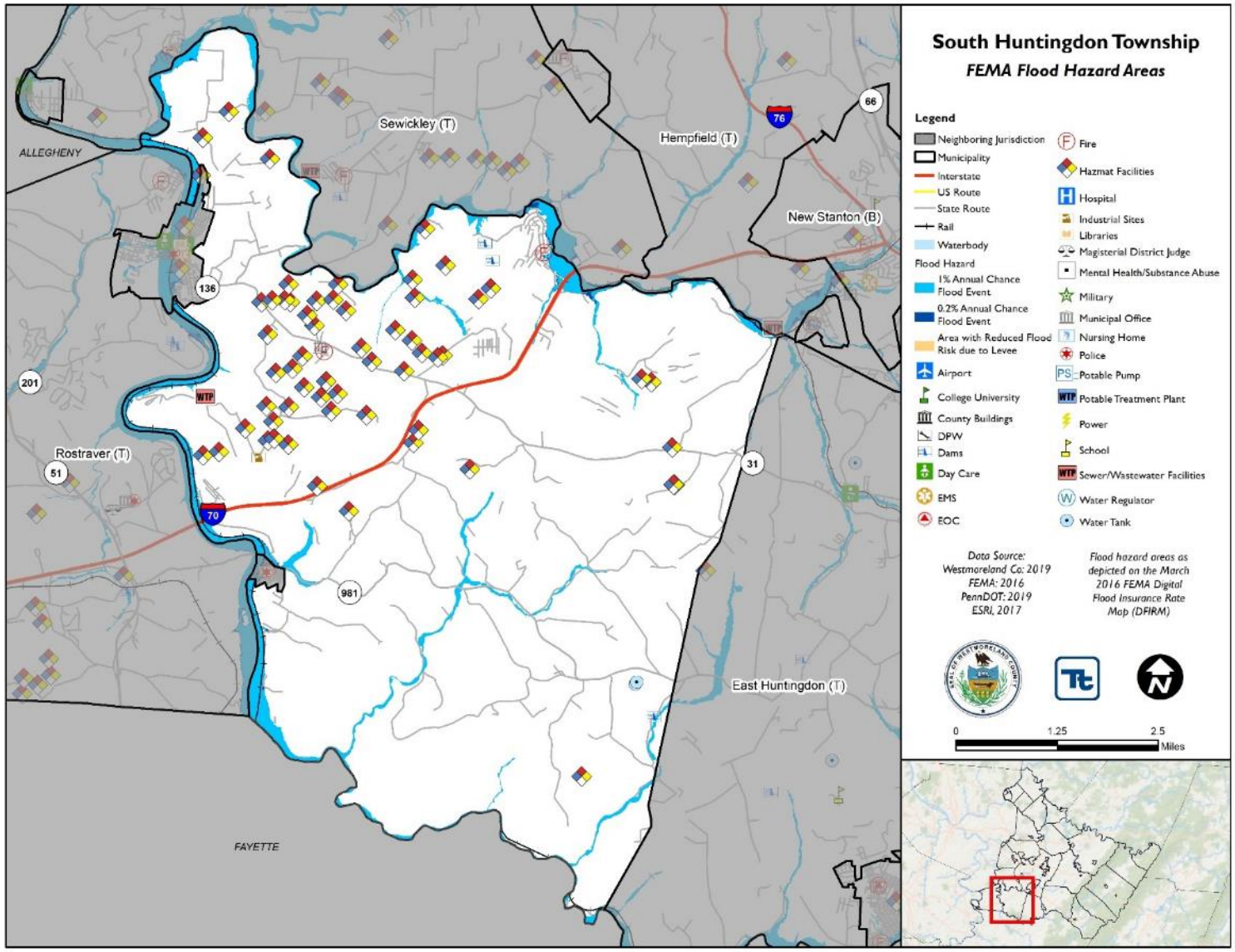


Figure 4.3.5-57. Southwest Greensburg Borough Municipal Flood Map

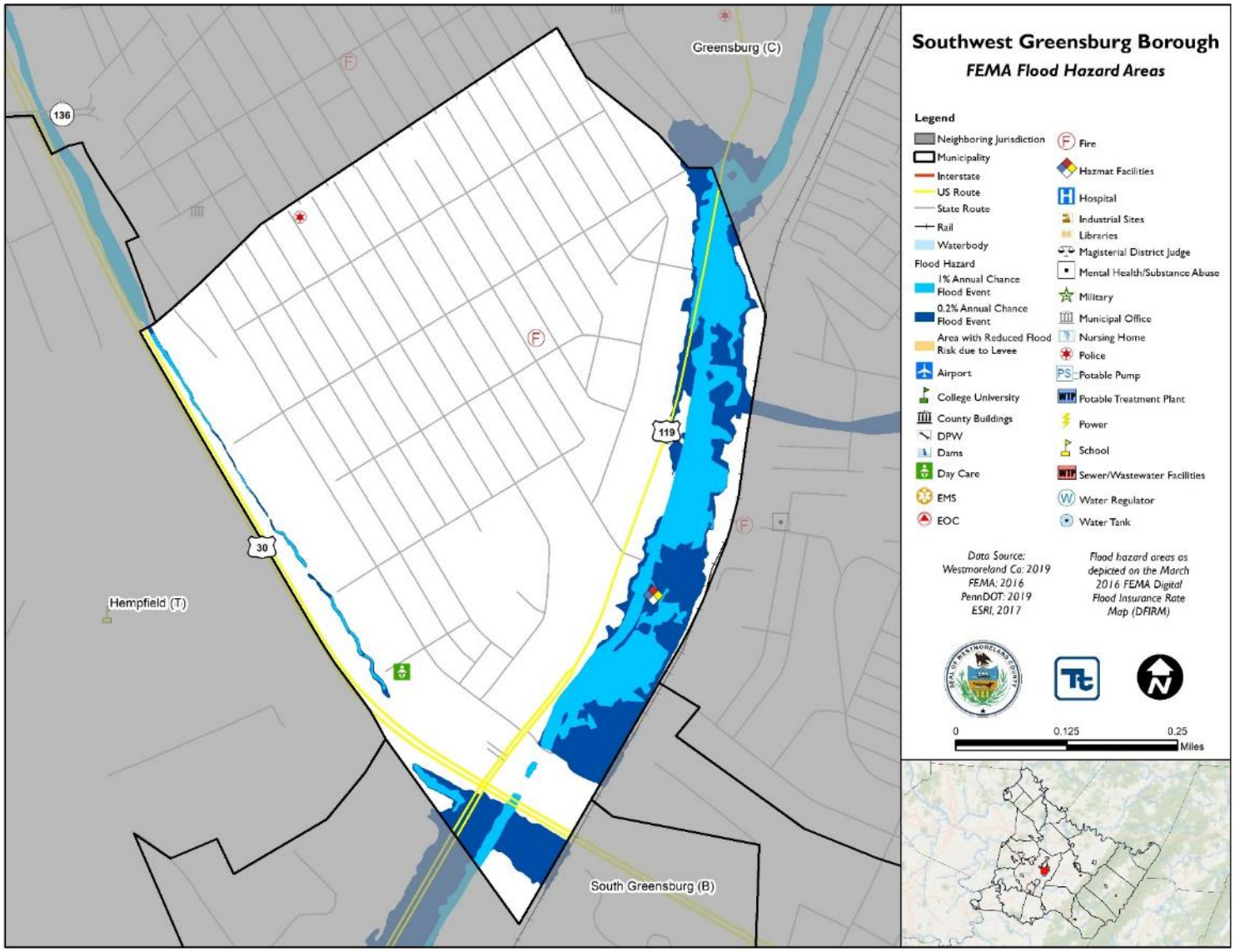


Figure 4.3.5-58. St. Clair Township Municipal Flood Map

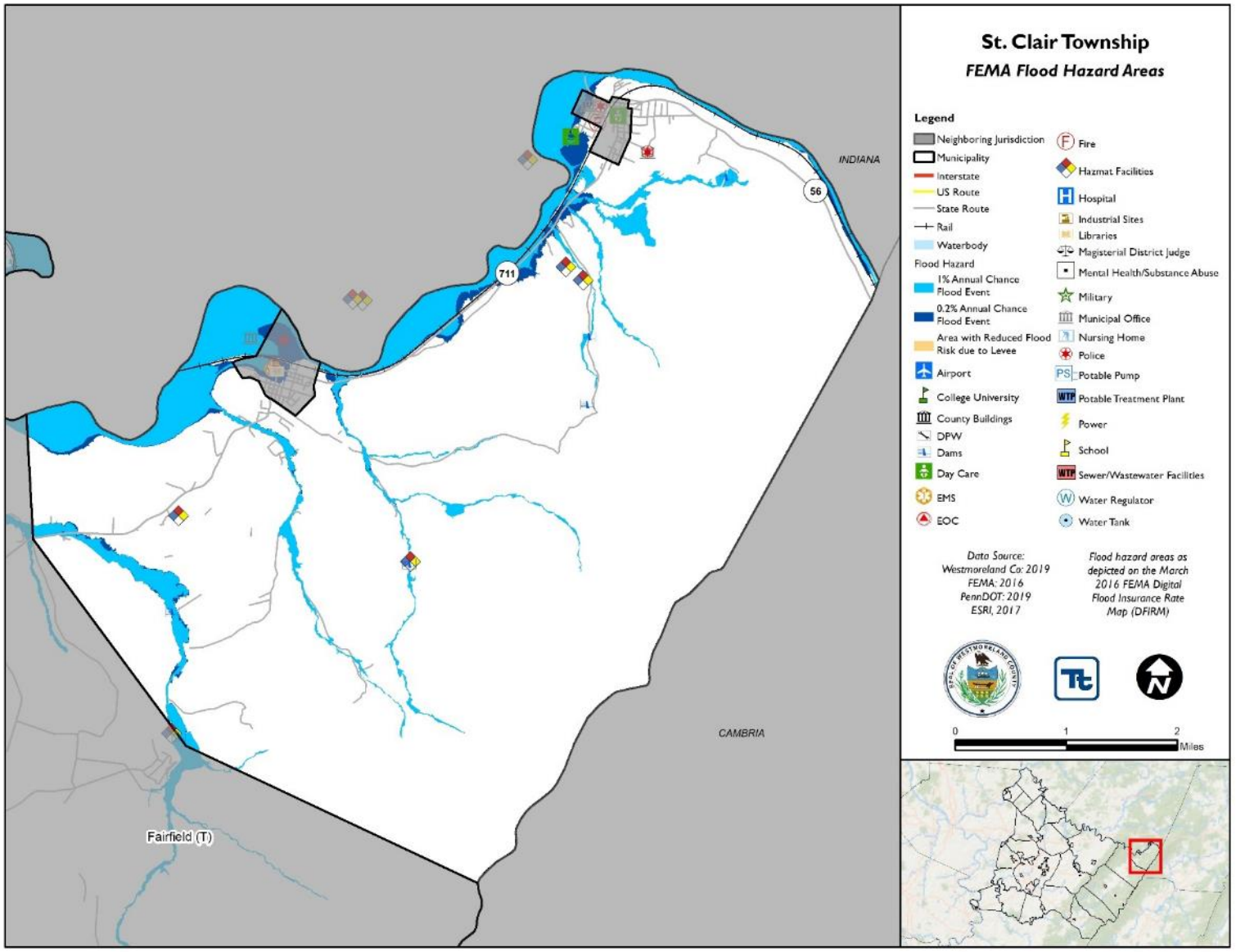


Figure 4.3.5-59. Sutersville Borough Municipal Flood Map

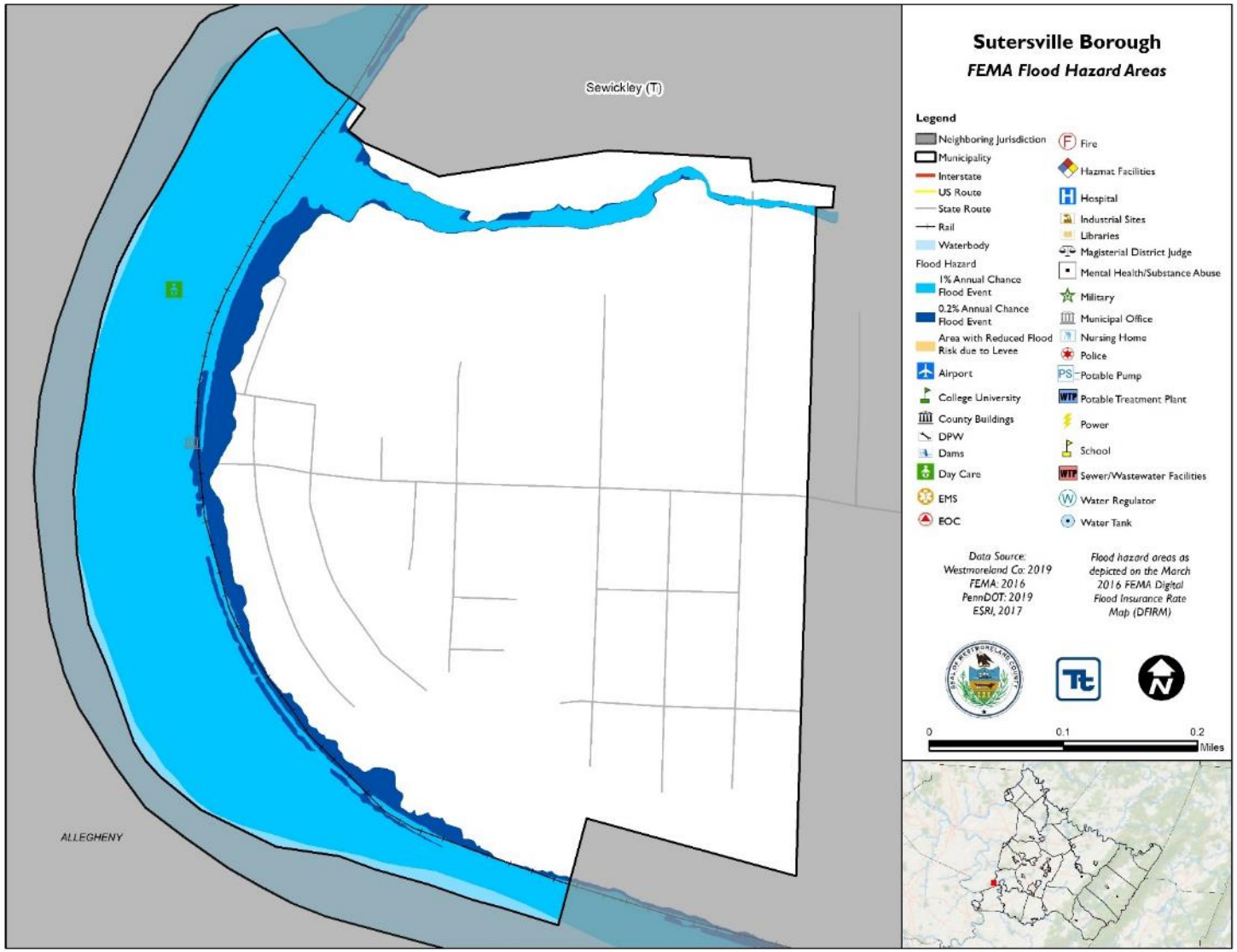


Figure 4.3.5-60. Trafford Borough Municipal Flood Map

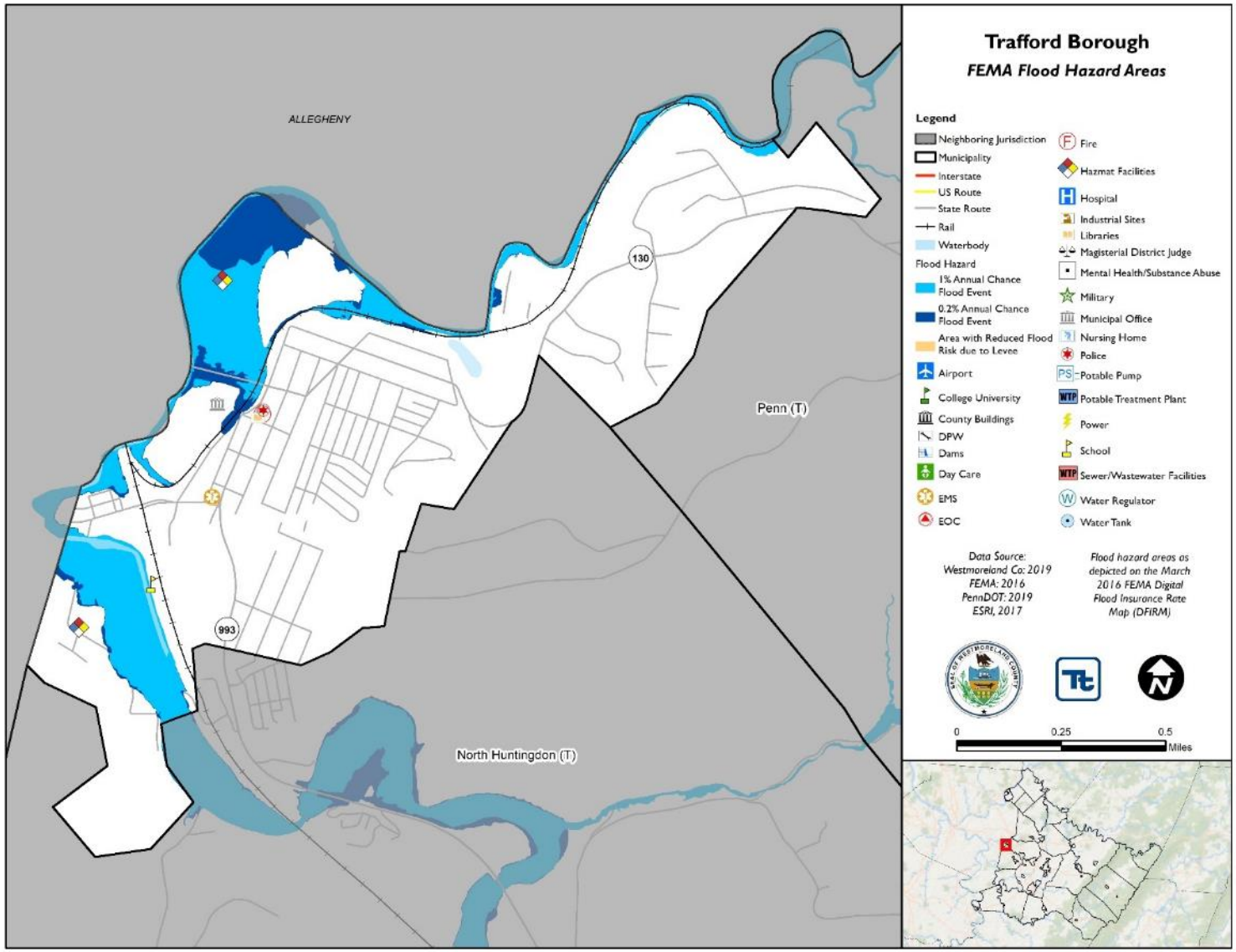


Figure 4.3.5-61. Unity Township Municipal Flood Map

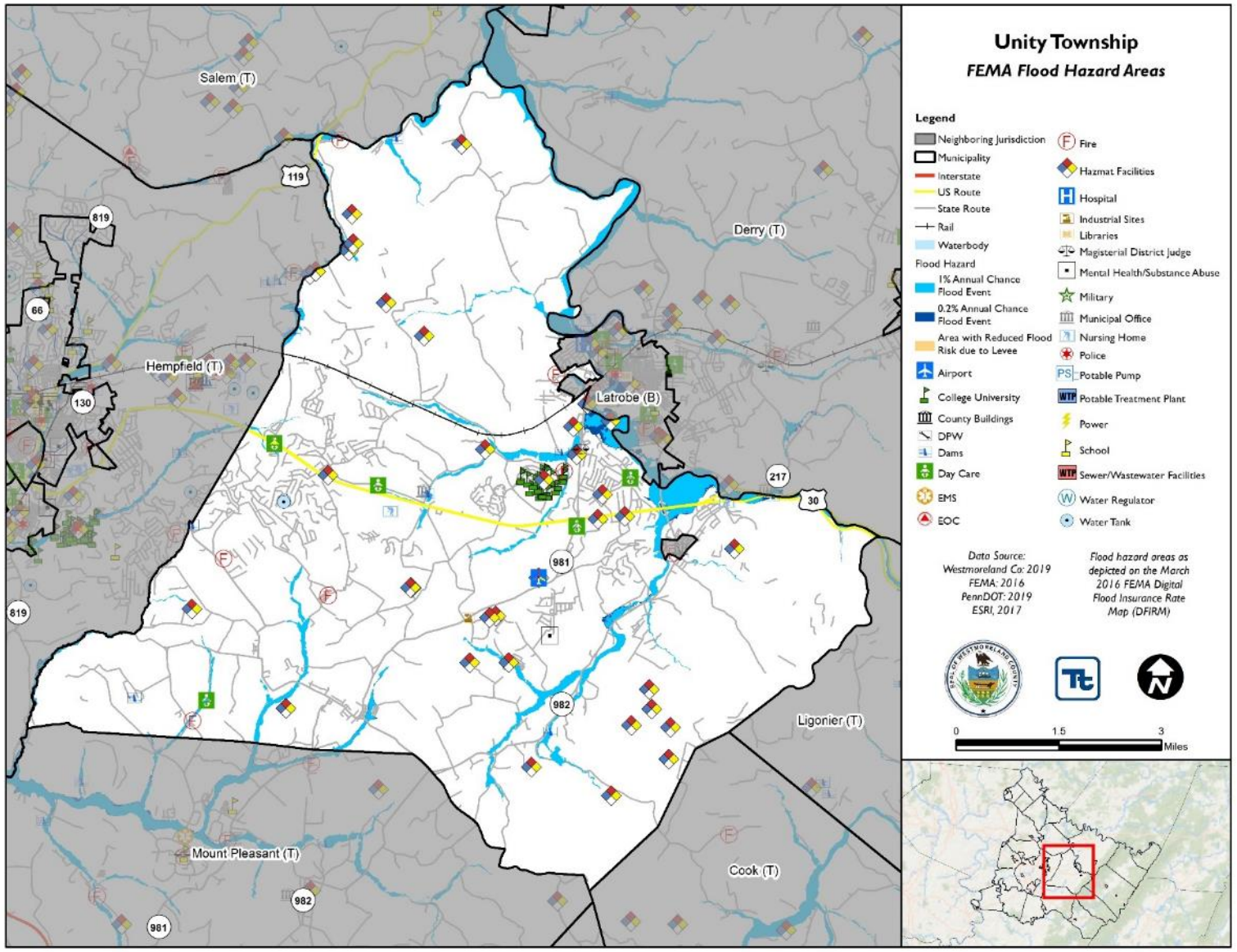


Figure 4.3.5-62. Upper Burrell Township Municipal Flood Map

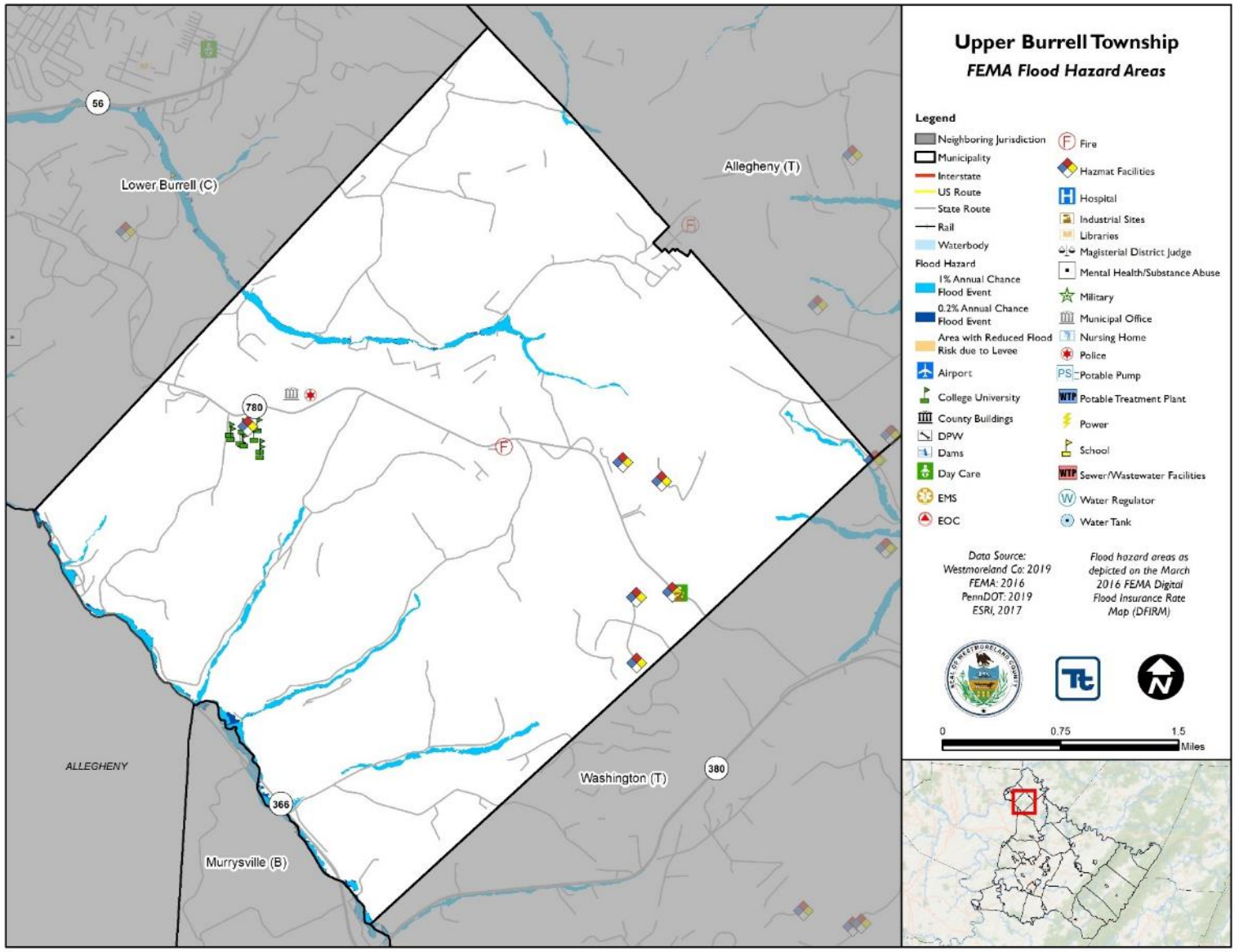


Figure 4.3.5-63. Vandergrift Borough Municipal Flood Map

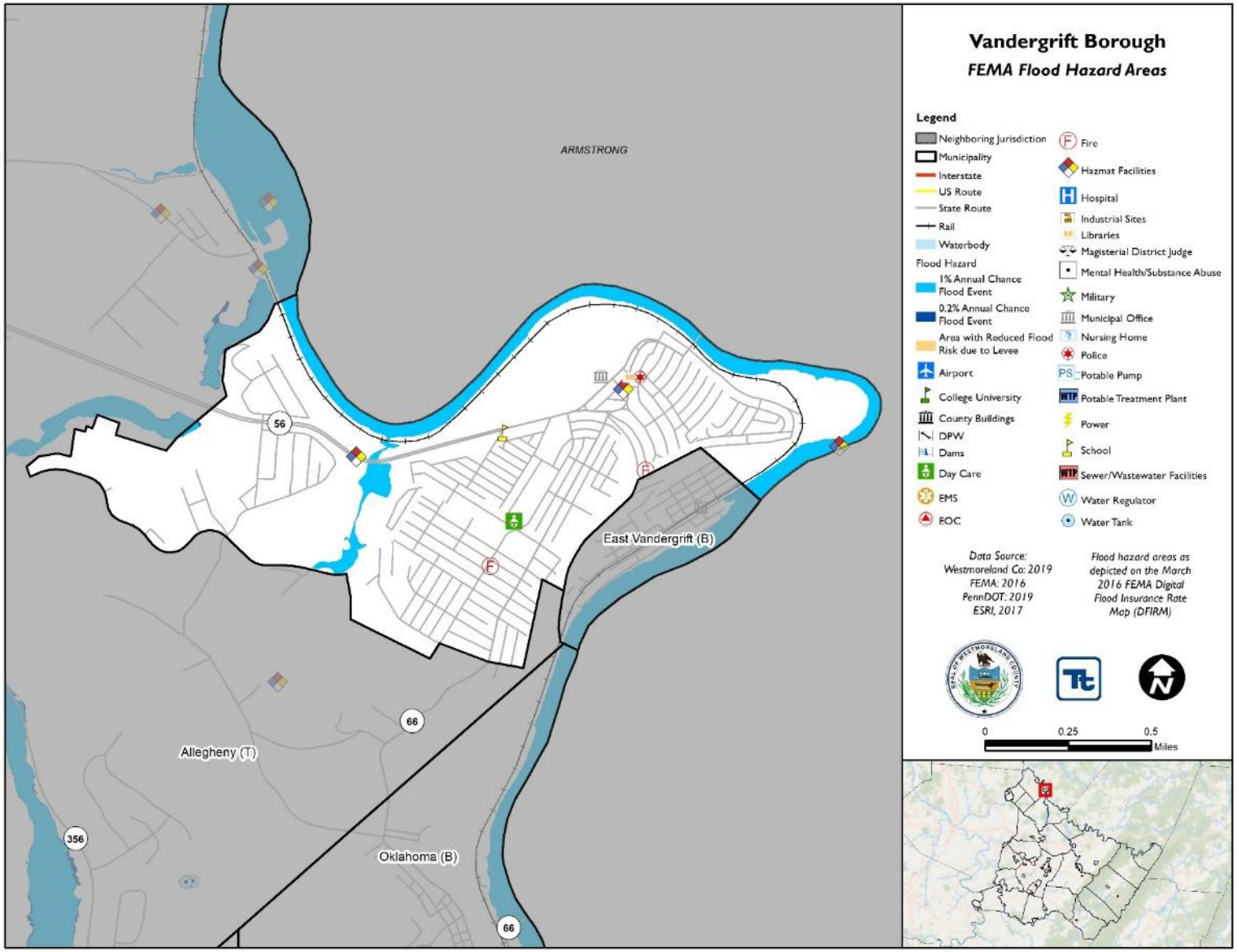


Figure 4.3.5-64. Washington Township Flood Map

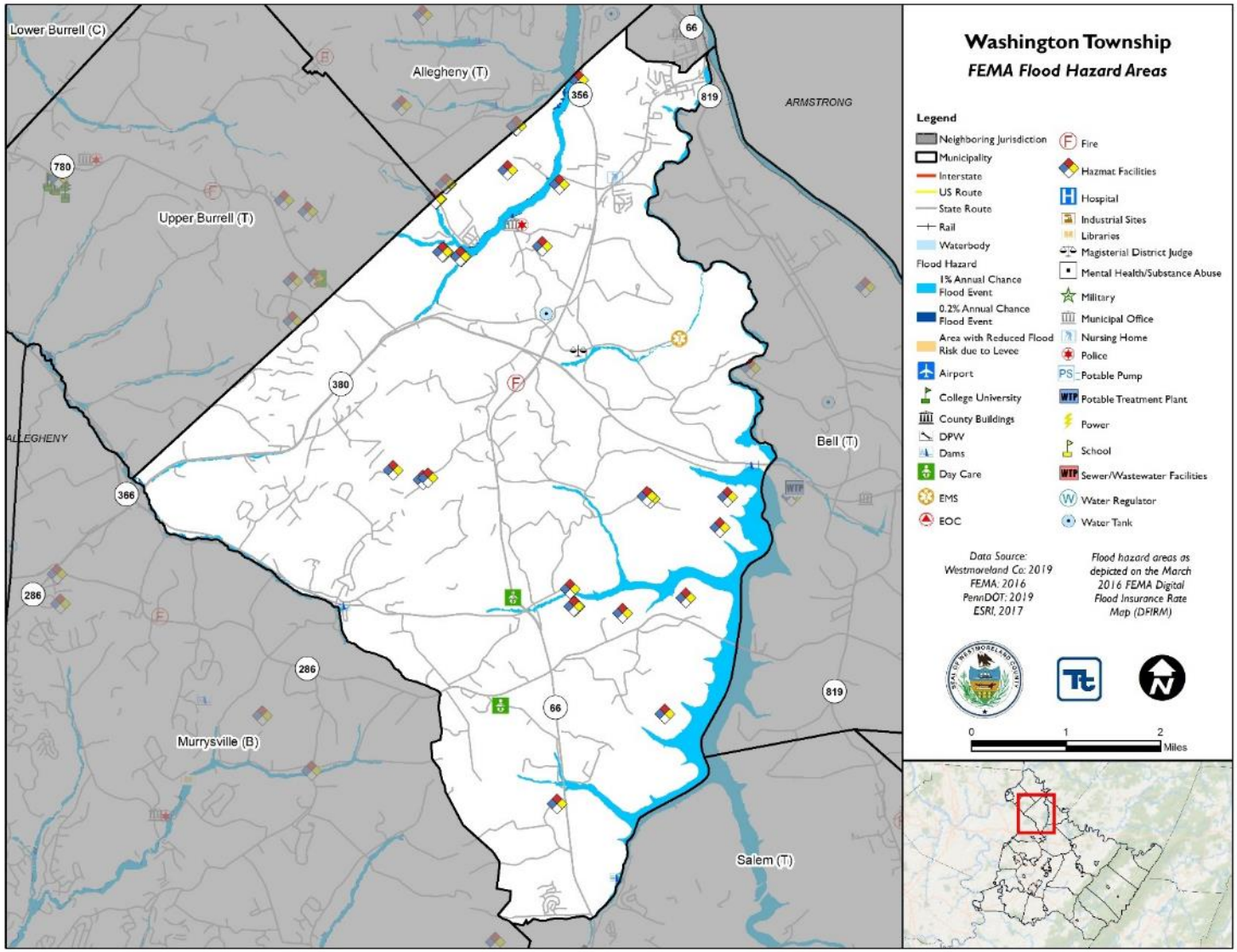


Figure 4.3.5-65. West Leechburg Borough Municipal Flood Map

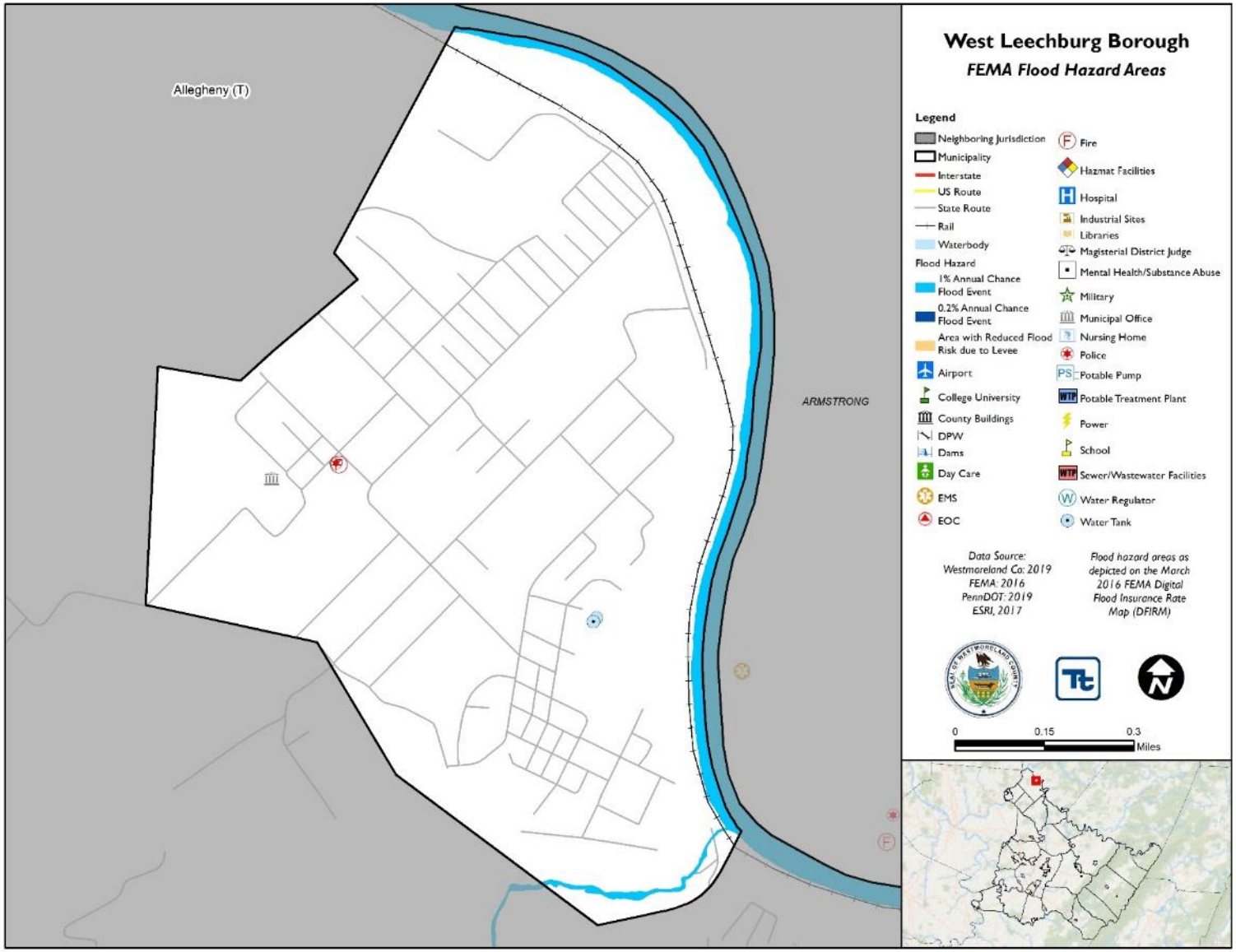


Figure 4.3.5-66. West Newton Borough Municipal Flood Map

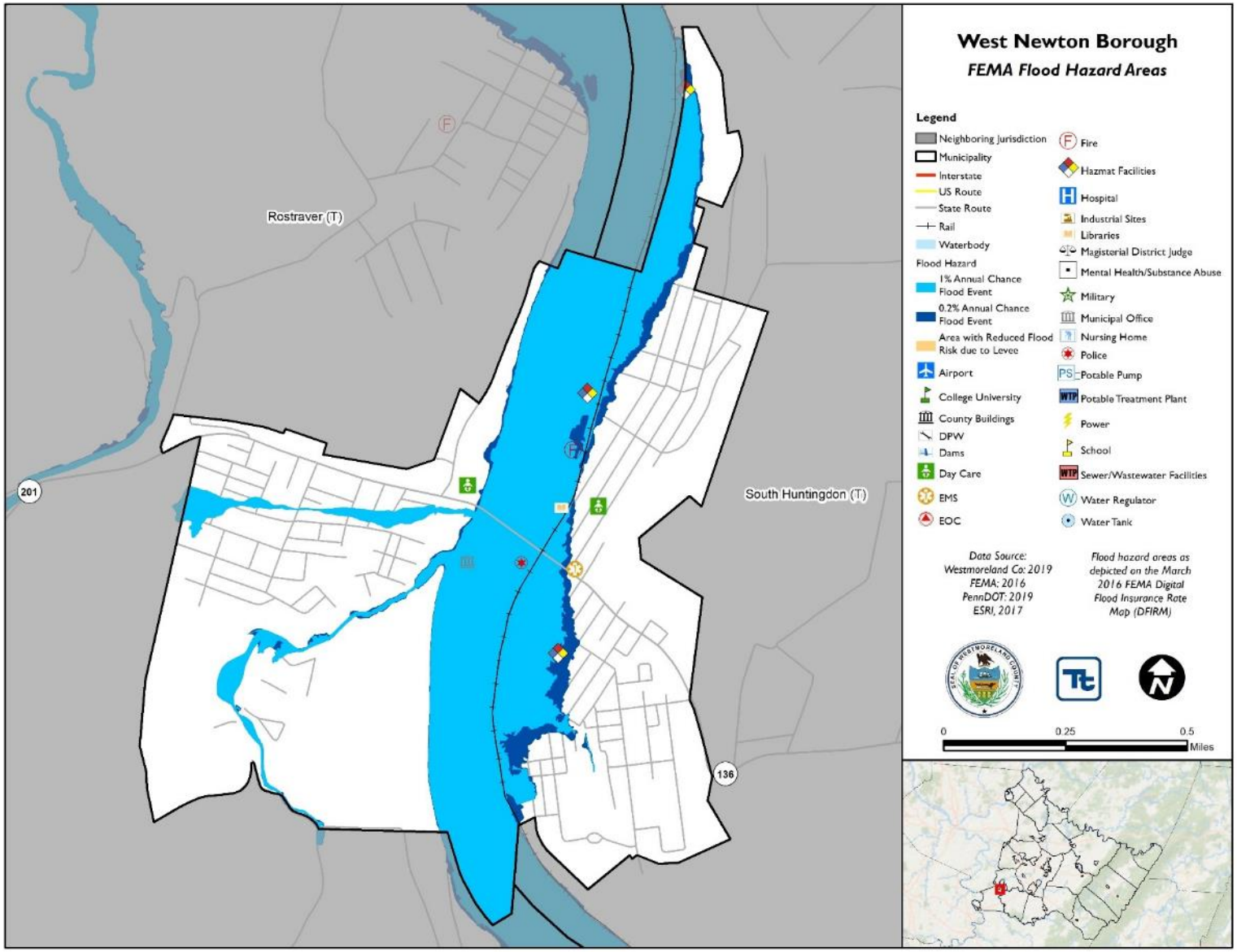


Figure 4.3.5-67. Youngstown Borough Municipal Flood Map

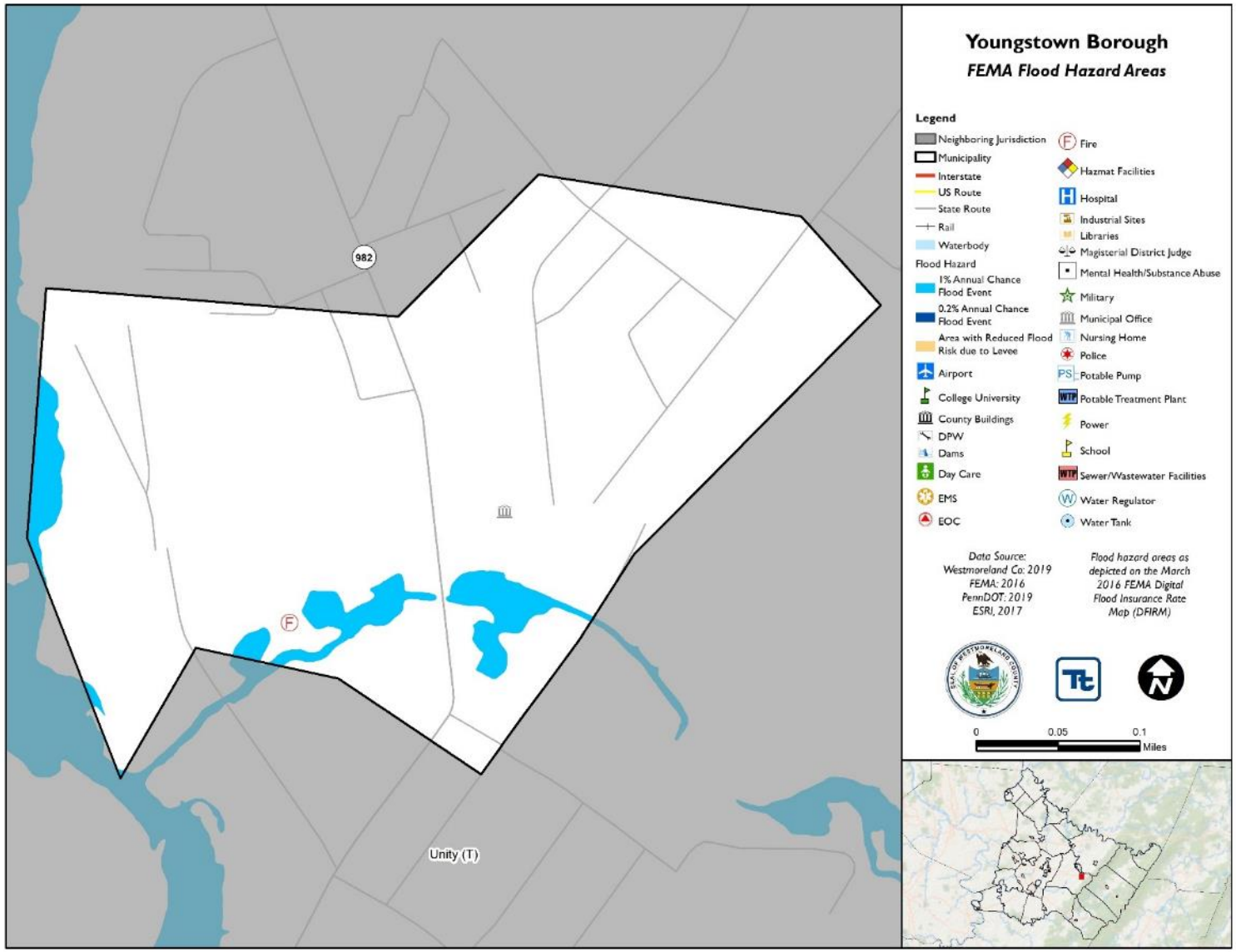
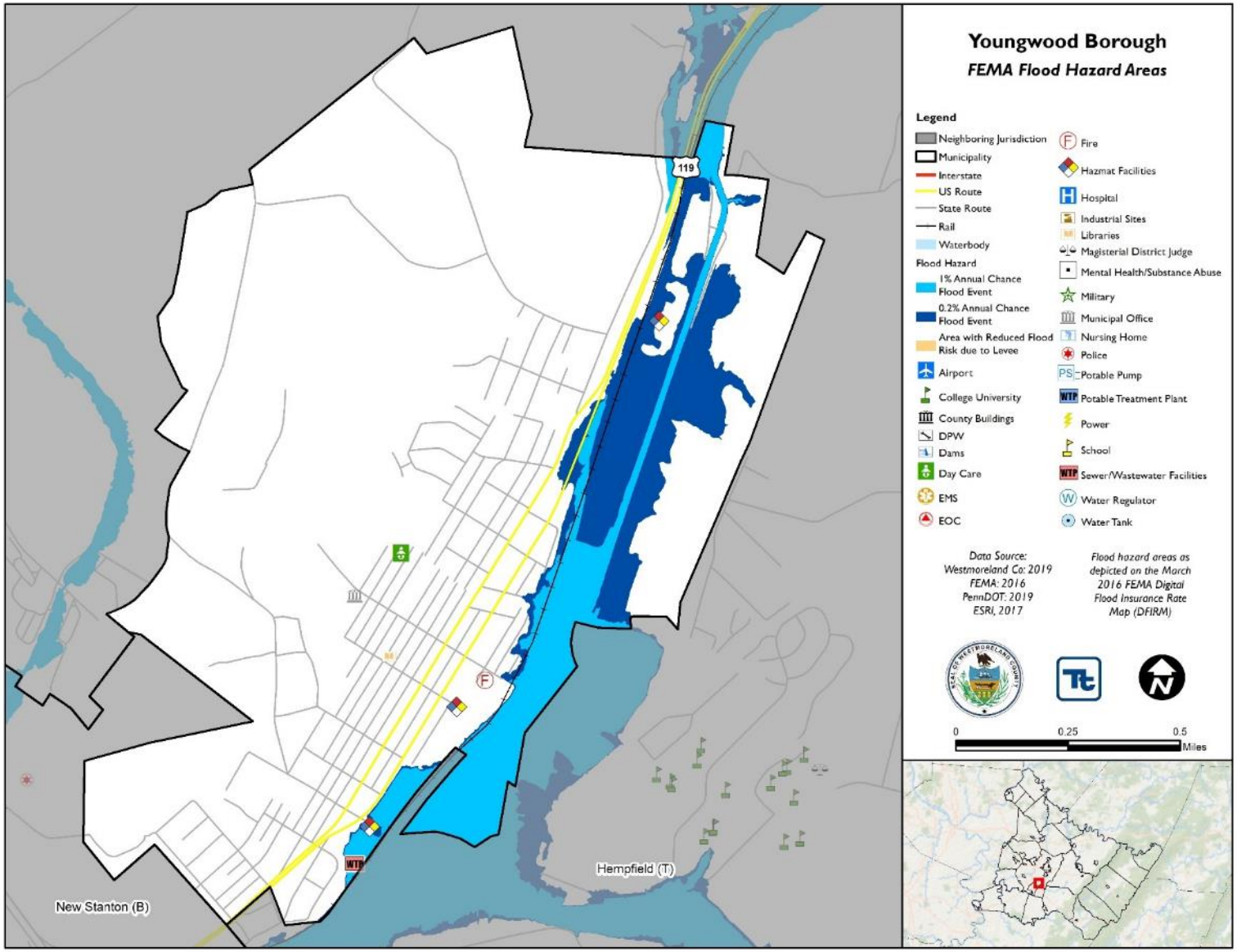


Figure 4.3.5-68. Youngwood Borough Municipal Flood Map



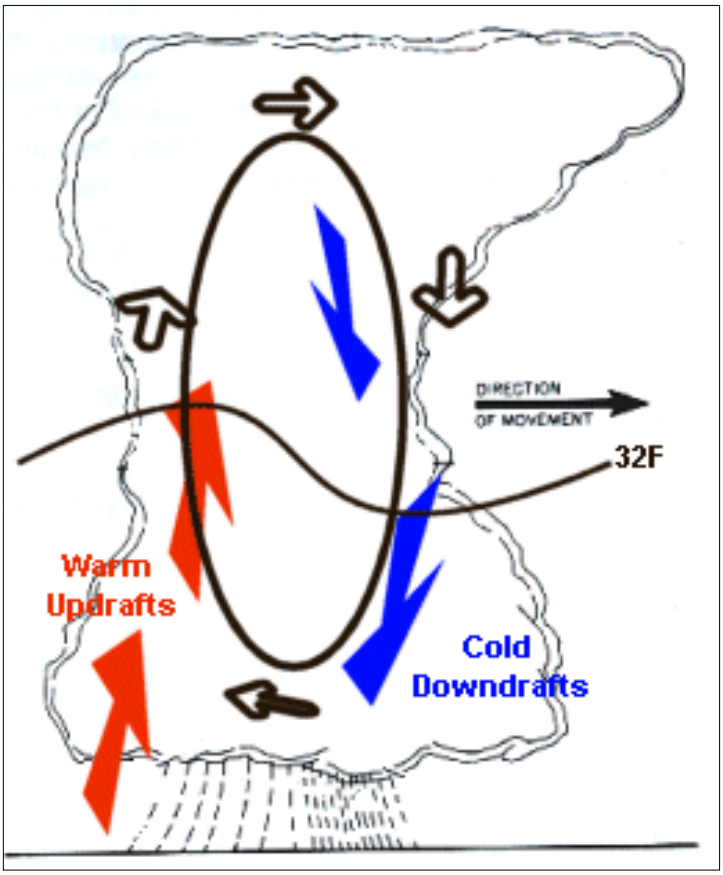
4.3.6 Hailstorm

This section describes the location and extent, range of magnitude, past occurrence, future occurrence, and vulnerability assessment for the hailstorm hazard for Westmoreland County.

A hailstorm is a storm accompanied by hail, which is precipitation in the form of small balls or lumps of clear ice or compact snow (Merriam Webster 2017). Hail forms inside a thunderstorm when strong updrafts of warm air and downdrafts of cold water are present. If a water droplet is picked up by the updrafts, it can be carried well above the freezing level. Water droplets freeze when temperatures reach 32°F or colder. As the frozen droplet begins to fall, it may thaw as it moves into warmer air toward the bottom of the thunderstorm. However, the droplet may be picked up again by another updraft, carried back into the cold air, and re-frozen. The frozen droplet adds another layer of ice with each trip above and below the freezing level. The frozen droplet, with many layers of ice, falls to the ground as hail. Most hail is small and typically less than 2 inches in diameter (National Weather Service [NWS] 2009). Figure 4.3.6-1 illustrates the process that occurs in hail formulation.

The size of hailstones is directly related to the size and severity of the storm. The higher the temperatures at the earth's surface, the greater the strength of the updrafts, and the greater the amount of time the hailstones are suspended, giving them more time to increase in size. Damage to crops and vehicles is typically the most significant impact of hailstorms.

Figure 4.3.6-1. Hail Formation

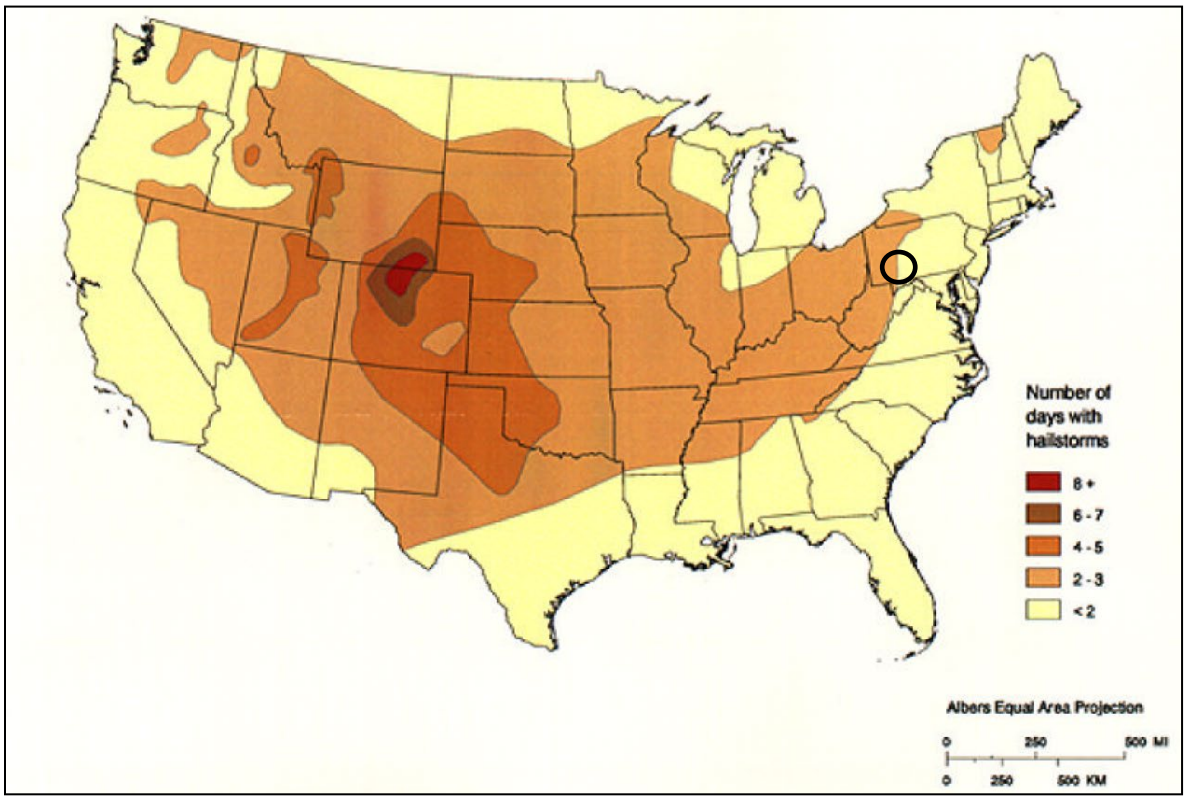


Source: National Oceanic and Atmospheric Administration (NOAA) 2012
°F degrees Fahrenheit

4.3.6.1 Location and Extent

Hail causes nearly $2 billion in crop and property damages, on average, each year in the United States. Hail occurs most frequently in states within the southern and central plains; however, hail damage is possible throughout the entire United States because hail may accompany a thunderstorm (Federal Alliance for Safe Homes 2013). As indicated on Figure 4.3.6-2, Westmoreland County experiences up to three hailstorms per year, on average.

Figure 4.3.6-2. Annual Frequency of Hailstorms in the U.S.



Source: Federal Emergency Management Agency (FEMA) 1997
Note: The black oval indicates the approximate location of Westmoreland County.

The National Oceanic and Atmospheric Administration's (NOAA) National Severe Storms Laboratory (NSSL) started a project to estimate the likelihood of severe weather hazards in the United States. "Severe thunderstorms" were defined as having one or more of the following characteristics: associated tornados, gusts at least 58 miles per hour (mph), or hail at least 0.75 inch in diameter.

4.3.6.2 Range of Magnitude

Hail can vary in size from less than 1 inch to several inches in diameter and can cause significant damage to crops and property. Damage depends on the size, duration, and intensity of hail precipitation. Individuals who do not seek shelter could face serious injury. Automobiles and aircraft are particularly susceptible to damage. Effects of other hazards associated with thunderstorms (strong winds, intense precipitation, and lightning) often occur concurrently because hail precipitation usually occurs during thunderstorms.

Westmoreland County has experienced hail ranging in size from 0.75 to 2.75 inches in diameter. No deaths or injuries due to hail have been recorded in the County. Westmoreland County's worst hailstorm occurred on April

4, 1984, when thunderstorms produced tennis ball-sized hail (National Centers for Environmental Information [NCEI] 2019).

Based on reports from NCEI and Westmoreland County residents, the worst-case scenario for a hailstorm would be a storm that dropped tennis ball-sized hail (the largest observed in the County). This hail would cause widespread damage to property and crops.

Hail can be produced during many different types of storms. Typically, hail occurs with thunderstorms. The size of hail is estimated by comparing it with a known object. During most hailstorms, hail is produced in a variety of sizes, and only the very largest hail stones pose serious risk to people who are exposed. Table 4.3.6-1 shows the various sizes of hail as compared to real-world objects.

Table 4.3.6-1. Hail Size

Size	Inches in Diameter	Updraft Speed (mph)
BB	<0.25	< 24
Pea	0.25	24
Marble	0.50	35
Dime	0.70	38
Penny	0.75	40
Nickel	0.88	46
Quarter	1.0	49
Half-dollar	1.25	54
Walnut	1.5	60
Golf Ball	1.75	64
Hen Egg	2.0	69
Tennis Ball	2.5	77
Baseball	2.75	81
Tea Cup	3.0	84
Grapefruit	4.0	98
Softball	4.5	103

Source: NWS, n.d.

4.3.6.3 Past Occurrence

Hailstorms occur as a routine part of severe weather in Westmoreland County. The potential for hail storms exists throughout the County, with a few minor incidents occurring each year. While the future occurrence of hailstorms in the County can be considered likely, Westmoreland County has a high potential for significant hail events based on previous records.

A hailstorm event is defined as a storm with hail that is 0.75 inch or greater in diameter. Previous versions of the State HMP found that approximately 96 percent of hailstorm events occurred during the months of April, May, June, July, August, and September. In addition, approximately 87 percent of historic events occurred during the afternoon or evening. Both of these results are consistent with the relationship between hail and thunderstorms, which most often occur during late spring, summer, and early fall months (Pennsylvania Emergency Management Agency [PEMA] 2018).

The NOAA-NCEI Storm Events database includes reports of hail appearing during storm incidents in Westmoreland County from 1950 to December 31, 2018, as shown in Figure 4.3.6-3. The database indicates that 237 separate reports were issued throughout the County from 1950 to 2018. Some reports specified different times of day or different localities regarding the same storm. According to these reports, Westmoreland County

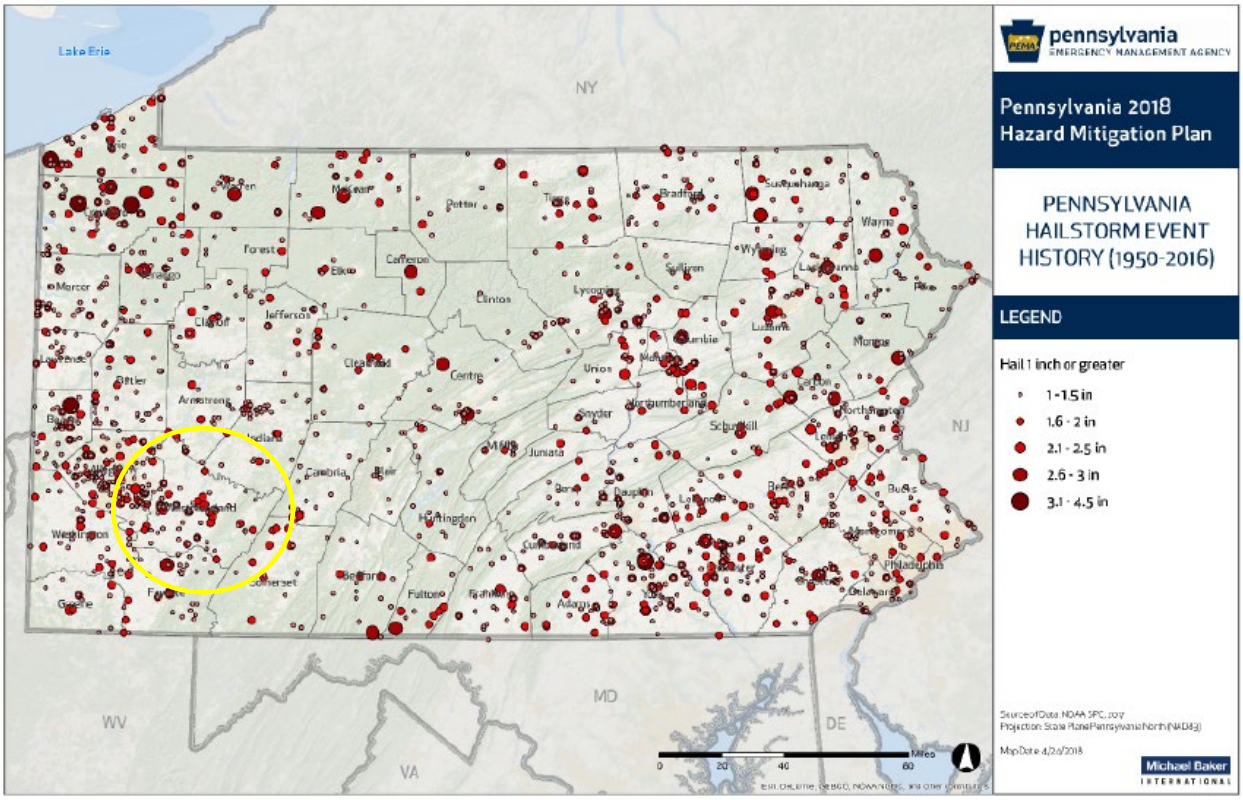
has experienced hail ranging in size from 0.75 inch to 2.50 inches in diameter, with no deaths, injuries, or property damages reported to NOAA. This information differs from U.S. Department of Agriculture (USDA) records. According to the U.S. Department of Agriculture (USDA) Risk Management Agency, hailstorm events that have occurred within Westmoreland County between 1989 and 2018 have resulted in $2,661.20 in crop insurance claims. The claims were submitted due to hail events from only 2 years, 2001 and 2005 (USDA 2019).

Pennsylvania has never received a federal disaster declaration because of a hail event. In the Pennsylvania Disaster History events list maintained by PEMA, Pennsylvania has experienced only three noteworthy hail events, none of which affected Westmoreland County. Only two of these events were eligible for Small Business Administration (SBA) Economic Injury benefits, while the third was not eligible for any recovery actions.

4.3.6.4 Future Occurrence

The formation of a hailstorm is not possible to predict with more than a few days' lead time. The past occurrences described above, however, indicate that hailstorm events in Westmoreland County probably will occur every year throughout the months of May through September. Figure 4.3.6-3 below shows the number of hail events across Pennsylvania from 1950-2016.

Figure 4.3.6-3. Hail Events in Pennsylvania (1950-2016)



Source: PEMA 2018

Note: The yellow oval indicates the location of Westmoreland County.

Future occurrences of hailstorms can be considered *highly likely* as defined by the Risk Factor Methodology probability criteria (further discussed in Section 4.4).

4.3.6.5 Vulnerability Assessment

To understand risk, a community must evaluate the assets that are exposed or vulnerable within the identified hazard area. Regarding hail events, the entire County has been identified as the hazard area. Therefore, all assets in Westmoreland County (population, structures, critical facilities, and lifelines), as described in the County Profile (Section 2), are vulnerable. This section evaluates and estimates the potential impact of hailstorm events on the County in the following sections:

- Overview of vulnerability
- Impacts on: (1) life, health, and safety of residents; (2) general building stock, critical facilities, and economy; (3) the environment; and (4) future growth and development
- Effect of climate change on vulnerability
- Collection of further data that will assist in understanding this hazard

Overview of Vulnerability

The entire County, including all critical infrastructure, is vulnerable to the effects of hail, as the storm cells that produce this hazard can develop over any part of the region. The area of damage caused by these storms is relatively small because a single storm does not cause widespread devastation, but may cause damage within a focused area.

Hail can cause serious damage to automobiles, aircraft, skylights, livestock, and crops. Areas of the County with large amounts of farmland and high agricultural yields are more likely to be affected by hailstorm hazards.

Impact on Life, Health, and Safety

The entire population of the County is considered exposed to the hail hazard. People outdoors (for example, pursuing recreational activities and farming) are considered most vulnerable to the hazard because they ordinarily would receive little to no warning, and shelter may not be available to them. Moving to a lower-risk location decreases a person's vulnerability.

Impact on General Building Stock, Critical Facilities, and the Economy

Hailstorms primarily affect agricultural products. The facilities most vulnerable to hailstorm threats are food- and agriculture-related producers and manufacturers. These facilities are present within both urban and rural areas and would be directly or indirectly affected by a hailstorm event. According to the Pennsylvania HMP (PEMA 2018), Westmoreland County has 251,478 people and 112,370 structures valued at $29,548,682 vulnerable to hailstorms. Number of structures and structural value for the 2018 Pennsylvania HMP are based on HAZUS-MH v4.0 values.

As discussed above in Section 4.3.6.3 (Past Occurrence), Westmoreland County has not experienced historical hailstorm property damage and significant crop damage ($0 in property damage claims [per NCEI records] and $2,661.20 in USDA crop damage claims [per USDA records, which differ from the NCEI records]). However, given the unpredictability of hailstorms, significant property and crop damage is possible during any hailstorm event. Jurisdictional loss estimation is based on lost agricultural revenues throughout the County. The USDA Census of Agriculture enumerates farmland acreage by county, as well as the annual market value of all agricultural products sold by county, from year 2017. If a hailstorm would eliminate the entire agricultural yield in Westmoreland County, total losses on the County's 144,278 acres of farmland could reach over $66 million.

Impact on the Environment

Damage to trees, shrubbery, and other vegetation may occur during hailstorm events through defoliation. Unless there are compounding stresses, natural vegetation can typically recover over time following the event. However, crops such as corn and soybeans can be damaged to the point of total loss, particularly if an event occurs later in the growing season (PEMA 2018).

Future Growth and Development

Areas targeted for potential future growth and development within the next 5 to 10 years have been identified across Westmoreland County, and are further discussed in Section 2.4 of this HMP. New developments and new residents are expected to be exposed to the hailstorm hazard in the future.

Effect of Climate Change on Vulnerability

The definition of "climate" is not restricted to average temperature and precipitation, but also includes type, frequency, and intensity of weather events. On both global and local scales, climate change could alter the prevalence and severity of extremes such as hailstorms. While predicting changes of storm events under a changing climate is difficult, understanding vulnerabilities to potential changes is a critical part of estimating effects of future climate change on human health, society, and the environment (U.S. Environmental Protection Agency [EPA] 2006).

As directed by the Climate Change Act (Act 70 of 2008), Pennsylvania's Department of Environmental Protection (PADEP) initiated a study of potential impacts of global climate change on the Commonwealth. The June 2009 Pennsylvania Climate Impact Assessment's main findings indicate likelihood that Pennsylvania will undergo increased temperatures in the 21st century. An increase in variability of temperature and precipitation may well lead to increased frequency and severity of hailstorm events. Future improvements in modeling smaller-scale climatic processes such as thunderstorms and associated hailstorms can be expected and will lead to improved understanding of the ways in which the changing climate will alter storms, such as hailstorm events, in Pennsylvania (Shortle et al. 2009).

Additional Data and Next Steps

The assessment above identifies vulnerable populations and potential structural and economic losses associated with this hazard of concern. Collection of additional information and actual loss data specific to the plan participants will further enhance Westmoreland County's vulnerability assessment.

4.3.7 Hurricane and Tropical Storm

The following section provides the hazard profile (hazard description, location, extent, previous occurrences and losses, probability of future occurrences, and impact of climate change) and vulnerability assessment for the hurricane and tropical storm hazard in Westmoreland County.

Hurricanes and Tropical Storm

Tropical cyclones are fueled by a different heat mechanism than other cyclonic windstorms, such as Nor'easters and polar lows. The characteristic that separates tropical storms from other cyclonic systems is that at any height in the atmosphere, the center of a tropical storm will be warmer than its surroundings, a phenomenon called *warm core* storm systems (NOAA 2013). Tropical cyclones strengthen when water evaporated from the ocean is released as the saturated air rises, resulting in condensation of water vapor contained in the moist air. Tropical cyclones begin as disturbed areas of weather, often referred to as tropical waves. As the storm organizes, it is designated as a tropical depression.

A tropical storm system is characterized by a low-pressure center and numerous thunderstorms that produce strong winds of 39 to 73 mph and heavy rain. A hurricane is a tropical storm that attains hurricane status when its wind speed reaches 74 mph or higher. Tropical systems can develop in the Atlantic between the Lesser Antilles and the African coast or in the warm tropical waters of the Caribbean Sea and Gulf of Mexico. These storms can move up the Atlantic coast of the United States, impacting the eastern seaboard, or move into the United States through the states along the Gulf Coast, bringing wind and rain as far north as New England before moving eastward offshore.

Despite that Westmoreland County is an inland county, the impacts of hurricanes and tropical storms can impact the county. Hurricanes and tropical storms can impact Westmoreland County from June to November, the official Atlantic hurricane season (NHC 2019).

4.3.7.1 Location and Extent

Westmoreland County is not located along the Atlantic Coast, but hurricanes and tropical storms can track inland, bringing heavy rainfall, strong winds, and flooding. These storms are regional events that can impact very large areas hundreds to thousands of miles across over the life the storm. Therefore, all communities within Westmoreland County are equally subject to the impacts of hurricanes and tropical storms. Areas in Westmoreland County that are subject to flooding and wind damage are particularly vulnerable.

Tropical Storm and Hurricane Tracks

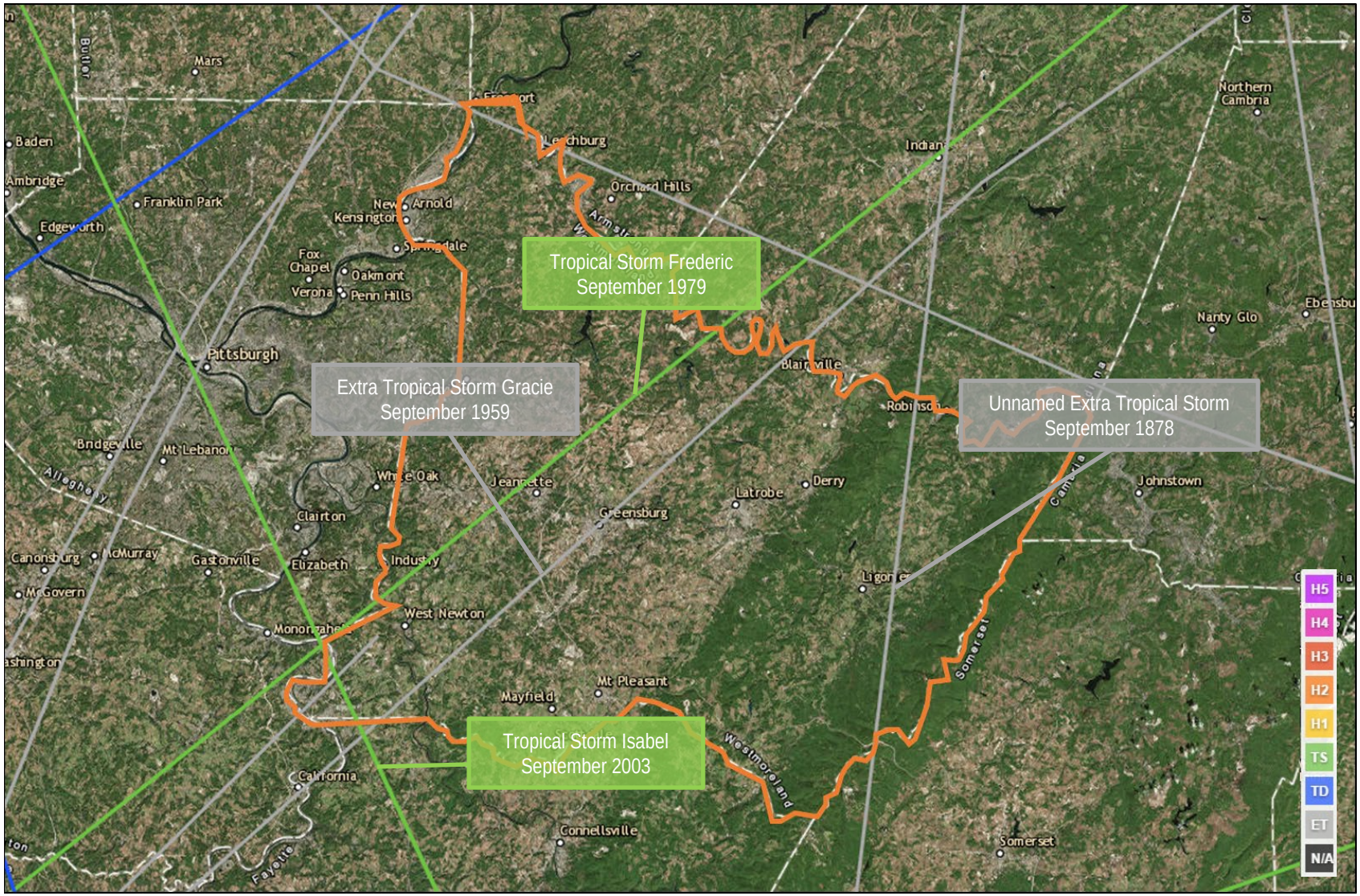
NOAA's Historical Hurricane Tracks tool is a public interactive mapping application that displays Atlantic Basin and East-Central Pacific Basin tropical cyclone data. This interactive tool catalogs tropical cyclones that have occurred from 1842 to 2017 (latest date available from data source). Between 1842 and 2017, 13 events classified as either a hurricane, tropical storm, tropical depression, or extra tropical storm tracked within 65 nautical miles of Westmoreland County. Figure 4.3.7-1 displays tropical cyclone tracks for Westmoreland County that tracked with 65 nautical miles between 1842 and 2017. While some events are not shown on this figure, those events did not occur within 65 nautical miles of the county. However, these events could have severely impacted the county with strong winds, power outages, and other damage. The "Previous Events and Losses" section provides further information regarding hurricane and tropical storm events that impacted Westmoreland County.

NWS issues hurricane and tropical storm watches and warnings. These watches and warnings are issued or will remain in effect after a tropical cyclone becomes post-tropical when such a storm poses a significant threat to

life and property. The NWS allows the NHC to issue advisories during the post-tropical stage. The following are the definitions of the watches and warnings:

- *Hurricane/Typhoon Warning* is issued when sustained winds of 74 mph or higher are expected somewhere within the specified area in association with a tropical, subtropical, or post-tropical cyclone. Because hurricane preparedness activities become difficult once winds reach tropical storm force, the warning is issued 36 hours in advance of the anticipated onset of tropical storm-force winds. The warning can remain in effect when dangerously high water or combination of dangerously high water and waves continue, even though winds may be less than hurricane force.
- *Hurricane Watch* is issued when sustained winds of 74 mph or higher are possible within the specified area in association with a tropical, subtropical, or post-tropical cyclone. Because hurricane preparedness activities become difficult once winds reach tropical storm force, the hurricane watch is issued 48 hours prior to the anticipated onset of tropical storm-force winds.
- *Tropical Storm Warning* is issued when sustained winds of 39 to 73 mph are expected somewhere within the specified area within 36 hours in association with a tropical, subtropical, or post-tropical storm.
- *Tropical Storm Watch* is issued when sustained winds of 39 to 73 mph are possible within the specified area within 48 hours in association with a tropical, sub-tropical, or post-tropical storm (NWS 2019).

Figure 4.3.7-1. Historical Tropical Storm and Hurricane Tracks 1878 to 2018

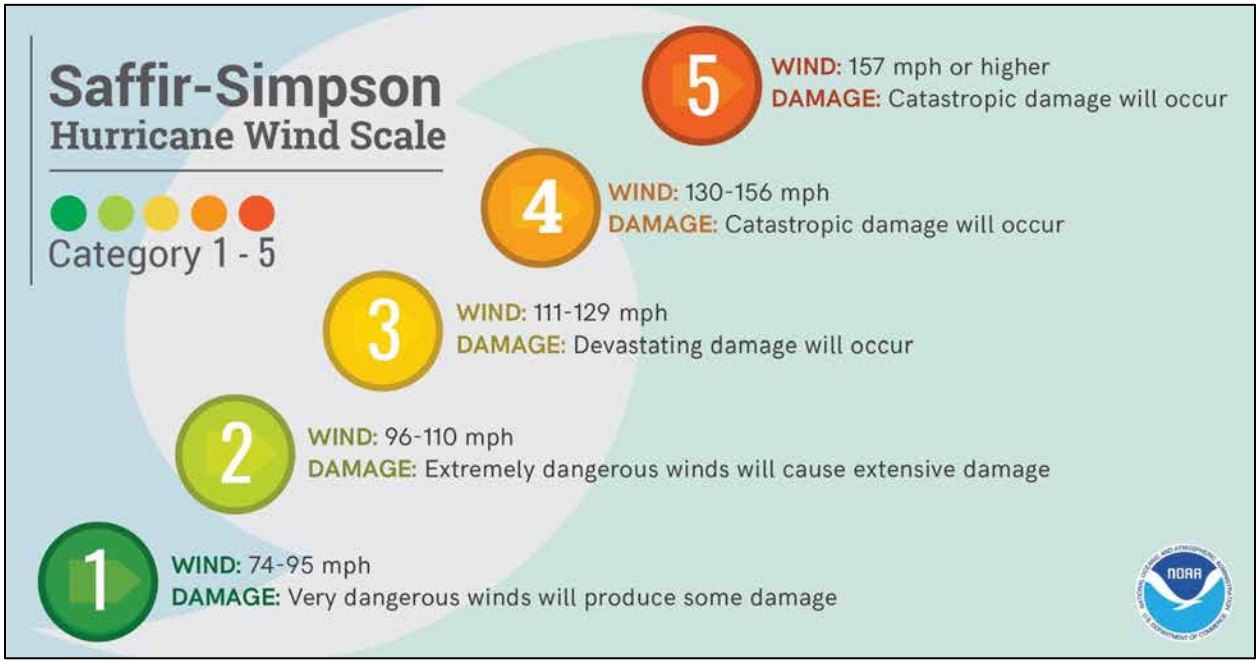


Source: *NOAA 2019*
Note: *Westmoreland County is outlined in orange.*

4.3.7.2 Range of Magnitude

The extent of a hurricane or tropical storm is commonly categorized in accordance with the Saffir-Simpson Hurricane Wind Scale, which assigns a designation of tropical storm for storms with sustained wind speeds below 74 mph and a hurricane category rating of 1–5 based on a hurricane's increasing sustained wind speed. This scale estimates potential property damage. Hurricanes reaching Category 3 and higher are considered *major hurricanes* because of their potential for significant loss of life and damage. Tropical Storms and Category 1 and 2 storms are still dangerous and require preventative measures (NOAA 2013). Figure 4.3.7-2 presents this scale, which is used to estimate the potential property damage and flooding expected when a hurricane makes landfall.

Figure 4.3.7-2. The Saffir-Simpson Scale

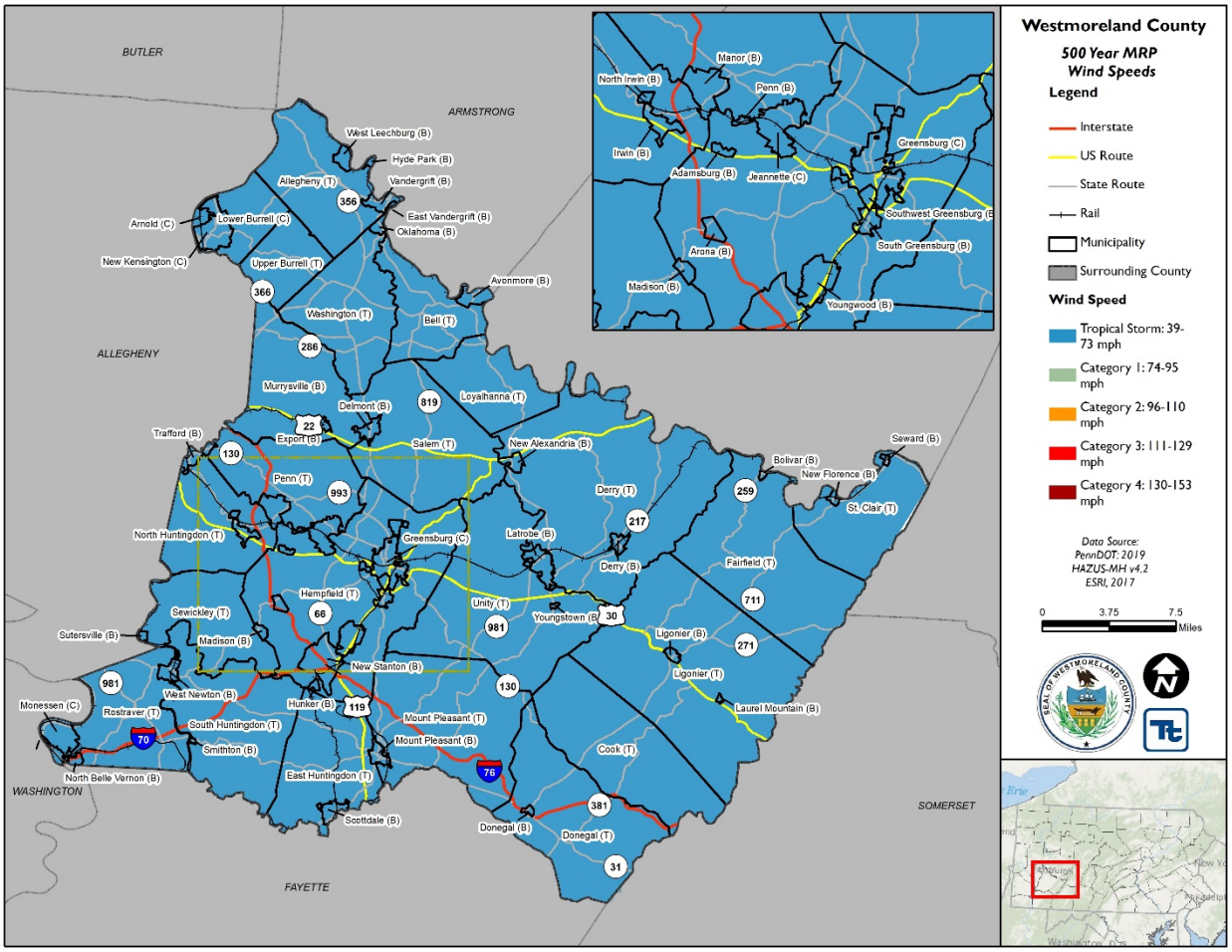


Source: Disaster Readiness Portal 2017

Mean Return Period

Peak wind speed projections were generated using HAZUS-MH v4.2. HAZUS-MH v4.2 estimated the maximum 3-second gust wind speeds for Westmoreland County to be below 39 mph for the 100-year MRP event and not strong enough to be considered a tropical storm. The maximum 3-second gust wind speeds for Westmoreland County range from 54 to 65 mph for the 500-year MRP event (tropical storm). HAZUS-MH v4.2 did not generate the hurricane track for the 100- and 500-year probabilistic events. The associated impacts and losses from the 500-year MRP hurricane event model run is reported in the Vulnerability Assessment. Figure 4.3.7-3. shows the estimated maximum 3-second gust wind speeds that can be anticipated in the study area associated with the 500-year MRP events.

Figure 4.3.7-3. Wind Speeds for the 500-Year Mean Return Period Event



4.3.7.3 Past Occurrence

According to the NWS, remnants of 58 recorded storms have impacted western Pennsylvania, including Westmoreland County (NWS 2018). Between 1954 and 2019, Pennsylvania was included in 14 FEMA declared hurricane/tropical storm-related major disaster declaration (DR) or emergency (EM) classified as one or a combination of the following hazards: tropical storm, hurricane, tropical depression, flash flooding, severe storms, and flooding. Of those declarations, Westmoreland County was included 5 of the declarations (FEMA 2019).

Table 4.3.7-1. Hurricane/Tropical Storm-Related FEMA Declarations for Westmoreland County, 1954 to 2019

FEMA Declaration Number	Date(s) of Event	Event Type	Details
DR-340	June 23, 1972	Flood	Tropical Storm Agnes
DR-1555	September 8–9, 2004	Severe Storm	Severe Storms and Flooding associated with Tropical Depression Frances
DR-1557	September 17–October 1, 2004	Hurricane	Tropical Depression Ivan

FEMA Declaration Number	Date(s) of Event	Event Type	Details
EM-3235	August 29–October 1, 2005	Hurricane	Hurricane Katrina
EM-3356	October 26–November 8, 2012	Hurricane	Hurricane Sandy

Source: FEMA 2019

For this 2019 HMP update, hurricane and tropical storms events, including FEMA disaster declarations that impacted Westmoreland County, are identified in Table 4.3.7-2. Because documentation for these types of events is so extensive, not all sources have been identified or researched. Therefore, Table 4.3.7-2 may not include all events that occurred throughout the county.

Table 4.3.7-2. Tropical Cyclone Events Impacting Westmoreland County, PA

Date(s) of Event	Event Type	FEMA Declaration Number (if applicable)	County Designated?	Event Details
September 17, 1876	Hurricane #2	N/A	No	3.38 inches of rain reported
September 12, 1878	Hurricane #5	N/A	No	3.24 inches of rain reported
September 13, 1883	Hurricane #3	N/A	No	Losses and damages in Westmoreland County were not identified for this event.
October 13-14, 1885	TS #8	N/A	No	Losses and damages in Westmoreland County were not identified for this event.
August 21, 1888	Hurricane #3	N/A	No	3.57 inches of rain reported
October 31, 1899	Hurricane #6	N/A	No	1.22 inches of rain reported
September 14, 1892	TS #4	N/A	No	Losses and damages in Westmoreland County were not identified for this event.
August 29, 1893	Hurricane #6	N/A	No	Losses and damages in Westmoreland County were not identified for this event.
October 14, 1893	Hurricane #9	N/A	No	Losses and damages in Westmoreland County were not identified for this event.
October 23, 1893	TS #11	N/A	No	Losses and damages in Westmoreland County were not identified for this event.
July 9, 1896	Hurricane #1	N/A	No	Losses and damages in Westmoreland County were not identified for this event.
September 30, 1896	Hurricane #4	N/A	No	Losses and damages in Westmoreland County were not identified for this event.
September 29, 1901	TS #8	N/A	No	Losses and damages in Westmoreland County were not identified for this event.
September 16-17, 1903	Hurricane #4	N/A	No	Losses and damages in Westmoreland County were not identified for this event.
July 1-2, 1915	TS #1	N/A	No	1.05 inches of rain reported
October 1, 1915	Hurricane #5	N/A	No	1.5 inches of rain reported
October 23-24, 1923	TS #4	N/A	No	0.65 inches of rain reported
August 17-18, 1928	Hurricane #2	N/A	No	0.27 inches of rain reported
September 19-20, 1928	Hurricane #4	N/A	No	0.88 inches of rain reported
October 2, 1929	Hurricane #2	N/A	No	3.22 inches of rain reported
August 24, 1933	Hurricane #8	N/A	No	0.19 inches of rain reported
June 18, 1934	Hurricane #2	N/A	No	1.56 inches of rain reported
August 17-20, 1939	Hurricane #2	N/A	No	0.33 inches of rain reported
September 13-14, 1945	Hurricane #9	N/A	No	1.28(24hr) / 1.77(total)
August 28-29, 1949	Hurricane #2	N/A	No	0.54 inches of rain reported
September 1-2, 1952	Able	N/A	No	0.1 inches of rain reported
October 15, 1954	Hazel	N/A	No	3.56 inches of rain reported

Date(s) of Event	Event Type	FEMA Declaration Number (if applicable)	County Designated?	Event Details
August 13, 1955	Connie	N/A	No	1.93 inches of rain reported
June 28-30, 1957	Audrey	N/A	No	1.3 inches of rain reported
September 30-October 1, 1959	Gracie	N/A	No	1.18(24hr)/ 1.21(total)
September 11-13, 1965	Betsy	N/A	No	1.8 inches of rain reported
June 24-27, 1968	TS Candy	N/A	No	1.52 inches of rain reported
June 20-25, 1972	Agnes	DR-340	Yes	2.6 inches of rain reported
July 9-10, 1979	Bob	N/A	No	0.36 inches of rain reported
July 28-29, 1979	TS Claudette	N/A	No	0.77 inches of rain reported
September 5-6, 1979	David	N/A	No	0.13 inches of rain reported
September 10-12, 1979	Frederic	N/A	No	1.86 inches of rain reported
October 8, 1985	Gloria	DR-745	No	Losses and damages in Westmoreland County were not identified for this event.
August 28-29, 1988	TS Chris	N/A	No	0.74 inches of rain reported
September 22-23, 1989	Hugo	N/A	No	1.49 (t) snow
September 25-27, 1992	TS Danielle	N/A	No	0.29 inches of rain reported
August 18-19, 1994	TS Beryl	N/A	No	0.34 inches of rain reported
August 4-5, 1995	Erin	N/A	No	1.14 inches of rain reported
October 3-6, 1995	Opal	N/A	No	1.42 inches of rain reported
September 6-7, 1996	Fran	DR-1138	No	1.52(24hr)/ 1.69(total)
September 7, 1999	Dennis	DR-1298	No	0.33 inches of rain reported
September 20-21, 2000	Gordon	N/A	No	0.39 inches of rain reported
September 26-27, 2002	Isidore	N/A	No	2.29 inches of rain reported
September 18-19, 2003	Isabel	DR-1497	No	1.24 inches of rain reported
September 8-9, 2004	Frances	DR-1555	Yes	3.60(24hr)/ 3.83(total)
September 17, 2004	Ivan	DR-1557	Yes	5.95 inches of rain reported
August 29-31, 2005	Katrina	EM-3235	Yes	1.93 inches of rain reported
October 7-8, 2005	TS Tammy	N/A	No	0.71 inches of rain reported
September 1-2, 2006	TS Ernesto	N/A	No	0.57 inches of rain reported
June 3-4, 2007	TS Barry	N/A	No	0.28 inches of rain reported

Date(s) of Event	Event Type	FEMA Declaration Number (if applicable)	County Designated?	Event Details
August 27-28, 2008	TS Fay	N/A	No	0.9 inches of rain reported
August 26, 2011	Irene	DR-4025 EM-3339	No	Losses and/or damages in Westmoreland County were not identified for this event.
September 8, 2011	TS Lee	DR-4030 EM-3340	No	Losses and/or damages in Westmoreland County were not identified for this event.
October 26, 2012	Post-TS Sandy	DR-4099 EM-3356	No Yes	Losses and/or damages in Westmoreland County were not identified for this event.
October 8-9, 2017	Hurricane Nate	N/A	No	0.97 inches of rain reported in western Pennsylvania
September 7-10, 2018	Tropical Storm Gordon	N/A	No	Tropical Storm Gordon brought three days of heavy rain over southwestern Pennsylvania. Rainfall totals ranged from two inches to over seven inches, with 5.64 inches of rain reported in Pittsburgh. Disaster declarations were declared for Allegheny and Westmoreland Counties. In Westmoreland County, 6.83 inches of rain was recorded in 72 hours. This led to road closures, cars stuck in high water,
September 17-18, 2018	Hurricane Florence	N/A	No	0.91 inches of rain reported in western Pennsylvania.

Sources: Westmoreland County HMP 2015; NOAA-NCEI 2019; NWS 2018; FEMA 2019

DR Federal Disaster Declaration
EM Emergency Management
EMA Emergency Management Agency
FEMA Federal Emergency Management Agency
NCEI National Centers for Environmental Information
NOAA National Oceanic Atmospheric Administration
N/A Not applicable / not available

4.3.7.4 Future Occurrence

For the 2019 HMP update, the most up-to-date data was collected to calculate the probability of future occurrence of hurricane and tropical storms events for Westmoreland County. Information from NOAA-NCEI storm events database, FEMA, and a NOAA Historical Hurricane Tracks search were used to identify the number of events that occurred between 1950 and 2018. Using these sources ensures the most accurate probability estimates possible. The table below shows these statistics, as well as the annual average number of events and the estimate percent chance of an incident occurring in a given year.

Table 4.3.7-3. Probability of Future Hurricane and tropical storm Events

Hazard Type	Number of Occurrences Between 1950 and 2018	Recurrence Interval (in years) (# Years/Number of Events)	Percent chance of occurrence in any given year
Extra-Tropical Storms	5	13.80	7.25
Tropical Depression	3	23.00	4.35
Tropical Storm	3	23.00	4.35
Hurricanes (all categories)	1	69.00	1.45

Source: NHC 2019; NOAA-NCEI 2019; FEMA 2019

It is estimated that Westmoreland County will continue to experience direct and indirect impacts of hurricanes, and tropical storms annually that can induce secondary hazards, such as flooding, extreme wind, infrastructure deterioration or failure, utility failures, power outages, water quality and supply concerns, and transportation delays, accidents, and inconveniences. Therefore the future occurrence of hurricanes and tropical storms in Westmoreland County can be characterized as *possible*, as defined by the Risk Factor Methodology probability criteria, as provided in Table 4.4-1.

4.3.7.5 Vulnerability Assessment

To understand risk, a community must evaluate assets exposed and vulnerable within the identified hazard area. The following section discusses potential impacts of the hurricane and windstorm hazard on Westmoreland County, including:

- Impacts on (1) life, health, and safety; (2) general building stock and critical facilities; (3) the economy; (4) the environment; and (5) future growth and development.
- Effects of climate change on vulnerability.
- Further data collections that will assist in understanding this hazard over time.

High winds and heavy rainfalls associated with hurricanes and windstorms can result in similar impacts on the population, structures and the economy. The high winds and air speeds often result in power outages, disruptions to transportation corridors and equipment, loss of workplace access, significant property damage, injuries and loss of life, and the need to shelter and care for individuals impacted by the events. A large amount of damage can be inflicted by trees, branches, and other objects that fall onto power lines, buildings, roads, vehicles, and, in some cases, people.

To assess vulnerability, the HAZUS-MH v4.2 wind model was used to analyze the wind hazard for Westmoreland County. A probabilistic scenario was run for Westmoreland County for annualized losses and the 100- and 500-year MRPs. Maximum peak gust wind speeds for the 500-year MRP are provided in Figure 4.3.7-3.. HAZUS-MH v4.2 did not output any windspeed data for the 100-year MRP.

Impact on Life, Health and Safety

For the purposes of this HMP, the entire population of Westmoreland County (365,169 people) is exposed to hurricanes and tropical storm events (U.S. Census 2010). Residents might be displaced or require temporary to long-term sheltering. In addition, downed trees, damaged buildings, and debris carried by high winds can lead to injury or loss of life. Socially vulnerable populations are most susceptible, based on a number of factors including their physical and financial ability to react or respond during a hazard and the location and construction quality of their housing. HAZUS-MH v4.2 estimates no households will be displaced and temporary shelter will not be required as a result of the 100- and 500-year MRP events.

Economically disadvantaged populations are more vulnerable because they are likely to evaluate their risk and make decisions based on the major economic impact to their family and might lack funds to evacuate. The population over the age of 65 is also more vulnerable and might physically have more difficulty evacuating. The elderly are considered most vulnerable because they require extra time or outside assistance during evacuations and are more likely to seek or need medical attention that might not be available due to isolation during a storm event. Section 2 (County Profile) provides statistics of these populations.

Impact on General Building Stock

Building construction plays a major role in the extent of damage resulting from a severe storm event. Due to differences in construction, residential structures are generally more susceptible to wind damage than commercial and industrial structures. Wood and masonry buildings, in general, regardless of their occupancy class, tend to experience more damage than concrete or steel buildings. High-rise buildings are also very vulnerable structures. Mobile homes are the most vulnerable to damage, even if tied down, and offer little protection to people inside. As discussed in Section 4.3.12 (Tornado, Windstorm), there are over 11,000 manufactured homes located in Westmoreland County considered highly vulnerable to wind events.

The HAZUS-MH v4.2 wind model was run to estimate potential losses to buildings. Expected building damage was evaluated across the following wind damage categories: no damage/very minor damage, minor damage, moderate damage, severe damage, and total destruction; Table 4.3.7-4 summarizes the definition of the damage categories.

Table 4.3.7-4. Description of Damage Categories

Qualitative Damage Description	Roof Cover Failure	Window Door Failures	Roof Deck	Missile Impacts on Walls	Roof Structure Failure	Wall Structure Failure
No Damage or Very Minor Damage Little or no visible damage from the outside. No broken windows, or failed roof deck. Minimal loss of roof cover, with no or very limited water penetration.	≤2%	No	No	No	No	No
Minor Damage Maximum of one broken window, door or garage door. Moderate roof cover loss that can be covered to prevent additional water entering the building. Marks or dents on walls requiring painting or patching for repair.	>2% and ≤15%	One window, door, or garage door failure	No	<5 impacts	No	No

Qualitative Damage Description	Roof Cover Failure	Window Door Failures	Roof Deck	Missile Impacts on Walls	Roof Structure Failure	Wall Structure Failure
Moderate Damage Major roof cover damage, moderate window breakage. Minor roof sheathing failure. Some resulting damage to interior of building from water.	>15% and ≤50%	> one and ≤ the larger of 20% & 3	1 to 3 panels	Typically 5 to 10 impacts	No	No
Severe Damage Major window damage or roof sheathing loss. Major roof cover loss. Extensive damage to interior from water.	>50%	> the larger of 20% & 3 and ≤50%	>3 and ≤25%	Typically 10 to 20 impacts	No	No
Destruction Complete roof failure and/or, failure of wall frame. Loss of more than 50% of roof sheathing.	Typically >50%	>50%	>25%	Typically >20 impacts	Yes	Yes

Source: HAZUS-MH Hurricane Technical Manual

Table 4.3.7-5 summarizes the building value (structure only) damage estimated for the 100- and 500-year MRP hurricane wind-only events. Damage estimates are reported for the county's probabilistic HAZUS-MH v4.2 model scenarios. The data shown indicates total losses associated with wind damage to building structure. Overall, no damages were estimated as a result of the 100-year MRP hurricane wind-only events, and all damages for the 500-year MRP hurricane wind-only event were less than 1-percent of each jurisdictions' total replacement cost value.

Table 4.3.7-5. Estimated Building Value (Structure Only) Damaged by the 500-Year MRP Hurricane-Related Winds

Municipality	Total Improvement Value (Structure Only)	Estimated Total Damages*	
		Annualized Loss	500-Year
Adamsburg Borough	$21,266,000	$32	$3,447
Allegheny Township	$912,015,000	$1,005	$94,550
Arnold, City of	$582,694,000	$622	$110,717
Arona Borough	$35,345,000	$63	$6,053
Avonmore Borough	$151,449,000	$145	$9,500
Bell Township	$220,054,000	$310	$21,192
Bolivar Borough	$39,334,000	$62	$82
Cook Township	$213,552,000	$445	$1,625
Delmont Borough	$355,163,000	$483	$48,329
Derry Borough	$252,838,000	$440	$11,170
Derry Township	$1,317,552,000	$2,226	$69,373
Donegal Borough	$11,803,000	$28	$829
Donegal Township	$291,988,000	$494	$1,233
East Huntingdon Township	$792,198,000	$1,559	$146,879
East Vandergrift Borough	$68,685,000	$94	$10,471
Export Borough	$124,975,000	$133	$12,239
Fairfield Township	$186,425,000	$308	$166
Greensburg, City of	$2,198,567,000	$2,445	$137,856

Municipality	Total Improvement Value (Structure Only)	Estimated Total Damages*	
		Annualized Loss	500-Year
Hempfield Township	$4,763,698,000	$7,945	$663,372
Hunker Borough	$33,130,000	$56	$5,774
Hyde Park Borough	$99,086,000	$68	$5,473
Irwin Borough	$526,393,000	$643	$66,823
Jeannette, City of	$1,191,883,000	$1,565	$143,647
Latrobe, City of	$1,058,532,000	$1,386	$56,700
Laurel Mountain Borough	$33,640,000	$59	$797
Ligonier Borough	$271,943,000	$375	$44
Ligonier Township	$955,047,000	$1,420	$3,478
Lower Burrell, City of	$1,312,796,000	$1,450	$217,375
Loyalhanna Township	$196,525,000	$231	$14,383
Madison Borough	$49,611,000	$66	$6,230
Manor Borough	$353,647,000	$557	$66,787
Monessen City	$845,678,000	$1,343	$250,225
Mt. Pleasant Borough	$783,759,000	$954	$60,891
Mt. Pleasant Township	$1,277,075,000	$2,438	$155,297
Murrysville Borough	$2,857,027,000	$3,487	$410,906
New Alexandria Borough	$83,065,000	$104	$4,496
New Florence Borough	$61,914,000	$117	$88
New Kensington, City of	$1,728,140,000	$1,695	$287,550
New Stanton Borough	$290,996,000	$317	$26,000
North Belle Vernon Borough	$223,668,000	$310	$60,236
North Huntingdon Township	$3,858,737,000	$5,818	$874,613
North Irwin Borough	$60,848,000	$89	$9,797
Oklahoma Borough	$70,224,000	$110	$8,413
Penn Borough	$40,253,000	$57	$6,081
Penn Township	$2,426,163,000	$3,848	$482,446
Rostraver Township	$1,303,748,000	$2,290	$397,123
Salem Township	$1,051,877,000	$1,194	$81,538
Scottdale Borough	$554,284,000	$893	$72,546
Seward Borough	$49,050,000	$71	$69
Sewickley Township	$570,741,000	$1,001	$150,942
Smithton Borough	$111,716,000	$102	$18,245
South Greensburg Borough	$317,879,000	$407	$23,462
South Huntingdon Township	$499,979,000	$988	$135,869
Southwest Greensburg Borough	$240,105,000	$331	$17,405
St. Clair Township	$113,683,000	$187	$38
Sutersville Borough	$57,697,000	$93	$14,589
Trafford Borough	$486,599,000	$452	$81,093
Unity Township	$2,616,095,000	$4,285	$238,559
Upper Burrell Township	$296,707,000	$283	$41,477

Municipality	Total Improvement Value (Structure Only)	Estimated Total Damages*	
		Annualized Loss	500-Year
Vandergrift Borough	$520,846,000	$617	$49,826
Washington Township	$706,851,000	$939	$83,388
West Leechburg Borough	$141,191,000	$201	$20,248
West Newton Borough	$274,788,000	$392	$60,080
Youngstown Borough	$43,442,000	$72	$2,434
Youngwood Borough	$430,700,000	$492	$34,188
Westmoreland County (TOTAL)	**$43,617,359,000**	**$62,690**	**$6,096,748**

Source: HAZUS-MH v4.2
**The Total Damages column represents the sum of damages for all occupancy classes (residential, commercial, industrial, agricultural, educational, religious, and government) based on improvement value.*

Table 4.3.7-6. Estimated Residential and Commercial Building Value (Structure Only) Damaged by the 100-Year and 500-Year MRP Hurricane-Related Winds

Municipality	Total Improvement Value (Structure Only)	Estimated Residential Damage		Estimated Commercial Damage	
		100-Year	500-Year	100-Year	500-Year
Adamsburg Borough	$21,266,000	$0	$3,447	$0	$0
Allegheny Township	$912,015,000	$0	$94,550	$0	$0
Arnold, City of	$582,694,000	$0	$98,313	$0	$3,814
Arona Borough	$35,345,000	$0	$6,053	$0	$0
Avonmore Borough	$151,449,000	$0	$9,500	$0	$0
Bell Township	$220,054,000	$0	$21,192	$0	$0
Bolivar Borough	$39,334,000	$0	$82	$0	$0
Cook Township	$213,552,000	$0	$1,625	$0	$0
Delmont Borough	$355,163,000	$0	$48,329	$0	$0
Derry Borough	$252,838,000	$0	$11,170	$0	$0
Derry Township	$1,317,552,000	$0	$69,373	$0	$0
Donegal Borough	$11,803,000	$0	$829	$0	$0
Donegal Township	$291,988,000	$0	$1,233	$0	$0
East Huntingdon Township	$792,198,000	$0	$146,627	$0	$160
East Vandergrift Borough	$68,685,000	$0	$10,471	$0	$0
Export Borough	$124,975,000	$0	$12,239	$0	$0
Fairfield Township	$186,425,000	$0	$166	$0	$0
Greensburg, City of	$2,198,567,000	$0	$137,856	$0	$0
Hempfield Township	$4,763,698,000	$0	$662,502	$0	$446
Hunker Borough	$33,130,000	$0	$5,774	$0	$0
Hyde Park Borough	$99,086,000	$0	$5,473	$0	$0
Irwin Borough	$526,393,000	$0	$66,823	$0	$0
Jeannette, City of	$1,191,883,000	$0	$143,647	$0	$0
Latrobe, City of	$1,058,532,000	$0	$56,700	$0	$0
Laurel Mountain Borough	$33,640,000	$0	$797	$0	$0

Municipality	Total Improvement Value (Structure Only)	Estimated Residential Damage		Estimated Commercial Damage	
		100-Year	500-Year	100-Year	500-Year
Ligonier Borough	$271,943,000	$0	$44	$0	$0
Ligonier Township	$955,047,000	$0	$3,478	$0	$0
Lower Burrell, City of	$1,312,796,000	$0	$217,375	$0	$0
Loyalhanna Township	$196,525,000	$0	$14,383	$0	$0
Madison Borough	$49,611,000	$0	$6,230	$0	$0
Manor Borough	$353,647,000	$0	$66,787	$0	$0
Monessen City	$845,678,000	$0	$231,799	$0	$12,004
Mt. Pleasant Borough	$783,759,000	$0	$60,891	$0	$0
Mt. Pleasant Township	$1,277,075,000	$0	$154,086	$0	$1,069
Murrysville Borough	$2,857,027,000	$0	$410,906	$0	$0
New Alexandria Borough	$83,065,000	$0	$4,496	$0	$0
New Florence Borough	$61,914,000	$0	$88	$0	$0
New Kensington, City of	$1,728,140,000	$0	$252,232	$0	$26,023
New Stanton Borough	$290,996,000	$0	$26,000	$0	$0
North Belle Vernon Borough	$223,668,000	$0	$53,184	$0	$5,936
North Huntingdon Township	$3,858,737,000	$0	$819,411	$0	$39,002
North Irwin Borough	$60,848,000	$0	$9,797	$0	$0
Oklahoma Borough	$70,224,000	$0	$8,413	$0	$0
Penn Borough	$40,253,000	$0	$6,081	$0	$0
Penn Township	$2,426,163,000	$0	$482,012	$0	$403
Rostraver Township	$1,303,748,000	$0	$367,575	$0	$22,311
Salem Township	$1,051,877,000	$0	$81,162	$0	$306
Scottdale Borough	$554,284,000	$0	$72,546	$0	$0
Seward Borough	$49,050,000	$0	$69	$0	$0
Sewickley Township	$570,741,000	$0	$140,430	$0	$4,654
Smithton Borough	$111,716,000	$0	$11,153	$0	$4,550
South Greensburg Borough	$317,879,000	$0	$23,462	$0	$0
South Huntingdon Township	$499,979,000	$0	$127,728	$0	$5,214
Southwest Greensburg Borough	$240,105,000	$0	$17,405	$0	$0
St. Clair Township	$113,683,000	$0	$38	$0	$0
Sutersville Borough	$57,697,000	$0	$13,154	$0	$674
Trafford Borough	$486,599,000	$0	$60,598	$0	$17,430
Unity Township	$2,616,095,000	$0	$238,343	$0	$190
Upper Burrell Township	$296,707,000	$0	$41,477	$0	$0
Vandergrift Borough	$520,846,000	$0	$49,826	$0	$0
Washington Township	$706,851,000	$0	$83,388	$0	$0
West Leechburg Borough	$141,191,000	$0	$20,248	$0	$0
West Newton Borough	$274,788,000	$0	$52,725	$0	$4,092
Youngstown Borough	$43,442,000	$0	$2,434	$0	$0

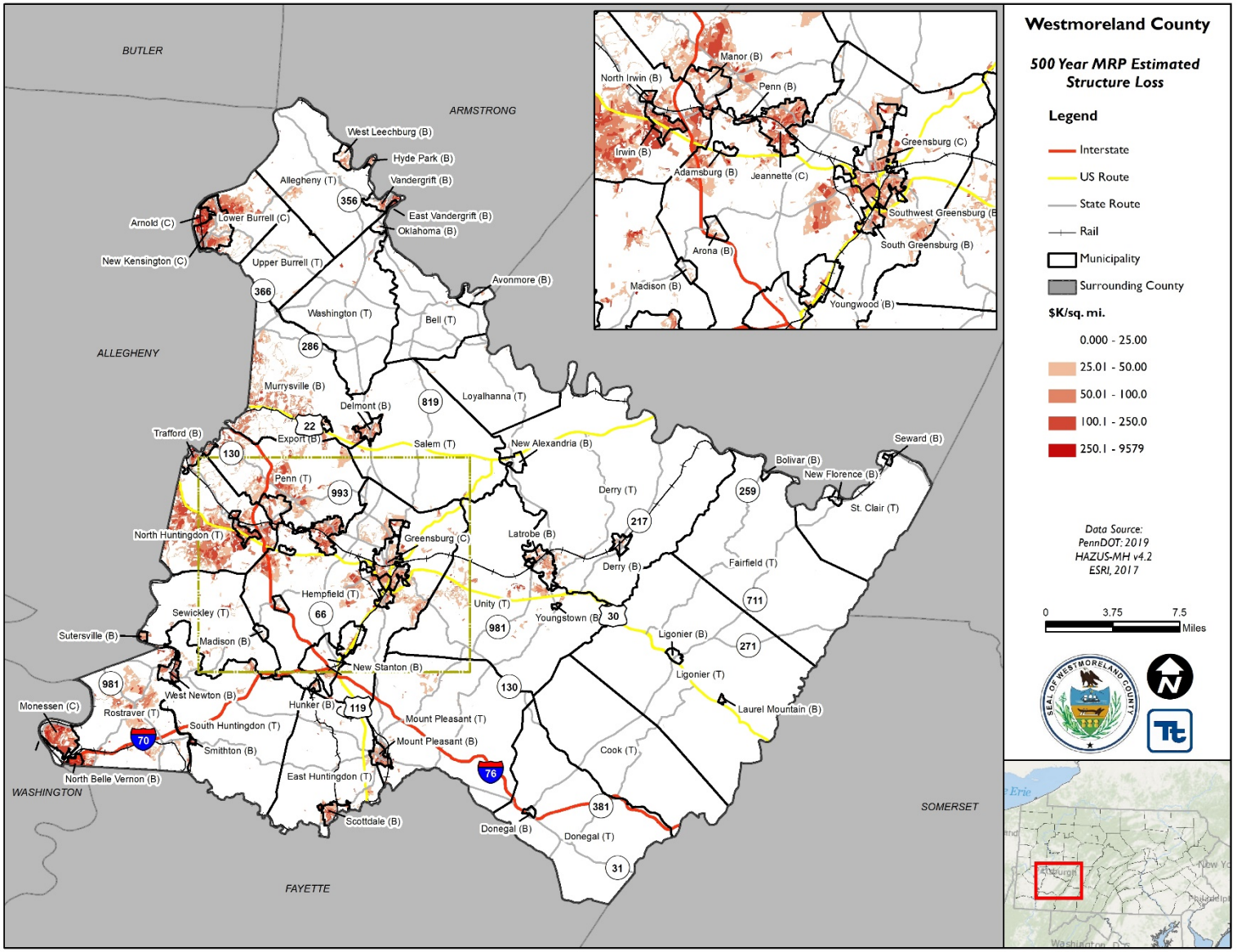
Municipality	Total Improvement Value (Structure Only)	Estimated Residential Damage		Estimated Commercial Damage	
		100-Year	500-Year	100-Year	500-Year
Youngwood Borough	$430,700,000	$0	$34,188	$0	$0
Westmoreland County (TOTAL)	**$43,617,359,000**	**$0**	**$5,880,410**	**$0**	**$148,277**

Source: HAZUS-MH v4.2

The total damage to buildings (structure only) for all occupancy types across Westmoreland County is estimated to be approximately $5.9 million for the 500-year MRP wind-only event. No damages were able to be estimated for the 100-year wind-only event. The majority of these losses are to the residential building category. Figure 4.3.7-4. illustrates the density estimated building loss across Westmoreland County for this event.

Because of differences in building construction, residential structures are generally more susceptible to wind damage than commercial and industrial structures. The damage counts include buildings damaged at all severity levels from minor damage to total destruction. Total dollar damage reflects the overall impact to buildings at an aggregate level.

Figure 4.3.7-4. Density of Losses for Structures (All Occupancies) for the 500-Year MRP Wind Event



Impact on Critical Facilities

Utility infrastructure could suffer damage from high winds associated with falling tree limbs or other debris, resulting in the loss of power. Loss of service can impact residents and business operations alike. Interruptions in heating or cooling utilities can affect populations such as the young and elderly, who are particularly vulnerable to temperature-related health impacts. Loss of power can impact other public utilities, including potable water, wastewater treatment, and communications. In addition to public water services, property owners with private wells might not have access to potable water due to pump failure until power is restored. Lack of power to emergency facilities, including police, fire, EMS, and hospitals, will inhibit a community's ability to effectively respond to an event and maintain the safety of its citizens.

Overall, all critical facilities are exposed to the wind hazard. HAZUS-MH v4.2 estimates the probability that critical facilities (i.e., medical facilities, fire/EMS, police, EOC, schools, and user-defined facilities such as shelters and municipal buildings) could sustain damage as a result of 100-year and 500-year MRP wind events. Additionally, HAZUS-MH estimates the loss of use for each facility in number of days. Due to the sensitive nature of the critical facility dataset, individual facility estimated loss is not provided.

Table 4.3.7-7 summarizes the percent probability that each facility type may experience damage as a result of the 500-year MRP event. HAZUS-MH v4.2 estimates no damage to the critical facilities as a result of the 100-year event.

Table 4.3.7-7. Estimated Impacts to Critical Facilities for the 500-Year Mean Return Period Hurricane-Related Winds

	500-Year Event				
		Percent-Probability of Sustaining Damage			
Facility Type	Loss of Days	Minor	Moderate	Severe	Complete
EOC	0	0	0	0	0
Medical	0	0-1	1	0	0
Police	0	0	0	0	0
Fire	0	0	0	0	0
Schools	0	0	0	0	0

Source: HAZUS-MH v4.2

Impact on Economy

Hurricanes and tropical storms also impact the economy, including: loss of business function (e.g., tourism, recreation), damage to inventory, relocation costs, wage loss and rental loss due to the repair/replacement of buildings. HAZUS-MH v4.2 estimates the total economic loss associated with each storm scenario (direct building losses and business interruption losses). Direct building losses are the estimated costs to repair or replace the damage caused to the building. This is reported in the "Impact on General Building Stock" subsection discussed earlier. Business interruption losses are the losses associated with the inability to operate a business because of the wind damage sustained during the storm or the temporary living expenses for those displaced from their home because of the event.

For the 100-year MRP wind event, HAZUS-MH v4.2 estimates no business interruption costs (income loss, relocation costs, rental costs, and lost wages) and no inventory losses. For the 500-year MRP wind only event, HAZUS-MH estimates approximately $2K in business interruption costs for Westmoreland County and no inventory losses.

Impacts to transportation lifelines affect both short-term (e.g., evacuation activities) and long-term (e.g., day-to-day commuting and goods transport) transportation needs. Utility infrastructure (power lines, gas lines, electrical systems) could suffer damage and impacts can result in the loss of power, which can impact business operations and heating or cooling provisions to the population.

Debris management can be costly and also impact the local economy. HAZUS-MH v4.2 estimates the amount of debris that might be produced as result of the 100- and 500-year MRP wind events. Table 4.3.7-8 summarizes the estimated debris by municipality, which should be considered a lower-bound analysis. Because the estimated debris production does not include debris generated by flooding, this is likely a conservative estimate and could be higher if multiple impacts occur.

According to the HAZUS-MH Hurricane User Manual: '*The Eligible Tree Debris columns provide estimates of the weight and volume of downed trees that would likely be collected and disposed at public expense. As discussed in Chapter 12 of the HAZUS-MH Hurricane Model Technical Manual, the eligible tree debris estimates produced by the Hurricane Model tend to underestimate reported volumes of debris brought to landfills for a number of events that have occurred over the past several years. This indicates that that there may be other sources of vegetative and non-vegetative debris that are not currently being modeled in HAZUS. For landfill estimation purposes, it is recommended that the HAZUS debris volume estimate be treated as an approximate lower bound. Based on actual reported debris volumes, it is recommended that the HAZUS results be multiplied by three to obtain an approximate upper bound estimate. It is also important to note that the Hurricane Model assumes a bulking factor of 10 cubic yards per ton of tree debris. If the debris is chipped prior to transport or disposal, a bulking factor of 4 is recommended. Thus, for chipped debris, the eligible tree debris volume should be multiplied by 0.4'*. No multiplier has been applied to the data presented in Table 4.3.7-8.

Table 4.3.7-8. Debris Production for 100- and 500-Year Mean Return Period Hurricane-Related Winds

Municipality	Brick and Wood (tons)		Concrete and Steel (tons)		Tree (tons)		Eligible Tree Volume (cubic yards)	
	100 Year	500 Year	100 Year	500 Year	100 Year	500 Year	100 Year	500 Year
Adamsburg Borough	0	0	0	0	0	1	0	5
Allegheny Township	0	0	0	0	0	3	0	29
Arnold, City of	0	1	0	0	0	3	0	21
Arona Borough	0	0	0	0	0	1	0	10
Avonmore Borough	0	0	0	0	0	0	0	2
Bell Township	0	0	0	0	0	4	0	8
Bolivar Borough	0	0	0	0	0	0	0	0
Cook Township	0	0	0	0	0	0	0	0
Delmont Borough	0	0	0	0	0	8	0	69
Derry Borough	0	0	0	0	0	0	0	0
Derry Township	0	0	0	0	0	22	0	103
Donegal Borough	0	0	0	0	0	0	0	1
Donegal Township	0	0	0	0	0	0	0	3
East Huntingdon Township	0	0	0	0	0	196	0	261
East Vandergrift Borough	0	0	0	0	0	0	0	0
Export Borough	0	0	0	0	0	1	0	11
Fairfield Township	0	0	0	0	0	0	0	2

Municipality	Brick and Wood (tons)		Concrete and Steel (tons)		Tree (tons)		Eligible Tree Volume (cubic yards)	
	100 Year	500 Year	100 Year	500 Year	100 Year	500 Year	100 Year	500 Year
Greensburg, City of	0	0	0	0	0	5	0	105
Hempfield Township	0	0	0	0	0	87	0	431
Hunker Borough	0	0	0	0	0	0	0	3
Hyde Park Borough	0	0	0	0	0	0	0	6
Irwin Borough	0	0	0	0	0	2	0	27
Jeannette, City of	0	0	0	0	0	3	0	65
Latrobe, City of	0	0	0	0	0	4	0	44
Laurel Mountain Borough	0	0	0	0	0	0	0	4
Ligonier Borough	0	0	0	0	0	0	0	0
Ligonier Township	0	0	0	0	0	0	0	1
Lower Burrell, City of	0	0	0	0	0	14	0	145
Loyalhanna Township	0	0	0	0	0	5	0	22
Madison Borough	0	0	0	0	0	0	0	2
Manor Borough	0	0	0	0	0	0	0	4
Monessen City	0	2	0	0	0	7	0	262
Mt. Pleasant Borough	0	0	0	0	0	1	0	30
Mt. Pleasant Township	0	0	0	0	0	125	0	276
Murrysville Borough	0	0	0	0	0	15	0	111
New Alexandria Borough	0	0	0	0	0	1	0	12
New Florence Borough	0	0	0	0	0	0	0	0
New Kensington, City of	0	4	0	0	0	5	0	81
New Stanton Borough	0	0	0	0	0	3	0	12
North Belle Vernon Borough	0	0	0	0	0	0	0	8
North Huntingdon Township	0	8	0	0	0	188	0	1,377
North Irwin Borough	0	0	0	0	0	0	0	0
Oklahoma Borough	0	0	0	0	0	0	0	1
Penn Borough	0	0	0	0	0	2	0	11
Penn Township	0	1	0	0	0	22	0	117
Rostraver Township	0	2	0	0	0	209	0	694
Salem Township	0	0	0	0	0	103	0	104
Scottdale Borough	0	0	0	0	0	2	0	32
Seward Borough	0	0	0	0	0	0	0	0
Sewickley Township	0	1	0	0	0	265	0	419
Smithton Borough	0	0	0	0	0	0	0	7
South Greensburg Borough	0	0	0	0	0	3	0	26
South Huntingdon Township	0	1	0	0	0	377	0	369
Southwest Greensburg Borough	0	0	0	0	0	1	0	12
St. Clair Township	0	0	0	0	0	0	0	0
Sutersville Borough	0	0	0	0	0	2	0	30
Trafford Borough	0	2	0	0	0	7	0	67

Municipality	Brick and Wood (tons)		Concrete and Steel (tons)		Tree (tons)		Eligible Tree Volume (cubic yards)	
	100 Year	500 Year	100 Year	500 Year	100 Year	500 Year	100 Year	500 Year
Unity Township	0	0	0	0	0	82	0	298
Upper Burrell Township	0	0	0	0	0	0	0	4
Vandergrift Borough	0	0	0	0	0	6	0	18
Washington Township	0	0	0	0	0	3	0	38
West Leechburg Borough	0	0	0	0	0	5	0	23
West Newton Borough	0	1	0	0	0	8	0	101
Youngstown Borough	0	0	0	0	0	0	0	4
Youngwood Borough	0	0	0	0	0	1	0	13
Westmoreland County (TOTAL)	**0**	**23**	**0**	**0**	**0**	**1,802**	**0**	**5,940**

Source: HAZUS-MH v4.2

Impact on the Environment

The impacts of hurricane related windstorms on the environment typically take place over a larger area. Where these events occur, widespread, severe damage to plant species is likely. This includes uprooting or total destruction of trees and an increased threat of wildfire in areas where dead trees are not removed (PEMA 2018). Section 4.3.12 (Tornado, Windstorm) provides additional environmental impacts due to wind, and Section 4.3.5 (Flood, Flash Flood, and Ice Jam) provides additional environmental impacts due to flooding from heavy rainfalls.

Future Growth and Development

Understanding future changes that impact vulnerability in the Westmoreland County can assist in planning for future development and ensuring that appropriate mitigation, planning, and preparedness measures are in place. Areas targeted for potential future growth and development in the next 5 years have been identified across Westmoreland County at the municipal level. It is anticipated that any new development and new residents will be exposed to the hurricane and tropical storm hazard. However, due to increased standards and codes, new development might be less vulnerable to wind-related hazards compared to the aging building stock.

Effect of Climate Change on Vulnerability

Since the 1970s, globally there has been an increase in 'tropical cyclone destructiveness' as measured by the Power Dissipation Index. This increased tropical cyclone intensity and duration correlates with increased sea surface temperature. This suggests that future increases of tropical sea surface temperature might lead to future increases in tropical cyclone intensity and duration. However, there is a high level of uncertainty regarding the relationship between climate change and storm events. Future improvements in modeling smaller scale climatic processes can be expected and will lead to improved understanding of how the changing climate will alter temperature, precipitation, and storm events in Pennsylvania (Shortle et. al 2009).

Major clusters of summertime thunderstorms in North America will grow larger, more intense, and more frequent later this century in a changing climate, unleashing far more rain and posing a greater threat of flooding across wide areas (UCAR 2017). An increase in storms will produce more wind events and could increase tornado activity. Additionally, an increase in temperature will provide more energy to produce storms that generate tornadoes (Climate Central 2016).

Overall, Westmoreland County will continue to remain vulnerable to the hurricane and windstorm hazard.

Additional Data and Next Steps

Over time, Westmoreland County may obtain additional data to support the analysis of this hazard. Data that will support the analysis would include additional detail on past hazard events and impacts, building footprints, and specific building information, such as details on protective features (e.g., hurricane straps).

4.3.8 Landslide

This section provides a profile and vulnerability assessment of the landslide hazard in Westmoreland County. According to the U.S. Geological Survey (USGS), the term landslide includes a wide range of ground movement, such as rock falls, deep failure of slopes, and shallow debris flows (USGS 2016). Landslides are classified by type of material involved and the type of movement. In addition, they are classified at the rate of movement and the water content of the material. Movement rates range from inches over many years to many feet per second (Pennsylvania Department of Conservation and Natural Resources [DCNR] 2001).

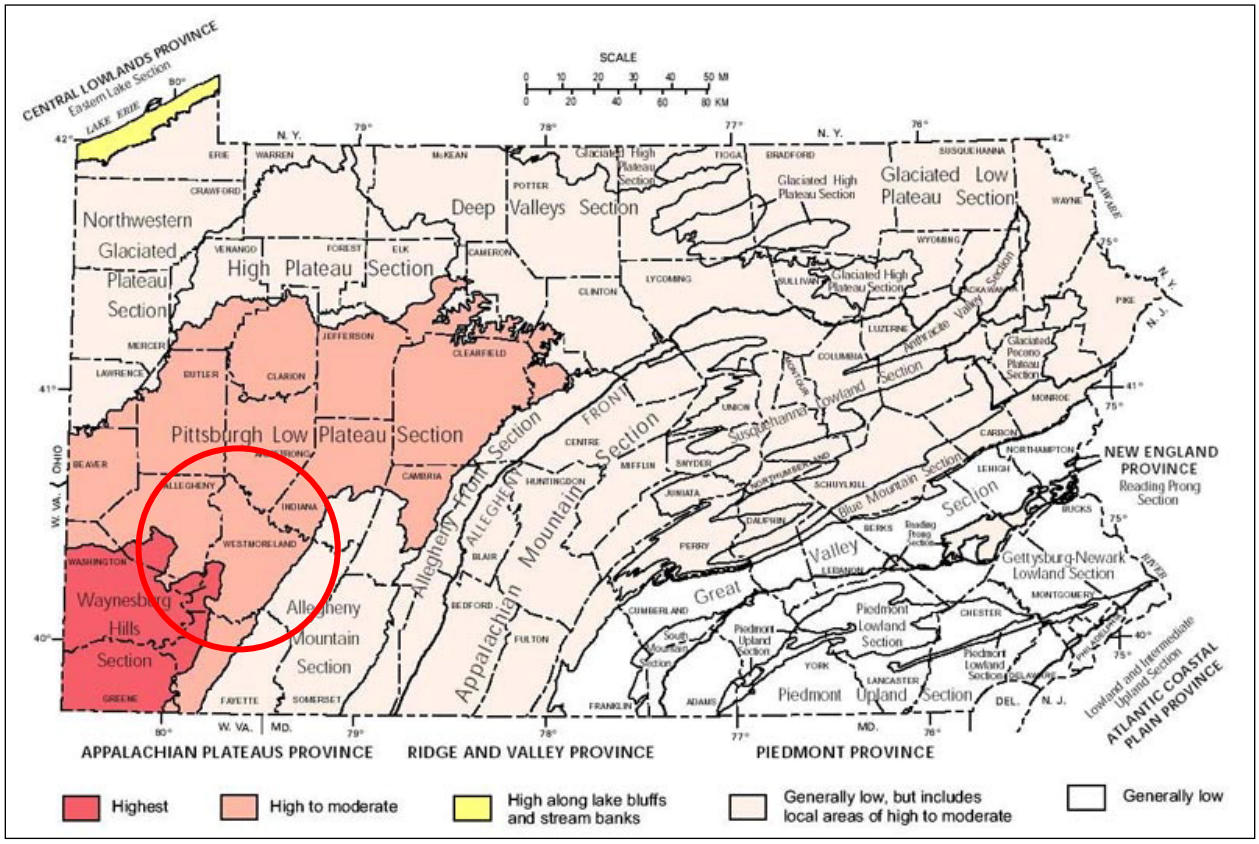
Landslides may be triggered by both natural and human-caused changes in the environment, including heavy rain, rapid snow melt, steepening of slopes through construction or erosion, earthquakes, and changes in groundwater levels. Areas that are generally prone to landslide hazards include previous landslide areas, the bases of steep slopes, the bases of drainage channels, developed hillsides, and areas recently burned by forest and brush fires (Delano and Wilshusen 2001). Human activities that contribute to slope failure include altering the natural slope gradient, increasing soil water content, and removing vegetation cover.

4.3.8.1 Location and Extent

The entire United States experiences landslides, with 36 states having moderate to highly severe landslide hazards. Expansion of urban and recreational developments into hillside areas exposes more people to the threat of landslides each year. According to the USGS, Westmoreland County has high landslide potential. A figure displaying the landslide potential of the conterminous United States can be found at http://pubs.usgs.gov/fs/2005/3156/2005-3156.pdf (USGS 2005).

Rockfalls and other slope failures occur in areas of Pennsylvania with moderate to steep slopes; however, most of Pennsylvania has areas susceptible to landslides. The southwestern area of Pennsylvania has the highest concentration of landslides (Pennsylvania Emergency Management Agency [PEMA] 2018; DCNR 2001). According to DCNR, most major and minor highways have sections cut in rock or soil that can lead to slope failure. Steep mountain slopes across Pennsylvania have experienced debris avalanches associated with extreme rainfall or rain-on-snow events. Additionally, urban and rural land development is increasing the number of landslide occurrences. Major highway construction with large excavations and fills creates potential for landslides (DCNR 2001). Figure 4.3.8-1 shows the landslide susceptible areas across the Commonwealth. Westmoreland County is noted as having high to moderate susceptibility to landslides with highest susceptibility in the southwest portion of the county.

Figure 4.3.8-1. Areas of Pennsylvania Susceptible to Landslides



Source: *DCNR 2016*

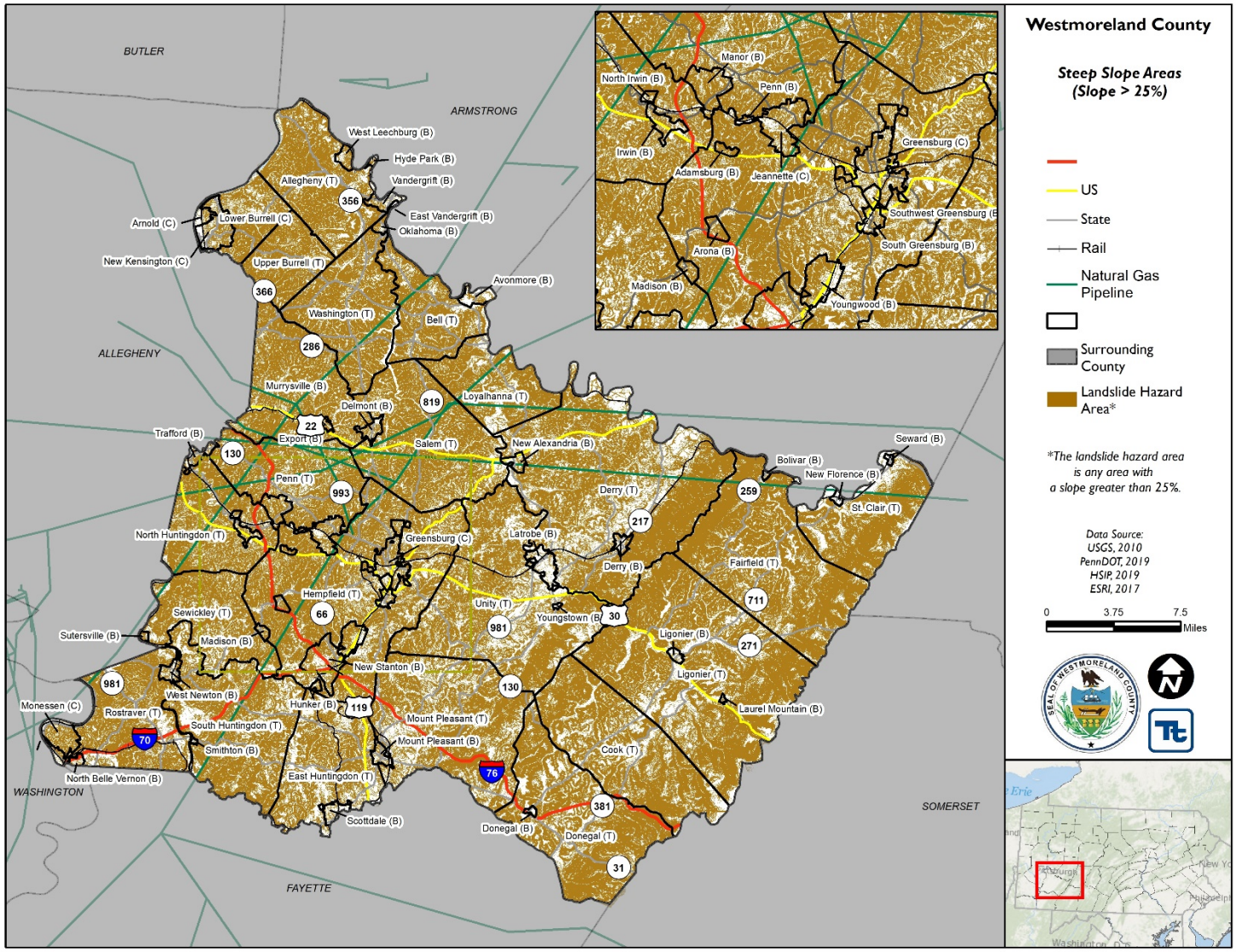
Note: *The red circle indicates the approximate location of Westmoreland County. Westmoreland County is shown has having a high to moderate susceptibility to landslides with highest susceptibility in the southwest portion of the county.*

To determine the extent of a landslide hazard, the affected areas need to be identified and the probability of the landslide occurring within some time period needs to be assessed. Natural variables that contribute to the overall extent of potential landslide activity in any particular area include soil properties, topographic position and slope, and historical incidence. Predicting a landslide is difficult, even under ideal conditions and with reliable information. As a result, the landslide hazard is often represented by landslide incidence and/or susceptibility, as defined below:

- Landslide incidence is the number of landslides that have occurred in a given geographic area. High incidence means greater than 15 percent of a given area has been involved in landsliding; medium incidence means that 1.5 to 15 percent of an area has been involved; and low incidence means that less than 1.5 percent of an area has been involved (Radbruch-Hall 1982).
- Landslide susceptibility is defined as the probable degree of response of geologic formations to natural or artificial cutting, to loading of slopes, or to unusually high precipitation. It can be assumed that unusually high precipitation or changes in existing conditions can initiate landslide movement in areas where rocks and soils have experienced numerous landslides in the past. Landslide susceptibility depends on slope angle and the geologic material underlying the slope. Landslide susceptibility only identifies areas potentially affected and does not imply a time frame when a landslide might occur. High, medium, and low susceptibility are delimited by the same percentages used for classifying the incidence of landsliding (Radbruch-Hall 1982).

According to the Steep Slope GIS layer derived from a USGS digital elevation model (DEM) as shown in Figure 4.3.8-2, a significant portion of Westmoreland County is located in landslide hazard area (USGS 2010). For the purposes of this planning effort, any areas with a slope angle of 25 percent or greater are considered to be within the hazard area.

Figure 4.3.8-2. Landslide Hazard Area in Westmoreland County



4.3.8.2 Range of Magnitude

Landslides have the potential to damage transportation routes, utilities, and buildings. They can also create travel delays and other side effects. Fortunately, deaths and injuries caused by landslides are rare in Pennsylvania, and most landslides in the Commonwealth are moderate to slow moving, damaging things rather than people. Almost all of the known deaths caused by landslides have occurred when rockfalls or other slides along highways have involved vehicles. Storm-induced debris flows are the only other type of landslide likely to cause death and injuries. As residential and recreational development increases on and near steep mountain slopes, the hazards from these events will also increase (PEMA 2018).

According to DCNR, the Pennsylvania Department of Transportation (PA DOT) and large municipalities incur substantial costs due to landslide damage and to extra construction costs for new roads in known landslide-prone areas. One PA DOT estimate in 1991 showed an average of $10 million per year in landslide repair contracts across the Commonwealth and a similar amount in mitigation costs for grading projects (DCNR, n.d.).

The impact of landslides on the environment depends on the size and specific location of the event. In general, impacts include:

- Changes to topography
- Damage or destruction of vegetation
- Potential diversion or blockage of water in the vicinity of streams, rivers, etc.
- Increased sediment runoff both during and after event (PEMA 2018).

Westmoreland County's worst-case scenario would be an event similar to landslides that occurred during the period from February 15 to April 20, 2018. The increased rainfall in addition to the geologic composition of the area led to widespread landslides which led to damaged roads and infrastructure; utility damages including exposed piping, wires and downed poles; and major and frequent interruptions to transportation systems and routes. North Huntingdon Township, South Huntingdon Township, Rostraver Township, and Upper Burrell Township sustained heavy damages, with damage estimates totaling approximately $1,435,000 across Westmoreland County (Westmoreland County 2019).

4.3.8.3 Past Occurrence

Outside of impacts to important transportation routes, landslide history is not documented as completely (if at all) as other hazards, primarily because landslides are not always seen, and therefore historical landslide occurrences in Westmoreland County are not well known.

Neither the National Climatic Data Center (NCDC) nor the Spatial Hazard Events and Losses Database for the United States (SHELDUS) at the University of South Carolina have any records of landslides in the county (NOAA-NCDC 2013; SHELDUS 2013). Areas in the county that have experienced landslides are North Huntingdon Township, Bell Township, Rostraver Township, Murrysville, South Huntingdon Township, and Monessen. No deaths, serious injury, or property damages have resulted.

Between 1954 and 2019, FEMA issued a disaster (DR) or emergency (EM) declaration for Pennsylvania for one geological hazard-related event, classified as severe storms, flooding and mudslide. This declaration did not include Westmoreland County (FEMA 2019).

Table 4.3.8-1. Landslide Events between 2013 and 2019 in Westmoreland County

Date of Event	Event Type	Location	FEMA Declaration Number (if applicable)	County Designated?	Losses/Impacts
September 29, 2015	Rock slide	Wildlife Lodge Road	N/A	N/A	A rock slide took place on Wildlife Lodge Road, about 0.5 mile from Route 56, resulting in a partial road blockage.
February 4, 2016	Rock slide	Route 906	N/A	N/A	A rock slide took place at Route 906 in the area of Webster Metals. Rostraver Police responded.
December 22, 2016	Rock slide	Route 906	N/A	N/A	A rock slide took place at Route 906 between Vance Deicas Highway and Turkey Hollow Road. Both lanes were closed to traffic.
March 19, 2017	Mudslide/Rock slide	Route 66	N/A	N/A	Police closed Route 66 from Hancock Avenue to Orr Avenue in Oklahoma due to a mudslide/rock slide.
February 15, 2018 – April 20, 2018	Landslide	Townships of N. Huntingdon, S. Huntingdon, Rostraver, and Upper Burrell	N/A	N/A	Increased rainfall for a prolonged period of time led to widespread landslides across Westmoreland County leading to downed trees, damaged roadways, and damaged infrastructure. Damage estimated totaled approximately $1,435,000 across Westmoreland County.
September 10, 2018	Landslide	Exton Lake Road	N/A	N/A	Exton Lake Road was closed between Woodland and Jefferson Roads due to a rapidly moving landslide. Road crews witnessed the roadway visually moving and heaving.

Sources: Knowledge Center 2019; Westmoreland County 2019

4.3.8.4 Future Occurrence

Based on risk factors and past occurrences, it is likely that landslides will continue to occur in Westmoreland County in the future. However, severity of the landslides can vary depending on type and location of event. Landslide probabilities are largely a function of surface geology, but are also influenced by both weather and human activities. Mismanaged, intense development in steeply sloped areas could increase the frequency of landslide occurrence. Periods of intense rain or snowmelt can also increase the risk of landslides.

For the 2019 HMP update, the most up-to-date data were collected to calculate the probability of future occurrence of landslide events for Westmoreland County. Information provided by the Knowledge Center was used to identify the number of landslide events that occurred between 2013 and 2019. Records of landslide events prior to 2013 were not available. Using these sources ensures the most accurate probability estimates possible. Table 4.3.8-2 shows these statistics, as well as the annual average number of events and the estimate percent chance of an incident occurring in a given year. Based on these statistics, there is an estimated 71.4-percent chance of a landslide event occurring in any given year in Westmoreland County.

Table 4.3.8-2. Probability of Future Lanslide Events

Hazard Type	Number of Occurrences Between 2013 and 2019	Recurrence Interval (in years) (# Years/Number of Events)	Percent chance of occurrence in any given year
Landslide	5	1.4	71.4%

Sources: Knowledge Center 2019

Mismanaged, intense development in steeply sloped areas could increase the frequency of landslides in Westmoreland County. Building and road construction are contributing development factors to landslides, as they can often undermine or steepen otherwise stable soil. Any events that do occur would take place in steeply sloped areas that do not feature extensive land development or many structures. Increased deforestation and soil disturbances caused by development on sloped areas further increases these risks. As timbering and development of sloped land continue, the risk of significant landslides increases.

Based on available historical data, the future occurrence of landslides can be considered *likely* as defined by the Risk Factor Methodology probability criteria (Section 4.4).

4.3.8.5 Vulnerability Assessment

To understand risk, a community must evaluate what assets are exposed or vulnerable in the hazard area identified. The following section discusses potential impact of the landslide hazard on Westmoreland County, including:

- Overview of vulnerability
- Impact on (1) life, health, and safety; (2) general building stock; (3) critical facilities and the economy; (4) the environment; and (5) future growth and development
- Effect of climate change on vulnerability
- Additional data and next steps

Overview of Vulnerability

Vulnerability to ground failure hazards is a function of location, soil type, geology, type of human activity, use, and frequency of events. Effects of landslides on people and structures can be reduced by total avoidance of hazard areas or by restricting, prohibiting, or imposing conditions on hazard-zone activity. Local governments can reduce effects of landslides through land use policies and regulations. Individuals can reduce their exposure to hazards by educating themselves on the past hazard history of the site and by making inquiries to planning and engineering departments of local governments (National Atlas 2018).

Overall, 73.4 percent (or 761.7 square miles) of Westmoreland County is located within the landslide hazard area. The majority of Westmoreland County is located in the landslide hazard area. For the purposes of this assessment, steep slope areas with a slope angle greater than 25 percent are considered the hazard zone (Figure 4.3.8-2). Further information regarding these hazard areas is presented below.

Impact on Life, Health, and Safety

As discussed above, 73.4 percent of Westmoreland County is located in the landslide hazard area. Therefore, the County's population (365,169) within this area is considered exposed to this hazard (U.S. Census 2010); however, based on the historic record, landslide events tend to be localized events. Landslide events can cause both direct and indirect (impact on buildings) damage to the County's population.

To estimate populations within the hazard area, the hazard area boundary (shown in Figure 4.3.8-2) was overlaid upon the 2010 U.S. Census population data (U.S. Census 2010). Census blocks with their centers (centroids) within the boundary of the landslide hazard area were used to calculate the estimated population considered exposed to this hazard. The U.S. Census blocks do not align exactly with the hazard area, and thus these estimates should be considered for planning purposes only. Additionally, the hazard area boundary is only available at the municipal level and more detailed breakdowns are not available; this presents another reason to only use these estimates for planning purposes. Data from the 2010 Census were used for this analysis because of its availability at the census-block level. U.S. Census data are a higher resolution than American Community Survey spatial data, which are only available at the census-tract level. Data from the 2010 Census are also used to maintain consistency in data among vulnerability assessments throughout this HMP.

Table 4.3.8-3 lists populations exposed by municipality (U.S. Census 2010). The population downslope of the landslide hazard areas is particularly vulnerable to this hazard. Due to the nature of U.S. Census block data, it is difficult to determine demographics of populations vulnerable to mass movements of geological material. Using this approach, 204,750 people (56.1 percent of the population) are located in the High-Susceptibility/Moderate-Incidence hazard area. Note that exposure rates (reflected in the information in Table 4.3.8-3) do not equate to actual potential impacts. Although an entire jurisdiction may be located in a high-susceptibility area, as noted, most landslide events are localized. Therefore, while a large number of residents may have a high exposure risk to landslide events, few residents will actually be significantly impacted.

Table 4.3.8-3. Estimated Westmoreland County Population Vulnerable to the Landslide Hazard Area

Municipalities	Total Population (2010 U.S. Census)	Estimated Population Exposed	Percent Total
Adamsburg Borough	172	112	65.2%
Allegheny Township	8,164	4,742	58.1%
Arnold, City of	5,157	2,608	50.6%
Arona Borough	370	276	74.6%
Avonmore Borough	1,011	264	26.1%
Bell Township	2,348	1,139	48.5%
Bolivar Borough	465	227	48.8%
Cook Township	2,250	1,078	47.9%
Delmont Borough	2,686	1,812	67.5%
Derry Borough	2,688	1,079	40.1%
Derry Township	14,502	5,282	36.4%
Donegal Borough	120	48	39.9%
Donegal Township	2,403	1,093	45.5%
East Huntingdon Township	7,963	3,515	44.1%
East Vandergrift Borough	674	134	19.9%
Export Borough	917	713	77.7%
Fairfield Township	2,424	1,253	51.7%
Greensburg, City of	14,892	9,914	66.6%
Hempfield Township	43,241	26,332	60.9%

Municipalities	Total Population (2010 U.S. Census)	Estimated Population Exposed	Percent Total
Hunker Borough	291	144	49.6%
Hyde Park Borough	500	305	61.0%
Irwin Borough	3,973	2,377	59.8%
Jeannette, City of	9,654	6,812	70.6%
Latrobe, City of	8,338	1,626	19.5%
Laurel Mountain Borough	167	78	46.7%
Ligonier Borough	1,573	525	33.3%
Ligonier Township	6,603	3,015	45.7%
Lower Burrell, City of	11,761	6,443	54.8%
Loyalhanna Township	2,382	1,129	47.4%
Madison Borough	397	258	65.0%
Manor Borough	3,239	2,377	73.4%
Monessen City	7,720	5,548	71.9%
Mount Pleasant Borough	4,454	2,621	58.8%
Mount Pleasant Township	10,911	5,077	46.5%
Murrysville Borough	20,079	12,716	63.3%
New Alexandria Borough	560	158	28.2%
New Florence Borough	689	98	14.2%
New Kensington, City of	13,116	6,299	48.0%
New Stanton Borough	2,173	1,342	61.8%
North Belle Vernon Borough	1,971	973	49.3%
North Huntingdon Township	30,609	22,131	72.3%
North Irwin Borough	846	557	65.8%
Oklahoma Borough	809	363	44.9%
Penn Borough	475	275	57.9%
Penn Township	20,005	13,172	65.8%
Rostraver Township	11,363	6,109	53.8%
Salem Township	6,623	3,523	53.2%
Scottdale Borough	4,384	1,411	32.2%
Seward Borough	495	75	15.2%
Sewickley Township	5,996	3,423	57.1%
Smithton Borough	399	197	49.4%
South Greensburg Borough	2,117	1,381	65.2%
South Huntingdon Township	5,796	3,124	53.9%
Southwest Greensburg Borough	2,155	1,065	49.4%

Municipalities	Total Population (2010 U.S. Census)	Estimated Population Exposed	Percent Total
St. Clair Township	1,518	496	32.6%
Sutersville Borough	605	243	40.2%
Trafford Borough	3,113	2,342	75.2%
Unity Township	22,607	11,091	49.1%
Upper Burrell Township	2,326	1,486	63.9%
Vandergrift Borough	5,205	2,539	48.8%
Washington Township	7,422	4,175	56.2%
West Leechburg Borough	1,294	770	59.5%
West Newton Borough	2,633	1,587	60.3%
Youngstown Borough	326	138	42.4%
Youngwood Borough	3,050	1,536	50.3%
WESTMORELAND COUNTY (TOTAL)	**365,169**	**204,750**	**56.1%**

Sources: U.S. Census 2010; USGS 2010

Impact on General Building Stock

For this analysis, the HAZUS-MH v4.2 dasymetric census blocks were used (Section 4.1 includes more information). In general, the built environment within the landslide hazard area and the population, structures, and infrastructure downslope are vulnerable to this hazard. Using the default general building stock, the replacement cost values of the U.S. Census blocks with their centroids in the hazard area were totaled to provide the exposed replacement cost value. Building footprints provided by Westmoreland County were used to estimate the number of structures within the landslide hazard area. Approximately $40.2 billion in replacement cost is located in the landslide hazard area (55.2 percent); or an estimated 140,163 structures. Table 4.3.8-4 lists building stock exposure per municipality.

Table 4.3.8-4. Estimated General Building Stock Exposure to the Landslide Hazard Area

Municipality	Total Number of Buildings	Total RCV	Steep Slope Area			
			Number of Buildings	% of Total	RCV	% of Total
Adamsburg Borough	163	$33,710,000	104	63.8%	$15,992,000	47.4%
Allegheny Township	6,738	$1,477,670,000	3917	58.1%	$777,183,000	52.6%
Arnold, City of	2,852	$982,657,000	1493	52.3%	$360,145,000	36.7%
Arona Borough	319	$54,508,000	233	73.0%	$45,696,000	83.8%
Avonmore Borough	809	$297,296,000	204	25.2%	$33,953,000	11.4%
Bell Township	2450	$351,372,000	1202	49.1%	$201,131,000	57.2%
Bolivar Borough	366	$64,192,000	170	46.4%	$30,588,000	47.7%
Cook Township	2,957	$322,402,000	1411	47.7%	$186,392,000	57.8%
Delmont Borough	1,408	$588,678,000	860	61.1%	$277,925,000	47.2%

Municipality	Total Number of Buildings	Total RCV	Steep Slope Area			
			Number of Buildings	% of Total	RCV	% of Total
Derry Borough	1,715	$410,373,000	704	41.0%	$166,622,000	40.6%
Derry Township	14,018	$2,149,630,000	5431	38.7%	$991,208,000	46.1%
Donegal Borough	139	$19,585,000	58	41.7%	$9,889,000	50.5%
Donegal Township	3,586	$482,046,000	1605	44.8%	$244,990,000	50.8%
East Huntingdon Township	7,556	$1,365,245,000	3,326	44.0%	$616,273,000	45.1%
East Vandergrift Borough	574	$108,645,000	105	18.3%	$26,520,000	24.4%
Export Borough	628	$221,524,000	489	77.9%	$124,618,000	56.3%
Fairfield Township	2,994	$289,624,000	1566	52.3%	$199,706,000	69.0%
Greensburg, City of	6,793	$3,859,723,000	4,445	65.4%	$2,582,946,000	66.9%
Hempfield Township	27,298	$7,618,366,000	16,715	61.2%	$4,439,993,000	58.3%
Hunker Borough	265	$51,852,000	131	49.4%	$35,350,000	68.2%
Hyde Park Borough	379	$200,590,000	221	58.3%	$57,894,000	28.9%
Irwin Borough	1,679	$875,822,000	1094	65.2%	$538,248,000	61.5%
Jeannette, City of	5,587	$2,049,741,000	3835	68.6%	$1,240,262,000	60.5%
Latrobe, City of	5,256	$1,902,472,000	1007	19.2%	$364,978,000	19.2%
Laurel Mountain Borough	157	$56,349,000	69	43.9%	$17,448,000	31.0%
Ligonier Borough	1,129	$477,076,000	377	33.4%	$106,880,000	22.4%
Ligonier Township	7,513	$1,690,025,000	3270	43.5%	$1,204,177,000	71.3%
Lower Burrell, City of	7,109	$2,167,800,000	3,794	53.4%	$794,969,000	36.7%
Loyalhanna Township	2,299	$305,072,000	1,111	48.3%	$193,140,000	63.3%
Madison Borough	327	$88,528,000	220	67.3%	$75,875,000	85.7%
Manor Borough	1,751	$550,925,000	1,261	72.0%	$448,158,000	81.3%
Monessen City	5,035	$1,378,401,000	3555	70.6%	$982,762,000	71.3%
Mount Pleasant Borough	2,585	$1,473,911,000	1,529	59.1%	$1,187,686,000	80.6%
Mount Pleasant Township	10,537	$2,164,407,000	4,955	47.0%	$1,360,754,000	62.9%
Murrysville Borough	11,490	$4,679,858,000	7,068	61.5%	$2,756,061,000	58.9%
New Alexandria Borough	467	$144,207,000	129	27.6%	$78,037,000	54.1%
New Florence Borough	584	$99,781,000	78	13.4%	$11,811,000	11.8%
New Kensington, City of	7,352	$2,972,423,000	3,545	48.2%	$1,267,213,000	42.6%
New Stanton Borough	1,318	$493,637,000	688	52.2%	$177,839,000	36.0%
North Belle Vernon Borough	1,292	$374,204,000	593	45.9%	$152,598,000	40.8%
North Huntingdon Township	18,046	$6,275,194,000	12820	71.0%	$4,509,419,000	71.9%
North Irwin Borough	467	$93,070,000	305	65.3%	$54,738,000	58.8%
Oklahoma Borough	611	$110,545,000	283	46.3%	$53,564,000	48.5%
Penn Borough	332	$65,127,000	171	51.5%	$26,225,000	40.3%

Municipality	Total Number of Buildings	Total RCV	Steep Slope Area			
			Number of Buildings	% of Total	RCV	% of Total
Penn Township	12,063	$3,979,549,000	7,798	64.6%	$2,023,580,000	50.8%
Rostraver Township	9,025	$2,119,205,000	4,690	52.0%	$1,130,422,000	53.3%
Salem Township	6,774	$1,883,346,000	3,581	52.9%	$1,481,998,000	78.7%
Scottdale Borough	2,766	$999,267,000	886	32.0%	$256,114,000	25.6%
Seward Borough	390	$87,732,000	61	15.6%	$21,162,000	24.1%
Sewickley Township	5,486	$928,135,000	3090	56.3%	$485,181,000	52.3%
Smithton Borough	294	$214,269,000	136	46.3%	$27,515,000	12.8%
South Greensburg Borough	1,414	$551,430,000	900	63.6%	$248,676,000	45.1%
South Huntingdon Township	6793	$803,093,000	3607	53.1%	$496,769,000	61.9%
Southwest Greensburg Borough	1,351	$393,277,000	631	46.7%	$163,645,000	41.6%
St. Clair Township	1,434	$176,087,000	487	34.0%	$46,758,000	26.6%
Sutersville Borough	475	$95,741,000	186	39.2%	$36,147,000	37.8%
Trafford Borough	1,768	$837,649,000	1,281	72.5%	$459,903,000	54.9%
Unity Township	15,670	$4,329,118,000	7,578	48.4%	$2,013,899,000	46.5%
Upper Burrell Township	2,160	$513,830,000	1,311	60.7%	$396,943,000	77.3%
Vandergrift Borough	3,281	$840,662,000	1,571	47.9%	$437,081,000	52.0%
Washington Township	6,393	$1,110,239,000	3,545	55.5%	$590,795,000	53.2%
West Leechburg Borough	930	$219,980,000	546	58.7%	$128,985,000	58.6%
West Newton Borough	1,810	$459,333,000	1,043	57.6%	$269,281,000	58.6%
Youngstown Borough	299	$76,023,000	109	36.5%	$19,677,000	25.9%
Youngwood Borough	1,992	$772,223,000	979	49.1%	$457,541,000	59.2%
WESTMORELAND COUNTY (TOTAL)	**259,498**	**$72,828,451,000**	**140,163**	**54.0%**	**$40,219,928,000**	**55.2%**

Source: HAZUS-MH v4.2; Westmoreland County 2019; USGS 2010
Notes:
% Percent
RCV Replacement cost value (structure and contents)

Critical Facilities and the Economy

To estimate exposure, the approximate hazard area was overlaid upon the essential and municipal facilities. In addition to critical facilities, a significant amount of infrastructure can be exposed to mass movements of geological material:

- Roads – Access to major roads is crucial to life-safety after a disaster event and to response and recovery operations. Landslides can block egress and ingress on roads, isolating neighborhoods, posing traffic problems, and causing delays of public and private transportation. This can result in economic losses for businesses.
- Bridges – Landslides can significantly impact road bridges. Mass movements can knock out bridge abutments or significantly weaken the soil supporting them, rendering them hazardous for use.

- Power Lines – Power lines are generally elevated above steep slopes; but the towers supporting them can be subject to landslides. A landslide could trigger failure of the soil underneath a tower, causing it to collapse and ripping down the lines. Power and communication failures due to landslides can create problems for vulnerable populations and businesses.
- Rail Lines – Similar to roads, rail lines are important for response and recovery operations after a disaster. Landslides can block travel along the rail lines, which would become especially troublesome, because detouring a rail line would not be as easy as detouring a local road or highway.

Several other types of infrastructure may also be exposed to landslides, including water and sewer infrastructure. At this time, all critical facilities, infrastructure, and transportation corridors within the hazard areas are considered vulnerable until more information becomes available. Table 4.3.8-5 lists critical facilities located in the landslide hazard area.

Table 4.3.8-5. Critical Facilities in the Landslide Hazard Area

Jurisdiction	Facility Types																							
	Airport	College/University	County Building	Dam	Day Care	DPW	EMS	EOC	Fire	Hazmat Facility	Hospital	Industrial Site	Library	MDJ	Mental Health/ Substance Abuse	Municipal Office	Nursing Home	Police	Potable Water Pump	School	School District Office	Sewer/Wastewater Facility	Water Regulator	Water Tank
Allegheny (T)	0	0	0	1	1	0	0	0	0	1	0	0	0	0	1	1	0	0	0	0	0	0	0	1
Arnold (C)	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
Avonmore (B)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
Bell (T)	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0
Bolivar (B)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cook (T)	0	0	0	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Delmont (B)	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
Derry (B)	0	0	0	1	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1	0	0	0
Derry (T)	0	0	0	1	1	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Donegal (B)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Donegal (T)	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0
East Huntingdon (T)	0	0	0	0	0	0	0	0	1	1	0	1	0	0	0	1	0	0	0	0	1	0	0	1
East Vandergrift (B)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Export (B)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fairfield (T)	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
Greensburg (C)	0	1	1	0	1	0	0	0	1	0	1	0	0	1	1	1	1	1	0	1	1	0	0	0
Hempfield (T)	0	1	1	1	1	0	0	1	1	1	0	1	0	1	1	1	1	0	0	1	0	1	0	1
Hunker (B)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hyde Park (B)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
Irwin (B)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Jeannette (C)	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1	0	1	1	0	0	1
Latrobe (B)	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	0	0	0	0	0	0
Laurel Mountain (B)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ligonier (B)	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ligonier (T)	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Lower Burrell (C)	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	1	1	0	0	1	0	0	0
Loyalhanna (T)	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0

Jurisdiction	Facility Types																						
	Airport	College/University	County Building	Dam	Day Care	DPW	EMS	EOC	Fire	Hazmat Facility	Hospital	Industrial Site	Library	MDJ	Mental Health/ Substance Abuse	Municipal Office	Nursing Home	Police	Potable Water Pump	School	School District Office	Sewer/Wastewater Facility	Water Regulator	Water Tank
Madison (B)	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
Manor (B)	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Monessen (C)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
Mount Pleasant (B)	0	0	0	0	0	0	1	0	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0	0
Mount Pleasant (T)	0	0	0	1	1	0	0	0	1	1	0	0	0	1	0	1	0	0	0	0	0	0	0	0
Murrysville (B)	0	0	0	1	1	0	0	0	1	1	0	0	1	0	0	0	1	0	0	1	0	0	0	0
New Alexandria (B)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
New Florence (B)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
New Kensington (C)	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
New Stanton (B)	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
North Belle Vernon (B)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
North Huntingdon (T)	0	0	0	1	1	1	0	0	1	1	0	0	0	0	0	1	1	1	1	1	1	0	1	0
North Irwin (B)	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
Oklahoma (B)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Outside	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Penn (B)	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	1	0	0
Penn (T)	0	0	0	1	1	0	0	0	1	1	0	0	1	0	0	1	0	0	0	0	1	0	0	1
Rostraver (T)	0	0	0	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0
Salem (T)	0	0	0	0	0	1	0	1	1	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0
Scottdale (B)	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Seward (B)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sewickley (T)	0	0	0	1	0	0	0	0	1	1	0	0	0	0	0	1	0	0	0	0	1	1	0	0
Smithton (B)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
South Greensburg (B)	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0

Jurisdiction	Facility Types																						
	Airport	College/University	County Building	Dam	Day Care	DPW	EMS	EOC	Fire	Hazmat Facility	Hospital	Industrial Site	Library	MDJ	Mental Health/ Substance Abuse	Municipal Office	Nursing Home	Police	Potable Water Pump	School	School District Office	Sewer/Wastewater Facility	Water Regulator	Water Tank
South Huntingdon (T)	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0
Southwest Greensburg (B)	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
St. Clair (T)	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	1	0	1	0	0	0	0	0	0
Sutersville (B)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
Trafford (B)	0	0	0	0	0	0	0	0	1	1	0	0	1	0	0	0	0	1	0	0	0	0	0	0
Unity (T)	1	1	0	1	1	0	0	0	1	1	0	0	0	1	1	1	1	0	0	0	0	0	0	1
Upper Burrell (T)	0	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vandergrift (B)	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	1	0	0	0	0	1	0	0	0
Washington (T)	0	0	0	1	1	0	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	0	0	0
West Leechburg (B)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
West Newton (B)	0	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Youngstown (B)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Youngwood (B)	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0
Westmoreland County (Total)	**1**	**4**	**2**	**18**	**15**	**2**	**4**	**2**	**20**	**33**	**2**	**2**	**7**	**6**	**6**	**30**	**8**	**12**	**1**	**5**	**11**	**3**	**3**	**7**

Sources: Westmoreland County 2019, USGS 2010

Geologic hazards can impose direct and indirect impacts on society. Direct costs include actual damage sustained by buildings, property, and infrastructure. Indirect costs, such as cleanup costs, business interruption, loss of tax revenues, reduced property values, and loss of productivity are difficult to measure. Additionally, ground failure threatens transportation corridors, fuel and energy conduits, and communication lines (USGS 2003). Estimated potential damages to general building stock can be quantified as discussed above. For the purposes of this analysis, general building stock damages are discussed further.

A landslide event alters the landscape. In addition to changes in topography, vegetation and wildlife habitats may be damaged or destroyed, and soil and sediment runoff will accumulate downslope, potentially blocking waterways and roadways and impacting quality of streams and other water bodies. Additional environmental impacts include loss of forest productivity. Considering both landslide hazard areas, the entire building stock is potentially exposed to a landslide event. These dollar value losses to Westmoreland County's total building inventory would impact Westmoreland County's tax base and the local economy.

All major roadways and transportation routes located in, and downslope of, the High-Susceptibility/Moderate-Incidence zone may be vulnerable to a landslide event.

Impact on the Environment

The impact of landslides on the environment depends on the size and specific location of the event. Impacts include:

- Changes to topography
- Damage or destruction of vegetation
- Potential diversion or blockage of water in the vicinity of streams, rivers, etc.
- Increased sediment runoff both during and after event (PEMA 2018).

Future Growth and Development

Areas targeted for potential future growth and development within the next five years have been identified across Westmoreland County. Section 2.4 of this HMP includes further details. New development within the landslide hazard areas are considered exposed to these risks.

Effect of Climate Change on Vulnerability

Climate is defined not just as average temperature and precipitation but also by type, frequency, and intensity of weather events. Both globally and at the local scale, climate change could alter prevalence and severity of extremes such as severe storms, including those that may bring intense or prolonged precipitation (U.S. Environmental Protection Agency [EPA] 2006). An increase in rainfall intensity and duration will saturate the soil, potentially erode the local landscape, and impair slope stability, leading to an increase of landslide events in Westmoreland County.

While predicting changes in these types of events under a changing climate is difficult, understanding vulnerabilities to potential changes is a critical part of estimating future climate change impacts on human health, society, and the environment (EPA 2006). Potential effects of climate change on Westmoreland County's vulnerability to landslide events must be considered as understanding of impacts of regional climate change increases.

High temperatures can contribute to instability of slopes by enhancing thermal breakdown of rock, decreasing the viscosity of groundwater (contributing to more lubrication of sediment), and thawing frozen groundwater so

more water infiltrates the soil. Warming could intensify the cycling between wet and dry periods, which can widen gaps in rock and soil, leading to a decrease in slope stability. However, warm conditions can also cause increased evaporation, which would lead to more stable conditions in soil, especially during the summer (Climate Impacts Group 2015).

Future climate change may impact storm patterns, increasing the probability of more frequent, intense storms with varying duration. Heavier rain events reduce slope stability by raising the water table and enhancing the amount of water draining through soil. Wetter soils are heavier and have greater lubrication among soil layers (Climate Impacts Group 2015).

Increases in global temperature could affect the snowpack and its ability to hold and store water. Higher snow lines result in greater soil saturation as well (Climate Impacts Group 2015).

Additional Data and Next Steps

More detailed landslide susceptibility zones can be generated so that communities can more accurately identify high-hazard areas. A pilot study conducted for Schenectady County, New York, (described in the 2011 Draft New York State Hazard Mitigation Plan) developed higher-resolution landslide susceptibility zones. The methodology included use of the Natural Resource Conservation Services (NRCS) Digital Soil Survey soil units and their associated properties, including the American Association of State Highway and Transportation Officials (AASHTO) rating, liquid limit, hydrologic group, percentage of silt and clay, erosion potential, and slope, derived from high-resolution digital elevation models. Identifying historical damages to buildings and infrastructure incurred from landslides will also help with loss estimates and future modeling efforts, given a margin of uncertainty. Furthermore, research on rainfall thresholds for forecasting landslide potential may also be an option for Westmoreland County.

4.3.9 Lightning

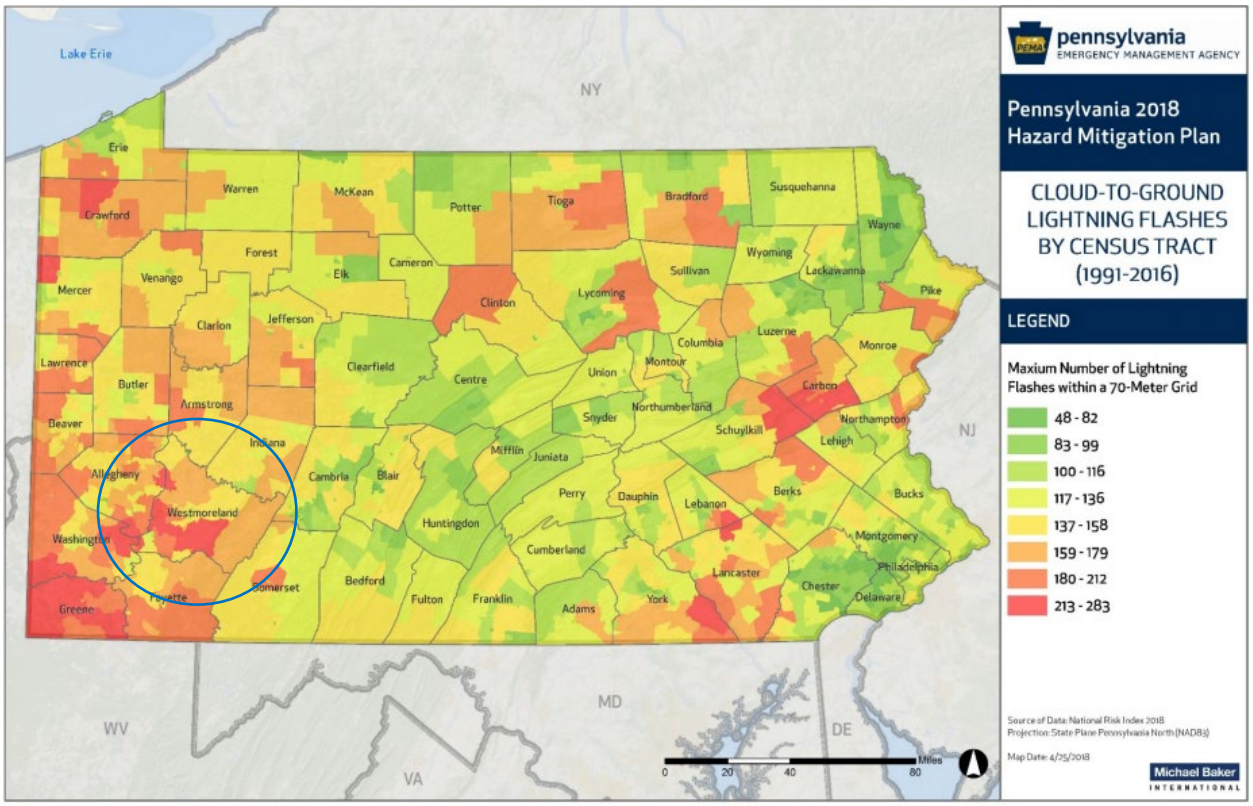
This section provides a profile and vulnerability assessment of the lightning hazard in Westmoreland County. Lighting is a rapid discharge of electrical energy in the atmosphere. The clap of thunder is the result of a shock wave created by the rapid heating and cooling of the air in the lightning channel. All thunderstorms produce lightning and are very dangerous. It ranks as one of the top weather killers in the United States and kills approximately 50 people and injures hundreds each year. Lightning can occur anywhere there is a thunderstorm (NOAA 2014).

4.3.9.1 Location and Extent

Lightning can occur anywhere in Westmoreland County. It can occur with all thunderstorms, making the entire county susceptible to the impacts of lightning. Different geographic areas may experience varying event frequencies, but in all cases, lighting strikes and associated fatalities occur primarily during the summer months.

According to the 2018 Commonwealth of Pennsylvania State Hazard Mitigation Plan, most lightning flashes occur in southwestern Pennsylvania and in the Lehigh Valley; however, eastern and southeastern portions of the Commonwealth are at greater risk for death, injury or damage to lightning than central and north-central due to high population density (PA HMP 2018). Figure 4.3.9-1 shows the frequency of cloud-to-ground lightning flashes by census tract across Pennsylvania.

Figure 4.3.9-1. Cloud-to-Ground Lightning Flashes by Census Tract, 1991-2016



Source: PEMA 2018
Note: Westmoreland County is shown by the blue oval.

4.3.9.2 Range of Magnitude

Lightning causes an average of 44 fatalities and hundreds of injuries each year in the United States and millions of dollars in property damage (NWS 2018). Many case histories show observed heart damage, inflated lungs, and brain damage in lightning-related fatalities. Many who have survived lightning strikes reported loss of consciousness, amnesia, paralysis, and burns. Death and injury to livestock and other animals; thousands of forest and brush fires; and damage to buildings, communications systems, power lines, and electrical systems are also the result of lightning (PEMA 2018).

Between 1959 and 2016, Pennsylvania ranked ninth among all states in the United States for the number of lightning deaths with 134 deaths. This represents approximately 3% of all fatalities that occurred throughout the United States over this time frame (PEMA 2018). Damages to property and crops as a result of lightning events totaled over $16.6 million in Pennsylvania (NCEI 2019).

The worst-case scenario for lightning strikes would be a strike in a large group of people, such as at an outdoor sporting event or concert, in Westmoreland County (PEMA 2018). Numerous injuries or deaths could occur.

4.3.9.3 Past Occurrence

According to the NOAA-NCEI Storm Events Database, Westmoreland County has been impacted by 10 lightning-specific events since 1996. However, this number does not represent the total number of events, such as thunderstorms, where lightning occurred. NOAA-NCEI defines a lightning "event" as a lightning strike, which results in fatality, injury, and/or property or crop damage. For this HMP update, known lightning events that have impacted Westmoreland County are identified in Table 4.3.9-1. Please note that not all lightning events that have occurred in Westmoreland County are included due to the extent of documentation and the fact that not all sources may have been identified or researched. Loss and impact information could vary depending on the source. Therefore, the accuracy of monetary figures discussed is based only on the available information identified during research for this HMP update.

Table 4.3.9-1. Lightning Events in Westmoreland County, 1996 to 2019

Date	Location	Fatalities	Injuries	Property Damage ($)
June 8, 1996	Latrobe Airport	0	6	No property damage reported.
June 11, 1996	Greensburg	0	0	Lightning struck a house in Greensburg and sparked a small attic fire. Approximately $3,000 in damages were reported.
August 8, 1996	Harrison City	0	0	Lightning struck a house and started a small attic fire. Approximately $5,000 in damages were reported.
July 18, 1997	New Stanton	0	0	Lightning sparked a fire that destroyed a barn and its contents. Approximately $10,000 in damages were reported.
July 18, 1997	Derry	0	0	Lightning sparked a fire that destroyed a mobile home. Approximately $20,000 in damages were reported.
August 16, 1997	Donegal	0	0	Lightning sparked a barn fire. Approximately $5,000 in damages reported.
May 31, 1998	Mount Pleasant	0	0	Lightning sparked a fire and caused damage to the attic and outside overhang of the house, causing $15,000 in damages.
May 31, 1998	Herminie	0	1	A man was reported to have been struck and injured by lightning.
June 20, 2001	Ligonier	1	2	No property damage reported.
June 5, 2002	Salina	0	5	No property damage reported.

Sources: NOAA-NCEI 2019

4.3.9.4 Future Occurrence

Lightning can be expected in any severe storm event. While injuries or fatalities caused by lightning strikes are rare, lightning events severe enough to be reported can be expected at least once every two years. It is estimated that the County will continue to experience lightning events annually. For the 2019 HMP update, the most up-to-date data was collected to calculate the probability of future occurrence of lightning events for Westmoreland County. Information from NOAA-NCEI Storm Events Database was used to identify the number of lightning strike events that occurred between 1996 and 2019. Using these sources ensures the most accurate probability estimates possible. The table below shows these statistics as well as the annual average number of events and the estimated percent chance of an incident occurring in a given year. Based on these statistics, there is an estimated 43.5-percent chance of a lightning strike event occurring in any given year in Westmoreland County.

Table 4.3.9-2. Probability of Future Lightning Events

Hazard Type	Number of Occurrences Between 1996 and 2019	Percent Chance of Occurrence in Any Given Year
Lightning	10	42%

Sources: *NOAA-NCEI 2019*
Note: *NOAA-NCEI lightning reports start in 1996.*

Based on available historical data, the future occurrence of lightning strikes that cause deaths, injuries, or property damage can be considered *possible* as defined by the Risk Factor Methodology probability criteria (refer to Section 4.4).

4.3.9.5 Vulnerability Assessment

To understand risk, a community must evaluate the assets that are exposed or vulnerable in the identified hazard area. For lightning events, all of Westmoreland County has been identified as the hazard area. Therefore, all assets (population, structures, critical facilities, and lifelines), as described in Section 2, are potentially vulnerable. This section evaluates and estimates the potential impact of lightning strike events on Westmoreland County, including the following subsections:

- Overview of vulnerability
- Data and methodology used for the evaluation
- Impact on (1) life; (2) health and safety; (3) general building stock; (4) critical facilities, (5) economy; and (6) future growth and development
- Effect of climate change on vulnerability
- Additional data and next steps.

Overview of Vulnerability

Evaluation of NOAA-NCEI lightning data for Westmoreland County, along with data from the current and previous versions of the PA HMP, show that while the absolute number of lightning events has changed for individual municipalities, the basic pattern of vulnerability across the County has remained relatively consistent.

The potential for lightning strikes will continue to exist for all municipalities. The direct and indirect losses associated with these events include injury and loss of life, damage to structures and infrastructure, agricultural losses, utility failure (power outages), and stress on community resources.

Westmoreland County is a StormReady county. This designation is obtained through participation in the NWS StormReady Program, which includes the following six guidelines met by the County:

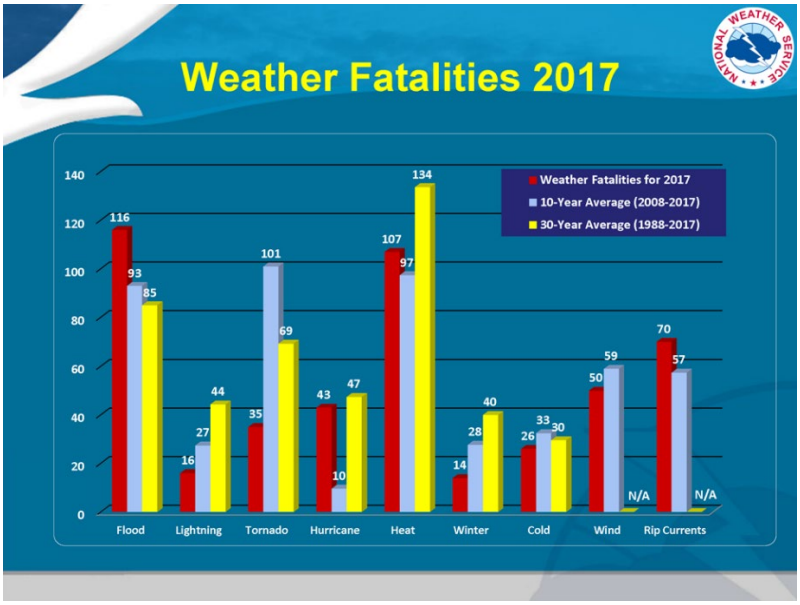
- Communication – A 24-hour warning point (WP) must be fully staffed at all times, and a County Emergency Operations Center (EOC) must be established.
- NWS Information Reception – At least four redundant systems must be in place at the WP to receive weather warnings.
- Hydrometeorological Monitoring – At least four methods of monitoring hydrometeorological data must be available.
- Local Warning Dissemination – At least four redundant systems must be in place to notify the County of severe weather warnings, and there must be National Weather Radio-Specific Area Messaging Encoding receivers in public facilities.
- Community Preparedness – The County must present at least four annual weather safety talks, spotters and dispatchers must be trained biennially, and the County must host or co-host NWS spotter training annually.
- Administration – The County must also meet a number of administrative criteria that include formal hazardous weather operations planning, biennial visits of the County Emergency Management Coordinator (EMC) to the NWS office, and annual visits by an NWS official to the County.

Meeting the criteria of the StormReady program results in a decrease in vulnerability to all severe weather events, including lightning strikes.

Impact on Life, Health, and Safety

Across the United States, the 10-year average (2008 to 2017) for fatalities caused by lightning is 27, while the 30-year average (1988 to 2017) is 44 (NWS 2018). Figure 4.3.9-2 illustrates these statistics. According to NOAA-NCEI, there has been one fatality and 14 injuries associated with lightning strike events from 1996 to 2019 in Westmoreland County (NCEI 2019).

Figure 4.3.9-2. Weather Fatalities in the United States



Source: NWS 2018

The entire population of the County is considered exposed to the lightning hazard. Lightning strikes in Pennsylvania occur primarily during the summer months. In general, population and building density have a correlation with hazard vulnerability and loss. The more-developed areas of Westmoreland County are at greater risk to lightning strikes than others because of the greater population density. Populations located outdoors are considered at risk and more vulnerable to a lightning strike compared to those inside a shelter. Moving to a lower-risk location will decrease a person's vulnerability.

Impact on General Building Stock, Critical Facilities, and the Economy

For the purposes of this HMP, the entire general building stock and all infrastructure of Westmoreland County are considered exposed to the lightning strike hazard. In general, developed areas in the County are at greater risk than more rural areas others due to population and structure density. Taller buildings can act as lightning rods; therefore, they naturally have experienced greater vulnerability and loss during past lightning strike events (PEMA 2018). The 2018 Commonwealth of Pennsylvania State Hazard Mitigation Plan identifies Allegheny and Westmoreland Counties as having the highest concentrations of vulnerable populations and buildings susceptible to lightning strikes within the state (PEMA 2018).

The precise vulnerability of lightning strikes will depend on a facility's height in relation to surrounding buildings as well as the absence or presence of a lightning rod or other lightning channeling technology on the structure. According to the PA HMP, fire departments, schools, police departments, and dams are the most vulnerable to lightning strikes. Food and agriculture facilities that raise livestock may also be more vulnerable to lightning strikes as these animals tend to shelter under trees in storm situations (PEMA 2018).

According to NOAA's Technical Paper titled *Lightning Fatalities, Injuries, and Damage Reports in the United States from 1959–1994*, monetary losses for lightning events range from less than $50 to greater than $5 million (larger losses associated with forest fires with homes destroyed and crop loss) (NOAA 1997). Lightning can be responsible for damages to buildings; cause electrical, forest, and/or wildfires; and damage infrastructure such as power transmission lines and communication towers. Agricultural losses caused by lightning and lightning-resulting fires can be devastating.

The 2018 State HMP estimated jurisdictional losses for the 30 counties most vulnerable to lightning strike, including Westmoreland County. Using GIS, the value of exposed buildings is estimated to total over $13.8 billion. Note that losses due to lightning strikes will differ based on the magnitude of the event and the lightning protection measures on a given facility (PEMA 2018).

Impact on the Environment

The environmental impacts most often associated with lightning strikes include damage or death to trees or ignition of wildfires (PEMA 2018). Refer to Section 4.3.13 (Wildfire) for the impacts on the environment from wildfires.

Future Growth and Development

Areas targeted for potential future growth and development within the next 5 years have been identified across Westmoreland County; refer to Section 2.4 of this HMP. New development is anticipated to be exposed to the lightning strike hazard.

Effect of Climate Change on Vulnerability

Climate is defined not simply as average temperature and precipitation but also by the type, frequency, and intensity of weather events. Both globally and the local level, climate change has the potential to alter the prevalence and severity of weather extremes such as storms, including those that may bring lightning. While

predicting changes of lightning events under a changing climate is difficult, understanding vulnerabilities to potential changes is a critical part of estimating future climate change impacts on human health, society and the environment (U.S. Environmental Protection Agency [EPA] 2006).

Climate change may lead to an increase in the number of lightning-producing storms. Major clusters of summertime thunderstorms in North America will grow larger, more intense, and more frequent later this century in a changing climate, unleashing far more rain and posing a greater threat of flooding across wide areas (UCAR 2017). At century's end, the number of summertime storms that produce extreme downpours could increase by more than 400% across parts of the United States, including sections of the Gulf Coast, Atlantic Coast, and the Southwest. In addition, the volume of rainfall during mesoscale connective systems (MSCs) could increase by as much as 80% in some areas (UCAR 2017). An increase in atmospheric moisture could also lead to an increase in lightning strikes, ultimately causing an increase in wildfire ignitions (Lee, 2014).

Thunderstorms and other heavy rainfall events are estimated to cause more than $20 billion of economic losses annually in the United States. Particularly damaging, and often deadly, are mesoscale convective systems (MSCs): clusters of thunderstorms that can extend for many dozens of miles and last for hours, producing flash floods, debris flows, landslides, high winds, and/or hail. The persistent storms over Houston in the wake of Hurricane Harvey were an example of an unusually powerful and long-lived MCS.

Additional Data and Next Steps

The assessment above identifies vulnerable populations and potential structural and economic losses associated with the lightning strike hazard. Research performed at NOAA and other private organizations is ongoing to improve warning and threat information for the public. The continued collection of additional/actual loss data specific to the Plan participants will further enhance Westmoreland County’s vulnerability assessment.

4.3.10 Radon Exposure

Radon is a natural gas that cannot be seen, smelled, or tasted. It is a noble gas that originates from natural radioactive decay of uranium and thorium. Radon is a large component of the natural radiation to which humans are exposed and can pose a serious threat to public health when it accumulates in poorly ventilated residential and occupation settings. According to the U.S. Environmental Protection Agency (EPA), radon causes more than 20,000 lung cancer deaths per year, second only to smoking as the leading cause of lung cancer (EPA 2013). An estimated 40 percent of the homes in Pennsylvania are believed to have elevated radon levels (Pennsylvania Department of Environmental Protection [PADEP] 2019).

This section describes the location and extent, range of magnitude, past occurrence, future occurrence, and vulnerability assessment for the radon exposure hazard for the Westmoreland County Hazard Mitigation Plan (HMP).

4.3.10.1 Location and Extent

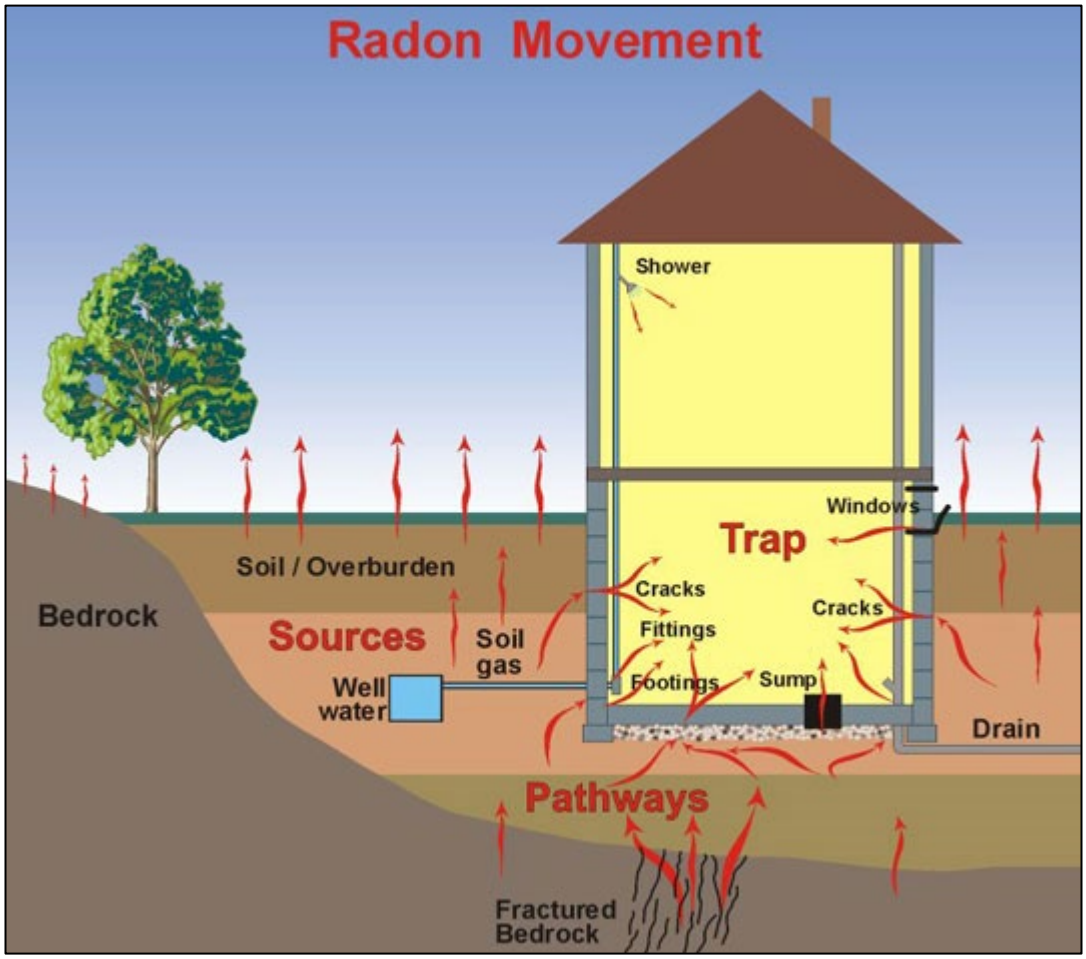
Radioactivity caused by airborne radon has been recognized for many years as an important component in the natural background radioactivity exposure of humans. However, it was not until the 1980s that the wide geographic distribution of elevated radon levels in houses and the possibility of extremely high radon concentrations in houses were recognized. In 1984, routine monitoring of employees leaving the Limerick nuclear power plant near Reading, PA, showed that readings from one employee frequently exceeded expected radiation levels, yet only natural, non-fission product radioactivity was detected on him. Radon levels in his home were detected around 2,500 picoCuries per liter (pCi/L), much higher than the 4 pCi/L guideline set by EPA or even the 67 pCi/L limit for uranium miners. As a result of this event, the Reading Prong section of Pennsylvania where this person lived became the focus of the first large-scale radon scare in the world.

Radon (Rn-222), which has a half-life of 3.8 days, is a widespread hazard. The distribution of radon correlates with the distribution of radium (Ra-226), its immediate radioactive parent, and with uranium, its original ancestor. Because of the short half-life of radon, the distance radon atoms travel from their parent before they decay is generally limited to extents of feet or tens of feet. Three sources of radon in houses are now recognized:

- Radon in soil air flows into the house.
- Radon dissolved in water from private wells and exsolved during water usage; this source is rarely a problem in Pennsylvania.
- Radon emanating from uranium-rich building materials (such as concrete blocks or gypsum wallboard); this source also is not known to be a problem in Pennsylvania (PEMA 2018).

Figure 4.3.10-1 illustrates radon entry points into a home.

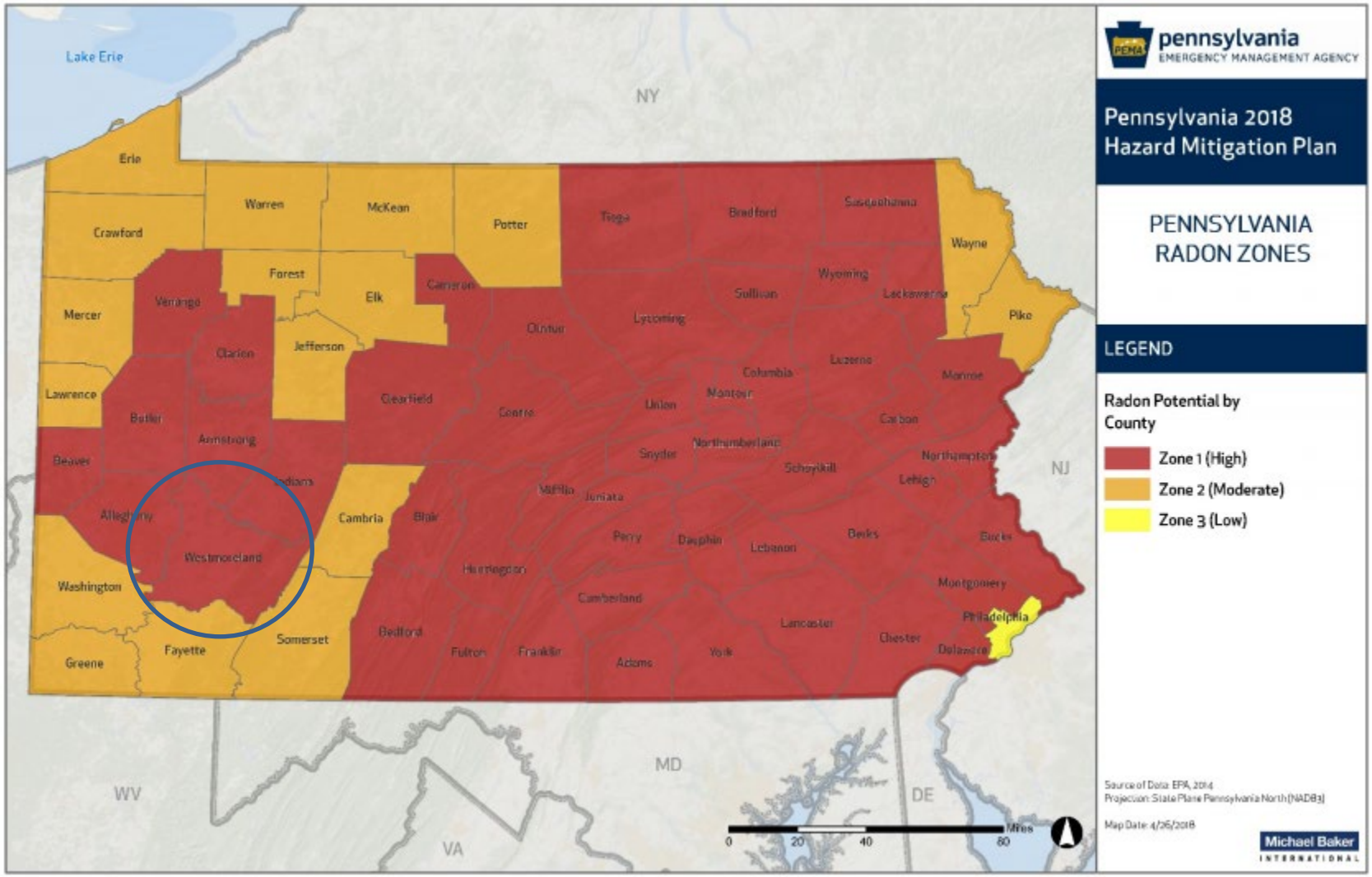
Figure 4.3.10-1. Sketch of Radon Entry Points into a House



Sources: PEMA 2013

Each county in Pennsylvania is classified as having a low, moderate, or high radon hazard potential. A majority of counties across the Commonwealth, particularly counties in eastern Pennsylvania, have a high hazard potential. Western Pennsylvania counties, however, are not completely immune from the threat of radon, as high potential for radon exposure exists within nine western counties. The average indoor radon screening level within high-exposure counties exceeds 4 pCi/L. Westmoreland County is in Zone 1 – High Radon Potential, as noted on Figure 4.3.10-2 below.

Figure 4.3.10-2. Radon Hazard Zones in Pennsylvania



Sources: PEMA 2018 (blue highlight added)
Note: Westmoreland County is circled in blue

High radon levels were initially thought to be exacerbated in tightly sealed houses, although it is now recognized that rates of airflow into and out of houses, plus the location of air inflow and the radon content of air in the surrounding soil, are key factors affecting radon concentrations. Air must be drawn into a house to compensate for outflows of air from the house caused by a furnace, fan, thermal "chimney" effect, or wind effects. If the upper part of the house is tight enough to impede influx of outdoor air (radon concentration generally below 0.1 pCi/L), an appreciable fraction of the air may be drawn in from the soil or fractured bedrock through the foundation and slab beneath the house, or through cracks and openings for pipes, sumps, and similar features. Soil gas typically contains from a few hundred to a few thousand pCi/L of radon; therefore, even a small rate of soil gas inflow can lead to elevated radon concentrations in a house.

Radon concentration in soil gas depends on a number of soil properties, the importance of which are still being evaluated. In general, 10 to 50 percent of newly formed radon atoms escape the host mineral of their parent radium and gain access to the air-filled pore space. The radon content of soil gas clearly tends to be higher in soils containing higher levels of radium and uranium, especially if the radium occupies a site on or near the surface of a grain from which the radon can easily escape. The amount of pore space in the soil and its permeability for airflow, including cracks and channels, are important factors determining radon concentration in soil gas and its rate of flow into a house. Soil depth and moisture content, mineral host and form for radium, and other soil properties may also be important. Fractured zones may supply air having radon concentrations similar to those in deep soil for houses built on bedrock.

Areas where houses have high levels of radon can be divided into three groups in terms of uranium content in rock and soil:

- Areas of very elevated uranium content (above 50 parts per million [ppm]) around uranium deposits and prospects: Although very high levels of radon can occur in these areas, the hazard normally is restricted to within a few hundred feet of the deposit. In Pennsylvania, these localities occupy an insignificant area.
- Areas of common rocks having higher than average uranium content (5 to 50 parts per million [ppm]): In Pennsylvania, these rock types include granitic and felsic alkali igneous rocks and black shales. High uranium values in rock or soil and high radon levels in houses in the Reading Prong are associated with Precambrian granitic gneisses commonly containing 10 to 20 ppm uranium, but locally containing more than 500 ppm uranium. Elevated uranium occurs in black shales of the Devonian Marcellus Formation and possibly the Ordovician Martinsburg Formation in Pennsylvania. High radon values are locally present in areas underlain by these formations.
- Areas of soil or bedrock that have normal uranium content but properties that promote high radon levels in houses: This group is incompletely understood at present. Relatively high soil permeability can lead to high radon concentrations, the clearest example being houses built on glacial eskers. Limestone-dolomite soils also appear to be predisposed for high radon levels in houses, perhaps because of the deep clay-rich residuum where radium is concentrated by weathering on iron oxide or clay surfaces, coupled with moderate porosity and permeability. The importance of carbonate soils is indicated by exceedance of 4 pCi/L in 93 percent of a sample of houses built on limestone-dolomite soils near State College, Centre County, and exceedance of 20 pCi/L in 21 percent of that sample of houses, even though uranium levels in the underlying bedrock are all within the normal range of 0.5 to 5 ppm (PEMA 2018).

According to the State HMP, radon tends to exist as a gas or as a dissolved atomic component in groundwater. The most problematic source of radon in houses in Pennsylvania is radon in soil gas that flows into the house. Even a small rate of soil gas inflow can lead to elevated radon concentrations in a house. The State HMP indicates that current data on abundance and distribution of radon in Pennsylvania homes are incomplete and biased, but the plan identifies general patterns (PEMA 2018).

4.3.10.2 Range of Magnitude

Exposure to radon is the second-leading cause of lung cancer after smoking, and the leading cause of lung cancer among non-smokers. As stated earlier, radon is responsible for more than 20,000 lung cancer deaths every year. Lung cancer is the only known effect on human health from exposure to radon in air and, thus far, no evidence indicates that children are at greater risk of lung cancer than adults (EPA 2013). The main hazard is actually from the radon daughter products (polonium-218, lead-214, bismuth-214), which may become attached to lung tissue and induce lung cancer by their radioactive decay. Table 4.3.10-1 lists (1) cancer risks from exposure to radon at various levels for smokers and non-smokers, (2) lung cancer risks from radon exposure compared to cancer risks from other hazards for smokers and non-smokers, and (3) action thresholds.

Table 4.3.10-1. Radon Risk for Smokers and Non-Smokers

Radon Level (picoCuries per liter [pCi/L])	Cancer Rate per 1,000 People with Lifetime Exposure	Comparative Cancer Risk of Radon Exposure	ACTION THRESHOLD
SMOKERS			
20	About 260 people could get lung cancer	250 times the risk of drowning	Fix structure
10	About 150 people could get lung cancer	200 times the risk of dying in a home fire	
8	About 120 people could get lung cancer	30 times the risk of dying in a fall	
4	About 62 people could get lung cancer	5 times the risk of dying in a car crash	
2	About 32 people could get lung cancer	6 times the risk of dying from poison	Consider fixing structure between 2 and 4 pCi/L
1.3	About 20 people could get lung cancer	(Average indoor radon level)	Reducing radon levels below 2 pCi/L is difficult
0.4	About 3 people could get lung cancer	(Average outdoor radon level)	
NON-SMOKERS			
20	About 36 people could get lung cancer	35 times the risk of drowning	Fix structure
10	About 18 people could get lung cancer	20 times the risk of dying in a home fire	
8	About 15 people could get lung cancer	4 times the risk of dying in a fall	
4	About 7 people could get lung cancer	The risk of dying in a car crash	
2	About 4 people could get lung cancer	The risk of dying from poison	Consider fixing structure between 2 and 4 pCi/L
1.3	About 2 people could get lung cancer	(Average indoor radon level)	Reducing radon levels below 2pCi/L is difficult
0.4	-	(Average outdoor radon level)	

Note: Risk may be lower for former smokers.
* Lifetime risk of lung cancer deaths from EPA Assessment of Risks from Radon in Homes (EPA 402-R-03-003).
** Comparison data calculated using the Centers for Disease Control and Prevention's 1999-2001 National Center for Injury Prevention and Control Reports.

Source: EPA 2013

According to EPA, the average radon concentration in the indoor air in homes in the United States is about 1.3 pCi/L. EPA recommends that homes be repaired if the radon level is 4 pCi/L or more. However, EPA also

recommends that Americans consider fixing their home if radon levels are between 2 and 4 pCi/L because there is no known safe level of exposure to radon. As listed in Table 4.3.10-1, a smoker exposed to radon has a much higher risk of lung cancer.

The worst-case scenario for radon exposure would be a large area of tightly sealed homes inducing high levels of exposure to residents over a prolonged period of time, without awareness of this by the residents. This worst-case scenario exposure then could lead to a large number of people contracting cancer attributed to the radon exposure (PEMA 2018). The most likely scenario is a single household exposed to a very low concentration of radon, with no adverse health effects.

4.3.10.3 Past Occurrence

PADEP Bureau of Radiation Protection (Bureau) provides information for homeowners on how to test for radon in their houses. If results of a test reported to the Bureau exceed 4 pCi/L, the Bureau works to help the homeowner repair the house so as to mitigate high radon levels. The total number of tests reported to the Bureau since 1990 and test results by zip code are accessible on the Bureau's website. However, to best approximate the average for an area, this information is provided only if more than 30 tests within that area were reported.

The Bureau collected the sufficient number of radon results from residences in 40 zip codes within Westmoreland County to allow them to report the findings (summarized in Table 4.3.10-2). PADEP does not publish results unless a zip code has had at least 30 tests conducted. PADEP only publishes the average and maximum results for a zip code; it does not offer a range of results for a zip code, municipality, or region. The PADEP Radon Division recommends that ***all*** homeowners test for radon, regardless of test results within their respective zip codes. Despite a low average text result within a zip code, many homes in that zip code may have elevated radon levels.

Table 4.3.10-2. Radon Level Tests and Results by Zip Codes

ZIP Code	Location	Area in Home	Number of Tests	Maximum Result (pCi/L)	Average Result (pCi/L)
15062	Monessen	Basement	267	44.1	4.5
15068	New Kensington	Basement	2078	78.4	5.7
		First Floor	128	88.3	6
15085	Trafford	Basement	902	34	4.9
		First Floor	44	14.6	3.2
15089	West Newton	Basement	256	75	5.7
		First Floor	55	33.4	4.5
15479	Smithton	Basement	40	39.1	6.1
15601	Greensburg	Basement	7732	182.9	6.1
		First Floor	482	43	4.2
15610	Acme	Basement	15610	173	8.3
15613	Apollo	Basement	845	164.1	9.9
		First Floor	60	65.6	5.8
15618	Avonmore	Basement	72	34.4	4.6
15622	Champion	Basement	99	225.2	14.9
		First Floor	64	129.8	9.8
15623	Claridge	Basement	38	77.7	8.2
15626	Delmont	Basement	736	54.5	5.2

ZIP Code	Location	Area in Home	Number of Tests	Maximum Result (pCi/L)	Average Result (pCi/L)
15627	Derry	Basement	276	51.2	5.3
		First Floor	31	11.1	3.6
15632	Export	Basement	1264	79	5.8
		First Floor	39	67.7	4.5
15636	Harrison City	Basement	643	201.3	4.9
15637	Herminie	Basement	99	241.4	8.4
15639	Hunker	Basement	125	31.3	4.8
15642	Irwin	Basement	2956	88.9	5
		First Floor	124	86.3	4.7
15644	Jeannette	Basement	1524	202	6.5
		First Floor	71	52.3	5.9
15650	Latrobe	Basement	1903	208	5.6
		First Floor	185	27.5	3.9
15655	Laughlintown	Basement	45	12.5	4.1
15658	Ligonier	Basement	861	378.9	8.7
		First Floor	72	45.1	6.3
15661	Loyalhanna	Basement	39	17.3	3.9
15665	Manor	Basement	164	118.3	5.3
15666	Mount Pleasant	Basement	469	81.6	4.4
		First Floor	43	37.4	3.9
15668	Murrysville	Basement	3272	149	7
		First Floor	175	62	5.2
15670	New Alexandria	Basement	146	57.7	8.4
15675	Penn	Basement	38	19.9	3.5
15677	Rector	Basement	49	27.6	6.8
15679	Ruffs Dale	Basement	60	55	5.8
15683	Scottdale	Basement	311	41.5	4.3
		First Floor	39	15	4.6
15687	Stahlstown	Basement	66	49	7.5
15690	Vandergrift	Basement	210	68	6.2
15692	Westmoreland City	Basement	65	20	3.9
15697	Youngwood	Basement	225	34.9	4.1
15923	Bolivar	Basement	30	23.6	5
15944	New Florence	Basement	83	81.7	6.9
15954	Seward	Basement	67	143.1	11.6

Source: PADEP 2019

4.3.10.4 Future Occurrence

Radon exposure is inevitable given present soil, geologic, and geomorphic factors across Pennsylvania. Residents who live in developments within areas where radon levels previously have been found to be significantly high will continue to be more susceptible to exposure. However, new incidents of concentrated exposure may occur with future development or deterioration of older structures. Exposure can be limited by conducting proper testing within both existing and future developments and implementing appropriate mitigation measures (PEMA 2018). As part of a 2014 initiative to raise awareness, EPA implemented the "Test, Fix, Save a Life" radon action campaign to highlight radon testing and mitigation as a simple and affordable step to significantly reduce the risk of lung cancer. Through this initiative, the "Test, Fix, Save a Life" mantra specifies activities and facts for the public regarding radon poisoning, as indicated below:

- Test: All homes with or without basements should be tested for radon. Affordable, do-it-yourself radon test kits are available online and at home improvement and hardware stores, or you can hire a qualified radon tester.
- Fix: EPA recommends taking corrective action to fix radon levels at or above 4 pCi/L and contacting a qualified radon-reduction contractor. In most cases, a system with a vent pipe and fan is used to reduce radon. Addressing high radon levels often costs the same as other minor home repairs.
- Save a Life: More than 20,000 Americans die from radon-related lung cancer each year. By decreasing elevated levels in the home, residents can help prevent lung cancer while creating a healthier home (EPA 2013).

Future occurrences of radon exposure can be considered *highly likely* as defined by the Risk Factor Methodology probability criteria (discussed in Section 4.4).

4.3.10.5 Vulnerability Assessment

To understand risk, a community must evaluate the assets that are exposed or vulnerable within the identified hazard area. This section evaluates and estimates the potential impact of the radon exposure hazard on Westmoreland County in the following sections:

- Overview of vulnerability
- Data and methodology used for the evaluation
- Impacts on (1) life, health, and safety; (2) general building stock and critical facilities; (3) the economy; (4) the environment; and (5) future growth and development
- Further data collections that will assist in understanding this hazard over time

Overview of Vulnerability

Radon exposure is of particular concern in Westmoreland County because of the County's location within a High Potential (Level 1) EPA Radon Zone. While structural factors (such as building construction and engineered mitigation measures) can influence the level of radon exposure, all residents and structures within Westmoreland County are vulnerable to radon exposure.

Impact on Life, Health, and Safety

For the purposes of this plan, the entire population of the County is assumed exposed to risk of radon exposure. Radon is responsible for more than 20,000 lung cancer deaths every year. Lung cancer is the only known effect on human health from exposure to radon in air, and thus far, no evidence indicates that children are at greater risk of lung cancer than are adults (EPA 2013).

PA DEP reports that 41 percent of structures within Westmoreland County are within the 4 pCi/L and above range with an average indoor radon level of 6.2 pCi/L. Excess human cancer risk posed by radon exposure at this elevated level is identified in Table 4.3.10-1.

Impact on General Building Stock and Critical Facilities

While the entire general building stock and critical facility inventory in Westmoreland County is exposed to radon, radon does not result in direct damage to structures and facilities. Rather, engineering methods installed to mitigate human exposure to radon in structures results in economic costs described in the following subsection.

Impact on the Economy

EPA has concluded that an average radon mitigation system costs $1,200. EPA also states that current State surveys indicate one home in five with elevated radon levels. By use of this information, radon loss estimation is factored by assuming that 20 percent of the residential buildings within High Potential (Level 1) counties have elevated radon levels, and each would require a radon mitigation system installed at the EPA estimated average of $1,200 (PEMA 2018). Therefore, estimated radon mitigation costs for residential structures in Westmoreland County could exceed $39 million. However, 35 percent of households in the County have measured basement-level average radon levels exceeding 4 pCi/L (shown on Table 4.3.10-2), indicating that the cost of radon mitigation may be higher than the estimate based on the above-cited information from EPA, whereby only 20 percent of structures are considered for mitigation.

Impact on the Environment

Radon exposure exerts minimal environmental impacts. Because of the relatively short half-life of radon, it tends to affect only living and breathing organisms such as humans or pets that are routinely within contained areas (basement or house) where the gas is released (PEMA 2018).

Future Growth and Development

Because the entirety of Westmoreland County has been determined at risk for the radon exposure hazard, any new development will be exposed to this risk. Measures to reduce human exposure to radon in structures are readily available and can be incorporated during new construction at significantly lower cost and greater effectiveness than cost and effectiveness of retrofitting existing structures to implement these measures.

Additional Data and Next Steps

The assessment above identifies human health and economic losses associated with this hazard of concern; however, these estimates are based on national epidemiological statistics and generalized estimates of costs to mitigate structures in Westmoreland County. Because specific structural conditions affect human exposure to radon, direct radon measurements within facilities are necessary to properly assess the level of health risk and indicate need for mitigation measures. Furthermore, EPA recommends consideration of radon exposure risk and installation of mitigation measures as appropriate during all new construction.

4.3.11 Subsidence and Sinkholes

This section provides a profile and vulnerability assessment for the subsidence and sinkhole hazard for Westmoreland County. Subsidence and sinkholes may be natural or related to underground mining activities. The predominant cause of subsidence/sinkholes in Westmoreland is underground mining, which is not typically considered a geologic hazard; however, it will be treated as such in this document.

Land subsidence is a gradual settling or sudden sinking of the earth's surface, causing the subsurface movement of earth materials. It occurs when large amounts of groundwater have been withdrawn from certain types of rocks. The rocks compact because the water is partly responsible for holding the ground up. When the water is withdrawn, the rocks fall in on themselves (U.S. Geological Survey [USGS] 2017; 2019). In Pennsylvania, two common causes of subsidence are dissolution of carbonate rock (limestone and dolomite), and mining activity. In the first cause, water passes through naturally-occurring fractures, and bedding planes dissolve bedrock, leaving voids below the surface. Eventually, the voids collapse leaving surface depressions due to karst topography (Pennsylvania Emergency Management Agency [PEMA] 2018).

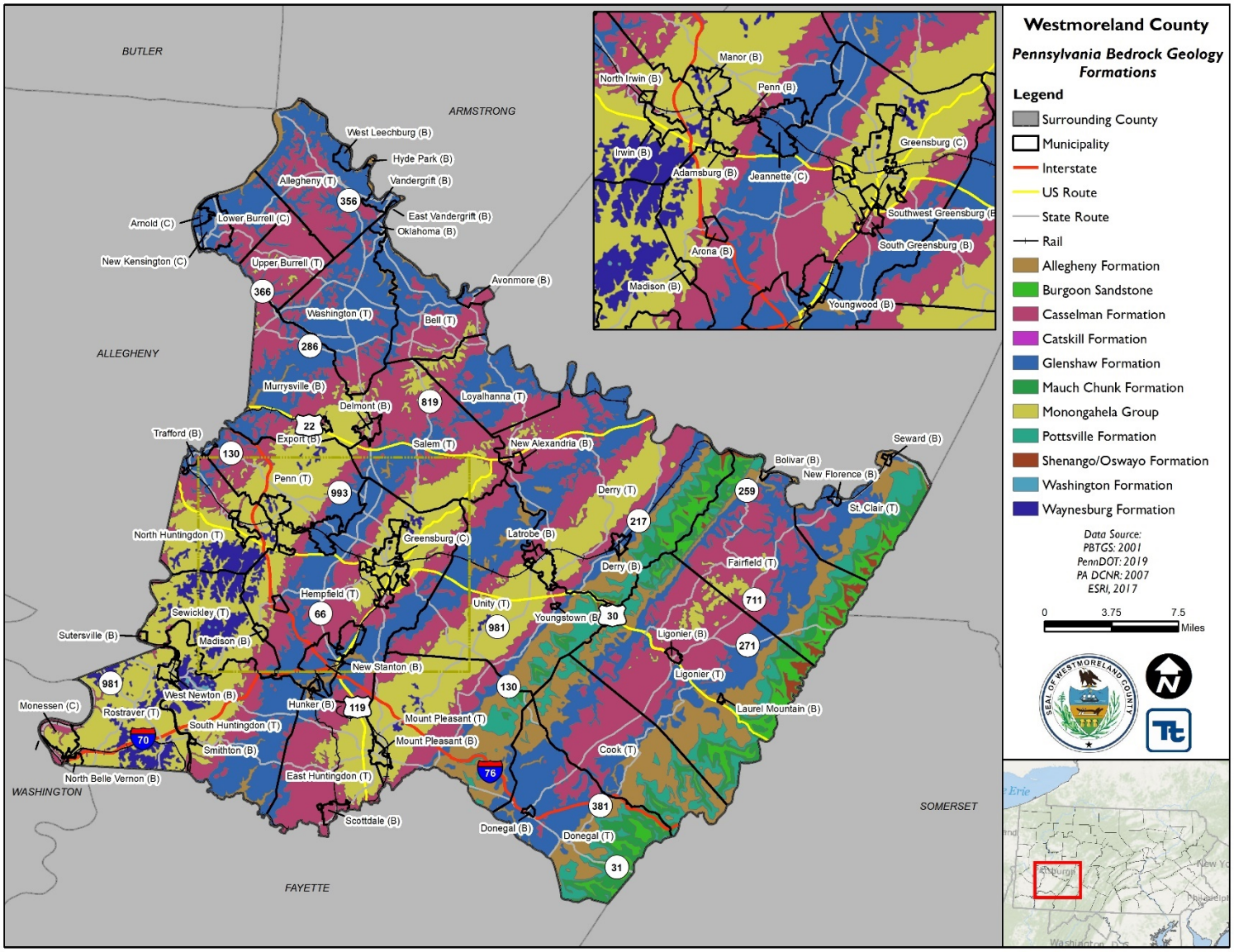
Sinkholes are depressions in the ground that have no natural external surface drainage. When it rains, all of the water stays inside the sinkhole and usually drains into the subsurface. Sinkholes are most common in areas underlain by karst terrain (limestone, carbonate rock, salt beds, and gypsum) and can occur without warning. These areas contain types of rock below the land surface that can naturally be dissolved by groundwater. When rainfall moves down through the soil, these types of rock begin to dissolve, creating underground spaces and caverns, leading to sinkholes (USGS 2019).

The following sections discuss the location and extent, range of magnitude, previous occurrence, future occurrence, and vulnerability assessment associated with the subsidence/sinkhole hazard for Westmoreland County.

4.3.11.1 Location and Extent

Approximately 21 percent of Westmoreland County (219.3 miles) is underlain by carbonate bedrock (e.g., limestone and dolomite). Figure 4.3.11-1 illustrates the bedrock geology of Westmoreland County. The county's susceptibility to sinkholes and subsidence is primarily attributed to the number of abandoned mines throughout Westmoreland County. According to the Abandoned Mine Land Geographic Information System (GIS) Layer, 27 underground mines are located across the county, and 110 subsidence areas have been identified in Westmoreland County (PADEP 2019). The Pennsylvania Department of Environmental Protection (PADEP) Digitized Mined Areas GIS Layer reports 157 separate coal mining operations within Westmoreland County (PADEP 2019). Figure 4.3.11-2 shows the approximate location of abandoned mine land problem areas created by past coal mining; information is based on a subset of data contained in the Office of Surface Mining Abandoned Mine Land Inventory.

Figure 4.3.11-1. Westmoreland County Geology



Note: *PBTGS = Pennsylvania Bureau of Topographic and Geologic Survey*

Figure 4.3.11-2. Abandoned Underground Mines in Westmoreland County

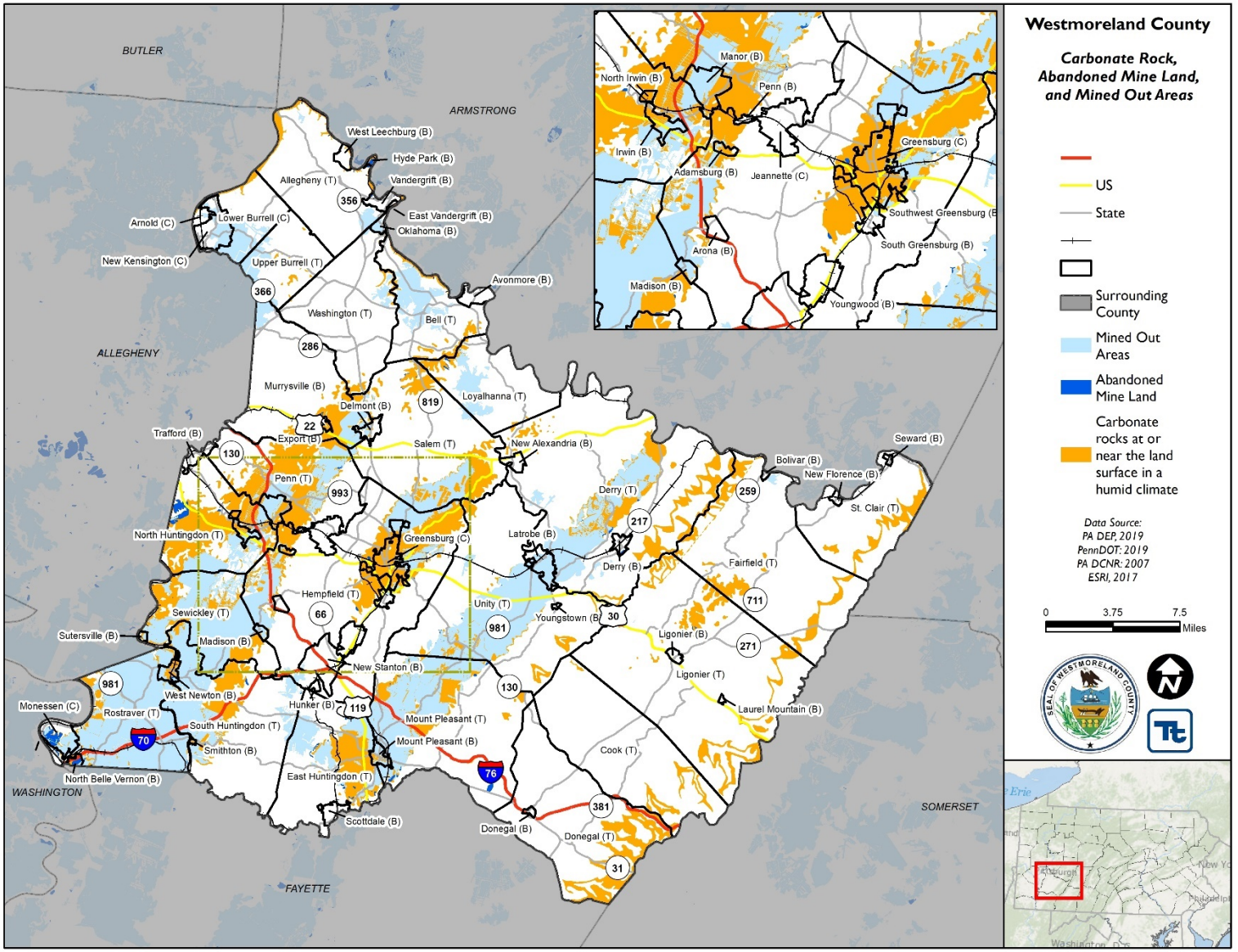
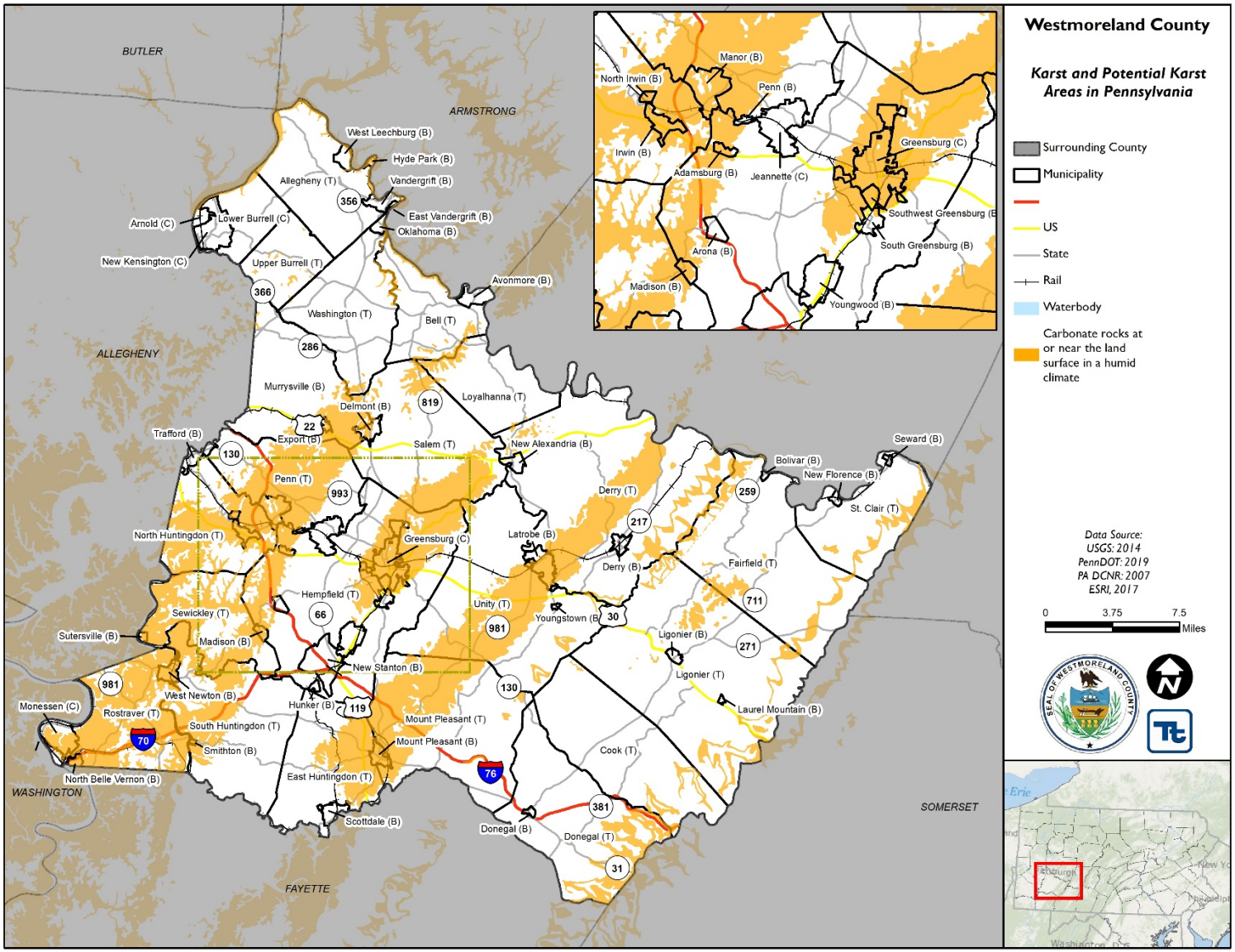


Figure 4.3.11-3 more specifically illustrates the carbonate bedrock across Westmoreland County. The following municipalities contain areas with identified near-surface carbonate rock:

- Adamsburg Borough
- Allegheny Township
- Arnold, City of
- Arona Borough
- Bell Township
- Cook Township
- Delmont Borough
- Derry Township
- Donegal Township
- East Huntingdon Township
- East Vandergrift Borough
- Export Borough
- Fairfield Township
- Greensburg, City of
- Hempfield Township
- Hyde Park Borough
- Irwin Borough
- Latrobe Borough
- Ligonier Township
- Lower Burrell, City of
- Loyalhanna Township
- Madison Borough
- Manor Borough
- Monessen, City of
- Mount Pleasant Borough
- Mount Pleasant Township
- Murrysville, Municipality of
- New Kensington, City of
- North Belle Vernon Borough
- North Huntingdon Township
- North Irwin Borough
- Oklahoma Borough
- Penn Borough
- Penn Township
- Rostraver Township
- Salem Township
- Scottdale Borough
- Sewickley Township
- Smithton Borough
- South Greensburg Borough
- South Huntingdon Township
- Southwest Greensburg Borough
- St. Clair Township
- Sutersville Borough
- Unity Township
- Upper Burrell Township
- Vandergrift Borough
- Washington Township
- West Leechburg Borough
- West Newton Borough

Figure 4.3.11-3. Westmoreland County Carbonate Bedrock Geology



4.3.11.2 Range of Magnitude

Based on the geologic formations underlying parts of Westmoreland County, subsidence and sinkhole events may occur gradually or abruptly. Events could result in minor elevation changes or deep, gaping holes in the ground surface. Abrupt subsidence and sinkhole events can cause severe damage in urban environments; gradual events can be addressed before significant damage occurs. If long-term subsidence or sinkhole formation is not recognized and mitigation measures are not implemented, fractures or complete collapse of building foundations and roadways may result.

To determine the extent of the subsidence hazard, the affected areas need to be identified and the probability of the subsidence occurring within a designated time period needs to be assessed. Natural variables that contribute to the overall extent of potential subsidence activity in any particular area include soil properties and underlaying geologic feature. Predicting subsidence is difficult, even under ideal conditions. As a result, the subsidence hazard is often represented by presence of evaporite or carbonate rock.

No two subsidence areas or sinkholes are exactly alike. Variations in size and shape, time period under which they occur (i.e., gradually or abruptly), and their proximity to development ultimately determines the magnitude of damage incurred. Events could result in minor elevation changes or deep, gaping holes in the ground surface. Subsidence and sinkhole events can cause severe damage in urban environments, although gradual events can be addressed before significant damage occurs. Primarily, problems related to subsidence include the disruption of utility services and damages to private and public property including buildings, roads, and underground infrastructure (PEMA 2018).

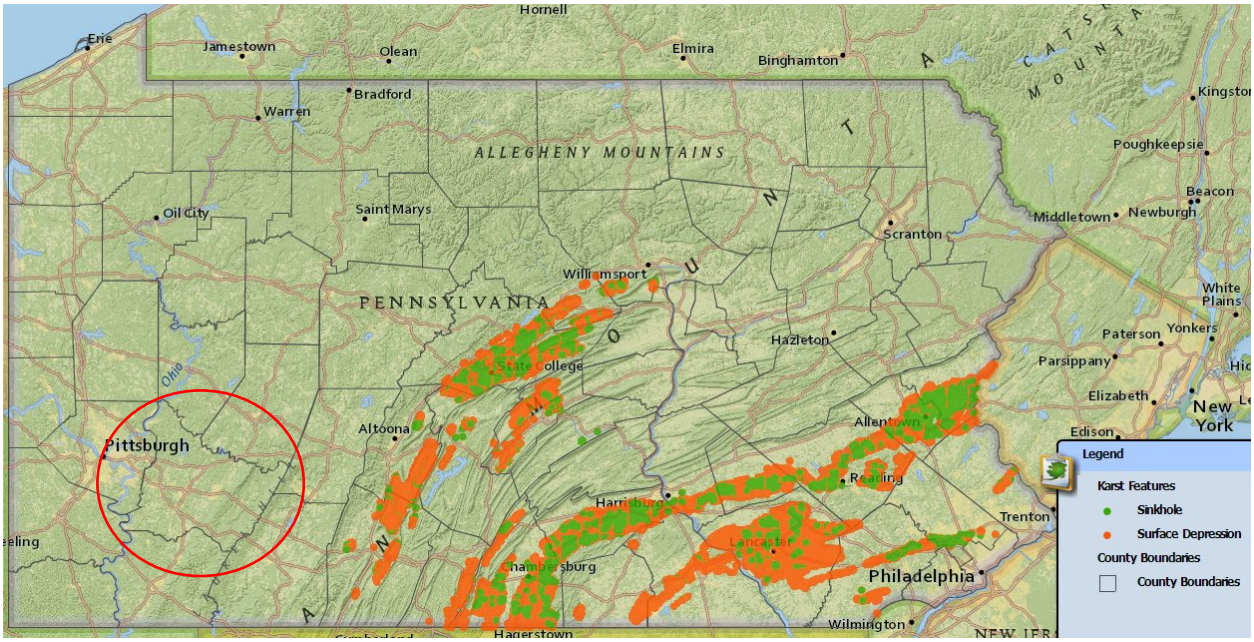
Sinkholes also may have negative effects on local groundwater. Groundwater in limestone and other similar carbonate rock formations can be easily polluted, because water moves readily from the earth's surface down through solution cavities and fractures, thus undergoing very little filtration. Contaminants of concern are related to sewage, fertilizers, herbicides, pesticides, or industrial products.

The worst-case scenario for subsidence and sinkholes in Westmoreland County would be for a sinkhole to form in one of the major urban areas, namely the Cities of Greensburg, New Kensington, Lower Burrell, Jeanette, or Latrobe. A sinkhole in any one of these cities, either in a highly-trafficked pedestrian area or under one of the many high-traffic roadways or bridges, could potentially cause significant property damage and/or loss of life. Section 4.3.11.5 (Vulnerability Assessment) contains further details on the population, general building stock, and critical facilities and infrastructure vulnerable to this hazard.

4.3.11.3 Past Occurrence

The Pennsylvania Department of Conservation and Natural Resources (DCNR) Interactive Map (Figure 4.3.11-4) does not show reported sinkholes or surface depressions in Westmoreland County (DCNR 2019). However, a search of local records and the Knowledge Center shows occurrences of sinkholes and subsidence events in the county. Incidents recorded between 2002 and 2019 are summarized below in Table 4.3.11-1.

Figure 4.3.11-4. Sinkholes and Surface Depressions in Pennsylvania



Source: DCNR, n.d.
Note: Westmoreland County is indicated by the red oval.

Table 4.3.11-1. Subsidence and Sinkhole Events in Westmoreland County, 1992-2019

Date(s) of Event	Event Type	Municipality	Description
Unknown	Subsidence	City of Arnold	A housing development in the City of Arnold built over an old landfill sank, endangering four homes.
1992, 1995, 1996, and 1998	Subsidence	North Belle Vernon Borough/ Rostraver Township	Incidents have occurred within this 1-mile area of Westmoreland County in 1992, 1995, 1996, and 1998. There were 5 incidents in 1995 alone. The largest incident occurred involving a two-block area, including a number of homes, a supermarket, and auto dealership. The other incidents have involved residential structures.
March 1998	Sinkhole	New Alexandria Borough	Section of Rt. 981 collapsed, closing the road for over 1 week and resulting in a 4-mile detour for local residents.
May 2000	Sinkhole	New Alexandria Borough	Section of Rt. 981 (within 1 mile of the March 1998 sinkhole) collapsed, closing the road for over 1 week and resulting in a 4-mile detour for local residents.
September 2000	Subsidence	North Huntingdon Township	The Colonial Manor Apartments in North Huntingdon were condemned and 40 people had to be relocated when mine subsidence seriously damaged the 23-unit apartment complex.
October 2000	Subsidence	West Leechburg Borough	Two homes suffered foundation damage and loss of utilities.
September 16, 2002	Subsidence/ Sinkhole	City of Latrobe	Likely mine subsidence caused two sinkholes on Ligonier Street near the Timken Latrobe Steel facility. A third sinkhole that was 8 feet wide and 10 feet deep developed when a truck drove towards the two sinkholes to begin repairs. No injuries or property damage was reported.
January 29, 2003	Subsidence/ Sinkhole	Rostraver Township	Mine subsidence resulted in a sinkhole about 3 feet in diameter on the edge of Dale Alley.

Date(s) of Event	Event Type	Municipality	Description
April 16, 2003	Sinkhole	Penn Township	A sinkhole 20 feet wide and 3 feet deep formed on Boxcartown Road. Repairs were estimated at $30,000, including the cost to repair the April 20, 2003 sinkhole.
April 20, 2003	Sinkhole	Penn Township	A horseshoe-shaped sinkhole 3-4 feet deep and 300 feet long formed on Claridge-Elliott Road. Repairs were estimated at $30,000, including the cost to repair the April 16, 2003 sinkhole.
August 2004	Subsidence/ Sinkhole	North Belle Vernon Borough	Mine subsidence resulted in a sinkhole 2 feet deep and 60-80 feet wide on a property on Speer Street. Damage to a garage was in the thousands of dollars.
March 2, 2007	Subsidence/ Sinkhole	Unity Township	Mine subsidence resulted in a sinkhole 8 feet wide, 20 feet long, and 10 feet deep on Union Cemetery Road.
October 4, 2008	Subsidence	Rostraver Township	Mine subsidence displaced two families on Lee Drive.
October 1, 2010	Sinkhole	Murrysville Borough	Water main break on Meadowbrook Road resulted in a 4-foot-deep sinkhole. No injuries were reported; however, one person drove a car into the sinkhole.
September 27, 2011	Sinkhole	City of Greensburg	4-foot-deep sinkhole formed on West Pittsburgh Street near South Pennsylvania Avenue.
March 10-11, 2015	Mine Subsidence	Mount Pleasant Township	Road was closed due to mine subsidence.
June 11-12, 2016	Sinkhole	Jeannette City	No additional information available.
March 8, 2019	Sinkhole	Rostraver Township	A sinkhole occurred in the parking lot of a gas station on Route 51 in Rostraver Township. The sinkhole was thought to be the result of a failed stormwater pipe, where subsurface water leaked that made the soil give way.
July 17, 2019	Sinkhole	Greensburg and Hempfield Township	A sinkhole opened along Route 30 near the border of Greensburg and Hempfield Townships. The depth of the sinkhole was measured between 50 and 60 feet wide and 30 feet deep. No injuries were reported for this event.

Sources: Westmoreland County 2014; Knowledge Center 2019; WTAE 2019; Sinkhole Maps 2019

4.3.11.4 Future Occurrence

Sinkhole occurrence is a continuing phenomenon and is fairly common in the carbonate areas of Westmoreland County; the probability of a sinkhole forming in the county is high. In addition, because most (if not all) of Westmoreland County is honeycombed with inactive and active coalmines, the hazards of subsidence may occur at any time in any location in the county. Areas of particular concern are the West Leechburg Borough and North Belle Vernon/Rostraver Township areas.

Potential losses caused by sinkhole formation are difficult to calculate for all existing buildings, critical facilities, and infrastructure, because the hazard area may affect so much of the county. However, the future occurrence of subsidence areas and sinkholes is considered *likely* as defined in the discussion of probability criteria in Section 4.4 (Risk Factor Methodology).

4.3.11.5 Vulnerability Assessment

To understand risk, a community must evaluate the assets that are exposed or vulnerable in the identified hazard area. This section discusses the potential impact of the subsidence and sinkhole hazard on Westmoreland County in the following subsections:

- Overview of vulnerability

- Impact on (1) life, health, and safety; (2) general building stock; (3) critical facilities; (4) economy; (5) environment; and (6) future growth and development
- Effect of climate change on vulnerability
- Further data collections that will assist understanding of this hazard over time

Approximately 24.7 percent of Westmoreland County (256 square miles) is underlain by carbonate bedrock. For the purposes of this planning effort, the area underlain by carbonate (limestone and dolomite) bedrock is considered exposed to this hazard. Table 4.3.11-2 summarizes the municipalities potentially vulnerable to sinkholes and subsidence events based on the presence of carbonate bedrock and/or abandoned mines.

Table 4.3.11-2. Municipalities Vulnerable to Sinkholes/Subsidence Events

Municipality	Carbonate Rock		Municipality	Carbonate Rock
Adamsburg (B)	X		Mount Pleasant (T)	X
Allegheny (T)	X		Murrysville (B)	X
Arnold (C)	X		New Alexandria (B)	
Arona (B)	X		New Florence (B)	
Avonmore (B)			New Kensington (C)	X
Bell (T)	X		New Stanton (B)	
Bolivar (B)			North Belle Vernon (B)	X
Cook (T)	X		North Huntingdon (T)	X
Delmont (B)	X		North Irwin (B)	X
Derry (B)			Oklahoma (B)	X
Derry (T)	X		Penn (B)	X
Donegal (B)			Penn (T)	X
Donegal (T)	X		Rostraver (T)	X
East Huntingdon (T)	X		Salem (T)	X
East Vandergrift (B)	X		Scottdale (B)	X
Export (B)	X		Seward (B)	
Fairfield (T)	X		Sewickley (T)	X
Greensburg (C)	X		Smithton (B)	X
Hempfield (T)	X		South Greensburg (B)	X
Hunker (B)			South Huntingdon (T)	X
Hyde Park (B)	X		Southwest Greensburg (B)	X
Irwin (B)	X		St. Clair (T)	X
Jeannette (C)			Sutersville (B)	X
Latrobe (B)	X		Trafford (B)	
Laurel Mountain (B)			Unity (T)	X
Ligonier (B)			Upper Burrell (T)	X
Ligonier (T)	X		Vandergrift (B)	X
Lower Burrell (C)	X		Washington (T)	X
Loyalhanna (T)	X		West Leechburg (B)	X
Madison (B)	X		West Newton (B)	X
Manor (B)	X		Youngstown (B)	
Monessen (C)	X		Youngwood (B)	
Mount Pleasant (B)	X			

Source: USGS 2014; PADEP 2014

Impact on Life, Health, and Safety

To estimate the population exposed to the hazard, the approximate hazard area (carbonate bedrock) was overlaid upon the 2010 U.S. Census population data. The Census blocks with their center (centroid) within the boundary were used to calculate the estimated population exposed to this hazard. Table 4.3.11-3 summarizes the Westmoreland County population exposed to this hazard by municipality (U.S. Census 2010). In addition to being available at the census block level, the 2010 U.S. Census data are the default demographic data used in

HAZUS-MH v4.2. The census block level provides a higher resolution of population distribution than American Community Survey spatial data, which are only available at the census tract level. The 2010 U.S. Census data are also used to maintain consistency in data throughout vulnerability assessments throughout this HMP. (Note: U.S. Census blocks do not align with the carbonate bedrock polygon in the spatial data; these estimates are used for planning purposes only.)

Table 4.3.11-3. Estimated Population Located over Carbonate Bedrock (U.S. Census 2010)

Municipalities	Total Population (2010 U.S. Census)	Estimated Population Exposed	Percent Total
Adamsburg Borough	172	172	100.0%
Allegheny Township	8,164	192	2.4%
Arnold, City of	5,157	0	0.0%
Arona Borough	370	10	2.8%
Avonmore Borough	1,011	0	0.0%
Bell Township	2,348	49	2.1%
Bolivar Borough	465	0	0.0%
Cook Township	2,250	1	0.1%
Delmont Borough	2,686	1,112	41.4%
Derry Borough	2,688	0	0.0%
Derry Township	14,502	6,162	42.5%
Donegal Borough	120	0	0.0%
Donegal Township	2,403	55	2.3%
East Huntingdon Township	7,963	2,256	28.3%
East Vandergrift Borough	674	74	11.0%
Export Borough	917	423	46.1%
Fairfield Township	2,424	125	5.2%
Greensburg, City of	14,892	14,685	98.6%
Hempfield Township	43,241	15,303	35.4%
Hunker Borough	291	0	0.0%
Hyde Park Borough	500	459	91.7%
Irwin Borough	3,973	3,934	99.0%
Jeannette, City of	9,654	0	0.0%
Latrobe, City of	8,338	6,146	73.7%
Laurel Mountain Borough	167	0	0.0%
Ligonier Borough	1,573	0	0.0%
Ligonier Township	6,603	95	1.4%
Lower Burrell, City of	11,761	147	1.2%
Loyalhanna Township	2,382	55	2.3%
Madison Borough	397	348	87.6%
Manor Borough	3,239	2,407	74.3%
Monessen City	7,720	4,918	63.7%
Mount Pleasant Borough	4,454	4,454	100.0%
Mount Pleasant Township	10,911	6,674	61.2%
Murrysville Borough	20,079	4,399	21.9%

Municipalities	Total Population (2010 U.S. Census)	Estimated Population Exposed	Percent Total
New Alexandria Borough	560	0	0.0%
New Florence Borough	689	0	0.0%
New Kensington, City of	13,116	55	0.4%
New Stanton Borough	2,173	0	0.0%
North Belle Vernon Borough	1,971	1,839	93.3%
North Huntingdon Township	30,609	21,615	70.6%
North Irwin Borough	846	793	93.7%
Oklahoma Borough	809	9	1.1%
Penn Borough	475	48	10.1%
Penn Township	20,005	13,248	66.2%
Rostraver Township	11,363	9,128	80.3%
Salem Township	6,623	1,576	23.8%
Scottdale Borough	4,384	2	0.0%
Seward Borough	495	0	0.0%
Sewickley Township	5,996	3,547	59.2%
Smithton Borough	399	399	100.0%
South Greensburg Borough	2,117	192	9.1%
South Huntingdon Township	5,796	1,279	22.1%
Southwest Greensburg Borough	2,155	2,153	99.9%
St. Clair Township	1,518	2	0.1%
Sutersville Borough	605	338	55.9%
Trafford Borough	3,113	0	0.0%
Unity Township	22,607	9,604	42.5%
Upper Burrell Township	2,326	66	2.8%
Vandergrift Borough	5,205	1	0.0%
Washington Township	7,422	302	4.1%
West Leechburg Borough	1,294	69	5.4%
West Newton Borough	2,633	2,620	99.5%
Youngstown Borough	326	0	0.0%
Youngwood Borough	3,050	0	0.0%
WESTMORELAND COUNTY (TOTAL)	**365,169**	**143,539**	**39.3%**

Source: U.S. Census 2010; USGS 2014

Impact on General Building Stock

As noted above, no standard loss estimation models exist for the subsidence/sinkhole hazard. In general, the built environment located on carbonate bedrock is exposed to this hazard. In an attempt to estimate the general building stock potentially vulnerable to this hazard, the associated building replacement values (buildings and contents) were determined for the identified U.S. Census blocks within the approximate hazard area. The county-provided spatial layer for building structures was also used to determine the number of structures located within the hazard area. Table 4.3.11-4 lists the replacement cost value (RCV) (structure and contents) of general building stock (GBS) and number of structures located within the defined hazard area.

Table 4.3.11-4. Estimated General Building Stock Located over Carbonate Bedrock

Municipality	Total Number of Buildings	Total RCV	Carbonate Bedrock Area			
			Number of Buildings	% of Total	RCV	% of Total
Adamsburg Borough	163	$33,710,000	163	100.0%	$33,710,000	100.0%
Allegheny Township	6,738	$1,477,670,000	174	2.6%	$31,693,000	2.1%
Arnold, City of	2,852	$982,657,000	1	0.0%	$0	0.0%
Arona Borough	319	$54,508,000	7	2.2%	$0	0.0%
Avonmore Borough	809	$297,296,000	0	0.0%	$0	0.0%
Bell Township	2450	$351,372,000	79	3.2%	$16,801,000	4.8%
Bolivar Borough	366	$64,192,000	0	0.0%	$0	0.0%
Cook Township	2,957	$322,402,000	15	0.5%	$0	0.0%
Delmont Borough	1,408	$588,678,000	496	35.2%	$187,648,000	31.9%
Derry Borough	1,715	$410,373,000	0	0.0%	$0	0.0%
Derry Township	14,018	$2,149,630,000	5416	38.6%	$912,918,000	42.5%
Donegal Borough	139	$19,585,000	0	0.0%	$0	0.0%
Donegal Township	3,586	$482,046,000	177	4.9%	$8,650,000	1.8%
East Huntingdon Township	7,556	$1,365,245,000	2,258	29.9%	$611,497,000	44.8%
East Vandergrift Borough	574	$108,645,000	75	13.1%	$12,216,000	11.2%
Export Borough	628	$221,524,000	307	48.9%	$78,926,000	35.6%
Fairfield Township	2,994	$289,624,000	162	5.4%	$11,118,000	3.8%
Greensburg, City of	6,793	$3,859,723,000	6,727	99.0%	$3,792,438,000	98.3%
Hempfield Township	27,298	$7,618,366,000	9,018	33.0%	$2,901,586,000	38.1%
Hunker Borough	265	$51,852,000	0	0.0%	$0	0.0%
Hyde Park Borough	379	$200,590,000	353	93.1%	$166,370,000	82.9%
Irwin Borough	1,679	$875,822,000	1648	98.2%	$846,461,000	96.6%
Jeannette, City of	5,587	$2,049,741,000	0	0.0%	$0	0.0%
Latrobe, City of	5,256	$1,902,472,000	3841	73.1%	$1,550,511,000	81.5%
Laurel Mountain Borough	157	$56,349,000	0	0.0%	$0	0.0%
Ligonier Borough	1,129	$477,076,000	0	0.0%	$0	0.0%
Ligonier Township	7,513	$1,690,025,000	181	2.4%	$22,647,000	1.3%
Lower Burrell, City of	7,109	$2,167,800,000	124	1.7%	$22,368,000	1.0%
Loyalhanna Township	2,299	$305,072,000	64	2.8%	$36,047,000	11.8%
Madison Borough	327	$88,528,000	299	91.4%	$42,509,000	48.0%
Manor Borough	1,751	$550,925,000	1,329	75.9%	$488,939,000	88.7%
Monessen City	5,035	$1,378,401,000	3203	63.6%	$728,405,000	52.8%
Mount Pleasant Borough	2,585	$1,473,911,000	2,585	100.0%	$1,473,911,000	100.0%
Mount Pleasant Township	10,537	$2,164,407,000	5,771	54.8%	$1,638,278,000	75.7%
Murrysville Borough	11,490	$4,679,858,000	2,431	21.2%	$1,003,251,000	21.4%
New Alexandria Borough	467	$144,207,000	0	0.0%	$0	0.0%
New Florence Borough	584	$99,781,000	0	0.0%	$0	0.0%
New Kensington, City of	7,352	$2,972,423,000	34	0.5%	$2,424,000	0.1%
New Stanton Borough	1,318	$493,637,000	0	0.0%	$0	0.0%

Municipality	Total Number of Buildings	Total RCV	Carbonate Bedrock Area			
			Number of Buildings	% of Total	RCV	% of Total
North Belle Vernon Borough	1,292	$374,204,000	1196	92.6%	$354,556,000	94.7%
North Huntingdon Township	18,046	$6,275,194,000	12260	67.9%	$4,368,786,000	69.6%
North Irwin Borough	467	$93,070,000	435	93.1%	$79,221,000	85.1%
Oklahoma Borough	611	$110,545,000	16	2.6%	$969,000	0.9%
Penn Borough	332	$65,127,000	28	8.4%	$4,122,000	6.3%
Penn Township	12,063	$3,979,549,000	7,380	61.2%	$2,804,687,000	70.5%
Rostraver Township	9,025	$2,119,205,000	7,140	79.1%	$1,530,674,000	72.2%
Salem Township	6,774	$1,883,346,000	1,537	22.7%	$978,900,000	52.0%
Scottdale Borough	2,766	$999,267,000	2	0.1%	$25,958,000	2.6%
Seward Borough	390	$87,732,000	0	0.0%	$0	0.0%
Sewickley Township	5,486	$928,135,000	3236	59.0%	$478,788,000	51.6%
Smithton Borough	294	$214,269,000	294	100.0%	$214,269,000	100.0%
South Greensburg Borough	1,414	$551,430,000	143	10.1%	$36,503,000	6.6%
South Huntingdon Township	6793	$803,093,000	1701	25.0%	$280,931,000	35.0%
Southwest Greensburg Borough	1,351	$393,277,000	1338	99.0%	$392,351,000	99.8%
St. Clair Township	1,434	$176,087,000	3	0.2%	$0	0.0%
Sutersville Borough	475	$95,741,000	243	51.2%	$51,595,000	53.9%
Trafford Borough	1,768	$837,649,000	0	0.0%	$0	0.0%
Unity Township	15,670	$4,329,118,000	5,958	38.0%	$1,456,248,000	33.6%
Upper Burrell Township	2,160	$513,830,000	59	2.7%	$38,091,000	7.4%
Vandergrift Borough	3,281	$840,662,000	16	0.5%	$0	0.0%
Washington Township	6,393	$1,110,239,000	225	3.5%	$44,980,000	4.1%
West Leechburg Borough	930	$219,980,000	58	6.2%	$8,629,000	3.9%
West Newton Borough	1,810	$459,333,000	1,805	99.7%	$459,333,000	100.0%
Youngstown Borough	299	$76,023,000	0	0.0%	$0	0.0%
Youngwood Borough	1,992	$772,223,000	0	0.0%	$0	0.0%
Westmoreland County (Total)	**259,498**	**$72,828,451,000**	**92,011**	**35.5%**	**$30,230,913,000**	**41.5%**

Source: HAZUS-MH v4.2; USGS 2014; Westmoreland County 2017
Notes: GBS = General building stock
RCV = Replacement cost value

Impact on Critical Facilities

A number of critical facilities and utility assets are located in the hazard area and are also exposed to subsidence and sinkholes. In addition to impacting buildings and facilities, subsidence can severely impact roads and infrastructure. Portions of Interstate I-70, I-76, US-22, US-30, PA-31, PA-51, PA-56, PA-66, PA-119, PA-130, PA-136, PA-201, PA-217, PA-259, PA-271, PA-286, PA-356, PA-366, PA-715, PA-728, PA-737, PA-739, PA-748, PA-748, PA-762, PA-763, PA-765, PA-766, PA-768, PA-769, PA-780, PA-782, PA-782, PA-783, PA-790, PA-819, PA-981, PA-982, and PA-993 are areas underlain by carbonate bedrock or underground coal mines.

The following summarizes potential impacts to critical infrastructure:

- Roads — Access to major roads after a disaster is crucial to safety and to response operations. Depending upon the size, events can block egress and ingress on roads, causing isolation for residents

and potentially neighborhoods, traffic problems and delays for transportation. This can result in economic losses for businesses.

- Bridges — Mass movements can knock out bridge abutments or significantly weaken the soil supporting them, making them hazardous for use.
- Power Lines — A subsidence event could trigger failure of the soil underneath a tower, causing it to collapse and ripping down the lines. Power and communication failures can create problems for vulnerable populations and businesses.

The number of critical facilities in the subsidence and sinkholes hazard areas for each municipality is provided in Table 4.3.11-5.

Table 4.3.11-5. Number of Critical Facilities Located in the Identified Hazard Area (Carbonate Bedrock)

Municipality	Facility Types																								
	Airport	College University	County Buildings	Dams	Day Care	DPW	EMS	EOC	Fire	Hazmat Facilities	Hospital	Industrial Sites	Libraries	MDJ	Mental Health/Substance Abuse	Municipal Office	Nursing Home	Police	Potable Pump	Power	School	School District Offices	Sewer Water Facilities	Water Regulator	Water Tank
Allegheny (T)	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bell (T)	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Delmont (B)	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
Derry (T)	0	0	0	2	4	0	0	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
East Huntingdon (T)	0	0	0	0	0	0	0	0	0	8	0	3	0	0	0	1	0	0	0	0	0	0	0	0	2
Greensburg (C)	0	34	6	0	2	0	1	0	7	7	1	0	1	1	10	2	3	1	0	0	3	1	0	0	1
Hempfield (T)	0	7	0	0	3	1	0	1	4	12	0	0	0	0	0	2	3	1	1	0	3	1	1	0	5
Hyde Park (B)	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0
Irwin (B)	0	0	0	0	0	1	0	1	0	2	0	1	1	0	0	0	0	1	0	0	0	0	0	1	0
Latrobe (B)	0	0	0	0	2	0	0	0	4	4	0	1	1	0	1	0	0	1	0	0	0	1	0	0	0
Ligonier (T)	0	0	0	5	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lower Burrell (C)	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Madison (B)	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
Manor (B)	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	1	0	1	0	0	0	0	0	0	0
Monessen (C)	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
Mount Pleasant (B)	0	0	0	0	1	0	1	0	2	3	1	0	1	0	0	1	1	1	0	0	0	0	0	0	0
Mount Pleasant (T)	0	0	0	0	1	0	1	0	4	6	0	0	0	1	0	1	0	0	0	0	4	0	0	0	0
Murrysville (B)	0	0	0	1	0	0	0	0	1	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Municipality	Facility Types																								
	Airport	College University	County Buildings	Dams	Day Care	DPW	EMS	EOC	Fire	Hazmat Facilities	Hospital	Industrial Sites	Libraries	MDJ	Mental Health/Substance Abuse	Municipal Office	Nursing Home	Police	Potable Pump	Power	School	School District Offices	Sewer Water Facilities	Water Regulator	Water Tank
North Belle Vernon (B)	0	0	0	0	1	0	0	0	1	1	0	0	1	0	0	1	0	1	0	0	0	0	0	0	0
North Huntingdon (T)	0	0	0	1	4	1	1	0	5	7	0	0	0	1	0	3	1	1	2	1	6	1	0	3	1
North Irwin (B)	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
Penn (T)	1	1	0	2	2	0	1	0	3	4	0	1	1	1	0	1	1	1	1	0	1	1	0	0	1
Rostraver (T)	0	0	0	4	1	0	1	0	1	12	0	0	1	1	0	1	0	2	0	0	0	1	0	0	0
Salem (T)	0	0	0	0	0	0	0	1	1	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Sewickley (T)	0	0	0	1	0	0	1	0	2	23	0	0	1	0	0	0	0	0	0	0	1	1	2	0	0
Smithton (B)	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	1	0	1	0	0	0	0	0	0	0
South Huntingdon (T)	0	0	0	0	0	0	0	0	0	29	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0
Southwest Greensburg (B)	0	0	0	0	1	0	0	0	1	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Unity (T)	1	32	0	1	2	0	0	0	1	16	0	1	0	1	1	0	1	0	0	0	0	0	0	0	0
Vandergrift (B)	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Washington (T)	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
West Newton (B)	0	0	0	0	2	0	1	0	1	3	0	0	1	0	0	1	0	1	0	0	0	0	0	0	0
Westmoreland County (Total)	**2**	**74**	**6**	**17**	**26**	**3**	**10**	**3**	**45**	**165**	**2**	**8**	**11**	**6**	**12**	**20**	**10**	**15**	**4**	**1**	**18**	**8**	**4**	**4**	**12**

Source: USGS 2014; Westmoreland County 2019

Impact on the Economy

Subsidence and sinkholes can severely impact roads and infrastructure. As noted earlier, carbonate formations underlie almost 24.7 percent of the county. Major roadways that serve the county include Interstate I-76; Routes US-22, US-30, US-70, and US-119; and multiple state routes, including PA-56, PA-66, PA-130, PA-136, PA-356, PA-366, PA-780, PA-819, PA-981, PA-983, and PA-993. Portions of each of these roadways are located in the identified subsidence/sinkhole hazard area. It is not possible to estimate potential future economic losses caused by subsidence/sinkhole events at this time.

Impact on the Environment

The presence of sinkholes can result in increased potential for groundwater contamination. Due to their porous nature, sinkholes are sometimes used as instruments for enhancing groundwater recharge. However, if hazardous materials are spilled at a recharge point, groundwater can quickly be contaminated due to the lack of soil substrate which normally would slow migrating contaminants. Vegetation is usually damaged during abrupt subsidence events. However, regrowth takes place over time. Land subsidence can also result in more frequent and expansive flooding and changes in river canal and drain flow systems (PEMA 2018).

Future Growth and Development

Areas targeted for potential future growth and development in the next 5 to 10 years have been identified across the county at the municipal level and are described in Section 2.4 of this plan. New development occurring within the identified hazard areas may be exposed to risks associated with the subsidence and sinkhole hazard.

Effect of Climate Change on Vulnerability

Climate is defined not simply as average temperature and precipitation but also by the type, frequency, and intensity of weather events. Both globally and at the local level, climate change has the potential to alter the prevalence and severity of weather extremes (U.S. Environmental Protection Agency [EPA] 2006).

Climate change factors such as an extended growing season, higher temperatures, and the possibility of more intense and less frequent summer rainfall may lead to changes in water resource availability. As stated earlier in this profile, changes to the water balance of an area (including over-withdrawal of groundwater, diverting surface water from a large area and concentrating it in a single point, artificially creating ponds of surface water, and drilling new water wells) will cause sinkholes. These actions can also serve to accelerate the natural processes of bedrock degradation, which can have a direct impact on sinkhole creation.

The potential effects of climate change on Westmoreland County's vulnerability to subsidence/sinkhole events will need to be considered as more information develops regarding regional climate change impacts.

Additional Data and Next Steps

While it is not possible to predict when and where the next event may take place, the Westmoreland County emergency services, including local fire and police departments, are well-equipped and prepared to respond to emergencies as they arise. The status of subsidence/sinkhole risk in the Westmoreland County will continue to be monitored and ongoing and new mitigation efforts will continue to be developed.

4.3.12 Tornado, Windstorm

This section provides a profile and vulnerability assessment of the tornado and windstorm hazard. The wind hazard includes various types of wind events, including windstorms and tornadoes, which are defined below.

A tornado appears as a rotating, funnel-shaped cloud that extends from a thunderstorm to the ground with whirling winds that can reach 250 miles per hour (mph). Damage paths can be greater than 1 mile wide and 50 miles long. Tornadoes typically develop from either a severe thunderstorm or hurricane as cool air rapidly overrides a layer of warm air. Tornadoes typically move at speeds between 30 and 125 mph and can generate combined wind speeds (forward motion and speed of the whirling winds) exceeding 300 mph. The lifespan of a tornado rarely is longer than 30 minutes (FEMA 1997). Tornadoes can occur at any time of the day, with most occurring between 3:00 pm and 9:00 pm. In Pennsylvania, peak occurrence of tornadoes is May through July (NWS 2019).

Windstorms are generally defined with sustained wind speeds of 40 mph or greater lasting for one hour or longer, or winds of 58 mph or greater for any duration. Wind events can vary in spatial size from small, microscale events that take place over only a few hundred meters to large-scale synoptic wind events often associated with warm or cold fronts (PEMA 2018). There are eight different types of damaging winds: straight-line wind, downdraft, downburst, microburst, gust front, derecho, bow echo, and hook echo. Definitions of each type can be found on the NSSL website: https://www.nssl.noaa.gov/education/svrwx101/wind/types/

4.3.12.1 Location and Extent

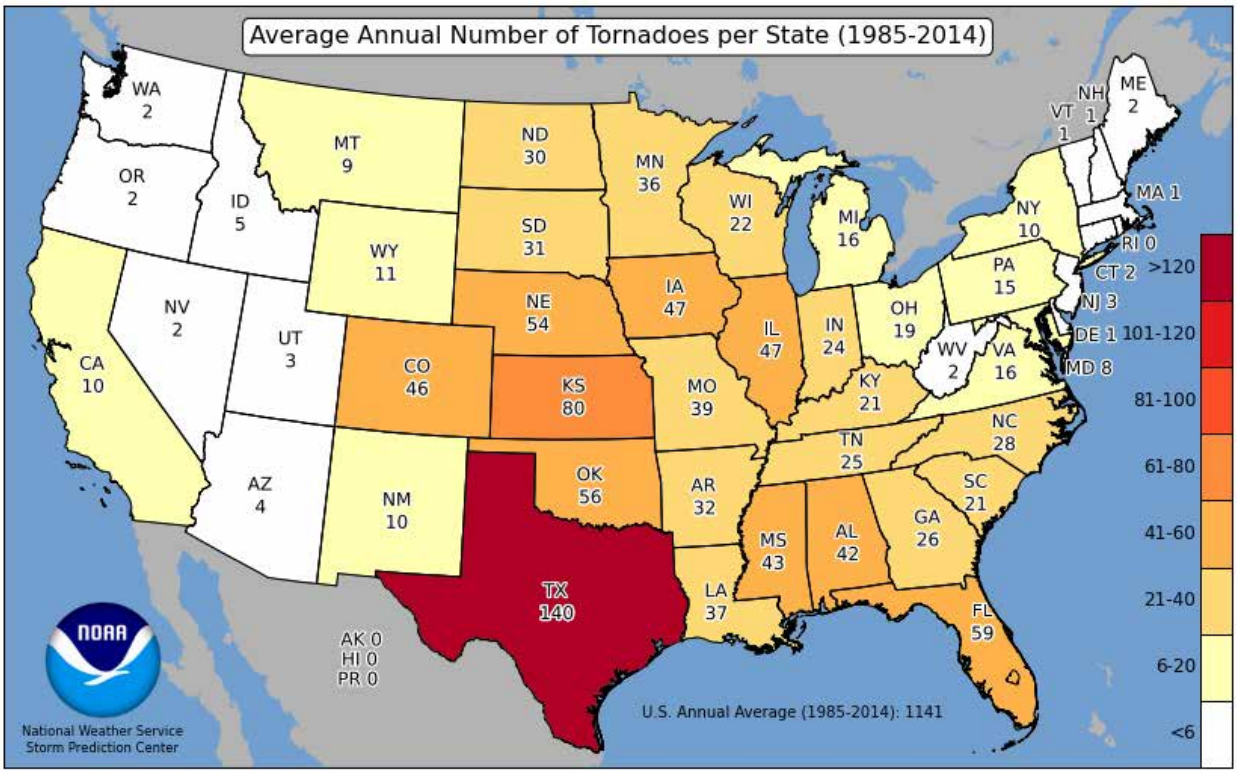
Tornadoes

Tornadoes can occur throughout Westmoreland County though events are usually localized. However, severe thunderstorms that cover a larger geographic area may result in conditions favorable to the formation of numerous or long-lived tornadoes. Tornadoes can occur at any time during the day or night but are most frequent during late afternoon into early evening, which are the warmest hours of the day. These events are most likely to occur during the spring and early summer months of March through June when these conditions are prevalent (PEMA 2018).

Tornado movement is characterized in two ways: direction and speed of spinning winds and forward movement of the tornado, also known as the storm track. Most tornadoes have wind speeds of 110 mph or less, are approximately 250 feet across, and travel a few miles before dissipating. Some attain wind speeds of more than 300 mph, stretch more than a mile across, and stay on the ground for dozens of miles. Some tornadoes never touch the ground and are short-lived, while others may touch the ground several times (PEMA 2018).

While the extent of tornado damage is usually localized, extreme winds of this vortex can be among the most destructive on Earth when they move through populated, developed areas. Figure 4.3.12-1 shows the annual average number of tornadoes between 1985 and 2014 (Storm Prediction Center [SPC] 2019). The Commonwealth of Pennsylvania experienced an average of 15 tornado events annually.

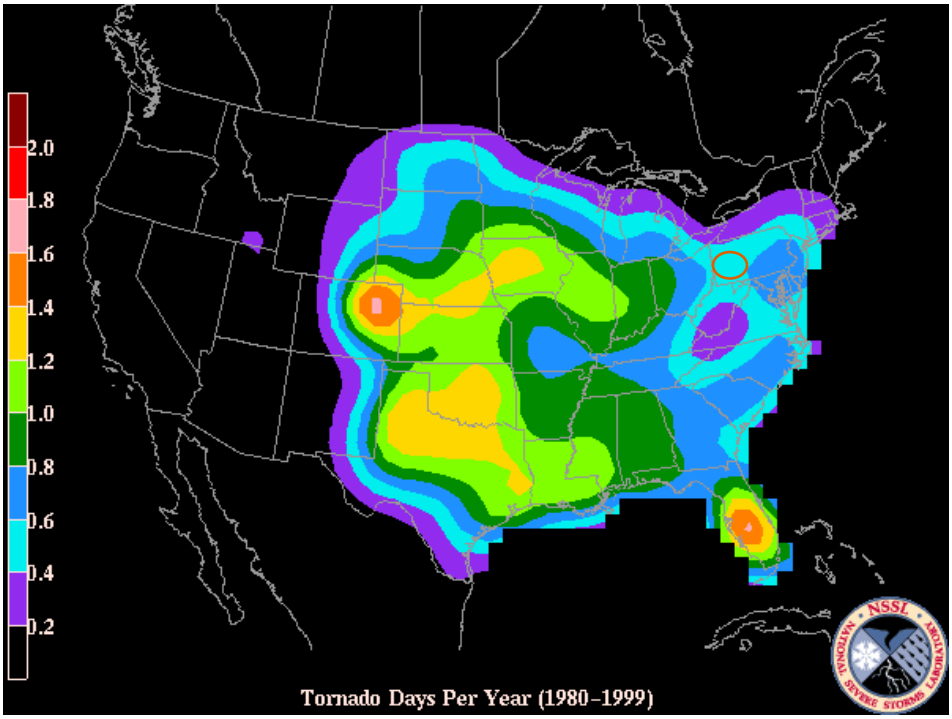
Figure 4.3.12-1. Annual Average Number of Tornadoes in the United States, 1985 to 2014



Source: SPC 2019

The NSSL used historical data to estimate the daily probability of tornado occurrences across the United States, without considering the magnitude of the tornado; refer to Figure 4.3.12-1. In Pennsylvania, it is estimated that the probability of a tornado occurring is 0.2 to 0.8 day per year. In Westmoreland County, it is estimated that the probability of a tornado occurring is 0.4 to 0.6 day per year (NSSL 2003).

Figure 4.3.12-2. Total Annual Threat of Tornado Events in the United States, 1980-1999



Source: *NSSL 2003*
Notes: *The mean number of days per year with one or more events within 25 miles of a point is shown here. The fill interval for tornadoes is 0.2, with the purple starting at 0.2 day. For the non-tornadic threats, the fill interval is 1, with the purple starting at 1. For the significant (violent) threats, it is 5 days per century (millennium).*
The oval indicates the general location of Westmoreland County.

Windstorms

All of Westmoreland County experiences straight-line winds and windstorms. Wind events can vary in spatial size from small microscale events that take place over only a few hundred meters to large-scale synoptic wind events often associated with warm or cold fronts (PEMA 2018). Effects from high winds can include downed trees and power lines and damaged roofs and windows. Table 4.3.12-1 lists wind classifications used by the NWS.

Table 4.3.12-1. NWS Wind Descriptions

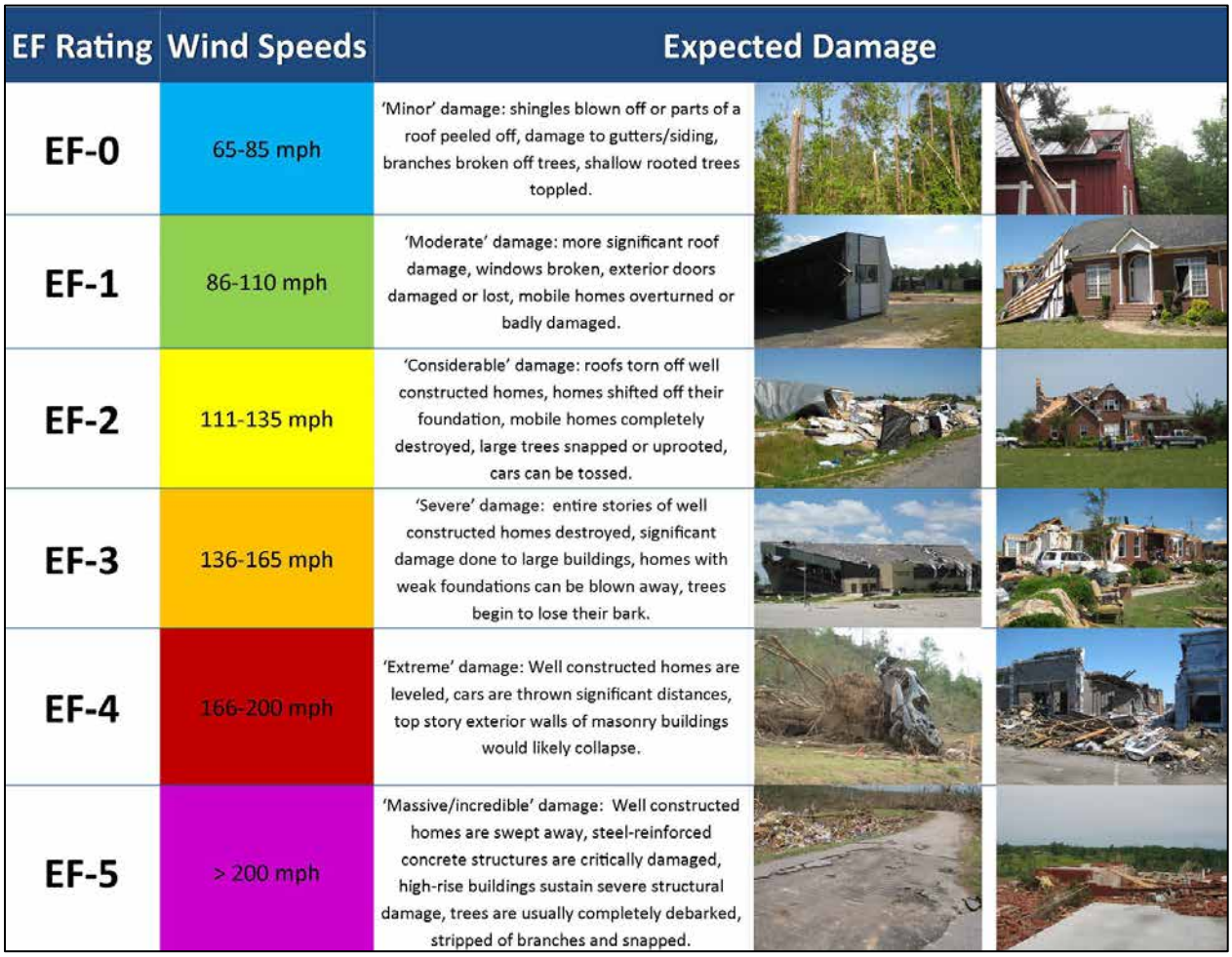
Descriptive Term	Sustained Wind Speed (mph)
Strong, dangerous, or damaging	≥40
Very windy	30-40
Windy	20-30
Breezy, brisk, or blustery	15-25
None	5-15 or 10-20
Light, or light and variable wind	0-5

Source: *NWS 2009*
mph *Miles per hour*

4.3.12.2 Range of Magnitude

The magnitude of tornadoes and windstorms is largely dependent upon the most damaging aspects of each type. The magnitude of a tornado is categorized using the Enhanced Fujita Tornado Intensity Scale (EF Scale). This is the scale now used exclusively for determining tornado ratings by comparing wind speed and actual damage. Figure 4.3.12-3 illustrates the relationship between EF ratings, wind speed, and expected tornado damage.

Figure 4.3.12-3. Enhanced Fujita Tornado Intensity Scale Ratings, Wind Speeds, and Expected Damage



Source: NWS 2018

Tornado watches and warnings are issued by the local NWS office. A tornado watch is released when tornadoes are possible in an area. A tornado warning means a tornado has been sighted or indicated by weather radar. The current average lead time for tornado warnings is 13 minutes. Occasionally, tornadoes develop so rapidly that little, if any, advance warning is possible (NOAA 2011).

The following table provides the descriptions of winds and their associated sustained wind speed used by the NWS during wind-producing events.

Table 4.3.12-2. NWS Wind Descriptions

Descriptive Term	Sustained Wind Speed (mph)
Strong, dangerous, or damaging	≥40
Very windy	30-40
Windy	20-30
Breezy, brisk, or blustery	15-25
None	5-15 or 10-20
Light or light and variable wind	0-5

Source: NWS 2019

The NWS issues advisories and warnings for winds. Issuance is normally site-specific. High wind advisories, watches, and warnings are products issued by the NWS when wind speeds can pose a hazard or are life-threatening. The criterion for each of these varies from state to state. According to the NWS (2018), wind warnings and advisories for Pennsylvania are as follows:

- *High Wind Warnings* are issued when sustained wind speeds of 40 mph or greater lasting for one hour or longer or for winds of 58 mph or greater for any duration or widespread damage are possible.
- *High Wind Watches* are issued when there is the possibility that high wind warning criteria may be met at longer ranges (24 to 48 hours out).
- *Wind Advisories* are issued when sustained winds of 31 to 39 mph are forecast for one hour or longer, or wind gusts of 46 to 57 mph for any duration.

The most severe tornado to hit Westmoreland County was an F4 on June 3, 1980. It was 33 yards wide and left a path 7.6 miles long. No deaths or injuries were reported, but damages were approximately $250 million (NCEI 2019).

4.3.12.3 Past Occurrence

Tornadoes have occurred throughout Pennsylvania. Western and southeastern sections of the Commonwealth have been struck more frequently. Table 4.3.12-3 documents the total number of tornadoes and windstorms that have occurred in Westmoreland County between 1950 and January 31, 2019 based on the NOAA-NCEI database and the Storm Prediction Center severe weather database.

Table 4.3.12-3. Tornado and Windstorm Events, 1950 to 2019

Hazard Type	Number of Occurrences Between 1950 and 2019	Total Fatalities	Total Injuries	Total Property Damage	Total Crop Damage
Funnel Cloud	0	0	0	$0	$0
High Wind	5	0	0	$210,000	$0
Strong Wind	8	0	0	$232,000	$0
Thunderstorm Wind	658	3	9	$7 million	$0
Tornado	36	1	47	$267.3 million	$40,000
Total	**707**	**4**	**56**	**$274.7 million**	**$40,000**

Source: NOAA-NCEI 2019; SPC 2019

Between 1954 and 2019, Pennsylvania was included in six FEMA declared tornado- and windstorm-related major disaster declarations (DR) or emergencies (EM) classified as one or a combination of the following hazards: high winds, flash floods, severe storms, tornadoes, and flooding. Generally, disasters cover a wide region of the state; therefore, many counties could have experienced various types of impacts. Of those declarations, Westmoreland County was included in one declaration (FEMA 2019).

Table 4.3.12-4. Tornado- and Windstorm-Related FEMA Declarations for Westmoreland County, 1954 to 2019

FEMA Declaration Number	Date(s) of Event	Incident Type	Event Title
EM-3081	June 13, 1980	Tornado	Severe Storms & Tornadoes

Source: FEMA 2019

The NOAA-NCEI Storm Events database records tornado and windstorm events. According to the database, there were 38 recorded tornadoes in Westmoreland County between 1950 and 2018. These tornadoes include eight F/EF0, 18 with an intensity of F/EF1, nine with an intensity of F/EF2, one with an intensity of F/EF3, one with an intensity of F/EF4, and one with an unidentified intensity. Westmoreland County's worst tornado event

occurred on June 3, 1980 when an F4 tornado caused approximately $250 million in damage. Figure 4.3.12-4 illustrates the location of these tornado occurrences in Westmoreland County.

For this HMP update, known tornado and major windstorm events that have impacted Westmoreland County between 1950 and January 2019 are identified in Table 4.3.12-5. With documentation for Pennsylvania and Westmoreland County being extensive, not all sources have been identified or researched. Therefore, Table 4.3.12-5 might not include all events that have occurred in the County.

Figure 4.3.12-4. Westmoreland County Tornado History

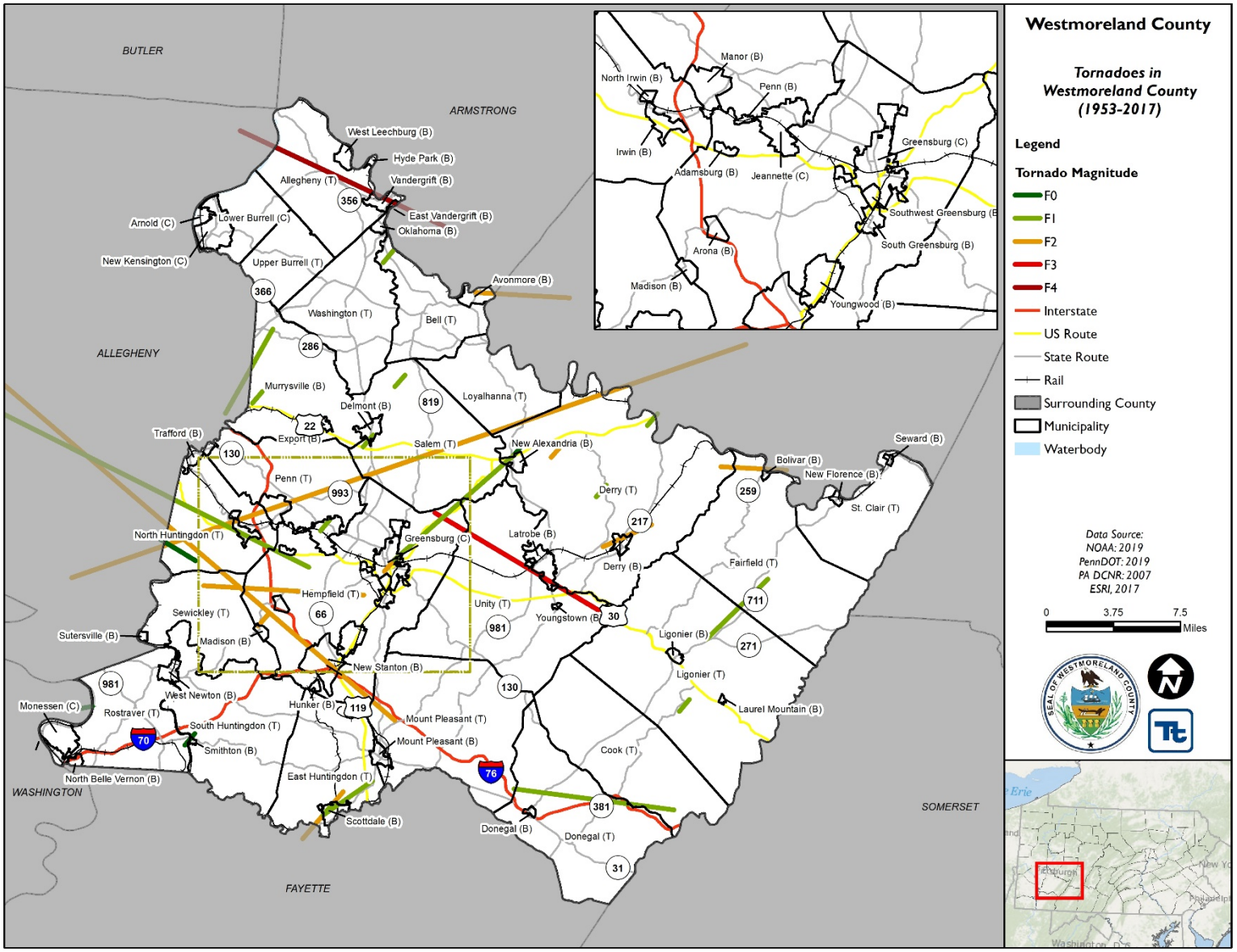


Table 4.3.12-5. Tornado and Windstorm Events in Westmoreland County, 1950 to January 2019

Date(s) of Event	Event Type	FEMA Declaration Number (if applicable)	County Designated?	Event Details
June 26, 1954	Tornado (F2)	N/A	N/A	Path width approximately 67 yards; $25,000 in property damages.
July 8, 1957	Tornado (F1)	N/A	N/A	Path width approximately 33 yards; $25,000 in property damages.
June 15, 1964	Tornado (F2)	N/A	N/A	Path length 2 miles; path width approximately 800 yards. $250,000 in property damages.
November 16, 1965	Tornado (F2)	N/A	N/A	Path width approximately 280 yards. $250,000 in property damages.
June 4, 1972	Lightning - Severe Storm/Thunder Storm - Wind	N/A	N/A	$125,000 in property damages
June 10, 1974	Tornado (F1)	N/A	N/A	Path length 0.4 mile; path width approximately 130 yards.
June 30, 1974	Hail - Lightning - Severe Storm/Thunder Storm - Wind	N/A	N/A	$416,667 in property damages; $41,667 in crop damages
May 26, 1975	Tornado (F1)	N/A	N/A	Path length 0.8 mile; path width approximately 100 yards. No damages.
September 5, 1975	Tornado (F1)	N/A	N/A	Path length 1 mile; path width approximately 83 yards. $2,500 in property damages.
June 1, 1976	Tornado	N/A	N/A	Path length 1.5 miles; path width approximately 33 yards. $25,000 in property damages.
July 11, 1976	Tornado	DR-513	No	Path length 11.8 miles; path width approximately 67 yards. $2.5 million in property damages.
July 15, 1976	Tornado (F1)	N/A	N/A	Path length 0.5 mile; path width approximately 30 yards. $250,000 in property damages.
March 30, 1977	Tornado (F1)	N/A	N/A	Path length 1 mile; path width approximately 400 yards. No damages.
January 26, 1978	Wind - Winter Weather	N/A	N/A	$2.6 million in property damages
May 12, 1980	Tornado (F2)	N/A	N/A	Path length 2.2 miles; path width approximately 20 yards. $250,000 in property damages.
June 3, 1980	Tornado (F4)	EM-3081	Yes	Path length 7.6 miles; path width approximately 33 yards. $250 million in property damages.
July 16, 1980	Hail - Lightning - Wind	N/A	N/A	$2.6 million in property damages
May 22, 1983	Tornado (F2)	N/A	N/A	Path length 13 miles; path width approximately 200 yards. $2.5 million in property damages.
May 22, 1983	Tornado (F2)	N/A	N/A	Path length 14 miles; path width approximately 200 yards. $2.5 million in property damages.

Date(s) of Event	Event Type	FEMA Declaration Number (if applicable)	County Designated?	Event Details
June 29, 1987	Tornado	N/A	N/A	Path length 0.5 mile; path width approximately 20 yards. $2,500 in property damages.
June 30, 1987	Tornado	N/A	N/A	Path length 0.5 mile; path width approximately 20 yards. $25,000 in property damages.
September 6, 1990	Tornado (F1)	N/A	N/A	Path length approximately 0.1 mile; path 40 yards wide. No damages.
September 6, 1990	Tornado (F1)	N/A	N/A	Path length approximately 0.2 mile, path 40 yards wide. No damages.
September 6, 1990	Tornado (F1)	N/A	N/A	Path length approximately 0.2 mile, path 40 yards wide. No damages.
April 9, 1991	Tornado (F1)	N/A	N/A	Path length approximately 0.2 mile, path 50 yards wide. $25,000 in property damages.
July 24, 1992	Tornado (F1)	N/A	N/A	Path length 1.5 miles; path width approximately 50 yards. $25,000 in property damages.
July 5, 1994	Tornado (F1)	N/A	N/A	A tornado downed large trees from Jeannette to Greensburg, closing State Route 30. An apartment roof was blown off at Greensburg, leaving eight families homeless. Other buildings sustained minor damage. Path length 1 mile; path width approximately 50 yards. $500,000 in property damages.
August 15, 1997	Tornado (EF1)	N/A	N/A	A severe thunderstorm produced a tornado that produced substantial damage in a residential area east-northeast of Latrobe along the foothills of the Chestnut Ridge. The tornado first touched down 1 mile west of Derry. Path length 3.5 miles; path width 200 yards. $800,000 in property damages.
June 2, 1998	Tornado	N/A	N/A	A weak F0 tornado briefly touched down for approximately 5 minutes over extreme eastern Allegheny and western Westmoreland Counties. One roof was blown off a structure. Otherwise, damage from this tornado was limited to downed trees. Path length 0.7 mile; path width approximately 50 yards. $15,000 in property damages.
June 2, 1998	Tornado (F1)	DR-1219	No	An F1 tornado crossed over the Pennsylvania Turnpike one mile west of Exit 9 at Donegal. As it crossed the turnpike, it tipped over an eastbound tractor trailer, injuring the driver. One mobile home was overturned. Otherwise, only minor structural damages occurred. Path length 8 miles; path width approximately 200 yards. $200,000 in property damages.
June 16, 1998	Severe Storm/Thunder Storm - Wind	N/A	N/A	$105,000 in property damages
June 16, 1998	Tornado	N/A	N/A	A weak F0 tornado damaged shingles on one house and snapped/uprooted 30 to 40 trees. $10,000 in property damages.
June 30, 1998	Severe Storm/Thunder Storm - Wind	N/A	N/A	$1.1 million in property damages
June 30, 1998	Thunderstorm Winds	N/A	N/A	Thunderstorm winds downed numerous trees and power lines. Major damage was reported to around ten homes, with numerous other homes in the area

Date(s) of Event	Event Type	FEMA Declaration Number (if applicable)	County Designated?	Event Details
				receiving minor damage. A new concrete block was at a car dealership was knocked over. $1 million in property damages.
May 12, 2002	Thunderstorm Winds	N/A	N/A	A thunderstorm microburst passed across Westmoreland County, leaving a path of damage along its entire route. The greatest amount of damage occurred in the Irwin and North Huntington areas. However, damage also occurred in Jeanette, Greensburg, and Latrobe, and Derry. Tree fell on car, injuring the driver and one passenger, killing the other passenger. $100,000 in property damages.
May 12, 2002	Severe Storm/Thunder Storm - Wind	N/A	N/A	$100,000 in property damages
July 26, 2002	Thunderstorm Winds	N/A	N/A	Microburst hit portions of eastern Murrysville. The length of the damage path was about one quarter of a mile. The width was approximately 200 yards. The strongest winds were estimated to be about 80 mph. 1 injury. $200,000 in property damages.
July 26, 2002	Severe Storm/Thunder Storm - Wind	N/A	N/A	$200,000 in property damages
August 4, 2004	Tornado	N/A	N/A	An F-0 tornado touched down at Charter Oak, 3 miles east of Greensburg, in Unity Twp. It moved toward the southeast, uprooting several large trees, which crushed fencing at a nearby swimming pool. Path length 100 yards, path wide 30 yards, maximum wind 65 mph. $1,000 in property damages.
December 1, 2006	Tornado	N/A	N/A	A weak F1 tornado touched down in Greensburg at 11:40 a.m. about one quarter mile south of Greensburg Hospital. The tornado was only briefly on the ground for about 100 yards in Greensburg with F1 damage to trees, one house, and an automobile. $75,000 in property damages.
June 28, 2008	Severe Storm/Thunder Storm - Wind	N/A	N/A	$125,000 in property damages
June 28, 2008	Thunderstorm Winds	N/A	N/A	$125,000 in property damages; trees and power lines down
June 29, 2008	Thunderstorm Winds	N/A	N/A	One large tree fell on a moving vehicle driven by a 37-year-old male. $150,000 in property damages.
June 29, 2008	Severe Storm/Thunder Storm - Wind	N/A	N/A	$150,000 in property damages
February 12, 2009	Wind	N/A	N/A	$113,000 in property damages
April 20, 2009	Wind	N/A	N/A	$100,000 in property damages
December 9, 2009	Wind	N/A	N/A	$107,000 in property damages
April 16, 2010	Thunderstorm Winds	N/A	N/A	Severe thunderstorms were scattered across eastern Ohio, the northern West Virginia panhandle, and southwest Pennsylvania ahead of a cold front. $200,000 in property damages.

Date(s) of Event	Event Type	FEMA Declaration Number (if applicable)	County Designated?	Event Details
April 16, 2010	Severe Storm/Thunder Storm - Wind	N/A	N/A	$100,000 in property damages
April 16, 2010	Severe Storm/Thunder Storm - Wind	N/A	N/A	$200,000 in property damages
March 23, 2011	Tornado (EF2)	N/A	N/A	As a low-pressure system tracked along a warm front across Ohio and Pennsylvania severe thunderstorms developed just south of the front in Ohio and progressed eastward. Large hail was reported with many of the storms. Path length 9 miles; path width approximately 300 yards. $4 million in property damages, including high school building and athletic facility.
April 16, 2011	Wind	N/A	N/A	$100,000 in property damages
August 19, 2011	Thunderstorm Winds	N/A	N/A	$100,000 in property damages
August 19, 2011	Severe Storm/Thunder Storm - Wind	N/A	N/A	$100,000 in property damages
June 1, 2012	Tornado	N/A	N/A	A strong squall line associated with a cold front crossed through western Pennsylvania in the afternoon on June 1. Significant damage to a camp and conference center. Path length 5 miles; path width approximately 300 yards. $3 million in property damages; 9 million in total damage; 6 million was from a church camp that was self-insured.
January 30, 2013	Thunderstorm Wind	N/A	N/A	A line of storms brought strong winds to western Pennsylvania and northern West Virginia. The highest wind gusts were measured at Arnold Palmer Regional Airport in Latrobe, where gusts of 67 mph were recorded. County emergency management reported downed trees in the County. Approximately $75,000 in damages was reported.
May 10, 2013	Thunderstorm Wind	N/A	N/A	Severe thunderstorms developed over Westmoreland County. The storms brought strong winds that downed trees and power lines in the Boroughs of Mount Pleasant and Ligonier. The storms caused approximately $80,000 in damages.
August 22, 2017	Thunderstorm Wind	N/A	N/A	
November 19, 2017	Tornado (EF1)	N/A	N/A	A cold front produced isolated wind damage across southwest Pennsylvania. Most of the wind gusts recorded measured 50 mph or less. There was an area that experienced straight-line wind damage and a confirmed tornado. A tornado damaged an area along Saltsburg Road from Plum (Allegheny County) to Murraysville (Westmoreland County). It uprooted or snapped several large hardwood trees along the entire route. A vehicle was flipped in the parking lot of a senior residential community center and air condensers on top of the building were removed. In Westmoreland County, damages totaled approximately $25,000.

Date(s) of Event	Event Type	FEMA Declaration Number (if applicable)	County Designated?	Event Details
June 27, 2018	Tornado (EF0)	N/A	N/A	Two short-track EF0 tornadoes were reported in Westmoreland County. One occurred in the Hempfield Township/Mount Pleasant area, mainly caused tree damage and damage to a barn and outbuildings along Brinker Road. The second tornado occurred in Unity Township, near Arnold Palmer Regional Airport, causing tree damage and damage to a barn roof. The County had approximately $25,000 in damages from this event.
October 2, 2018	Tornado (EF 1/2)	N/A	N/A	A series of supercells and tornadoes were observed in western Pennsylvania, including Westmoreland County. An EF2 tornado was observed in Donegal Township, where there was visible tree damage began on a hilltop west of Stairs Road. As the tornado moved down into the valley, tree damage was observed near the intersection of Harr Road and Donegal Lake Road. A brief EF1 tornado was observed in Armbrust (Hempfield Township). It occurred near Ivy Lane and Brinkerton Road to near Pattern Shop Road and Valley Green Road. Along Ivy Lane, several softwood tree trunks were snapped, and a few hardwood trees were uprooted. Farther north along Brinkerton Road, the tornado strengthened to its peak wind speed as it descended into a valley and carved a short, focused path of snapped and uprooted trees. Tree damage continued after the tornado crossed Brinkerton Road, but wind speed weakened at this time. The last observed damage was noted near Pattern Shop Road and Valley Green Road as the tornado encountered a hillside. A few snapped limbs were noted at the end of its path. Approximately $8,000 in damages were reported for this event.

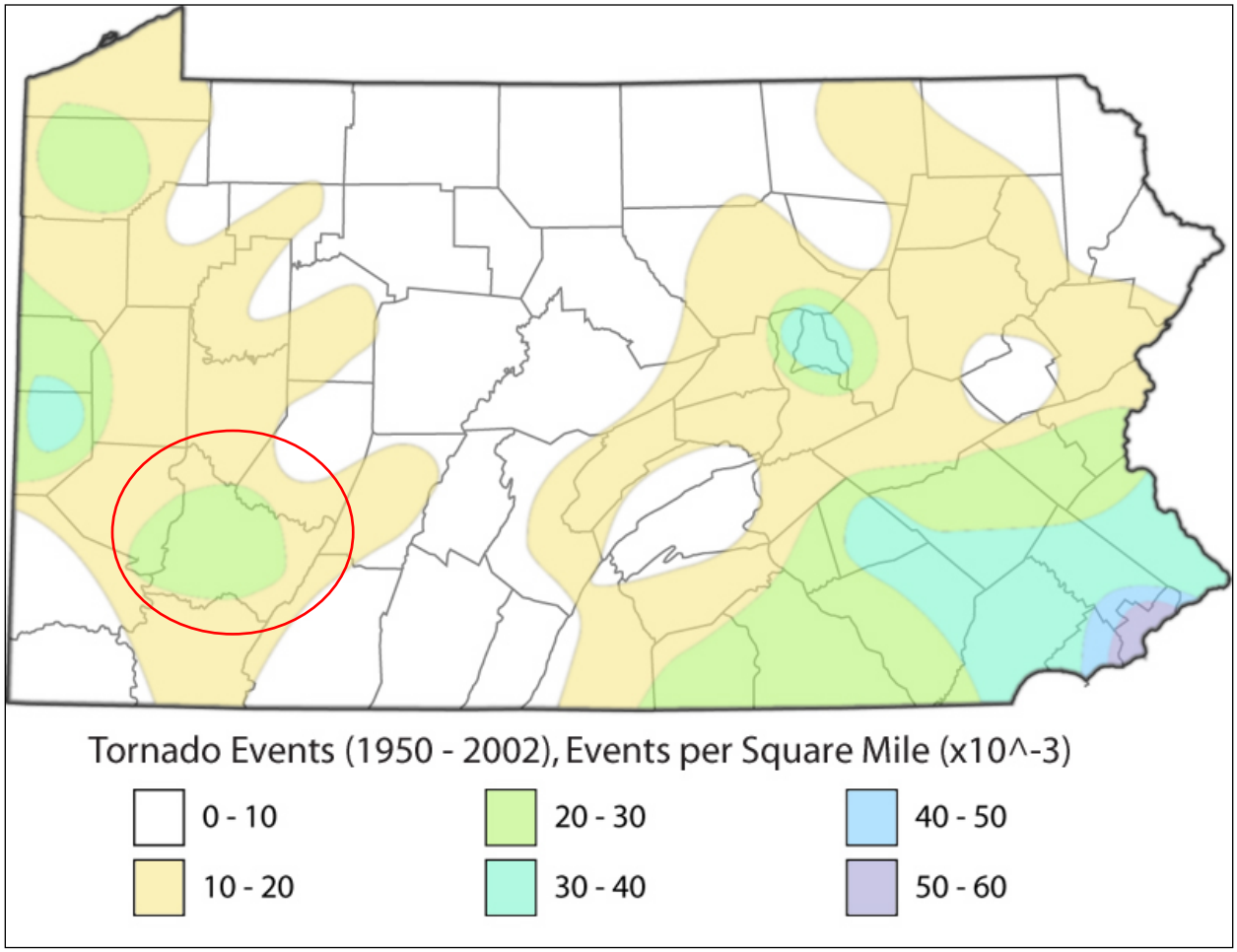
Source: FEMA 2019; NOAA-NCEI 2019; SPC 2019

FEMA Federal Emergency Management Agency
K Thousand ($)
PEMA Pennsylvania Emergency Management Agency
M Million ($)
mph Miles per hour
NCDC National Climatic Data Center
NOAA National Oceanic Atmospheric Administration
TSTM Thunderstorm

4.3.12.4 Future Occurrence

Using events collected between 1950 and 2002, Figure 4.3.12-5 shows the number of total tornado events per square mile across Pennsylvania from the State Climatologist. The figure shows that a majority of Westmoreland County experienced a higher frequency of tornado events than the central and northern portions of the state.

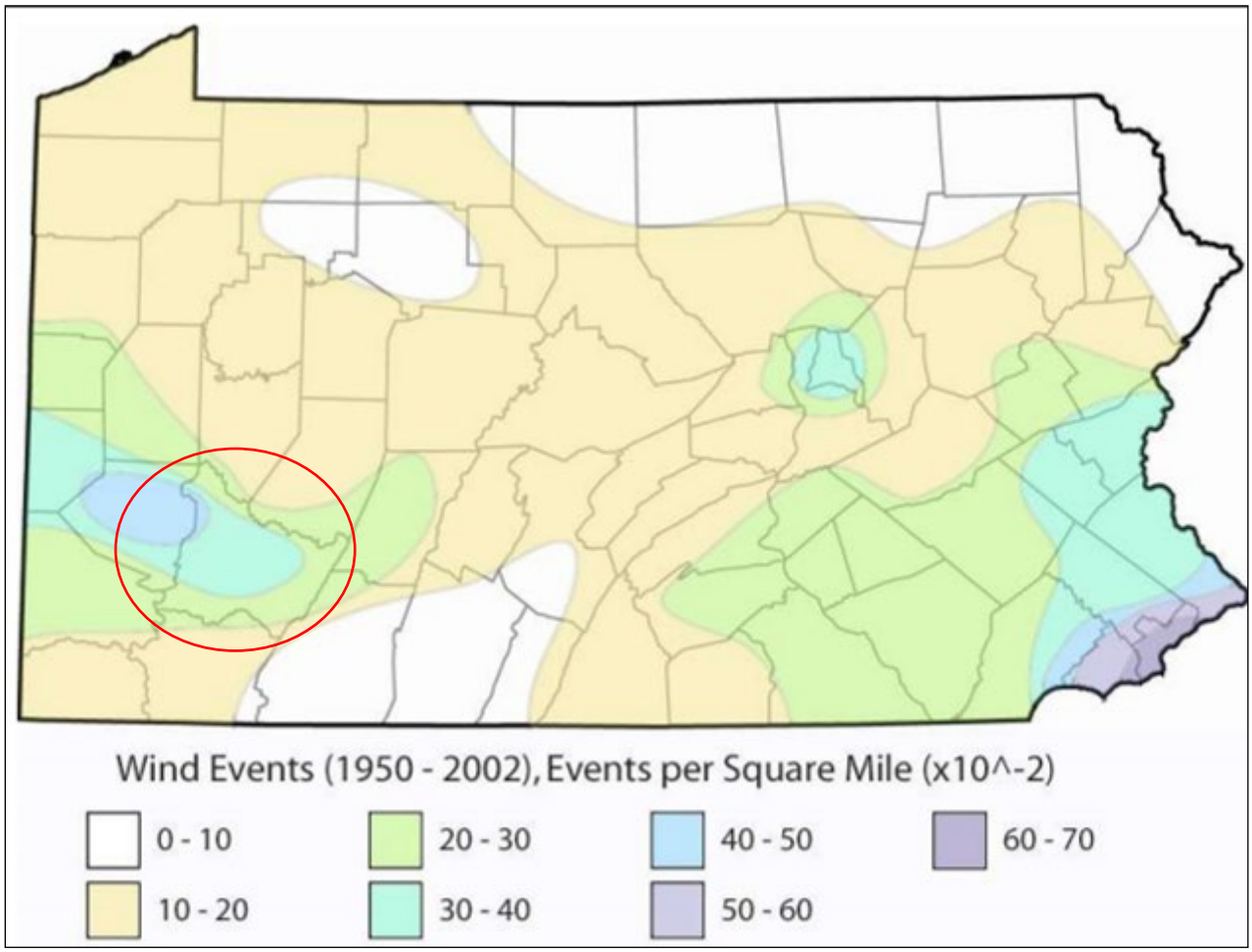
Figure 4.3.12-5. Total Tornado Events Per Square Mile in Pennsylvania



Source: Pennsylvania State Climatologist 2016
Note: Westmoreland County is shown by the red oval.

Similar to tornadoes, the Pennsylvania State Climatologist used historical data between 1950 and 2002 to show the number of wind events per square mile in the Commonwealth. The figure shows that Westmoreland County experienced a higher frequency of events than a majority of the state.

Figure 4.3.12-6. Wind Events Per Square Mile in Pennsylvania



Source: Pennsylvania State HMP 2013
Note: Westmoreland County is shown by the red oval.

For the 2019 HMP update, the most up-to-date historic data was collected to calculate the probability of future occurrence of tornado and windstorm events for Westmoreland County. Information from NOAA-NCEI Storm Events database, the Pennsylvania State Climatologist, and the Storm Prediction Center were used to identify the number of tornado events that occurred between 1950 and December 2018. Table 4.3.12-6 presents the probability of future occurrence of tornado events in Westmoreland County.

Table 4.3.12-6. Probability of Future Tornado and Windstorm Events

Hazard Type	Number of Occurrences Between 1950 and 2018	Recurrence Interval (in years) (# Years/Number of Events)	Percent chance of occurrence in any given year
Tornadoes	38	1.82	55.07%
Strong Wind	8	8.63	11.59%
Thunderstorm Wind	658	0.10	100%
High Wind	5	13.80	7.25%
TOTAL	**709**	**0.10**	**100%**

Sources: NOAA-NCEI 2019

In Section 4.4, the hazards of concern identified for Westmoreland County are ranked according to relative risk. The probability of occurrence, or likelihood of the event, is one parameter used for ranking hazards. The probability of occurrence for severe tornado and windstorm events in Westmoreland County is considered *highly likely* (greater than 90 percent annual probability) as defined by the Risk Factor Methodology probability criteria (Section 4.4).

Westmoreland County experiences strong winds on a frequent basis, and when those winds occur, they can result in significant property damage, downed trees, and utility outages. It can be reasonably assumed that future tornadoes will be similar in nature to those that have affected Westmoreland County in the past. It is estimated that the County will continue to experience direct and indirect impacts of annual windstorms and tornadoes that may induce secondary hazards, such as infrastructure deterioration or failure; utility failures; power outages; water quality and supply concerns; and transportation delays, accidents, and inconveniences.

4.3.12.5 Vulnerability Assessment

To understand risk, a community must evaluate assets exposed and vulnerable within the identified hazard area. The following section discusses potential impacts of the tornado hazard on Westmoreland County, including:

- Impacts on (1) life, health, and safety; (2) general building stock and critical facilities; (3) the economy; (4) the environment; and (5) future growth and development
- Effect of climate change on vulnerability
- Further data collections that will assist in understanding this hazard over time.

A qualitative assessment on potential impacts to life, health, and safety; buildings and critical facilities; and the economy are summarized below. Refer to Section 4.3.7 (Hurricane and Tropical Storms) for further details on estimated potential losses as a result of the 100- and 500-year mean return period wind events using HAZUS-MH v4.2.

Impact on Life, Health, and Safety

Impacts of a tornado or windstorm on life, health, and safety depend on several factors, including severity of the event and whether adequate warning time was provided to residents. All residents in Westmoreland County are exposed to the tornado hazard.

Residents may be displaced or require temporary to long-term sheltering. In addition, downed trees, damaged buildings, and debris carried by high winds can lead to injury or loss of life. Similar to other natural hazards, socially vulnerable populations are most susceptible based on a number of factors, including their physical and financial ability to react or respond during a hazard and locations and construction quality of their housing. Economically disadvantaged populations are more vulnerable because they are likely to evaluate their risk and make decisions based on the major economic impact on their family and may not have funds to evacuate. The population over the age of 65 is also more vulnerable and, physically, they may have more difficulty evacuating. The elderly are considered most vulnerable because they require extra time or outside assistance during evacuations and are more likely to seek or need medical attention that may not be available due to isolation during a storm event. Section 2 (County Profile) presents the statistical information regarding these populations in the County.

Impact on General Building Stock and Critical Facilities

While the chance of being affected by a tornado is small, the damage that results when a tornado occurs can be devastating. An EF4 tornado can carry wind velocities of 200 mph, resulting in a force of more than 100 pounds per square foot of surface area. This is a “wind load” that exceeds the design limits of most buildings.

The entire County’s building stock and critical facilities are exposed to the tornado hazard. Manufactured housing (i.e., mobiles homes) is particularly vulnerable to high winds and tornadoes. The U.S. Census Bureau defines manufactured homes as “movable dwellings, 8 feet or wider and 40 feet or more long, designed to be

towed on its own chassis, with transportation gear integral to the unit when it leaves the factory, and without need of a permanent foundation (US Census 2010)." They can include multiwides and expandable manufactured homes but exclude travel trailers, motor homes, and modular housing. Due to their light-weight and often unanchored design, manufactured housing is extremely vulnerable to high winds and will generally sustain the most damage.

Table 4.3.12-7 displays the number of manufactured housing units per municipality in Westmoreland County.

Table 4.3.12-7. Manufactured Housing Units per Municipality in Westmoreland County

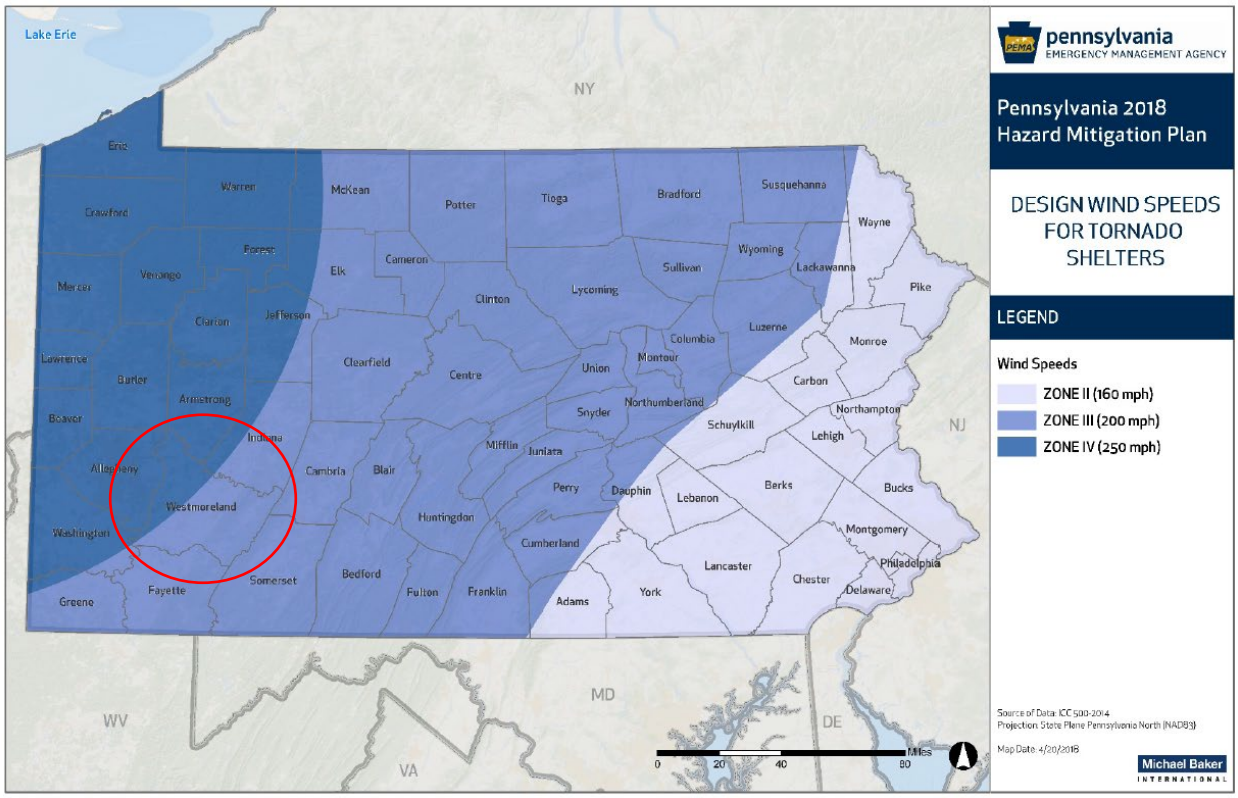
Municipality	Number of Manufactured Homes		Municipality	Number of Manufactured Homes
Adamsburg Borough	12		Mount Pleasant Township	565
Allegheny Township	190		Murrysville, Municipality of	344
Arnold, City of	12		New Alexandria Borough	78
Arona Borough	17		New Florence Borough	42
Avonmore Borough	75		New Kensington, City of	75
Bell Township	94		New Stanton Borough	86
Bolivar Borough	38		North Belle Vernon Borough	23
Cook Township	73		North Huntingdon Township	393
Delmont Borough	0		North Irwin Borough	0
Derry Borough	9		Oklahoma Borough	13
Derry Township	1,143		Penn Borough	0
Donegal Borough	20		Penn Township	245
Donegal Township	294		Rostraver Township	509
East Huntingdon Township	865		St. Clair Township	90
East Vandergrift Borough	0		Salem Township	939
Export Borough	26		Scottdale Borough	47
Fairfield Township	291		Seward Borough	31
Greensburg, City of	44		Sewickley Township	392
Hempfield Township	1,450		Smithton Borough	7
Hunker Borough	9		South Greensburg Borough	0
Hyde Park Borough	15		South Huntingdon Township	253
Irwin Borough	0		Southwest Greensburg Borough	0
Jeannette, City of	2		Sutersville Borough	22
Latrobe, City of	96		Trafford Borough	1
Laurel Mountain Borough	7		Unity Township	781
Ligonier Borough	16		Upper Burrell Township	75
Ligonier Township	359		Vandergrift Borough	0
Lower Burrell, City of	177		Washington Township	550
Loyalhanna Township	78		West Leechburg Borough	15
Madison Borough	37		West Newton Borough	11
Manor Borough	31		Youngstown Borough	13

Municipality	Number of Manufactured Homes		Municipality	Number of Manufactured Homes
Monessen, City of	21		Youngwood Borough	53
Mount Pleasant Borough	10			
Westmoreland County	**11,164**			

Source: HAZUS-MH v4.2

According to the 2018 State HMP, there are wind speed zones developed for the design of tornado shelters; refer to Figure 4.3.12-7. As displayed, Westmoreland County is located in wind speed zones III and IV, meaning design wind speeds for shelters and critical facilities should withstand 3-second gusts up to 250 mph, regardless if the wind is from a tornado, hurricane, tropical storm, or windstorm event. It should be noted that these windspeeds represent the strongest anticipated throughout the Commonwealth and are not the normal wind speeds expected statewide (PEMA 2018).

Figure 4.3.12-7. Design Wind Speeds for Tornado Shelters



Source: PEMA 2018
Note: Westmoreland County is shown by the red oval.

Impact on Economy

Tornadoes also impact the economy, including loss of business function (e.g., tourism, recreation), damage to inventory, relocation costs, and wage loss and rental loss due to repair/replacement of buildings. Impacts on transportation lifelines affect both short-term (e.g., evacuation activities) and long-term (e.g., day-to-day commuting and goods transport) transportation needs. Utility infrastructure (power lines, gas lines, electrical systems) could sustain damage and impacts could result in loss of power, which can affect business operations and provision of heating or cooling to the population.

Impact on the Environment

Tornado events are typically localized; therefore, environmental impacts are rarely widespread. Severe damage to plant species is likely from both tornado and windstorm events. This includes uprooting or total destruction of trees, and increased threat to wildfire in areas of tree debris. Hazardous material facilities should meet design requirements for the wind zones identified in Figure 4.3.12-7 above (PEMA, 2018).

Future Growth and Development

As discussed in Section 2 (County Profile), areas targeted for future growth, development and re-development have been identified across Westmoreland County. Any areas of growth could be affected by the tornado and windstorm hazard because the entire County is exposed and potentially vulnerable to the wind hazard. Residential development, specifically manufactured homes, may be considered more vulnerable to the tornado hazard.

Effect of Climate Change on Vulnerability

An increase in storms will produce more wind events and may increase tornado activity. Additionally, an increase in temperature will provide more energy to produce storms that generate tornadoes (Climate Central 2016). With an increased likelihood of strong winds and tornado events, all of the County's assets will experience additional risk for losses as a result of extreme wind events.

Additional Data and Next Steps

In time, HAZUS-MH will be released with modules that address straight-line wind and tornado events. As updated versions of HAZUS-MH are released, the County can run analyses for an overall picture of the wind damages and debris generated from tornado events. Over time, Westmoreland County can obtain additional data to support the analysis of this hazard. Data that will support the analysis would include additional detail on past hazard events and impacts, and an updated building inventory to include specific building information such as type of construction and details on protective features (for example, shutters and safe rooms).

4.3.13 Wildfire

This section provides a profile of and vulnerability assessment for the wildfire hazard. A wildfire is an uncontrolled fire spreading through vegetative fuels, exposing and possibly consuming structures. Wildfires often begin unnoticed and can spread quickly, creating dense smoke that can be seen for miles. A wildland fire is a wildfire in an area where development is essentially nonexistent, except for roads, railroads, power lines, and similar facilities. A wildland-urban interface (WUI) fire is a wildfire in a geographical area where structures and other human development meet or intermingle with wildland or vegetative fuels.

4.3.13.1 Location and Extent

Wildfires take place in less developed or completely undeveloped areas, spreading rapidly through vegetative fuels. They can occur any time of the year but mostly occur during long, dry, hot spells. Any small fire, if not quickly detected and suppressed, can get out of control. Most wildfires are caused by human carelessness, negligence, and ignorance. However, some are precipitated by lightning strikes and in rare instances, spontaneous combustion. Wildfires in Pennsylvania can occur in open fields, grass, dense brush, and forests.

Wildfires can occur at any time of the year but are most likely in Westmoreland County during a drought and can occur in fields, grass, and brush as well as in the forest itself. Under dry conditions or droughts, wildfires have the potential to burn forests as well as croplands.

The majority of Westmoreland County is forested land (approximately 60.9%), with dense concentrations of forested land on the eastern side of the County. The greatest potential for wildfires is in the spring months of March, April, and May and the autumn months of October and November; 83% of all Pennsylvania wildfires occur in these two time periods. In the spring, bare trees allow sunlight to reach the forest floor, drying fallen leaves and other ground debris. In the fall, dried leaves are also fuel for fires.

Table 4.3.13-1. Land Use Summary for Westmoreland County

Land Use Category	Total Area (square miles)	Percent of Total
Agricultural	210.4	20.3%
Barren Land	3.3	0.3%
Forest	631.1	60.9%
Urban Built Up	180.6	17.4%
Water	9.4	0.9%
Wetland	1.9	0.2%
Total	**1,036.8**	**100.0%**

Source: USGS 2019

Figure 4.3.13-1 illustrates the land cover across Westmoreland County. As the figure shows, a significant portion of Westmoreland County is forested or agricultural land. Figure 4.3.13-2 shows the locations of wildfires throughout Pennsylvania that the Pennsylvania Department of Conservation and Natural Resources (PA DCNR), Bureau of Forestry (BOF) responded to from 2002 to June 2013. Wildfires are known to be an underreported event. Many wildfires occur every year and are suppressed by volunteer fire departments without any response or assistance from BOF. Therefore, these locally controlled blazes may not be represented in BOF records.

Figure 4.3.13-1. Land Cover in Westmoreland County

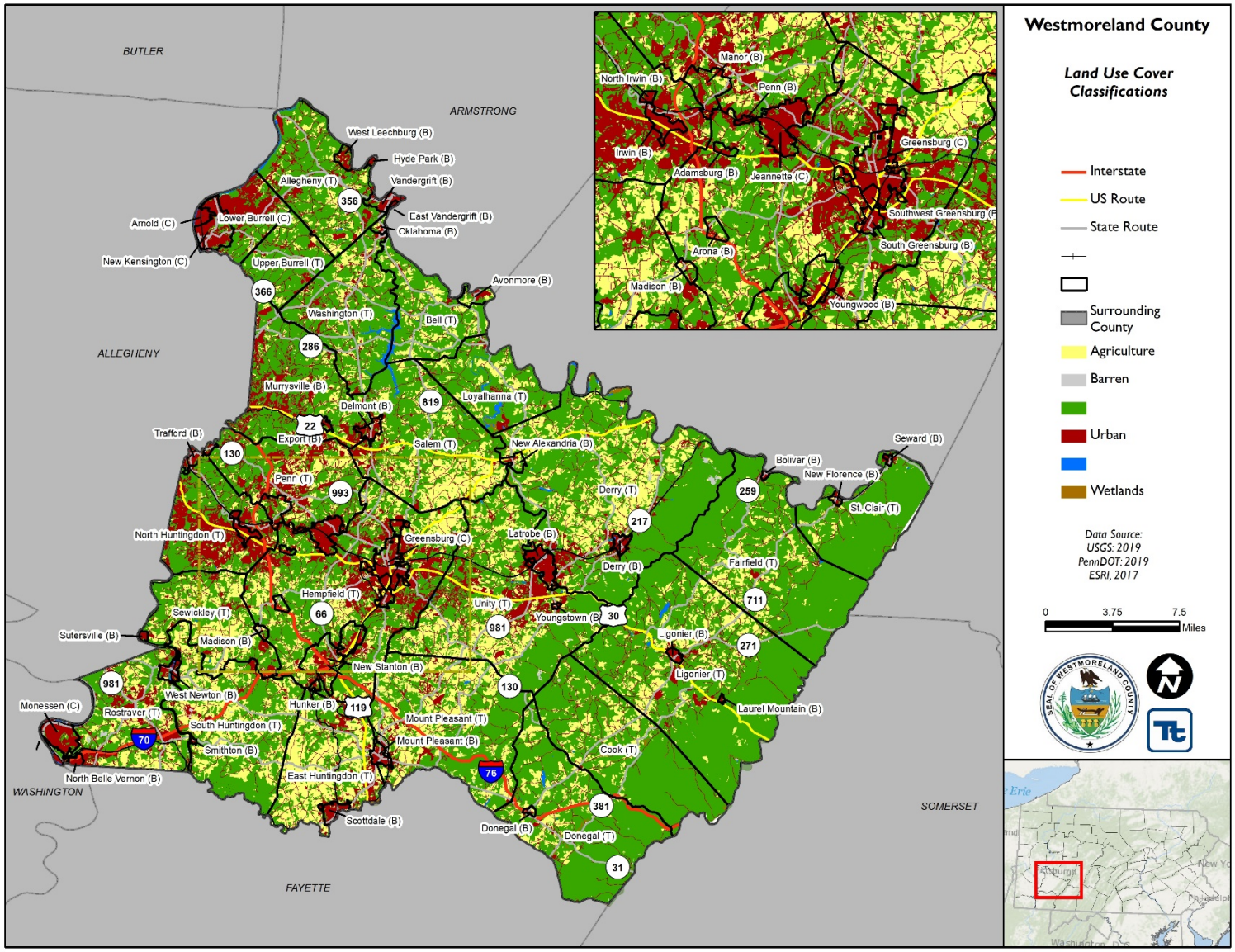
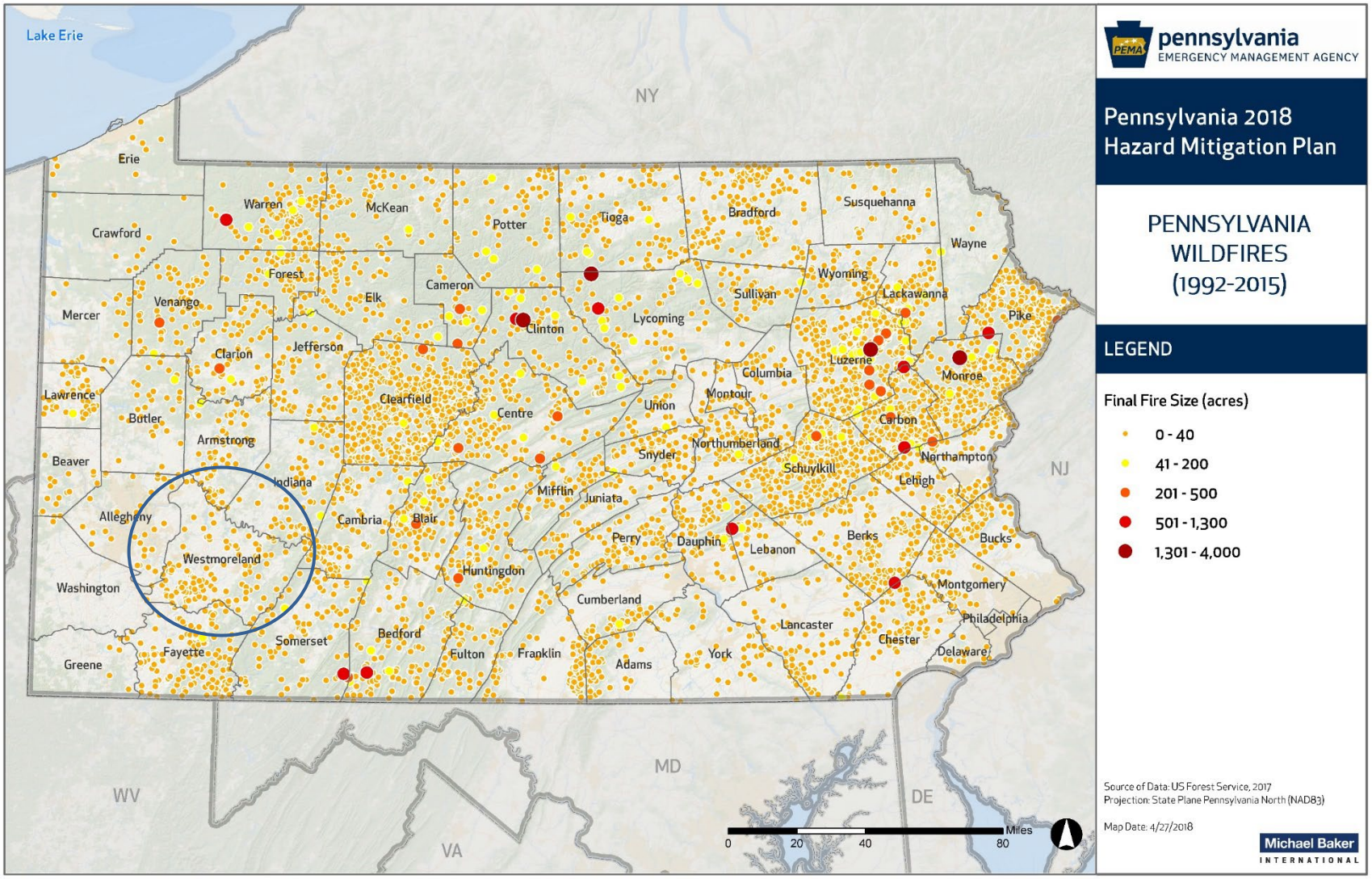


Figure 4.3.13-2. Location of Wildfire Events responded to by BOF from 1992-2015



Source: PEMA 2018

Note: Blue circle was added to highlight Westmoreland County's location within Pennsylvania.

According to the Pennsylvania 2018 Standard State All-Hazard Mitigation Plan, areas of the Commonwealth that have large home developments built in volatile fuel types are at risk for catastrophic wildfires. Many areas of the state are at risk for large wildfires, but northeastern Pennsylvania is the most at risk for loss of life and/or property due to the number of homes at risk for wildfires. In southeastern Pennsylvania, communities are most susceptible to large fires accidentally started by people; fires of this type include those ignited by sparks from railroads cars that run parallel to and on the banks of the Susquehanna River (PEMA 2018).

Several tools are available to estimate fire potential location and extent, including but not limited to the WUI, Wildland Fire Assessment System, and PA DCNR Priority Landscape Analysis. These tools are discussed in further detail below.

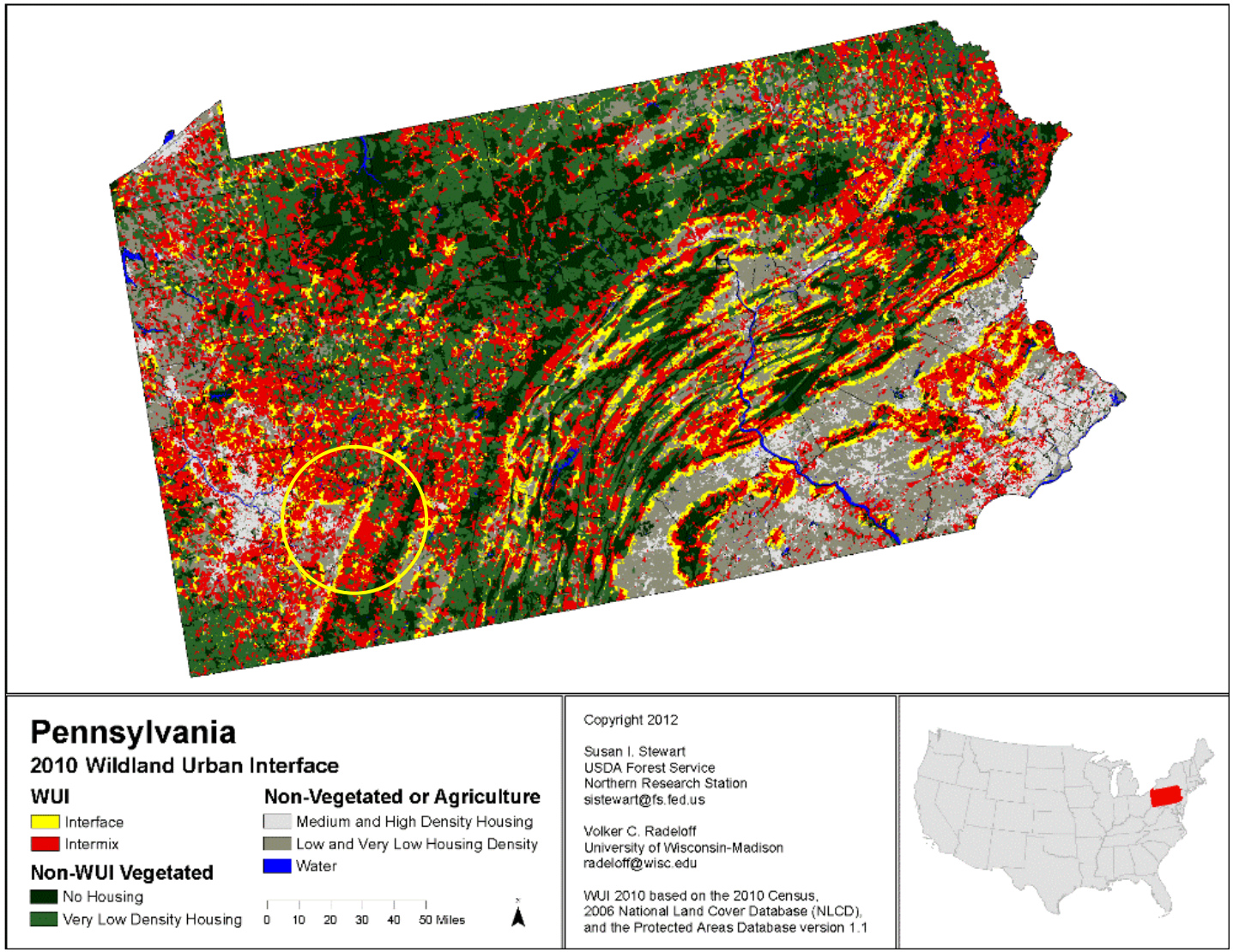
Wildland/Urban Interface (WUI)

The WUI is the area where houses and wildland vegetation coincide. The WUI is divided into two categories: intermix and interface. Intermix WUI are areas where housing and vegetation "intermingle." Intermix areas have more than one house per 40 acres and have more than 50 percent vegetation. Interface WUI are areas with housing in the vicinity of contiguous wildland vegetation. Interface areas have more than one house per 40 acres, have less than 50 percent vegetation, and are within 1.5 miles of an area larger than 1,235 acres that is more than 75 percent vegetated (Stewart et al. 2005).

The California Fire Alliance determined that areas within 1.5 miles of wildland vegetation are the approximate distance that firebrands can be carried from a wildland fire to the roof of a house. Therefore, even structures not located within the forest are at risk from wildfire. This buffer distance, along with housing density and vegetation type, were used to define the WUI (Stewart et al. 2005).

Concentrations of WUI can be seen along the east coast of the United States, including the Pittsburgh Metropolitan Area (which includes Westmoreland County, where housing density rarely falls below the threshold of one housing unit per 40 acres, and forest cover is abundant). Areas where recreation and tourism dominate are also places where WUI is common (Stewart et al. 2005). Figure 4.3.13-3 depicts the WUI for Pennsylvania in 2010, and Figure 4.3.13-4 illustrates the WUI for Westmoreland County. Concentrations of WUI areas greater than 50 percent are classified as WUI (intermix or interface) in the County.

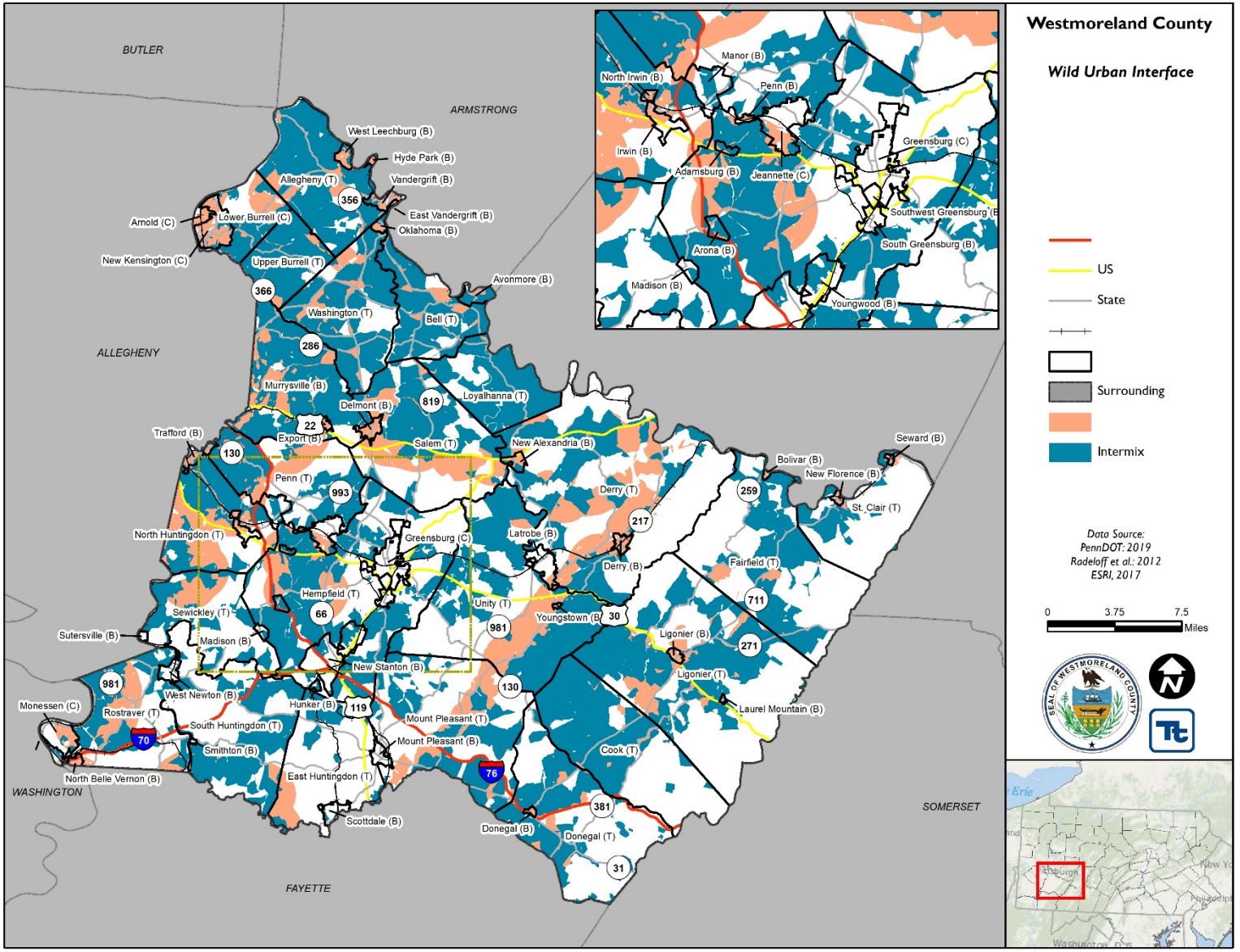
Figure 4.3.13-3. 2010 WUI for Pennsylvania



Source: *Stewart 2015*

Note: *Yellow oval highlights Westmoreland County's location within Pennsylvania.*

Figure 4.3.13-4. WUI for Westmoreland County



Wildland Fire Assessment System (WFAS)

The WFAS is an Internet-based information system maintained at the National Interagency Fire Center (NIFC) in Boise, Idaho, that provides a national view of weather and fire potential, including national fires danger, weather maps and satellite-derived "Greenness" maps (U.S. Forestry Service [USFS] Date Unknown). Each day during the fire season, national maps of selected fire weather and fire danger components of the National Fire Danger Rating System (NFDRS) are produced by the WFAS (USFS 2012). The Fire Danger Rating level, described in Table 4.3.13-2 below, takes into account current and antecedent weather, fuel types, and both live and dead fuel moisture. The adjective class rating is a method of normalizing rating classes across different fuel models, indexes, and station locations. It is based primarily on a fuel model cataloged for the station, the fire danger index selected to reflect staffing levels, and climatological class breakpoints. Local station managers provide this information to USFS (USFS 2012).

Table 4.3.13-2. Fire Danger Rating and Color Code

Fire Danger Rating and Color Code	Description
Low (L) (Dark Green)	Fuels do not ignite readily from small firebrands, although a more intense heat source, such as lightning, may start fires in duff or punky wood. Fires in open cured grasslands may burn freely a few hours after rain, but woods fires spread slowly by creeping or smoldering and burning in irregular fingers. There is little danger of spotting.
Moderate (M) (Light Green or Blue)	Fires can start from most accidental causes, but with the exception of lightning fires in some areas, the number of starts is generally low. Fires in open cured grasslands will burn briskly and spread rapidly on windy days. Timber fires spread slowly to moderately fast. The average fire is of moderate intensity, although heavy concentrations of fuel, especially draped fuel, may burn hot. Short-distance spotting may occur but is not persistent. Fires are not likely to become serious, and control is relatively easy.
High (H) (Yellow)	All fine dead fuels ignite readily, and fires start easily from most causes. Unattended brush and campfires are likely to escape. Fires spread rapidly, and short-distance spotting is common. High-intensity burning may develop on slopes or in concentrations of fine fuels. Fires may become serious and their control difficult unless they are attacked successfully while they are small.
Very High (VH) (Orange)	Fires start easily from all causes and, immediately after ignition, spread rapidly and increase quickly in intensity. Spot fires are a constant danger. Fires burning in light fuels may quickly develop high-intensity characteristics such as long-distance spotting and fire whirlwinds when they burn into heavier fuels.
Extreme (E) (Red)	Fires start quickly, spread furiously, and burn intensely. All fires are potentially serious. Development into high-intensity burning will usually be faster and occur from smaller fires than in the very high fire danger class. Direct attack is rarely possible and may be dangerous except immediately after ignition. Fires that develop headway in heavy slash (trunks, branches, and treetops) or in conifer stands may be unmanageable while the extreme burning condition lasts. Under these conditions, the only effective and safe control action is on the flanks until the weather changes or the fuel supply lessens.

Source: USFS 2012

Pennsylvania Department of Conservation and Natural Resources (PA DCNR) Priority Landscape Analysis

The PA DCNR conducted a wildfire priority landscape analysis identifying areas where wildland fires are predicted to occur and become problematic. The areas are classified into high, medium, and low categories. The high classification is defined as an area prone to extreme fire behavior with the potential to cause extensive property damage or that could threaten the safety of the Commonwealth's citizens. The following five datasets were used for this analysis:

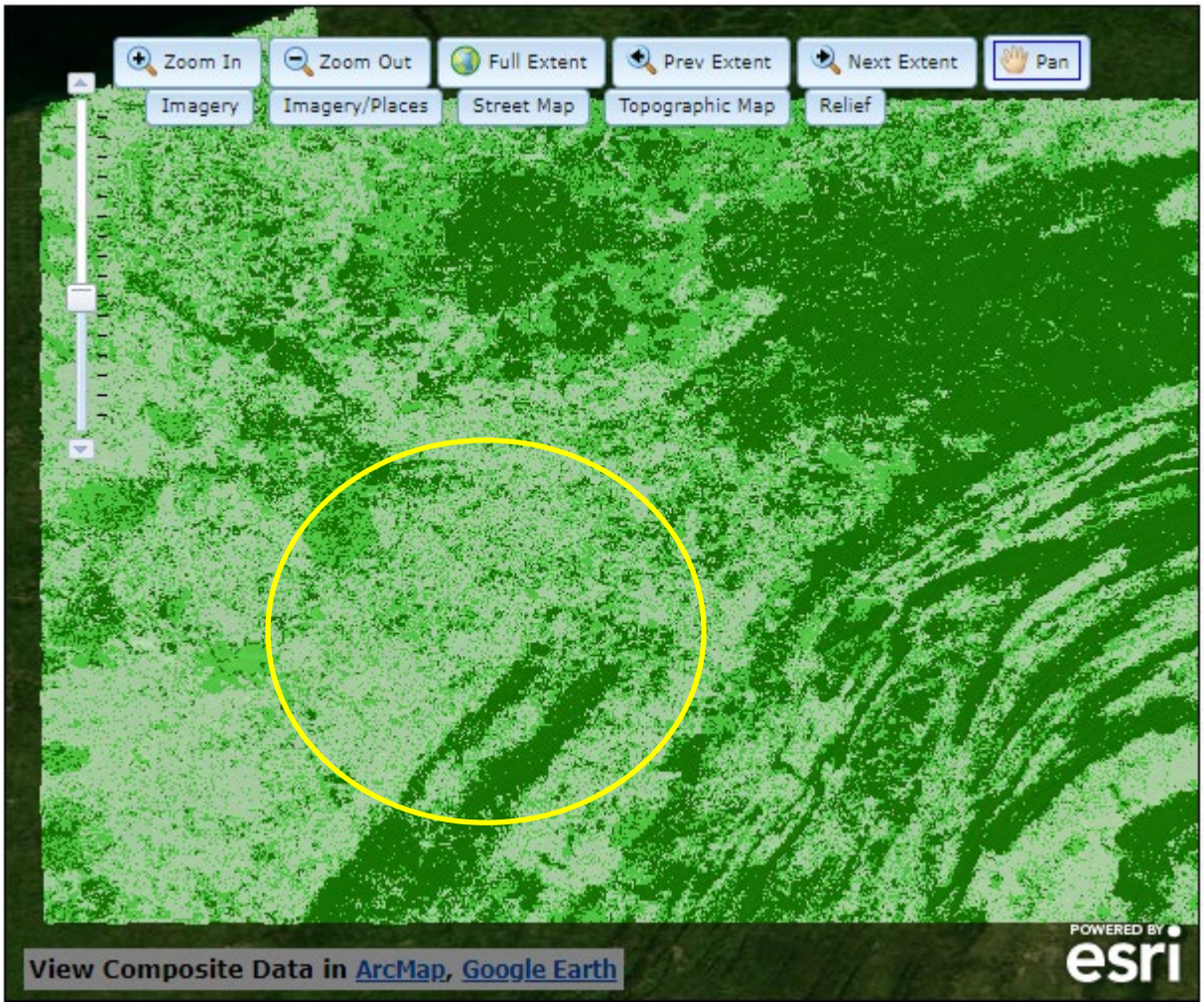
- 2002 WUI

- 2006 LANDFIRE
- 2002–2008 Pennsylvania Wildfire Point Origin Occurrences
- Percent Slope
- 2009 Local Assessment of Values, Risks, Hazards

The WUI classifies areas where homes and other human development meet or intermingle with undeveloped land. LANDFIRE characterizes the land's vegetation into fuel models that predict various fire behavior intensities. The Pennsylvania wildfire Point Origin Occurrences are records of wildland fire origins that have been reported. Percent slope aids in predicting fire behavior from the terrain. The local assessment of values, risks, and hazards is a municipality-based rating system; this assessment has been made by local wildland fire managers (PA DCNR 2017b). Figure 4.3.13-5 illustrates the output for the wildfire priority landscapes model for Westmoreland County.

The greatest potential for wildfires is in the spring months of March, April, and May and the autumn months of October and November. These months generally bring clear skies, high winds, low relative humidity, and prolonged periods of dry weather. In the spring, bare trees allow sunlight to reach the forest floor, drying fallen leaves and other ground debris. The same theory applies for the fall; however, the drier conditions are a more crucial factor. People cause most wildfires in Pennsylvania, often by burning debris. Several fires have started in a person's backyard and traveled through dead grasses and weeds into bordering woodlands. According to the Pennsylvania Emergency Management Agency (PEMA) Standard All-Hazard Mitigation Plan, 92 percent of Pennsylvania wildfires burn less than 10 acres and are suppressed within the first burning period (PEMA 2018).

Figure 4.3.13-5. Wildfire Priority Landscapes in Westmoreland County



Source: *PA DCNR 2017b*

Notes: *Low Priority = 0–0.21 (light green); Medium Priority = 0.21–0.35 (medium green); High Priority = 0.35–1 (dark green)*
Westmoreland County approximate location within yellow oval

4.3.13.2 Range of Magnitude

Wildfire events in Westmoreland County can range from small fires that can be managed by local firefighters to large fires burning many acres of land. Large events may require evacuation from one or more communities and necessitate regional or national firefighting support. The impact of a severe wildfire can be devastating. A wildfire has the potential to kill people, livestock, fish, and wildlife. They often destroy property, valuable timber, forage, and recreational and scenic resources.

In addition to the risk wildfires pose to the general public and property owners, the safety of firefighters is also a concern. Although loss of life among firefighters does not occur often in Pennsylvania, it is always a risk. More common firefighting injuries include falls, sprains, abrasions, or heat-related injuries such as dehydration. Response to wildfires also exposes emergency responders to the risk of motor vehicle accidents and can place them in remote areas away from the communities that they are chartered to protect.

While some fires are not human-caused and are part of natural succession processes, a wildfire can kill people, livestock, fish, and wildlife. They often destroy property, valuable timber, forage, and recreational and scenic

values. The most significant environmental impact is the potential for severe erosion, silting of stream beds and reservoirs, and flooding due to ground-cover loss following a fire event. Wildfire can also have a positive environmental impact in that they burn dead trees, leaves, and grasses to allow more open spaces for new vegetation to grow and receive sunlight. Another positive effect is that it stimulates the growth of new shoots on trees and shrubs and its heat can open pine cones and other seed pods.

Wildfires in Westmoreland County have generally been small and easily contained. Since 2002, single events have been as minor as a small brushfire, while others have involved many acres. The worst-case scenario for Westmoreland County is a multiple-acre fire occurring during a period of drought, which could cause the fire to spread rapidly. Severe property damage could occur because much of the County is characterized by a WUI. The Vulnerability Assessment below provides additional details on potential losses in the County.

4.3.13.3 Past Occurrence

Wildfires are a constant threat in Westmoreland County. It should be noted that the figures below are not comprehensive. For the 2020 HMP, wildfires reported to the National Wildfire Coordinating Group by the DCNR BOF are utilized to provide data on previous occurrences. This data only includes fires reported to the BOF and does not include brush fires or wildfires which local or volunteer fire departments responded to. Table 4.3.13-3 shows the numbers of wildfire events in Westmoreland County from 2002–2018. South Huntingdon Township experienced the highest number of wildfires within Westmoreland County between 2002 and 2018.

Table 4.3.13-3. List of Wildfire Events Reported in Westmoreland County from 2002–2018

Municipality	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Total
Allegheny (T)	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1	0	3
Arona (B)	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3
Bell (T)	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
Cook (T)	0	0	0	1	0	0	1	0	5	0	2	0	1	2	2	1	2	17
Derry (T)	4	5	1	0	3	1	0	0	0	0	0	1	3	0	7	3	7	35
Donegal (T)	0	0	0	0	1	0	0	4	1	0	0	1	2	3	1	1	1	15
East Huntingdon (T)	0	0	0	0	0	0	0	0	0	0	0	2	2	3	1	2	1	11
Fairfield (T)	0	1	0	1	0	0	0	0	0	0	1	0	0	0	3	0	0	6
Hempfield (T)	0	0	0	0	0	0	0	0	0	0	0	1	3	5	3	1	1	14
Ligonier (T)	0	0	0	1	0	0	0	0	0	0	0	1	0	2	6	3	0	13
Loyalhanna (T)	0	0	0	0	0	0	0	0	1	0	0	0	1	0	1	1	0	4
Monessen (C)	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Mount Pleasant (T)	0	0	0	0	0	0	0	2	0	0	0	1	2	3	0	1	1	10
Murrysville (B)	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2
New Stanton (B)	0	0	0	0	0	0	0	0	0	0	0	1	3	2	0	0	0	6
North Huntingdon (T)	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
Penn (T)	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
Rostraver (T)	0	0	0	0	0	0	0	0	0	0	0	0	4	2	1	0	1	8
Salem (T)	0	0	0	0	0	0	0	0	0	0	0	0	6	1	3	1	0	11
Sewickley (T)	0	0	0	0	0	0	0	0	0	0	6	1	4	0	2	1	0	14
South Huntingdon (T)	0	0	0	0	0	0	0	0	0	0	0	1	11	10	4	4	11	41
St. Clair (T)	0	0	0	0	0	0	0	0	0	0	1	0	0	0	6	0	0	7
Sutersville (B)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Unity (T)	0	2	0	1	0	0	0	1	0	0	0	1	0	1	4	0	1	11
Washington (T)	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
West Newton (B)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1

Source: NWCG, 2019

4.3.13.4 Future Occurrence

In Pennsylvania, wildfire events will continue to occur each year. However, the likelihood of one of those fires attaining significant size and intensity is unpredictable and highly dependent on environmental conditions and firefighting response. Weather conditions, particularly drought events, increase the likelihood of wildfires occurring. Additionally, invasive forest insects can increase the likelihood of wildfires occurring; insects that attack and kill trees increase the total wildfire fuel available in wooded areas. Climate change is also likely to increase the probability of future wildfires. Prolonged periods of drought caused by climate change can potentially increase the length of the wildfire season and provide a more favorable climate for ignition (PEMA 2013).

For the 2020 HMP update, the most up-to-date data was collected to calculate the probability of future occurrence of wildfire events for Westmoreland County. Information from the National Wildfire Coordinating Group was used to identify the number of wildfire events that occurred within Westmoreland County between 2002 and 2018. The table below shows these statistics as well as the annual average number of events and the estimated percent chance of an incident occurring in a given year. Based on these statistics, there is an estimated 100 percent chance of a wildfire event occurring in any given year in Westmoreland County.

Table 4.3.13-4. Probability of Future Wildfire Events

Hazard Type	Number of Occurrences Between 2002 and 2018	Rate of Occurrence or Annual Number of Events (average)	Percent Chance of Occurrence in Any Given Year
Wildfires	238	14.8	100%

Sources: *DCNR BOF, 2019*
Note: *This probability is based on the number of wildfires reported to the DNCR BOF.*

Based on available historical data, the future occurrence of wildfires in Westmoreland County can be considered *highly likely* as defined by the Risk Factor Methodology probability criteria (refer to Section 4.4). However, the likelihood of one of those fires attaining significant size and intensity is unpredictable and highly dependent on environmental conditions and firefighting response. Weather conditions like drought and wind can increase the likelihood of wildfires occurring. Any fire, without the quick response or attention of firefighters, forestry personnel, or visitors to the forest, has the potential to become a wildfire.

4.3.13.5 Vulnerability Assessment

To understand risk, a community must evaluate what assets are exposed and vulnerable in the identified hazard area. The following text evaluates and estimates the potential impact of the wildfire hazard on the County, including:

- Impacts on (1) life, health, and safety; (2) general building stock and critical facilities; (3) the economy; (4) the environment; and (5) future growth and development
- Effect of climate change on vulnerability
- Further data collections that will assist in understanding this hazard over time.

The WUI (interface and intermix) obtained through the SILVIS Lab, Department of Forest Ecology and Management, University of Wisconsin-Madison, defines the wildfire hazard area utilized for the 2020 HMP update. The asset data (population, building stock, and critical facilities) presented in the County Profile (Section 2) was used to support an evaluation of assets exposed and the potential impacts and losses associated with this

hazard. Available and appropriate geographic information system (GIS) data were overlaid on the hazard area to identify what assets are exposed to wildfire. The limitations of this analysis are recognized, and as such, the analysis is used only to provide a general estimate.

Impact on Life, Health, and Safety

As demonstrated by historical wildfire events, potential losses include human health and life of residents and responders. The most vulnerable populations include emergency responders and those within a short distance of the interface between the built environment and the wildland environment. In addition, the population living within and along the WUI may only have one ingress/egress to their communities, making them highly vulnerable in the event of an evacuation. The County land within the WUI was overlaid on the 2010 U.S. Census population data to estimate the Westmoreland County population vulnerable to the wildfire hazard (U.S. Census 2010). In addition to being available at the census block level, the 2010 U.S. Census data is the default demographic data in HAZUS-MH v4.2. The census block level provides a higher resolution of population distribution than American Community Survey spatial data, which is only available at the census tract level. The 2010 U.S. Census data is also used to maintain consistency in data throughout vulnerability assessments throughout this hazard mitigation plan. Table 4.3.13-5 summarizes the estimated population exposed by municipality.

Table 4.3.13-5. Estimated Population Located within the WUI in Westmoreland County

Municipalities	Total Population (2010 U.S. Census)	Population Located in the Hazard Area			Percent Total
		Estimated Population Located in WUI - Interface	Estimated Population Located in WUI - Intermix	Estimated Population Located in WUI (Interface + Intermix)	
Adamsburg Borough	172	85	87	172	100.0%
Allegheny Township	8,164	2,376	5,099	7,475	91.6%
Arnold, City of	5,157	5,157	0	5,157	100.0%
Arona Borough	370	186	184	370	100.0%
Avonmore Borough	1,011	663	338	1,001	99.0%
Bell Township	2,348	824	1,490	2,314	98.6%
Bolivar Borough	465	412	53	465	100.0%
Cook Township	2,250	254	1,815	2,069	92.0%
Delmont Borough	2,686	2,364	0	2,364	88.0%
Derry Borough	2,688	2,670	8	2,678	99.6%
Derry Township	14,502	6,908	3,851	10,759	74.2%
Donegal Borough	120	107	0	107	89.0%
Donegal Township	2,403	357	1,709	2,066	86.0%
East Huntingdon Township	7,963	364	1,382	1,746	21.9%
East Vandergrift Borough	674	599	63	662	98.2%
Export Borough	917	825	10	835	91.0%
Fairfield Township	2,424	409	1,581	1,990	82.1%
Greensburg, City of	14,892	0	0	0	0.0%
Hempfield Township	43,241	5,154	11,119	16,273	37.6%
Hunker Borough	291	0	143	143	49.1%

Municipalities	Total Population (2010 U.S. Census)	Population Located in the Hazard Area			Percent Total
		Estimated Population Located in WUI - Interface	Estimated Population Located in WUI - Intermix	Estimated Population Located in WUI (Interface + Intermix)	
Hyde Park Borough	500	483	17	500	100.0%
Irwin Borough	3,973	2,116	5	2,121	53.4%
Jeannette, City of	9,654	2,946	331	3,277	33.9%
Latrobe, City of	8,338	429	57	486	5.8%
Laurel Mountain Borough	167	65	102	167	100.0%
Ligonier Borough	1,573	1,451	0	1,451	92.2%
Ligonier Township	6,603	1,449	4,329	5,778	87.5%
Lower Burrell, City of	11,761	4,011	1,870	5,881	50.0%
Loyalhanna Township	2,382	335	1,931	2,266	95.1%
Madison Borough	397	0	109	109	27.5%
Manor Borough	3,239	243	1,059	1,302	40.2%
Monessen City	7,720	3,705	291	3,996	51.8%
Mt. Pleasant Borough	4,454	0	35	35	0.8%
Mt. Pleasant Township	10,911	2,085	2,635	4,720	43.3%
Murrysville Borough	20,079	8,518	9,575	18,093	90.1%
New Alexandria Borough	560	432	126	558	99.6%
New Florence Borough	689	654	7	661	96.0%
New Kensington, City of	13,116	11,400	672	12,072	92.0%
New Stanton Borough	2,173	0	365	365	16.8%
North Belle Vernon Borough	1,971	1,916	18	1,934	98.1%
North Huntingdon Township	30,609	20,178	4,876	25,054	81.9%
North Irwin Borough	846	730	116	846	100.0%
Oklahoma Borough	809	735	67	802	99.1%
Penn Borough	475	387	36	423	89.1%
Penn Township	20,005	6,992	5,092	12,085	60.4%
Rostraver Township	11,363	4,896	2,565	7,461	65.7%
Salem Township	6,623	2,399	2,454	4,853	73.3%
Scottdale Borough	4,384	0	246	246	5.6%
Seward Borough	495	493	0	493	99.6%
Sewickley Township	5,996	810	1,887	2,696	45.0%
Smithton Borough	399	0	3	3	0.8%
South Greensburg Borough	2,117	0	39	39	1.8%
South Huntingdon Township	5,796	150	2,396	2,546	43.9%
Southwest Greensburg Borough	2,155	0	0	0	0.0%
St. Clair Township	1,518	513	907	1,420	93.6%
Sutersville Borough	605	0	20	20	3.3%
Trafford Borough	3,113	2,650	460	3,110	99.9%

Municipalities	Total Population (2010 U.S. Census)	Population Located in the Hazard Area			Percent Total
		Estimated Population Located in WUI - Interface	Estimated Population Located in WUI - Intermix	Estimated Population Located in WUI (Interface + Intermix)	
Unity Township	22,607	5,373	7,264	12,637	55.9%
Upper Burrell Township	2,326	270	2,048	2,318	99.7%
Vandergrift Borough	5,205	4,905	223	5,128	98.5%
Washington Township	7,422	2,473	4,852	7,325	98.7%
West Leechburg Borough	1,294	1,142	149	1,291	99.7%
West Newton Borough	2,633	0	352	352	13.4%
Youngstown Borough	326	326	0	326	100.0%
Youngwood Borough	3,050	0	652	652	21.4%
WESTMORELAND COUNTY (TOTAL)	**365,169**	**127,374**	**89,170**	**216,544**	**59.3%**

Source: U.S. Census 2010, Stewart and Radeloff 2012
Notes:
WUI Wildland-Urban Interface

Impact on General Building Stock

The most vulnerable structures to wildfire events are those within the WUI. Buildings constructed of wood or vinyl siding are generally more likely to be damaged by the fire hazard than buildings constructed of brick or concrete. The WUI was overlaid on the default building inventory available in HAZUS-MH to estimate the replacement cost of buildings in Westmoreland County potentially vulnerable to the wildfire hazard. The replacement cost value (RCV) of the census blocks with their center in the WUI was totaled. To estimate the number of structures exposed to this hazard, the hazard area was overlaid on the building footprint spatial layer from Westmoreland County. Structures with their centroid in the hazard area were totaled. Table 4.3.13-6 summarizes the estimated number of structures exposed by municipality. Table 4.3.13-7. summarizes the estimated RCV exposed by municipality.

Table 4.3.13-6. Structures Located within the WUI in Westmoreland County

Municipality	Total Number of Structures	Structures Located in the Hazard Area			Percent of Total
		Estimated Structures Located in WUI - Interface	Estimated Structures Located in WUI - Intermix	Estimated Structures Located in WUI (Interface + Intermix)	
Adamsburg Borough	163	73	90	163	100.0%
Allegheny Township	6738	1,593	4,683	6,276	93.1%
Arnold, City of	2,852	2,820	0	2,820	98.9%
Arona Borough	319	145	172	317	99.4%
Avonmore Borough	809	534	260	794	98.1%
Bell Township	2,450	721	1,637	2,358	96.2%
Bolivar Borough	366	317	40	357	97.5%
Cook Township	2,957	194	2,378	2,572	87.0%
Delmont Borough	1,408	1,323	0	1,323	94.0%

Municipality	Total Number of Structures	Structures Located in the Hazard Area			Percent of Total
		Estimated Structures Located in WUI - Interface	Estimated Structures Located in WUI - Intermix	Estimated Structures Located in WUI (Interface + Intermix)	
Derry Borough	1715	1,671	7	1,678	97.8%
Derry Township	14018	6,113	4,268	10,381	74.1%
Donegal Borough	139	123	4	127	91.4%
Donegal Township	3586	603	2,430	3,033	84.6%
East Huntingdon Township	7,556	471	1,028	1,499	19.8%
East Vandergrift Borough	574	526	33	559	97.4%
Export Borough	628	540	23	563	89.6%
Fairfield Township	2,994	387	1,918	2,305	77.0%
Greensburg, City of	6793	0	2	2	0.0%
Hempfield Township	27298	3,351	8,919	12,270	44.9%
Hunker Borough	265	0	129	129	48.7%
Hyde Park Borough	379	349	26	375	98.9%
Irwin Borough	1,679	946	4	950	56.6%
Jeannette, City of	5,587	1,716	213	1,929	34.5%
Latrobe, City of	5,256	364	34	398	7.6%
Laurel Mountain Borough	157	59	97	156	99.4%
Ligonier Borough	1129	1,076	0	1,076	95.3%
Ligonier Township	7,513	1,486	4,727	6,213	82.7%
Lower Burrell, City of	7,109	2,296	1,371	3,667	51.6%
Loyalhanna Township	2299	240	1,912	2,152	93.6%
Madison Borough	327	0	104	104	31.8%
Manor Borough	1,751	100	555	655	37.4%
Monessen City	5035	2,407	100	2,507	49.8%
Mt. Pleasant Borough	2585	0	24	24	0.9%
Mt. Pleasant Township	10537	2,127	2,826	4,953	47.0%
Murrysville Borough	11490	4,601	5,644	10,245	89.2%
New Alexandria Borough	467	328	123	451	96.6%
New Florence Borough	584	549	6	555	95.0%
New Kensington, City of	7,352	6,228	380	6,608	89.9%
New Stanton Borough	1,318	0	226	226	17.1%
North Belle Vernon Borough	1292	1,233	19	1,252	96.9%
North Huntingdon Township	18,046	11,116	3,556	14,672	81.3%
North Irwin Borough	467	395	66	461	98.7%
Oklahoma Borough	611	518	85	603	98.7%
Penn Borough	332	246	18	264	79.5%
Penn Township	12,063	3,639	3,612	7,251	60.1%

Municipality	Total Number of Structures	Structures Located in the Hazard Area			Percent of Total
		Estimated Structures Located in WUI - Interface	Estimated Structures Located in WUI - Intermix	Estimated Structures Located in WUI (Interface + Intermix)	
Rostraver Township	9,025	3,405	2,234	5,639	62.5%
Salem Township	6774	2,399	2,468	4,867	71.8%
Scottdale Borough	2766	0	173	173	6.3%
Seward Borough	390	381	0	381	97.7%
Sewickley Township	5,486	709	1,681	2,390	43.6%
Smithton Borough	294	0	3	3	1.0%
South Greensburg Borough	1414	0	23	23	1.6%
South Huntingdon Township	6793	139	2,815	2,954	43.5%
Southwest Greensburg Borough	1,351	0	0	0	0.0%
St. Clair Township	1,434	430	849	1,279	89.2%
Sutersville Borough	475	0	12	12	2.5%
Trafford Borough	1768	1,472	256	1,728	97.7%
Unity Township	15670	3,741	5,836	9,577	61.1%
Upper Burrell Township	2160	267	1,770	2,037	94.3%
Vandergrift Borough	3,281	3,010	184	3,194	97.3%
Washington Township	6,393	1,950	4,239	6,189	96.8%
West Leechburg Borough	930	778	135	913	98.2%
West Newton Borough	1,810	0	268	268	14.8%
Youngstown Borough	299	288	2	290	97.0%
Youngwood Borough	1,992	0	397	397	19.9%
WESTMORELAND COUNTY (TOTAL)	**259,498**	**82,493**	**77,094**	**159,587**	**61.5%**

Source: HAZUS-MH v4.2; Stewart and Radeloff 2012; Westmoreland County
Notes:
GBS General Building Stock
RCV Replacement cost value
WUI Wildland-Urban Interface

Table 4.3.13-7. Replacement Cost Value Located within the WUI in Westmoreland County

Municipality	Total GBS RCV	RCV Located in the Hazard Area			Percent of Total
		Estimated RCV Located in WUI - Interface	Estimated RCV Located in WUI - Intermix	Estimated RCV Located in WUI (Interface + Intermix)	
Adamsburg Borough	$33,710,000	$20,257,000	$13,453,000	$33,710,000	100.0%
Allegheny Township	$1,477,670,000	$370,479,000	$848,692,000	$1,219,171,000	82.5%
Arnold, City of	$982,657,000	$926,811,000	$0	$926,811,000	94.3%
Arona Borough	$54,508,000	$23,291,000	$31,217,000	$54,508,000	100.0%
Avonmore Borough	$297,296,000	$220,296,000	$75,168,000	$295,464,000	99.4%

Municipality	Total GBS RCV	RCV Located in the Hazard Area			Percent of Total
		Estimated RCV Located in WUI - Interface	Estimated RCV Located in WUI - Intermix	Estimated RCV Located in WUI (Interface + Intermix)	
Bell Township	$351,372,000	$141,227,000	$187,114,000	$328,341,000	93.4%
Bolivar Borough	$64,192,000	$56,962,000	$5,075,000	$62,037,000	96.6%
Cook Township	$322,402,000	$42,178,000	$229,497,000	$271,675,000	84.3%
Delmont Borough	$588,678,000	$521,041,000	$0	$521,041,000	88.5%
Derry Borough	$410,373,000	$402,265,000	$485,000	$402,750,000	98.1%
Derry Township	$2,149,630,000	$924,977,000	$566,537,000	$1,491,514,000	69.4%
Donegal Borough	$19,585,000	$19,585,000	$0	$19,585,000	100.0%
Donegal Township	$482,046,000	$58,656,000	$270,885,000	$329,541,000	68.4%
East Huntingdon Township	$1,365,245,000	$50,545,000	$171,545,000	$222,090,000	16.3%
East Vandergrift Borough	$108,645,000	$89,309,000	$8,088,000	$97,397,000	89.6%
Export Borough	$221,524,000	$207,025,000	$971,000	$207,996,000	93.9%
Fairfield Township	$289,624,000	$37,357,000	$194,074,000	$231,431,000	79.9%
Greensburg, City of	$3,859,723,000	$0	$0	$0	0.0%
Hempfield Township	$7,618,366,000	$1,084,296,000	$1,722,088,000	$2,806,384,000	36.8%
Hunker Borough	$51,852,000	$0	$25,393,000	$25,393,000	49.0%
Hyde Park Borough	$200,590,000	$182,371,000	$2,721,000	$185,092,000	92.3%
Irwin Borough	$875,822,000	$510,716,000	$1,335,000	$512,051,000	58.5%
Jeannette, City of	$2,049,741,000	$820,148,000	$53,616,000	$873,764,000	42.6%
Latrobe, City of	$1,902,472,000	$193,088,000	$8,786,000	$201,874,000	10.6%
Laurel Mountain Borough	$56,349,000	$18,062,000	$38,269,000	$56,331,000	100.0%
Ligonier Borough	$477,076,000	$417,254,000	$0	$417,254,000	87.5%
Ligonier Township	$1,690,025,000	$344,614,000	$717,156,000	$1,061,770,000	62.8%
Lower Burrell, City of	$2,167,800,000	$746,976,000	$289,745,000	$1,036,721,000	47.8%
Loyalhanna Township	$305,072,000	$51,873,000	$240,145,000	$292,018,000	95.7%
Madison Borough	$88,528,000	$0	$46,019,000	$46,019,000	52.0%
Manor Borough	$550,925,000	$47,356,000	$177,074,000	$224,430,000	40.7%
Monessen City	$1,378,401,000	$611,212,000	$41,393,000	$652,605,000	47.3%
Mt. Pleasant Borough	$1,473,911,000	$0	$2,999,000	$2,999,000	0.2%
Mt. Pleasant Township	$2,164,407,000	$397,289,000	$510,038,000	$907,327,000	41.9%
Murrysville Borough	$4,679,858,000	$1,962,513,000	$2,122,390,000	$4,084,903,000	87.3%
New Alexandria Borough	$144,207,000	$116,047,000	$27,568,000	$143,615,000	99.6%
New Florence Borough	$99,781,000	$95,847,000	$821,000	$96,668,000	96.9%
New Kensington, City of	$2,972,423,000	$2,190,828,000	$125,317,000	$2,316,145,000	77.9%
New Stanton Borough	$493,637,000	$0	$45,468,000	$45,468,000	9.2%
North Belle Vernon Borough	$374,204,000	$348,015,000	$9,024,000	$357,039,000	95.4%
North Huntingdon Township	$6,275,194,000	$4,064,706,000	$951,831,000	$5,016,537,000	79.9%
North Irwin Borough	$93,070,000	$78,005,000	$15,021,000	$93,026,000	100.0%
Oklahoma Borough	$110,545,000	$70,131,000	$12,150,000	$82,281,000	74.4%

Municipality	Total GBS RCV	RCV Located in the Hazard Area			Percent of Total
		Estimated RCV Located in WUI - Interface	Estimated RCV Located in WUI - Intermix	Estimated RCV Located in WUI (Interface + Intermix)	
Penn Borough	$65,127,000	$46,754,000	$5,837,000	$52,591,000	80.8%
Penn Township	$3,979,549,000	$1,269,916,000	$969,743,000	$2,239,659,000	56.3%
Rostraver Township	$2,119,205,000	$898,907,000	$363,800,000	$1,262,707,000	59.6%
Salem Township	$1,883,346,000	$410,713,000	$1,014,429,000	$1,425,142,000	75.7%
Scottdale Borough	$999,267,000	$0	$24,427,000	$24,427,000	2.4%
Seward Borough	$87,732,000	$86,238,000	$0	$86,238,000	98.3%
Sewickley Township	$928,135,000	$108,118,000	$272,767,000	$380,885,000	41.0%
Smithton Borough	$214,269,000	$0	$1,335,000	$1,335,000	0.6%
South Greensburg Borough	$551,430,000	$0	$2,913,000	$2,913,000	0.5%
South Huntingdon Township	$803,093,000	$19,098,000	$270,546,000	$289,644,000	36.1%
Southwest Greensburg Borough	$393,277,000	$0	$0	$0	0.0%
St. Clair Township	$176,087,000	$60,885,000	$98,712,000	$159,597,000	90.6%
Sutersville Borough	$95,741,000	$0	$3,036,000	$3,036,000	3.2%
Trafford Borough	$837,649,000	$473,704,000	$59,426,000	$533,130,000	63.6%
Unity Township	$4,329,118,000	$823,398,000	$1,252,991,000	$2,076,389,000	48.0%
Upper Burrell Township	$513,830,000	$50,294,000	$346,944,000	$397,238,000	77.3%
Vandergrift Borough	$840,662,000	$781,949,000	$27,718,000	$809,667,000	96.3%
Washington Township	$1,110,239,000	$423,878,000	$680,075,000	$1,103,953,000	99.4%
West Leechburg Borough	$219,980,000	$192,092,000	$27,284,000	$219,376,000	99.7%
West Newton Borough	$459,333,000	$0	$49,799,000	$49,799,000	10.8%
Youngstown Borough	$76,023,000	$76,023,000	$0	$76,023,000	100.0%
Youngwood Borough	$772,223,000	$0	$86,337,000	$86,337,000	11.2%
WESTMORELAND COUNTY (TOTAL)	**$72,828,451,000**	**$24,185,575,000**	**$15,347,287,000**	**$39,532,862,000**	**54.3%**

Source: HAZUS-MH v4.2; Stewart and Radeloff 2012

Impact on Critical Facilities

A number of critical facilities are located in the wildfire hazard area. Many of these facilities are the locations for vulnerable populations (schools) and responding agencies to wildfire events (fire and police).

Table 4.3.13-8 summarizes the number of critical facilities identified by the County plan participants that are located within the wildfire hazard area.

Table 4.3.13-8. Number of Critical Facilities in the WUI in Westmoreland County

Municipality	Facility Types																											
	Airport	College University	County Buildings	Dams	Day Care	DPW	EMS	EOC	Fire	Hazmat Facilities	Hospital	Industrial Sites	Libraries	MDJ	Mental Health / Substance Abuse	Military	Municipal Office	Nursing Home	Police	Potable Pump	Potable Treatment Plant	Power	School	School District Offices	Sewer Water Facilities	Water Regulator	Water Tank
Allegheny (T)	0	0	0	2	1	0	0	0	2	2	0	1	0	1	1	0	1	0	1	0	0	0	0	0	0	0	0	1
Arnold (C)	0	0	0	0	1	0	0	0	1	1	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0
Avonmore (B)	0	0	0	0	0	0	0	0	1	2	0	0	1	0	0	0	1	0	1	0	0	0	0	0	1	0	1
Bell (T)	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0	1	0	1	0	1	0	0	0	0	0	1
Bolivar (B)	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Cook (T)	0	0	0	1	0	0	1	0	1	3	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Delmont (B)	0	0	0	0	1	0	1	0	1	1	0	0	1	0	0	0	1	0	1	0	0	0	0	0	0	0	0
Derry (B)	0	0	0	1	0	0	0	0	0	1	0	0	1	0	0	0	1	0	1	0	0	0	0	1	0	0	0
Derry (T)	0	0	0	1	2	0	1	0	3	3	1	0	0	1	0	0	2	1	0	0	0	0	0	0	0	0	0
Donegal (B)	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Donegal (T)	0	0	0	1	0	0	0	0	0	3	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
East Huntingdon (T)	0	0	0	1	1	0	0	0	1	2	0	2	0	0	0	0	1	0	0	0	0	0	0	1	0	0	2
East Vandergrift (B)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Export (B)	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0
Fairfield (T)	0	0	0	1	0	0	0	0	1	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Greensburg (C)	0	1	1	0	1	0	1	0	1	1	1	0	1	1	1	0	1	1	1	0	0	0	1	1	0	0	1
Hempfield (T)	0	2	1	3	2	1	1	1	3	3	0	1	0	1	1	0	1	2	1	1	0	0	2	1	1	1	3
Hunker (B)	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Hyde Park (B)	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0
Irwin (B)	0	0	0	0	0	1	0	1	0	2	0	1	1	0	0	0	0	0	1	0	0	0	0	0	0	1	0
Jeannette (C)	0	0	0	0	0	0	1	0	1	2	0	1	1	1	0	0	1	0	1	0	0	0	1	1	0	0	1
Latrobe (B)	0	0	0	0	1	0	0	0	1	2	1	1	1	0	1	0	0	0	1	0	0	0	0	1	0	0	0

Municipality	Facility Types																										
	Airport	College University	County Buildings	Dams	Day Care	DPW	EMS	EOC	Fire	Hazmat Facilities	Hospital	Industrial Sites	Libraries	MDJ	Mental Health / Substance Abuse	Military	Municipal Office	Nursing Home	Police	Potable Pump	Potable Treatment Plant	Power	School	School District Offices	Sewer Water Facilities	Water Regulator	Water Tank
Laurel Mountain (B)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Ligonier (B)	0	0	0	0	0	0	1	0	1	1	0	0	1	1	0	0	1	0	1	0	0	0	0	1	0	0	0
Ligonier (T)	0	0	0	2	0	0	0	0	2	3	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	0	1
Lower Burrell (C)	0	0	0	0	1	0	0	0	1	2	0	0	1	0	1	0	1	1	1	0	0	0	0	1	0	0	0
Loyalhanna (T)	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Madison (B)	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Manor (B)	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	1	0	1	0	0	0	0	0	0	0	0
Monessen (C)	0	0	0	0	1	0	1	0	1	2	0	1	1	1	0	0	1	0	1	0	0	0	0	1	0	0	0
Mount Pleasant (B)	0	0	0	0	1	0	1	0	1	1	1	0	1	0	0	0	1	1	1	0	0	0	0	0	0	0	0
Mount Pleasant (T)	0	0	0	3	1	0	2	0	3	3	0	1	0	1	0	0	1	0	0	0	0	0	2	1	0	0	1
Murrysville (B)	0	0	0	2	1	0	1	0	3	3	0	0	1	0	0	0	1	1	1	0	0	0	1	1	0	0	1
New Alexandria (B)	0	0	0	0	0	0	1	0	1	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0
New Florence (B)	0	0	0	0	0	0	1	0	1	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0
New Kensington (C)	0	0	0	0	0	0	1	0	2	2	1	0	1	1	0	0	1	0	1	0	0	0	0	1	0	0	0
New Stanton (B)	0	0	1	0	0	0	1	0	1	1	0	0	0	0	0	0	1	0	1	0	0	0	1	0	0	0	0
North Belle Vernon (B)	0	0	0	0	1	0	0	0	1	1	0	0	1	0	0	0	1	0	1	0	0	0	0	0	0	0	0
North Huntingdon (T)	0	0	0	1	3	1	1	0	3	3	0	1	0	1	0	0	2	1	1	2	0	2	2	1	0	3	2
North Irwin (B)	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Oklahoma (B)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Outside	0	0	0	1	0	0	1	0	1	1	0	0	0	0	0	1	0	0	1	0	1	0	0	0	0	1	1
Penn (B)	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	0
Penn (T)	1	1	0	2	1	0	1	0	3	2	0	1	1	1	0	0	1	1	1	1	0	0	1	1	0	0	2
Rostraver (T)	0	0	0	3	1	0	1	0	2	2	0	0	1	1	0	0	1	0	2	0	0	0	0	1	0	0	1
Salem (T)	0	0	0	1	0	1	0	2	2	3	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	2

Municipality	Facility Types																										
	Airport	College University	County Buildings	Dams	Day Care	DPW	EMS	EOC	Fire	Hazmat Facilities	Hospital	Industrial Sites	Libraries	MDJ	Mental Health / Substance Abuse	Military	Municipal Office	Nursing Home	Police	Potable Pump	Potable Treatment Plant	Power	School	School District Offices	Sewer Water Facilities	Water Regulator	Water Tank
Scottdale (B)	0	0	0	0	1	1	1	1	1	1	0	0	1	1	0	0	1	1	1	0	0	0	0	0	0	0	0
Seward (B)	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0
Sewickley (T)	0	0	0	2	0	0	1	0	2	3	0	0	1	0	0	0	1	0	0	0	0	0	1	1	1	0	0
Smithton (B)	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	1	0	1	0	0	0	0	0	0	0	0
South Greensburg (B)	0	0	0	0	1	0	0	0	0	1	0	1	0	0	1	0	1	0	1	0	0	0	0	0	0	0	0
South Huntingdon (T)	0	0	0	2	0	0	0	0	2	2	0	1	0	0	0	0	1	0	0	0	0	0	0	0	1	0	1
Southwest Greensburg (B)	0	0	0	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
St. Clair (T)	0	0	0	1	1	0	0	0	0	2	0	0	0	0	0	0	2	0	1	0	0	0	0	0	0	0	0
Sutersville (B)	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Trafford (B)	0	0	0	0	0	0	1	0	1	2	0	0	1	0	0	0	1	0	1	0	0	0	1	0	0	0	0
Unity (T)	1	1	0	3	2	0	0	0	2	3	0	1	0	1	1	0	1	2	0	0	0	0	0	0	0	0	1
Upper Burrell (T)	0	1	0	0	1	0	0	0	1	2	0	1	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0
Vandergrift (B)	0	0	0	0	1	0	0	0	1	2	0	0	1	0	0	0	1	0	1	0	0	0	0	1	0	0	0
Washington (T)	0	0	0	3	2	0	1	0	1	3	0	0	0	1	0	0	1	1	1	0	0	0	0	0	0	0	1
West Leechburg (B)	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	1
West Newton (B)	0	0	0	0	1	0	1	0	1	1	0	0	1	0	0	0	1	0	1	0	0	0	0	0	0	0	0
Youngstown (B)	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Youngwood (B)	0	0	0	0	1	0	0	0	1	1	0	0	1	0	0	0	1	0	0	0	0	0	0	0	1	0	0
Westmoreland County (Total)	**2**	**6**	**3**	**38**	**35**	**5**	**25**	**5**	**74**	**89**	**5**	**15**	**26**	**16**	**7**	**1**	**61**	**14**	**40**	**4**	**2**	**2**	**14**	**17**	**7**	**6**	**26**

Source: *U.S. Census 2010, Stewart and Radeloff 2012*

Notes:

WUI *Wildland-Urban Interface*

Impact on the Economy

Wildfire events can have major economic impacts on a community from the initial loss of structures and the subsequent loss of revenue from destroyed businesses and decreases in tourism. Wildfire can also severely damage roads and infrastructure. Portions of both Interstates I-76 and I-70, US Highways: US-22, US-30, US-119, and multiple State Routes including: PA-31, PA51, PA-56, PA-66, PA-119, PA-130, PA-136, PA-201, PA-217, PA-259, PA-271, PA-286, PA-356, PA-366, PA-715, PA-728, PA-737, PA-739, PA-748, PA-748, PA-762, PA-763, PA-765, PA-766, PA-768, PA-769, PA-780, PA-782, PA-782, PA-783, PA-790, PA-819, PA-981, PA-982, and PA-993 run through WUI areas. This factor should be considered when determining evacuation routes for Westmoreland County residents.

Impact on the Environment

Vegetation loss is often a concern, but it typically is not a serious impact since natural re-growth occurs with time. The most significant environmental impact is the potential for severe erosion, silting of stream beds and reservoirs, and flooding due to ground-cover loss following a fire event. Wildfires also have a positive environmental impact in that they burn dead trees, leaves, and grasses to allow more open spaces for new and different types of vegetation to grow and receive sunlight. Another positive effect of a wildfire is that it stimulates the growth of new shoots on trees and shrubs and its heat can open pine cones and other seed pods (PEMA 2018).

Wildfires can increase the probability of other natural disasters, specifically floods and mudflows. Wildfires, particularly large-scale fires, can dramatically alter the terrain and ground conditions, making land already devastated by fire susceptible to floods. Lands impacted by wildfire increase the risk of flooding and mudflow in those areas. Normally, vegetation absorbs rainfall, reducing runoff. However, wildfires leave the ground charred, barren, and unable to absorb water; thus, creating conditions perfect for flash flooding and mudflows. Flood risk in these impacted areas remains significantly higher until vegetation is restored, which can take up to 5 years after a wildfire (FEMA 2013).

Future Growth and Development

Areas targeted for potential future growth and development in the next 5 years have been identified across Westmoreland County at the municipal level. It is anticipated that any new development and new residents in the WUI will be exposed to the wildfire hazard.

Effect of Climate Change on Vulnerability

According to USFS, climate change will likely alter the atmospheric patterns that affect fire weather. Changes in fire patterns will, in turn, affect carbon cycling, forest structure, and species composition. Climate change associated with elevated greenhouse gas concentrations may create an atmospheric and fuel environment that is more conducive to large, severe fires (USFS 2012).

Fire interacts with climate and vegetation (fuel) in predictable ways. Understanding the interactions of climate, fire, and vegetation interactions is essential for addressing issues associated with climate change that include:

- Effects on regional circulation and other atmospheric patterns that affect fire weather
- Effects of changing fire regimes on the carbon cycle, forest structure, and species composition, and
- Complications from land use change, invasive species, and an increasing WUI (USFS 2012)

It is projected that higher summer temperatures will likely increase the high fire risk by 10 to 30 percent. Fire occurrence and area burned could increase across the United States as a result of the increase of lightning activity, the frequency of surface pressure and associated circulation patterns conducive to surface drying, and fire

weather conditions, in general, which are conducive to severe wildfires. Warmer temperatures will also increase the effects of drought and increase the number of days each year with flammable fuels and extending fire seasons and areas burned (USFS 2012).

Pennsylvania's Department of Environmental Protection (PA DEP) was directed by the Climate Change Act (Act 70 of 2008) to initiate a study of the potential impacts of global climate change on the Commonwealth. The June 2009 Pennsylvania Climate Impact Assessment's main findings indicate Pennsylvania may be at increased risk for wildfires, but it is unclear how large the increase in risk will be (Shortle et al. 2009).

Future changes in fire frequency and severity are difficult to predict. Global and regional climate changes associated with elevated greenhouse gas concentrations could alter large weather patterns, thereby affecting fire weather conditions that are conducive to extreme fire behavior (USFS 2012).

Additional Data and Next Steps

As the data and resources become available, a custom building inventory can be generated to capture the construction of structures (such as roofing material, fire detection equipment, and structure age) to further refine the vulnerability analysis. As stated earlier, buildings constructed of wood or vinyl siding are generally more likely to be damaged by the fire hazard than buildings constructed of brick or concrete. The proximity of these building types to the WUI should be identified for further evaluation. Development and availability of these data would permit a more detailed estimate of potential vulnerabilities, including loss of life and potential structural damages.

The County may consider participating in Firewise, a program that teaches people how to adapt to living with wildfire and encourages neighbors to work together and take action to prevent losses. In locations where homes are at risk to wildfires, the State's WUI Guidance Document is available to assist homeowners, community associations, local government, and developers to assess and mitigate the potential dangers of a wildfire. The guidance also provides information for developing an action plan in coordination with local emergency managers. Communities at risk for wildfires can adopt by local ordinance the "International Wildland-Urban Interface Code" of the Uniform Construction Code. The County and municipalities may consider different landscape requirements in the WUI and consider updating the subdivision and zoning ordinances to indicate as such. Further, as indicated in the Saladyga and Standlee study, residents agree about the need for active flue management and an increase in wildfire prevention education, trash disposal and recycling programs, and fire management training and infrastructure.

4.3.14 Winter Storm

This section provides a profile and vulnerability assessment of the winter storm hazard in Westmoreland County. Winter storms occur, on average, approximately five times each year in Pennsylvania. From November through March, Pennsylvania is exposed to winter storms that move up the Atlantic coast or sweep in from the west. Every county in the Commonwealth is vulnerable to severe winter storms; however, the northern tier, western counties, and mountainous regions tend to experience winter weather more frequently and with greater severity.

Winter storms can produce more damage than any other severe weather event, including tornadoes. Complications caused by winter storms can lead to road closures (especially secondary and farm roads); business losses to commercial centers built in outlying areas because of supply interruption and loss of customers; property losses and roof damage from snow and ice loading and fallen trees; utility interruptions; and loss of water supplies. Flooding can also result from winter storm events.

Most severe winter storm hazards include heavy snow (snowstorms), blizzards, sleet or freezing rain, ice storms, and mid-Atlantic cyclones locally known as Northeasters or Nor'easters. Because most Nor'easters generally occur during winter months, these hazards have also been grouped as a type of severe winter weather storm. Types of severe winter weather events or conditions are further defined below.

- **Heavy Snow:** According to the National Weather Service (NWS), heavy snow is generally considered snowfall accumulating to depth of 4 inches or more within 12 hours or less, or snowfall accumulating to depth of 6 inches or more within 24 hours or less. A snow squall is an intense but limited-duration period of moderate to heavy snowfall, also known as a snowstorm, accompanied by strong, gusty surface winds and possibly lightning (generally moderate to heavy snow showers) (NWS 2009). Snowstorms are complex phenomena involving heavy snow and winds whose impact can be affected by a great many factors, including a region's climatological susceptibility to snowstorms, snowfall amounts, snowfall rates, wind speeds, temperatures, visibility, storm duration, topography, occurrence during the course of the day (e.g., weekday versus weekend), and time of season (Kocin and Uccellini 2013).

- **Blizzard:** Blizzards are characterized by low temperatures, wind gusts of 35 miles per hour (mph) or more, and falling and blowing snow that reduces visibility to 0.25 mile or less for an extended period of time (3 or more hours) (NWS 2009). A severe blizzard is defined as having a wind velocity of 45 mph, temperatures of 10°F or lower, and a high density of blowing snow with visibility frequently measured in feet over an extended period of time.

- **Sleet or Freezing Rain:** Sleet is defined as pellets of ice composed of frozen or mostly frozen raindrops or refrozen, partially melted snowflakes. These pellets of ice usually bounce after hitting the ground or other hard surfaces. Freezing rain is rain that falls as a liquid but freezes into glaze upon contact with the ground. Both types of precipitation, even in small accumulations, can cause significant hazards to a community (NWS 2009).

- **Ice Storm:** An ice storm is described as an occasion when damaging volumes of ice are expected to accumulate during freezing rain situations. Significant accumulations of ice pull down trees and utility lines, resulting in loss of power and communication lines. These accumulations of ice render walking and driving extremely dangerous, and can create extreme hazards to pedestrians and motorists (NWS 2009).

- **Nor'easter:** Nor'easters are macro-scale, extra-tropical storms named for the strong northeasterly winds that blow in from the Atlantic Ocean ahead of the storm and over coastal areas of the northeastern United States and Atlantic Canada. They are also referred to as a type of extra-tropical cyclone (mid-latitude storms or Great Lake storms). Wind gusts associated with Nor'easters can exceed hurricane forces in intensity. Unlike tropical cyclones that form in the tropics and have warm cores (including tropical depressions, tropical storms, and hurricanes), Nor'easters contain a cold core of low barometric pressure that forms in the mid-latitudes. Their strongest winds are close to the Earth's surface and often extend

several hundred miles across. Nor'easters may occur at any time of the year but are more common during fall and winter months (September through April) (New York City Office of Emergency Management [NYCOEM] Date Unknown).

Nor'easters can induce heavy snow, rain, gale-force winds, and oversized waves (storm surge) that can cause beach erosion, coastal flooding, structural damage, power outages, and unsafe human conditions. If a Nor'easter cyclone stays just offshore, the results are much more devastating than if the cyclone travels up the coast on an inland track. Nor'easters that stay inland are generally weaker and usually cause strong winds and rain. Those that stay offshore can bring heavy snow, blizzards, ice, strong winds, high waves, and severe beach erosion. In these storms, the warmer air is aloft. Precipitation falling from this warm air moves into the colder air at the surface, causing crippling sleet or freezing rain (McNoldy Multi-Community Environmental Storm Observatory [MESO], Date Unknown). While some of the most devastating effects of Nor'easters occur in coastal areas (e.g., beach erosion, coastal flooding), effects on inland areas, such as Westmoreland County, may include heavy snow, strong winds, and blizzards.

4.3.14.1 Location and Extent

Winter storms are regional events, most of which impact a large area of the entire Commonwealth. In many cases, surrounding states, and even the northeast region of the United States, are affected by a single winter storm incident.

The magnitude or severity of a severe winter storm depends on several factors, including a region's climatological susceptibility to snowstorms, snowfall amounts, snowfall rates, wind speeds, temperatures, visibility, storm duration, topography, time of occurrence during the day (e.g., weekday versus weekend), and time of season.

The extent of a severe winter storm can be classified by meteorological measurements and by evaluating its societal impacts. National Oceanic and Atmospheric Administration (NOAA)'s National Climatic Data Center (NCDC) is currently producing the Regional Snowfall Index (RSI) for significant snowstorms that affect the eastern two-thirds of the United States. The RSI ranks snowstorm impacts on a scale from 1 to 5. The index is based on spatial extent of the storm, amount of snowfall, and interaction of the extent and snowfall totals with population (based on the 2000 U.S. Census). NCDC has analyzed and assigned RSI values to over 500 storms since 1900 (NCDC 2016). Table 4.3.14-1 lists the five RSI ranking categories.

Table 4.3.14-1. RSI Ranking Categories

Category	Description	Regional Snowfall Index (RSI)
1	Notable	1-3
2	Significant	3-6
3	Major	6-10
4	Crippling	10-18
5	Extreme	18.0+

Source: NCEI 2016

4.3.14.2 Range in Magnitude

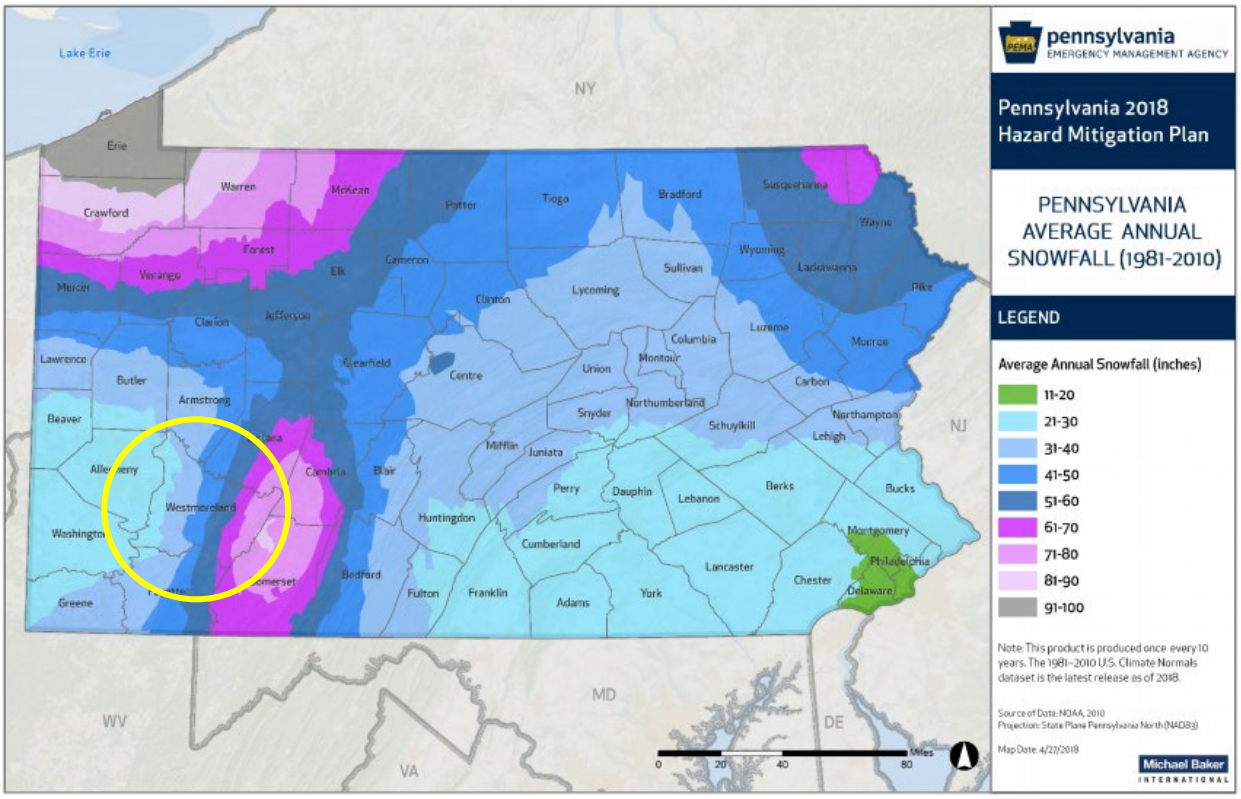
A winter storm can adversely affect roadways, utilities, and businesses and can cause loss of life, frostbite, and freezing conditions. These storms typically fall into one of the following categories, defined in the previous section:

- Heavy snow

- Sleet or freezing rain
- Ice storm
- Blizzard
- Nor'easter

All of Westmoreland County is susceptible to winter storms. Based on annual snowfall averages according to the 2018 state Hazard Mitigation Plan (HMP) (Figure 4.3.14-1), snowfall accumulation during the winter season in Westmoreland County ranges from 21 inches to 80 inches.

Figure 4.3.14-1. Annual Snowfall



Source: Pennsylvania Emergency Management Agency (PEMA) 2018
Note: The yellow oval surrounds Westmoreland County.

The worst winter storms to strike Westmoreland County occurred January 1994. On January 4, 1994, 10 deaths occurred in the region from heart attacks and 185 injuries from people falling on ice and vehicle accidents. Damage exceeded $5 million. Another storm hit Pennsylvania on January 17, dropping 8 inches of snow at Latrobe and causing another $500,000 in damage.

4.3.14.3 Past Occurrence

Many sources provided historical information regarding previous occurrences and losses associated with winter storm events throughout the Commonwealth of Pennsylvania and Westmoreland County. With so many sources reviewed for the purpose of this plan, loss and impact information for many events varied depending on the source. Therefore, accuracy of monetary figures discussed is based only on available information identified during research for this plan. Monetary figures may also have been calculated for the region as a whole, based on entire storm damage, and may include damage from other counties.

Between 1954 and the time records were available in August 2019, the Federal Emergency Management Agency (FEMA) declared that the Commonwealth of Pennsylvania experienced eight winter storm-related disasters (DR)

or emergencies (EM) classified as one or a combination of the following disaster types: severe winter storms, snowstorms, blizzards, winter storms, severe storms, and snowfalls. Generally, these disasters covered a wide region of the Commonwealth, and therefore may have impacted many counties. However, not all counties were included in the disaster declarations. FEMA has declared disaster or emergency declarations for Westmoreland County for seven winter storm events (FEMA 2019).

According to the NOAA-NCDC storm events database, Westmoreland County experienced 60 winter storm events between December 5, 2010, and when this profile was drafted in August 2019. Based on all sources researched, known winter storm events that have affected Westmoreland County are listed in

Table 4.3.14-2. Because winter storm documentation for the Commonwealth of Pennsylvania is so extensive, not all sources have been identified or researched. Therefore, Table 4.3.14-2 may not include all events that have occurred throughout the county.

Table 4.3.14-2. Major Winter Storm Events in Westmoreland County between 1977 and August 2019

Dates of Event	Event Type	FEMA Declaration Number	County Designated?	Losses / Impacts
January 29, 1977	Snowstorms	EM-3026	No	No information available
March 13-17, 1993	Severe Snowfall and Winter Storm (also identified as a blizzard)	EM-3105	Yes	One of the biggest snowstorms this century struck western and central Pennsylvania. Blizzard conditions were met for much of the late afternoon and evening hours of March 13. Total snowfall ranged from 10 to 36 inches, with drifts of 6 to 10 feet. 36 inches of snow fell at Latrobe. A snow emergency was declared to allow for snow removal. The National Guard was called into the county to aid with emergency operations. It took some areas up to 2 weeks to get snow cleared off the roads. Two fatalities were attributed to the storm, which also did over $5 million in damage.
January – February 1994	Winter Storm, Severe Storm	DR-1015	Yes	January 4 - A major east coast winter storm left a track of heavy snow from the southern Appalachians into New England. On the January 6, Governor Casey declared a State of Emergency for Fayette, Greene, Washington, and Westmoreland Counties. According to a Pittsburgh newspaper, there were approximately 10 deaths due to heart attacks and 185 injuries from people falling on ice and vehicle accidents. The storm did over $5 million in damage. January 17 - A fast-moving storm system advanced from Texas to Virginia, dumping heavy amounts of snow across southern Pennsylvania. 8 inches of snow fell at Latrobe. This snowfall, in combination with the snowfall earlier in the month, led to building collapses in Westmoreland County when the roof of the Parker-Daedal Inc. building failed. Storm damage reached $500,000.
March 2-3, 1994	Heavy Snow, Blizzard, Avalanche	N/A	N/A	A major east coast winter storm moved northeast along the Mid Atlantic Coast. Heavy snow fell from West Virginia northward into New England. Snowfall across Pennsylvania ranged from 6 inches in the far western counties, to as much as 2 feet in the central mountains. Over $5 million in damage was reported, along with one injury.
November 14, 1995	Heavy Snow	N/A	N/A	The snow was very wet and heavy. Several limbs and trees fell under the weight of the snow and numerous power lines were also downed. Heavy snowfall totals throughout the region included 12 to24 inches in Westmoreland County. Property damage was estimated at $20,000.
January 6-12, 1996	Blizzard of 1996	DR-1085	Yes	Westmoreland County received 14 to18 inches of snow. Three people died from cardiac arrest associated with the storm.
November 13-14, 1997	Ice Storm	N/A	N/A	Up to 2 inches of a mixture of sleet and freezing rain fell. Several trees, large branches, and power lines were downed throughout western Pennsylvania. Property damage was estimated at $41,000.
January 2-3, 1999	Winter Storm	N/A	N/A	A strong winter storm approached the region from the south central United States, bringing a mix of snow, sleet, and freezing rain to western Pennsylvania. Across southwest Pennsylvania, between 1 and 3 inches of snow fell before the precipitation turned to freezing rain. Ice accumulations of between 0.25 and 0.5 inch were reported across the majority of the area. In Latrobe, Westmoreland County, winds blew a section of roof off of the American Legion building. Two fatalities, one injury, and $250,000 in damage were reported.
January 14, 1999	Winter Storm	N/A	N/A	20 municipalities and Westmoreland County declared disaster emergencies. The accumulating ice caused power lines to snap and toppled trees around the county. About 2,000 people were without power in Jeanette and Latrobe, and a number of roads were closed throughout the day.

Dates of Event	Event Type	FEMA Declaration Number	County Designated?	Losses / Impacts
March 3-4, 1999	Winter Storm	N/A	N/A	A deepening area of low pressure moved across northern West Virginia and into central Pennsylvania, spreading snowfall totals of between 2 and 5 inches across much of western Pennsylvania, with higher snowfall totals reported across the western slopes of the Laurel Highlands. Champion, in the highlands of eastern Westmoreland County, reported a total of 16 inches from the storm. Elsewhere in Westmoreland County, 10 inches fell in Greensburg, 9 inches in New Stanton, and 8 inches in both Derry and Rector. High winds gusting to over 60 mph during the early morning hours of March 4 downed numerous trees and disrupted power across portions of Fayette, Indiana, and Westmoreland Counties. Damage was estimated at $50,000.
March 9, 1999	Heavy Snow	N/A	N/A	A winter storm moved quickly across the Ohio Valley, producing snowfall totals of between 4 and 10 inches across southwest Pennsylvania. Snowfall amounts included around 10 inches of new snow on the higher ridges of eastern Westmoreland County. The snowfall and icy roads were responsible for numerous accidents on roadways across southwest Pennsylvania. Most accidents were minor, but one collision in eastern Washington County sent two people to the hospital with injuries.
December 11, 2002	Ice Storm	N/A	N/A	0.25 inch of ice accumulation
February 17, 2003	Winter Storm	EM-3180	Yes	Significant snow fell in the western part of the county and significant ice accumulated in the eastern mountains. 20 inches of snow fell in Laurel Mountain; 40 inches fell in Champion. Four municipalities declared disaster emergencies. Three fatalities were reported in the county.
February 3, 2004	Ice Storm	N/A	N/A	An ice storm began after 9:00 p.m. on February 2 and continued overnight. By 7:00 a.m. on February 3, most places had a glaze of ice 0.25-inch thick. Property damage was estimated at $10,000.
February 1, 2008	Winter Storm	N/A	N/A	Ice accumulations ranged from 0.25 to nearly 0.5 inch. Travel was hazardous across the region and some trees and power lines were reported down. Damage was estimated at $10,000.
February 12, 2008	Winter Storm	N/A	N/A	Snowfall of 4 to 6 inches was common with ice accumulation from freezing rain over 0.1 inch, as well as light sleet accumulation.
February 29, 2008	Heavy Snow	N/A	N/A	Snowfall amounts were generally 6 to 8 inches in 12 hours.
October 28, 2008	Winter Weather	N/A	N/A	Snowfall amounts were 6 to 8 inches in 36 hours across the lake-effect counties and ridges of Pennsylvania.
January 27, 2009	Winter Storm	N/A	N/A	Snowfall amounts were 3 to 6 inches with 0.25 to 0.5 inch of ice accumulation.
December 8, 2009	Ice Storm	N/A	N/A	Ice accumulated from 0.25 to 0.5 inch.
December 13, 2009	Winter Weather	N/A	N/A	Freezing rain quickly accumulated on untreated roadways up to 0.1 inch of ice. Thousands of minor vehicle accidents occurred throughout the region. One fatality was reported in Westmoreland County.
December 18, 2009	Heavy Snow	N/A	N/A	6 to 12 inches of snow
December 25, 2009	Ice Storm	N/A	N/A	Ice accumulations ranged from 0.25 to 0.5 inch.

Dates of Event	Event Type	FEMA Declaration Number	County Designated?	Losses / Impacts
February 5-11, 2010	Snow	DR-1898	Yes	2 feet of snow fell in the ridges of Westmoreland County. Snow was wet and heavy, bringing down trees and power lines with around 200,000 people without power at some point after the storm. Roads were not passable for 2 to 3 days in some locations, and power was not restored to some homes until 3 days after the storm.
February 15, 2010	Heavy Snow	N/A	N/A	6 to 10 inches in the ridges of Westmoreland
February 25, 2010	Heavy Snow	N/A	N/A	Heavy snow fell in western Pennsylvania with storm totals of 12 to 36 inches.
January 31-February 1, 2011	Ice Storm	N/A	N/A	Accumulations on February 1 ranged from 0.25 to more than 0.5 inch.
February 21, 2011	Heavy Snow	N/A	N/A	Snowfall rates up to 2 inches per hour produced storm totals of 6 to 10 inches across the region.
January 20, 2012	Ice Storm	N/A	N/A	Freezing rain accumulations from 0.25 to over 0.5 inch.
December 26, 2012	Ice Storm	N/A	N/A	Up to 0.5 inch of ice
March 5-6, 2013	Heavy Snow	N/A	N/A	The ridges of Westmoreland County received 6 to 12 inches of snow in 12 hours. A heavier band of snow brought accumulations from 8 to 12 inches across other portions of the county.
March 24-25, 2013	Heavy Snow	N/A	N/A	8 to 12 inches of snow fell in 12 hours in the higher elevations of Westmoreland County.
November 23-24, 2013	Winter Weather	N/A	N/A	2 to 6 inches of snow fell in the Laurel and Chestnut Ridges, and across northern portions of western Pennsylvania.
January 21, 2014	Heavy Snow	N/A	N/A	Snowfall totals were from 8 to 12 inches.
February 2-3, 2014	Heavy Snow	EM-3367	No	Low pressure brought a band of heavy snow across northern West Virginia; extreme southwest Pennsylvania; and Garrett County, Maryland. Amounts ranged from 6 to 12 inches, with highest totals of 12 inches in Wetzel and Greene Counties in Pennsylvania; and 10 inches in Garrett County Maryland; and Monongalia County, West Virginia. Just north of the heavy band of snow, 2 to 5 inches of snow fell along a line east of Zanesville to downtown Pittsburgh, and south of the town of Indiana.
February 4-5, 2014	Winter Storm	N/A	N/A	A complex and fast-moving storm system swept across eastern Ohio, western Pennsylvania, northern West Virginia, and Garrett County, Maryland, from late evening of February 4 into late morning of the 5th. Snowfall from 4 to 10 inches fell along and north of a line from Zanesville in Ohio, to Wheeling in West Virginia, and from Pittsburgh to Latrobe in Pennsylvania. The snow then changed to sleet and freezing rain in the early morning hours of February 5, with sleet accumulations of 1 inch or more, and freezing rain accretion from ¼ to ½ inch.
December 2, 2014	Winter Weather	N/A	N/A	Warmer air aloft moving over cold low levels produced a mix of sleet and freezing rain from the evening of December 1 into the early morning hours of December 3. A light coating of ice was reported with some accidents on untreated roads due to slick conditions across Garrett County Maryland; eastern Ohio; western Pennsylvania; and northern West Virginia.

Dates of Event	Event Type	FEMA Declaration Number	County Designated?	Losses / Impacts
January 3, 2015	Winter Weather	N/A	N/A	Precipitation spread across the upper Ohio Valley along and in advance of a warm front during the morning on January 3. With cold air entrenched across the forecast area, a period of light freezing rain was observed across most of western Pennsylvania and northern West Virginia. Numerous accidents were reported on untreated roadways, including two jack-knifed trailers on I-70. Several highways were closed temporarily, including Interstates 70, 68, and 79 due to icy conditions and accidents.
January 25-26, 2015	Winter Storm	N/A	N/A	Winter Storm Juno resulted in downed trees, power outages, and several vehicles sliding off of roadways.
March 4-5, 2015	Heavy Snow	N/A	N/A	6 to 12 inches of heavy snow was reported in several counties in Ohio, West Virginia, Maryland, and southern Pennsylvania through early afternoon on March 5.
April 22, 2015	Winter Weather	N/A	N/A	A fast-moving area of low pressure swept along a cold front produced 1 to 3 inches of snow the morning of April 22. A trained spotter in Westmoreland reported 2 inches of snow quickly fell during the morning hours of the April 22.
January 22-23, 2016	Heavy Snow	EM-3026	Yes	Snow became heavy at times in enhanced mesoscale banding, over areas south and east of Pittsburgh, with a very tight gradient in snow amounts across Allegheny County. Over 2 feet of snow was reported over Marion and Monongalia Counties in West Virginia, and Westmoreland and Fayette Counties in Pennsylvania. A State of Emergency was declared in Pennsylvania and Maryland, with Presidential declarations added later.
December 6, 2016	Ice Storm	N/A	N/A	Low pressure moving northeast toward the Upper Ohio Valley brought freezing rain to the Laurel Ridges of Pennsylvania, as well as higher elevations of Tucker County in West Virginia, and Garrett County in Maryland. Ice accumulations over 1/4 inch were reported in many ridge locations, with a few reports of trees and power lines down.
December 11-13, 2016	Winter Weather	N/A	N/A	Low pressure moving across the Great Lakes pushed a warm front north from West Virginia to northwest Pennsylvania, producing snow across counties north of Pittsburgh, with a period of freezing rain in the Laurel Ridges of Pennsylvania, and Garrett County in Maryland. Winter weather on December 13 resulted in numerous traffic accidents across Westmoreland County.
December 17, 2016	Ice Storm	N/A	N/A	Low pressure moving east across the Ohio slowly pushed a warm front north across the region. Very cold air was in place, generally from Pittsburgh and areas north, as well as in the Laurel Ridges, and Garrett County in Maryland. Freezing rain accumulated over 1/4 inch or more in a swath from Pittsburgh to State Route 422 in Pennsylvania, as well across portions of Garrett County, Maryland, and the Laurel Ridges. Lesser ice accumulation occurred across portions of eastern Ohio, southwest Pennsylvania, and the northern Panhandle of West Virginia, north of I-70. Numerous wires were down and numerous traffic accidents were reported across Westmoreland County.
December 29-30, 2016	Winter Weather	N/A	N/A	An arctic cold front combined with a disturbance aloft to produce snow showers in cold northwest flow across the region. 36-hour snowfall amounts ranged from 4 to 6 inches across the higher elevations of Tucker and Preston Counties in West Virginia, as well as Garrett County in Maryland. Snowfall across northwest Pennsylvania and the Laurel Ridges ranged from 3 to 5 inches.
January 5-6, 2017	Winter Weather	N/A	N/A	Fast-moving low pressure, with enhancement from mid-level frontogenesis and the exit region of an upper-level jet stream, supported a period of snow in the afternoon of the January 5 through the early morning hours of January 6. 2 to 4 inches of snow fell across eastern Ohio and western Pennsylvania, south of I-70. 3 to 6 inches of snow fell over the mountains of West Virginia, Maryland, and Pennsylvania.

Dates of Event	Event Type	FEMA Declaration Number	County Designated?	Losses / Impacts
February 8-9, 2017	Heavy Snow	N/A	N/A	6 to 8 inches of snow fell across the Laurel Ridges of western Pennsylvania into areas east of Morgantown, West Virginia. In an area between I-80 to south of I-70, 4 to 6 inches of snow fell.
January 12-13, 2018	Winter Weather	N/A	N/A	Winter Storm Hunter. Low pressure tracking up the Appalachians combined with a strong arctic cold front to create a significant rain and snow-producing storm for the region. Ahead of the front, a strong southwesterly moisture feed and mid-level short wave brought heavy rainfall to the area, with 2- to 3-inch total rainfall reports common. This rain created strong rises on area rivers and streams, with several gauging points reaching flood stage. Also, the strong river rises broke up ice on these waterways, creating significant ice jam concerns. The strong arctic cold front passed through during the afternoon and evening of the January 12, bringing a flash freeze to area roads that were wet and water-covered from the rain. A mix of sleet and freezing rain developed during the evening with minor ice accretion reported. Precipitation then changed to all snow and continued into the morning of January 13 before tapering to snow showers. 6 to 8 inches of snow fell from southeast Ohio, across the northern West Virginia panhandle, and into portions of southwest Pennsylvania, with lesser totals in the Laurel Highlands and southeastern ridges. Road Closure / Voluntary Evacuation: Fire Department and Lower Burrell EMA personnel were called to the area of Lowe Road with poor road conditions from water and ice. Fire Department attempted to assist residents in voluntary evacuation by going door to door. One resident was evacuated to Lower Burrell VFC #3 (Station 69, 3255 Leechburg Rd, Lower Burrell).
January 29-30, 2018	Winter Weather	N/A	N/A	Fast-moving system moved across the upper Ohio Valley late on January 29 through the morning of January 30, with lake-enhanced snow bands developing immediately behind. 1 to 3 inches of snow was reported in much of western Pennsylvania with some isolated higher amounts from the resultant lake-enhanced snow bands. In addition, upslope enhancement led to 4 to 6 inches of snow across the higher terrain of Pennsylvania, West Virginia, and Garrett County in Maryland.
February 7, 2018	Winter Weather	N/A	N/A	Low pressure moved up the western side of the Appalachians Tuesday night, February 6, into the morning of February 7. The precipitation started as snow across the upper Ohio Valley. As the warm air surged north, precipitation changed to a wintry mix of sleet and freezing rain. Locations in northern West Virginia and southwestern Pennsylvania changed over to rain with temperatures climbing into the upper 30s to lower 40s.
March 8-9, 2018	Winter Weather	N/A	N/A	Upper low pivoting across the Upper Ohio Valley brought snow showers to the region late March 8 through the morning of March 9. Lake enhanced/upslope snows continued with the lows departure to the east, which allowed for snow showers to persist in the mountains of Pennsylvania, West Virginia, and Maryland and north of interstate 80 in Pennsylvania. Snow amounts, ranging from 3 to 5 inches were reported.
March 20-21, 2018	Winter Storm	N/A	N/A	Winter Storm Toby. A southern stream low brought a period of mixed precipitation across the higher elevations, which eventually changed to snow cross much of the upper Ohio Valley as an upper trough pivoted overhead and coastal low development enhanced cold advection across the region. Ice amounts were less than 0.10 inch; however, snow amounts of 6 to 8 inches, with some isolated reports of almost 10 inches, were reported in a swath across east central Ohio, western Pennsylvania and the mountains of Pennsylvania, West Virginia, and Maryland. Numerous automobile and tractor-trailer accidents occurred across Westmoreland County.

Dates of Event	Event Type	FEMA Declaration Number	County Designated?	Losses / Impacts
April 1-2, 2018	Winter Weather	N/A	N/A	A low pressure system moved east northeast across southern parts of West Virginia and Virginia. With cold air in place on the north side of the storm, light to moderate snow fell in Garrett County, Maryland, and points north of the Mason - Dixon line. Snow fall amounts ranged from 3 to 5 inches along the I-76 corridor in Ohio and Pennsylvania.
November 14-16, 2018	Winter Storm	N/A	N/A	Winter Storm Avery. Cold surface temperatures were already in place across the region at least 24 hours leading up to this event. A closed upper level low formed just north of Texas on November 14 and tracked northeast. Freezing rain transitioned to snow when northwest flow began on the backside of the surface low. 4 to 7 inches of snow was measured north of I-80 and in the higher elevations, 1 to 3 inches of snow fell in other areas. A glaze of freezing rain accumulated the morning of November 15 and 1,600 customers lost power during the storm.
February 10-12, 2019	Winter Storm	N/A	N/A	A surface low pressure system passed from the Great Plains into the Northeast and continued to deepen as a upper level trough amplified over the Midwest. Cold air was already instilled across the region, which changed snow to freezing rain and then to rain. A swath of moisture that extended across the Appalachian Mountains helped support high amounts of ice accumulation. Strong winds also accompanied and followed this system, with many gusts in the range of 35 to 45 MPH recorded on February 12and 13. 0.25 inch of ice was reported 1 mile from Laurel Mountain, and Ligonier received 0.10 inch of ice. 1 to 2 inches of snow was reported on February 11, 2019.
February 20, 2019	Winter Storm	N/A	N/A	Low pressure tracked from the plains to the upper Midwest on February 20, before transitioning to a coastal system by the morning of February 21. This low pushed a warm front northward across the region. Widespread precipitation was generated by deep moisture and an area of strong lift that accompanied the warm front. Precipitation started mainly as snow, but transitioned to a mostly brief period of mixed precipitation as warmer air moved in aloft. Approximately 8 inches of snow was reported in Donegal and 6.8 inches of snow was reported at Laurel Mountain.

Source: NCEI 2019, FEMA 2019, Knowledge Center 2019

Notes:

Monetary figures within this table were U.S. Dollar (USD) figures calculated during or within the approximate time of the event. If such an event would occur in the present day, many monetary losses earlier than 2019 would be considerably higher in USDs as a result of increased U.S. Inflation Rates.

DR	Federal Disaster Declaration	NCDC	National Climate Data Center
FEMA	Federal Emergency Management Agency	NOAA	National Oceanic Atmospheric Administration
N/A	Not applicable/available		

4.3.14.4 Future Occurrence

Given the history of winter storm events that have impacted Westmoreland County, future winter storm events of varying degrees will occur, and many people and properties are at risk from the winter storm hazard in the future.

Based on available historical data, future occurrences of winter storm events are considered *highly likely*, according to Risk Factor Methodology probability criteria (further discussed in Section 4.4).

4.3.14.5 Vulnerability Assessment

To understand risk, a community must evaluate what assets are exposed or vulnerable within the identified hazard area. The winter storm hazard area includes all of Westmoreland County. Therefore, all assets (population, structures, critical facilities and lifelines), as described in the County Profile (Section 2), are potentially vulnerable. The following section includes an evaluation and estimation of potential winter storm impacts on the county, including:

- Overview of vulnerability
- Data and methodology used for the evaluation
- Impacts on life, health, and safety; general building stock; critical facilities; economy; environment; and future growth and development
- Effect of climate change on vulnerability
- Further data collections that will increase understanding of this hazard over time

Overview of Vulnerability

In Westmoreland County, winter storms are a concern because of frequency, associated direct and indirect costs, delays caused by the storms, and impacts on people and facilities in the region.

Impact on Life, Health, and Safety

According to the NOAA National Severe Storms Laboratory (NSSL), winter weather indirectly and deceptively kills hundreds of people in the United States every year, primarily from automobile accidents, overexertion, and exposure. Winter storms are often accompanied by strong winds creating blizzard conditions with blinding wind-driven snow, drifting snow, extremely cold temperatures, and dangerous wind chill. Winter storms are considered deceptive killers because most deaths and other impacts or losses are indirectly related to the storm. People can die in traffic accidents on icy roads, of heart attacks while shoveling snow, or of hypothermia from prolonged exposure to cold.

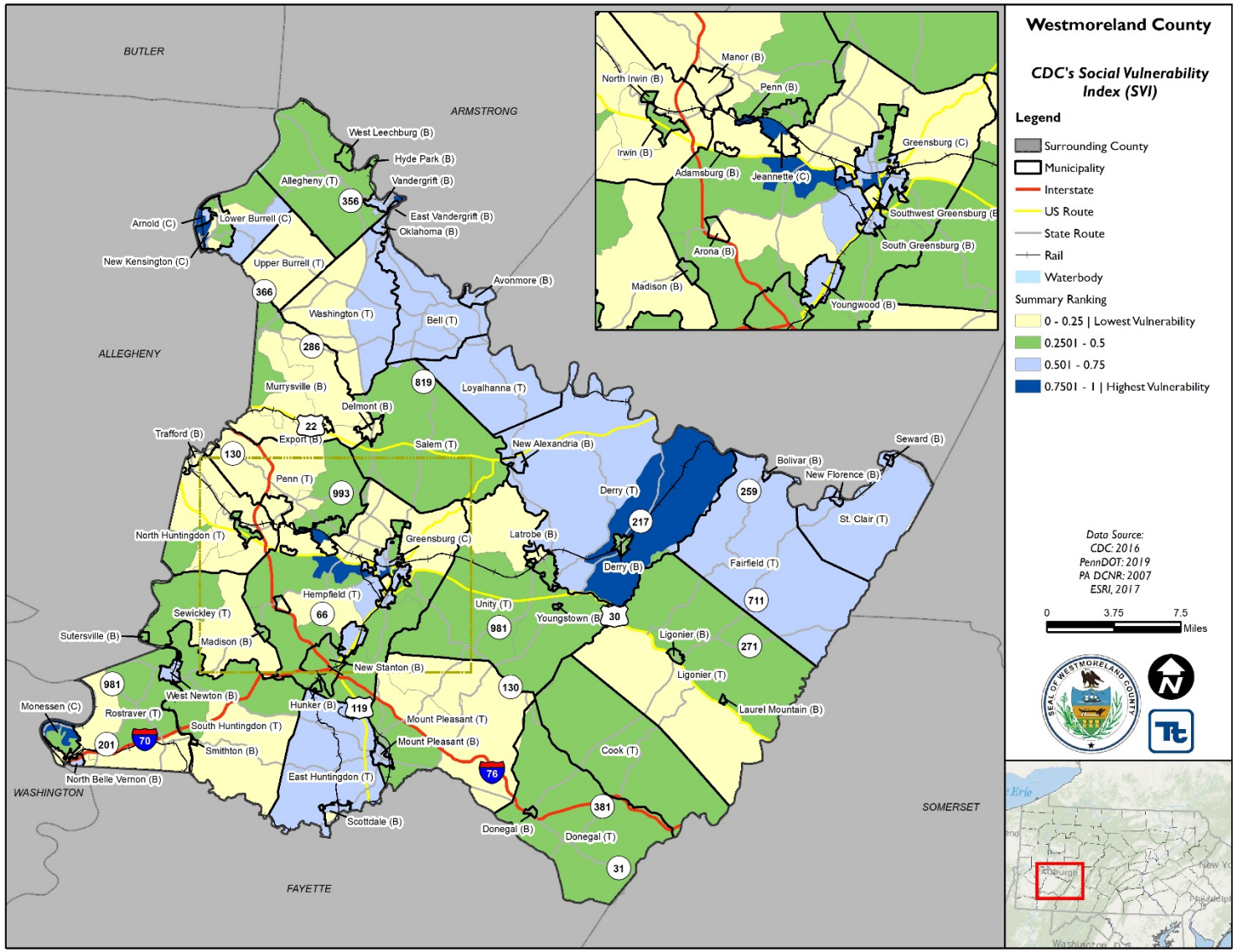
For the purposes of this HMP, the entire population of Westmoreland County is considered exposed to winter storm events. The County Profile (Section 2) of this HMP provides population statistics regarding each participating municipality and a summary of the more vulnerable populations (over the age of 65 and individuals living below the U.S. Census poverty threshold). According to the 2017 ACS 5-Year Population Estimate, 21.1 percent of the population in Westmoreland County is 65 and over. In addition, severe winter storm events can reduce the ability of these populations to access emergency services. In Westmoreland County, the boroughs and cities contain the highest concentration of elderly populations with densities decreasing outward into the surrounding townships. The homeless and residents with low incomes may not have access to housing or their housing may be less able to withstand cold temperatures (e.g., homes with poor insulation and heating supply).

According to the Center for Disease Control and Prevention's (CDC) 2016 Social Vulnerability Index, populations within in the City of Arnold, the City of New Kensington, the Borough of Vandergrift, the City of Jeannette, the Borough of Penn, the City of Greensburg, the Township of Hempfield, the City of Monessen, and the Township of Derry are ranked in the highest vulnerability category. The vulnerable populations located in these municipalities may be more susceptible to impacts from severe winter storms.

Figure 4.3.14-2 below displays the CDC 2016 Social Vulnerability Index for Westmoreland County.

Heavy snow can immobilize a region and paralyze a city, shutting down air and rail transportation, stopping flow of supplies, and disrupting medical and emergency services. Accumulations of snow can collapse buildings and knock down trees and power lines. In rural areas, homes and farms may be isolated for days, and unprotected livestock may be lost. In the mountains, heavy snow can lead to avalanches (see Section 4.3.1). Heavy accumulations of ice can bring down trees, electrical wires, telephone poles and lines, and communication towers. Communications and power can be disrupted for days while utility companies work to repair the extensive damage. Even small accumulations of ice may cause extreme hazards to motorists and pedestrians. Bridges and overpasses are particularly dangerous because they freeze before other surfaces (NSSL 2015c).

Figure 4.3.14-2. **CDC's Social Vulnerability Index 2016**



Impact on General Building Stock

The entire general building stock inventory in Westmoreland County is exposed and potentially vulnerable to the severe winter storm hazard; however, properties in poor condition or in particularly vulnerable locations may be at risk for the most damage. In general, structural impacts include damage to roofs and building frames rather than building content. Current modeling tools are not available to estimate specific losses for this hazard. As an alternate approach, the percent damage to structures that could result from severe winter storm conditions is considered. This allows planners and emergency managers to select a range of potential economic impact based on an estimate of the percent of damage to the general building stock. Table 4.3.14-3 summarizes the estimated loss to structures as a result of 1-, 5-, and 10-percent loss. Given professional knowledge and the currently available information, the potential loss for this hazard is considered to be overestimated because of varying factors (building structure type, age, load distribution, building codes in place, etc.). Therefore, the following estimates should be used only for planning purposes with the knowledge that the associated losses for severe winter storm events vary greatly.

Table 4.3.14-3. General Building Stock Exposure (Structure Only) and Estimated Losses from Winter Storm Events in Westmoreland County

Total GBS (Structure Only)	1% of Total	5% of Total	10% of Total
$43,617,359,000	$436,173,590	$2,180,867,950	$4,361,735,900

Source: HAZUS-MH v4.2

A specific area that is vulnerable to the severe winter storm hazard is the floodplain. Severe winter storms can cause flooding through blockage of streams or through snow melt. At-risk residential infrastructures are presented in the flood hazard profile (Section 4.3.5). Generally, losses resulting from flooding associated with winter storms should be less than those associated with a 100-year flood.

Impact on Critical Facilities

Full functionality of critical facilities, such as police, fire, and medical services, is essential for response during and after a winter storm event. These critical facility structures are largely constructed of concrete and masonry; therefore, these should undergo only minimal structural damage from severe winter storm events. Because power interruption can occur, backup power is recommended for critical facilities and infrastructure.

Impact on the Economy

Infrastructure at risk from the winter storm hazard includes roadways that could be damaged by application of salt and intermittent freezing and warming conditions that can damage roads over time. Costs of snow and ice removal, as well as repairs of roads undergoing freeze/thaw cycles, can drain local financial resources. Potential secondary impacts from winter storms also impact the local economy, including loss of utilities, interruption of transportation corridors, and loss of business function.

Impact on the Environment

Environmental impacts often include damage to shrubbery and trees from heavy snow loading, ice build-up and high winds that can break limbs or bring down large trees. An indirect effect of winter storms is the treatment of roadway surfaces with salt, chemicals, and other de-icing materials, which can impair adjacent surface and ground waters. Building collapse is another important secondary impact for winter storms; if heavy snowfall occurs or a significant amount of snow accumulates over time, the weight of the snow may cause building damage or even collapse (PEMA 2018).

Winter storms have a positive environmental impact as well; gradual melting of snow and ice provides excellent groundwater recharge. However, abrupt high temperatures following a heavy snowfall can cause rapid surface water runoff and severe flooding (PEMA 2018).

Future Growth and Development

Areas targeted for potential future growth and development within the next 5 to 10 years have been identified across the county at the municipal level and are further discussed in Section 2.4 of this HMP. Because Westmoreland County in its entirety has been identified as the hazard area vulnerable to the winter storm hazard, any new development will be exposed to associated risks.

Effect of Climate Change on Vulnerability

Climate is defined not just as average temperature and precipitation, but also by type, frequency, and intensity of weather events. Both globally and at the local level, climate change can potentially alter prevalence and severity of weather extremes, such as winter storms. While predicting changes in winter storm events under a changing climate is difficult, understanding vulnerabilities to potential changes is a critical part of estimating future climate change impacts on human health, society, and the environment.

The climate of Pennsylvania has changed in several ways. Over the past 100 years, annual average temperatures have been rising across the Commonwealth. Warmer winters have led to a decrease in snow cover and earlier arrival of spring. Recent analyses, based on the Intergovernmental Panel on Climate Change models, suggest a decrease in frequency and an increase in intensity of extra-tropical winter cyclones. However, based on the methodology applied, some models show no significant change in the storm track whereas others indicate a northward displacement of the storm track in the North Atlantic. For the mid-Atlantic region, there is little indication of a change in storm activity or track over Pennsylvania. An overall increase in winter precipitation is anticipated, with a decrease in snow and an increase in rain during the winter months. Projections regarding future occurrences of extra-tropical cyclones in Pennsylvania are substantially uncertain. Based on available information and projections, winter storms are anticipated to continue to affect Pennsylvania in the future. Future improvements in modeling smaller-scale climatic processes can be expected, and these modeling efforts will lead to a better understanding on how the changing climate will alter temperature, precipitation, and storm events in Pennsylvania (Shortle and others 2009).

Additional Data and Next Steps

The assessment above identifies vulnerable populations and economic losses associated with the winter storm hazard of concern. Historical data on structural losses to general building stock are not adequate to predict specific losses to this inventory; therefore, the percent of damage assumption methodology was applied. This methodology is based on FEMA How-to Series (FEMA 386-2), Understanding Your Risks, Identifying and Estimating Losses (FEMA 2001), and FEMA's Using HAZUS-MH for Risk Assessment (FEMA 433) (FEMA 2015a). Acquisition of additional and actual valuation data regarding general building stock and critical infrastructure losses would further support future estimates of potential exposure of and damage to the general building stock inventory.

4.3.15 Dam Failure

This section provides a profile and vulnerability assessment of the dam failure hazard in Westmoreland County. A dam is an artificial barrier allowing storage of water, wastewater, or liquid-borne materials for many reasons (flood control, human water supply, irrigation, livestock water supply, energy generation, containment of mine tailings, recreation, or pollution control). Many dams fulfill a combination of these stated functions (Association of State Dam Safety Officials 2013). They are an important resource in the United States.

Man-made dams can be classified according to type of construction material used, methods applied in construction, slope or cross-section of the dam, how a dam resists forces of water pressure behind it, means used to control seepage, and, occasionally, the purpose of the dam. Materials used for construction of dams include earth, rock, tailings from mining or milling, concrete, masonry, steel, timber, miscellaneous materials (plastic or rubber), and any combination of these materials (Association of State Dam Safety Officials 2013).

More than a third of the country's dams are 50 or more years old. Approximately 14,000 of those dams pose a significant hazard to life and property if failure occurs. About 2,000 unsafe dams are dispersed throughout the United States and are found in almost every state.

Dams typically fail when spillway capacity is inadequate and excess flow overtops the dam, or when internal erosion (piping) through the dam or foundation occurs. Complete failure occurs if internal erosion or overtopping results in a complete structural breach, releasing a high-velocity wall of debris-filled water that rushes downstream, damaging or destroying anything in its path (Federal Emergency Management Agency [FEMA] 2015b).

Dam failures can result from one or a combination of the following:

- Overtopping, caused by floods that exceed capacity of the dam
- Deliberate acts of sabotage
- Structural failure of materials used in dam construction
- Movement or failure of the foundation supporting the dam
- Settling and cracking of concrete or embankment dams
- Piping and internal erosion of soil in embankment dams
- Inadequate maintenance and upkeep (FEMA 2015b)

Regulatory Oversight of Dams

The potential for catastrophic flooding caused by dam failures led to the enactment of the National Dam Safety Act (Public Law 92-367), which has protected Americans from dam failures for 30 years. The National Dam Safety Program (NDSP) is a partnership among states, federal agencies, and other stakeholders that encourages individual and community responsibility for dam safety. Under FEMA's leadership, state assistance funds have allowed all participating states to improve their programs through increased inspections, emergency action planning, and purchases of needed equipment. FEMA has also expanded existing and initiated new training programs. Grant assistance from FEMA provides support for improvement of dam safety programs that regulate most dams in the United States (FEMA 2013).

Pennsylvania Department of Environmental Protection

The Pennsylvania Department of Environmental Protection (PADEP) holds responsibility for dam safety. Hazard Potential Category 1 dams are those "where its failure could result in significant loss of life, excessive economic losses, and significant public inconvenience." Hazard Potential Category 2 dams are those "where its failure could result in the loss of a few lives, appreciable property damage, and short-duration public inconvenience" (PADEP 2009a). Owners of dams classified as Hazard Categories 1 or 2 (referred to as high-hazard dams) are required to create an Emergency Action Plan (EAP) that describes the dam, the probable inundation area if the dam were to catastrophically fail, and procedures for responding to the dam failure (such

as notification to the vulnerable population). Westmoreland County receives copies of EAPs and inundation maps for high-hazard dams whose failure could impact local residents.

U.S. Army Corps of Engineers Dam Safety Program

The U.S. Army Corps of Engineers (USACE) is responsible for safety inspections of some federal and non-federal dams in the United States that meet the size and storage limitations specified in the National Dam Safety Act. USACE has inventoried dams and has surveyed each state's and federal agency's capabilities, practices, and regulations regarding design, construction, operation, and maintenance of the dams. USACE has also developed guidelines for inspection and evaluation of dam safety (USACE 2017b). The USACE National Inventory of Dams (NID) provides the most recent dates of inspection of the following Westmoreland County dams:

- Acme (PA-657), March 26, 2018
- Bear Pond, June 24, 2014
- Beaver Run, May 01, 2018
- Berlin Road Detention Basin, February 20, 2018
- Big Spring, October 4,2017
- Breskin No 1, September 20, 2017
- Breskin No 2, November 16, 2017
- Bridgeport (Pa-655), March 26, 2018
- Brinkerton, June 22, 2017
- Bull Run, February 20, 2018
- Charleroi Locks And Dam, September 15, 2016
- Derry Rod And Gun Club, February 20, 2018
- Donegal, September 19, 2017
- Eidemiller Lake, November 27, 2017
- Ethel Springs, June 3, 2018
- Exton Lake, March 02, 3018
- Furnace Run, December 13, 2017
- Greenwalt, February 20, 2018
- H A Stewart, October 17, 2017
- Hutchinson Fresh Water, June 22, 2017
- Ice Pond, August 28, 1997
- Jeannette (Mountain Valley Lake), March 29, 2017
- Kenda, December 19, 2017
- Keystone State Park, March 30, 2017
- Lake Ridge Estates Detention, March 28, 2017
- Laspina Lane, July 17, 2018
- Laurel Wood, June 27, 2017
- Ligonier Reservoir, September 26, 2017
- Little Sugar Run, May 17, 2016
- Lonesome Lake, July 21, 2014
- Lower Ridge, March 6, 2018
- Loyalhanna Dam, October 30, 2015
- Mammoth Lake, February 22, 2018
- Mannitto, June 26, 2017
- Mill Service No 5, July 23, 2018
- Mill Service No 6, September 21, 2017
- Northmoreland Lake (Pa-117), May 1, 2018
- Ridilla Upper Pond A, June 2, 2017
- Sugar Run, October 4, 2017
- Thorn Run, August 25, 2015
- Township Line, November 20, 2017
- Trout Run, October 13, 2017
- Tubmill, October 4, 2017
- Twin Lakes No 1, May 3, 2018
- Twin Lakes No 2, May 3, 2018
- Upper Ridge, May 6, 2018
- Weaver Lake, May 1, 2018
- West Newton Sludge, June 22, 2017
- Westinghouse Electric, June 27, 2017
- Whitney Ridge, September 29, 2017

Federal Energy Regulatory Commission Dam Safety Program

The Federal Energy Regulatory Commission (FERC) has the largest dam safety program in the United States. FERC cooperates with a several federal and state agencies to ensure and promote dam safety and, more recently, homeland security. FERC inspects hydroelectric projects on an unscheduled basis to investigate the following:

- Potential dam safety problems
- Complaints about constructing and operating a project
- Safety concerns related to natural disasters
- Issues concerning compliance with terms and conditions of a license (FERC 2017)

Every 5 years, an independent consulting engineer, approved by FERC, must inspect and evaluate projects with dams higher than 32.8 feet (10 meters) or with total storage capacity of more than 2,000 acre-feet (FERC 2017).

FERC monitors and evaluates seismic research in geographic areas where seismic activity is a concern. This information is used to investigate and analyze structures of hydroelectric projects within these areas. FERC also evaluates effects of potential and actual large floods on safety of dams. FERC staff visits dams and licensed projects during and after floods, assess extents of damage, and direct any studies or remedial measures the licensee must undertake. FERC's *Engineering Guidelines for the Evaluation of Hydropower Projects* guides FERC engineering staff and licensees in evaluations of dam safety. The publication is frequently revised to reflect current information and methodologies (FERC 2017).

FERC requires licensees to prepare EAPs, and conducts training sessions on developing and testing these plans. The plans outline an early warning system in the event of an actual or potential sudden release of water from a dam failure. The plans include operational procedures that may be implemented during regulatory measures, such as reducing reservoir levels and downstream flows, as well as procedures for notifying affected residents and agencies responsible for emergency management. These plans are frequently updated and tested to ensure that all applicable parties are informed of the proper procedures in emergencies (FERC 2017).

4.3.15.1 Location and Extent

As shown on Figure 4.3.15-1, 147 dams are present throughout Westmoreland County. The majority of these dams pose little risk; however, 30 Hazard Category 1 high-hazard dams require EAPs. Table 4.3.15-1 lists dam classification definitions and Table 4.3.15-2 lists high-hazard dams in Westmoreland County. Refer to Appendix I for a complete listing of dams. The PA DEP completed a Flood Protection Project Inspection Summary on December 10, 2018, for the Bull Run Dam in the City of Jeannette. This report found the current status of the Flood Protection Project to be acceptable in accordance with DEP regulations, noting that it is well maintained and is classified as a high-hazard dam.

Figure 4.3.15-1. Dams in Westmoreland County

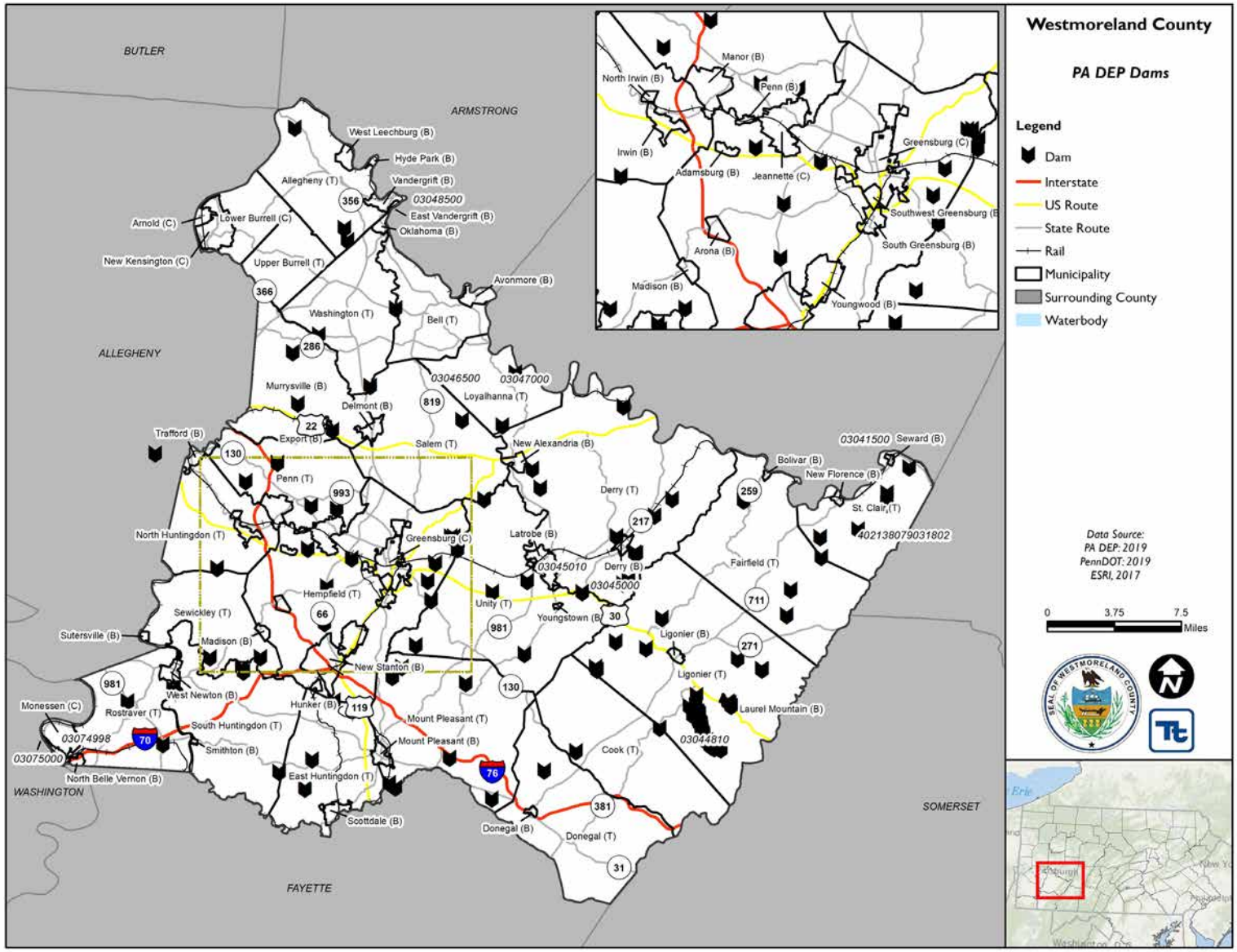


Table 4.3.15-1. Dam Classification Definitions

Size Category		
Category	**Impoundment Storage (Acre-feet)**	**Dam Height (Feet)**
A	Equal to or greater than 50,000	Equal to or greater than 100
B	Less than 50,000 but greater than 1,000	Less than 100 but greater than 40
C	Equal to or less than 1,000	Equal to or less than 40
Hazard Potential Category		
Category	**Population at Risk**	**Economic Loss**
1	Substantial (Numerous homes or small businesses or a large business or school)	Excessive, such as extensive residential, commercial, or agricultural damage, or substantial public inconvenience
2	Few (A small number of homes or small businesses)	Appreciable, such as limited residential, commercial, or agricultural damage, or moderate public inconvenience
3	None expected (no permanent structures for human habitation or employment)	Significant damage to private or public property and short-term public inconvenience, such as damage to storage facilities or loss of critical stream crossings
4	None expected (no permanent structures for human habitation or employment)	Minimal damage to private or public property and no significant public inconvenience

Source: Commonwealth of Pennsylvania 2011.

Table 4.3.15-2. High Hazard Dams in Westmoreland County

Dam Name	Municipality	Stream	Class	Permittee
High-Hazard Dams				
Acme (PA-657)	Mount Pleasant Township	Jacobs Creek	B-1	Westmoreland County Commissioners
Beaver Run	Bell Township	Beaver Run	B-1	Municipal Authority Of Westmoreland County
Big Spring	St Clair Township	Big Spring Run	B-1	Highridge Water Authority
Bridgeport (PA-655)	Mount Pleasant Township	Jacobs Creek	B-1	Westmoreland County Commissioners
Bull Run	Penn Township	Bull Run	B-1	City Of Jeannette
Donegal	Donegal Township	Fourmile Run	B-1	PA Fish & Boat Commission
Ethel Springs	Derry Borough	Tr Mcgee Run	B-1	Derry Borough Municipal Authority
H A Stewart	Ligonier Township	Trout Run	B-1	Latrobe Municipal Authority
Sugar Run	St Clair Township	Tr Conemaugh River	B-1	Highridge Water Authority
Township Line	Unity Township	Township Line Run	B-1	Lake Lago, Inc.
Trout Run	Derry Township	Trout Run	B-1	Blairsville Municipal Authority
Tubmill	Fairfield Township	Tubmill Creek	B-1	Highridge Water Authority
Berlin Road Detention Basin	Penn Township	Tr Bushy Run	C-1	Township Of Penn
Derry Rod And Gun Club	Derry Township	Miller Run	C-1	Derry Rod And Gun Club
Eidemiller Lake	Hempfield Township	Tr Slate Creek	C-1	CBL / Westmoreland, L.P.
Furnace Run	Ligonier Township	Wtrshd Furnace Run	C-1	Municipal Authority Of Westmoreland County
Kenda	North Huntingdon Township	Tr Little Sewickley Creek	C-1	Township Of North Huntingdon

Dam Name	Municipality	Stream	Class	Permittee
Ligonier Reservoir	Ligonier Township	South Fork Mill Creek	C-1	Ligonier Township Authority
Lower Ridge	Derry Township	Mcgee Run	C-1	Derry Borough Municipal Authority
Mammoth Lake	Mount Pleasant Township	Wetley Run	C-1	Westmoreland County Commissioners
Northmoreland Lake (PA-117)	Allegheny Township	Tr Pine Run	C-1	Westmoreland County Commissioners
Twin Lakes No 1	Hempfield Township	Little Crabtree Creek	C-1	Westmoreland County Commissioners
Twin Lakes No 2	Hempfield Township	Little Crabtree Creek	C-1	Westmoreland County Commissioners
Upper Ridge	Derry Township	Mcgee Run	C-1	Derry Borough Municipal Authority
Breskin No 2	Ligonier Township	Tr Fourmile Run	B-2	Gene Pluto
Mill Service No 6	South Huntingdon Township	Tr Swickley Creek	B-2	Max Environmental Technologies, Inc.
Breskin No 1	Ligonier Township	Tr Fourmile Run	C-2	Kale Partners. LP
Weaver Lake	Allegheny Township	Tr Pine Run	C-2	Dino R. Aquiline
Whitney Ridge	Unity Township	Tr Ninemile Run	C-2	Ronald Repasky
Keystone State Park	Derry Township	Mccune Run	B-3	DCNR

Source: PA DEP 2019a
Notes: Tr Tributary to

4.3.15.2 Range of Magnitude

The extent or magnitude of a dam failure event can be measured in terms of classification of the dam. FEMA has three classification levels of dam hazard potential: low, significant, and high. The classification levels build on each other. The hazard potential classification system should be used with the understanding that failure of any dam or water-retaining structure could represent a danger to downstream life and property (FEMA 2004). Each FEMA classification level of dam hazard potential is described below.

- Low-hazard-potential dams are those where failure or misoperation would result in no probable loss of human life and low economic or environmental losses. Losses would principally be limited to the owner's property.
- Significant hazard-potential dams are those where failure or misoperation would result in no probable loss of human life but could cause economic loss, environmental damage, disruption of lifeline facilities, or impact other concerns. Significant hazard-potential dams are often located in predominantly rural or agricultural areas.
- High hazard-potential dams are those where failure or misoperation will probably cause loss of human life.

Table 4.3.15-3 lists USACE-developed classifications of hazard potentials of dam failures, based only on potential consequences of a dam failure; this classification does not take into account probability of failure.

Table 4.3.15-3. U.S. Army Corps of Engineers Hazard Potential Classification

Hazard Category[1]	Direct Loss of Life[2]	Lifeline Losses[3]	Property Losses[4]	Environmental Losses[5]
Low	None (rural location, no permanent structures for human habitation)	No disruption of services (cosmetic or rapidly repairable damage)	Private agricultural lands, equipment, and isolated buildings	Minimal incremental damage
Significant	Rural location, only transient or day-use facilities	Disruption of essential facilities and access	Major public and private facilities	Major mitigation required
High	Certain (one or more) extensive residential, commercial, or industrial development	Disruption of essential facilities and access	Extensive public and private facilities	Extensive mitigation cost or impossible to mitigate

[1] Categories are assigned to overall projects, not individual structures at a project.

[2] Loss-of-life potential is based on inundation mapping of area downstream of the project. Analysis of loss-of-life potential should take into account the population at risk, time of flood wave travel, and warning time.

[3] Lifeline losses include indirect threats to life caused by the interruption of lifeline services from project failure or operational disruption; for example, loss of critical medical facilities or access to them.

[4] Property losses include damage to project facilities and downstream property and indirect impact from loss of project services, such as impact from loss of a dam and navigation pool, or impact from loss of water or power supply.

[5] Environmental impact downstream caused by the incremental flood wave produced by the failure, beyond what would normally be expected for the magnitude flood event under which the failure occurs.

Source: USACE 2016

4.3.15.3 Past Occurrence

Two significant dam failures previously occurred in Pennsylvania. The worst dam failure to occur in the United States took place in Johnstown, PA, in 1889 when the South Fork Dam failed claimed 2,209 lives. Another dam failure took place in Austin, PA, (Potter County) in 1911 and claimed 78 lives. Several historical dam failures have been recorded in Westmoreland County; two of these incidents took place in Jeannette, Pennsylvania, and are summarized below (ASDSO 2010; NPDP 2014).

- 1896 – Fort Pitt Dam: The dam failed sometime in 1896; however, no other details regarding this event were available.
- July 5, 1903 – Fort Pitt Dam: During a heavy rainstorm, the runoff exceeded the capacity of the dam's spillway and the dam's embankment overtopped a few inches. A 90-foot-long breach was washed through the structure.

4.3.15.4 Future Occurrence

The likelihood of a dam failure in Westmoreland County is difficult to predict. Dam failures are infrequent and usually coincide with events that cause them, such as earthquakes, landslides, and excessive rainfall and snowmelt. However, the risk of a dam failure escalates as each dam's age increases or the frequency of maintenance decreases.

"Residual risk" to dams is the risk that remains after implementation of safeguards. Residual risk to dams is associated with events beyond those that the facility was designed to withstand. However, probability of any type of dam failure is low in today's dam safety regulatory and oversight environment.

Based on Risk Factor Methodology Probability Criteria (further defined in Section 4.4), and assuming regular maintenance and inspections of the dams in Westmoreland County, dam failures are considered *unlikely* in the county.

4.3.15.5 Vulnerability Assessment

The dam failure hazard is of significance to Westmoreland County because 147 dams are present throughout the county, 30 of which are classified as high-hazard dams by PA DEP. Warning time for dam failure is often limited. These events are frequently associated with other natural hazard events such as earthquakes, landslides, or severe weather, limiting their predictability and compounding the hazard. Populations without adequate warning of the event are highly vulnerable to this hazard. Direct and indirect losses associated with dam failures include injury and loss of life, damage to structures and infrastructure, agricultural losses, utility failure (power outages), and stress on community resources.

Impact on Life, Health, and Safety; General Building Stock, Critical Facilities, and the Economy

The entire population residing within a dam failure inundation zone is considered exposed and vulnerable. Of the population exposed, the economically disadvantaged and the population over the age of 65 are the most vulnerable. Economically disadvantaged populations are more vulnerable because they are likely to evaluate their risk and make decisions to evacuate based on the net economic impact to their family. The population over the age of 65 is also highly vulnerable because they are more likely to seek or need medical attention that may not be available because of isolation during a flood event, and they may have more difficulty evacuating.

The EAPs associated with the Westmoreland County high-hazard dams provide information concerning the estimated number of homes and residents vulnerable to a dam failure. Dam failure events are frequently associated with other natural hazard events such as earthquakes, landslides, or severe weather, which limits their predictability and compounds the hazard. Populations without adequate warning of the event are highly vulnerable to this hazard.

Impact on General Building Stock, Critical Facilities, and the Economy

All buildings and infrastructure located in the dam failure inundation zone are considered exposed and vulnerable. Property located closest to the dam inundation zone will likely experience the largest, most destructive surge of water. All transportation infrastructures within the dam failure inundation zone are vulnerable to damage. Damage to these infrastructures could cut off evacuation routes, limit emergency access, and create isolation issues. Utilities, such as overhead power, cable, and phone lines could also be vulnerable. Loss of these utilities could create additional isolation issues for residents and businesses in the inundation zone.

Impact on the Environment

The environment is vulnerable to several risks in the event of a dam failure. Water releases from dams usually contain very little suspended sediment; this can lead to scouring of river beds and banks. The inundation may introduce foreign elements into local waterways, resulting in destruction of downstream habitat and impacting many animal and plant species, especially endangered species. The subsequent rush of water downstream can rapidly increase flow rate and turbidity of streams and rivers in minor dam failures or overwhelm terrestrial habitat with floodwaters in severe dam failures.

Dam failures can often result in the release of hazardous materials, either swept up in floodwaters or in sediment that is contained behind the dam, such as in areas with mining upstream. After the flood waters subside, contaminated and flood-damaged building materials and contents must be disposed of properly. Contaminated sediment must be removed from buildings, yards, and properties.

Dam failures may result in significant water quality and debris disposal issues. Flood waters can back up sanitary sewer systems and inundate wastewater treatment plants, causing raw sewage to contaminate residential and commercial buildings and the flooding waterway. The contents of unsecured containers of oil, fertilizers, pesticides, and other chemicals get added to flood waters. Water supplies and wastewater treatment could be off line for weeks. After the flood waters subside, contaminated and flood-damaged building materials and contents must be disposed of properly.

Future Growth and Development

As discussed in Section 2.4, areas targeted for future growth and development have been identified across the county. Any areas of growth could be impacted by the dam failure hazard if located within the identified hazard areas. Westmoreland County intends to discourage development within vulnerable areas and to encourage higher regulatory standards on the local level.

Existing floodplain development regulations may offer some protection for new development located in these areas; however, such protection would likely not be sufficient in many instances in the event of a catastrophic dam failure. This results from a number of factors, such as the extent of the dam inundation area may be larger than the regulated floodplain, and water depths and velocities may be stronger and higher than the 1 percent annual chance flood event.

Effect of Climate Change on Vulnerability

The climate of Pennsylvania is already changing and will continue to change over the course of this century. Precipitation is expected to increase over the next several decades. Future climate change may impact storm patterns, increasing the probability of more frequent, intense storms with varying duration. Since dam overtopping is often caused by excessive rainfall, it is appropriate to relate the future vulnerability of dams directly with the potential for increased rainfall in Westmoreland County.

Dams are designed partly based on assumptions about a river's flow behavior, expressed as hydrographs (flow over time). Changes in weather patterns can have significant effects on the hydrograph used for the design of a dam. If the hydrograph changes, it is conceivable that the structure can lose some or all of its designed margin of safety, also known as freeboard. Loss of designed margins of safety may cause floodwaters to more readily overtop the dam or create unintended loads. Such situations could lead to a dam failure.

Climate change may increase the probability of dam failures, as indicated above. Changes in climate may lead to higher intensity rainfall events. As a result, the failure probability of low, significant, and under-designed high-hazard dams may increase.

Additional Data and Next Steps

This vulnerability assessment was based on the most current and best available data, including updated building and critical facility inventories. For future HMP updates, additional dam failure inundation areas can be delineated and used to spatially assess the asset exposure. A customized general building stock list could be generated in the HAZUS-MH model to assess future impacts at the structural level versus the census-block level. Depth grids could be generated for the inundation areas and used in HAZUS-MH to estimate potential losses similar to those listed in the flood profile (Section 4.3.5).

4.3.16 Environmental Hazard

This section provides a profile and vulnerability assessment of the environmental hazard profile for Westmoreland County. Westmoreland County is home to over 500 identified facilities that use chemicals that pose a threat to human health and the environment. These facilities have been identified under the Superfund Amendments and Reauthorization Act (SARA) as exceeding the quantity threshold for reporting. Westmoreland County also contains a considerable amount of oil and gas wells, pipelines, and support infrastructure which also increases the risk to the population, building stock, and environment should a catastrophic failure occur.

Product release into the local environment can derive from a fixed facility or occur at any location along a route of travel and may be the result of carelessness, technical failure, external incidents, or an intentional act against the facility or container. Volatility of products stored or transported, along with potential impact on a local community, may increase the risk of intentional acts against a facility or transport vehicle. Release of certain products considered hazardous materials can immediately and adversely impact the general population, ranging from the inconvenience of evacuations to personal injury and even death. Moreover, any release can compromise the local environment through contamination of soil, groundwater, or local flora and fauna.

4.3.16.1 Location and Extent

Based on past occurrences, hazardous material releases within Westmoreland County have been accidental and have not been considered terrorist or criminal acts. While past occurrences have not been deemed intentional, an intentional release of any of these products in large quantity would pose a threat to the local population, economy, and environment resulting in lost revenue, injuries, and deaths.

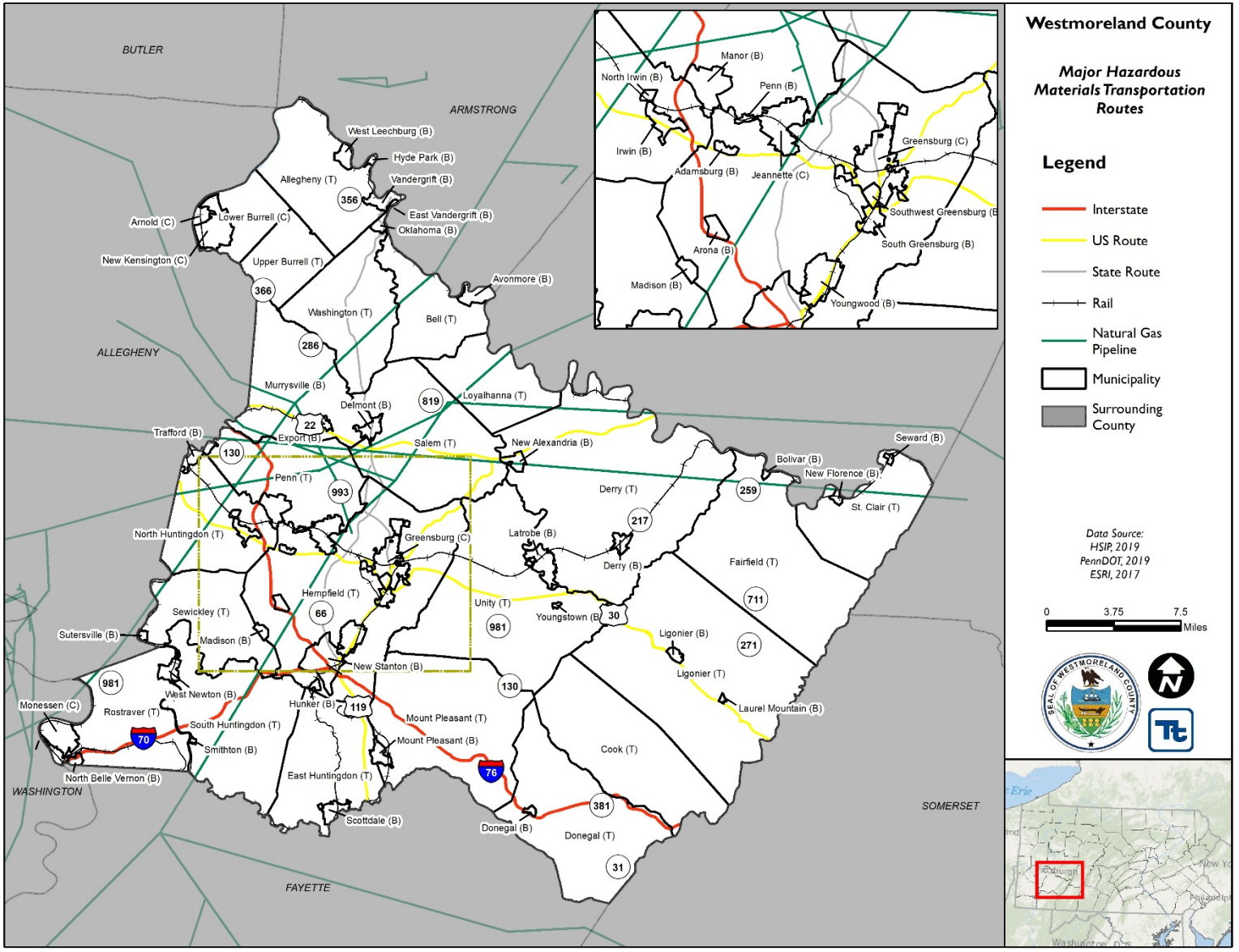
Westmoreland County is home to 3,671 miles of roadways, including 57 miles of interstate highway, 34 miles of freeways, 126 miles of principal arterials, 254 miles of minor arterials, and 479 miles of major collectors. With just over 3,600 miles of roadways linking more-populated areas with rural communities, the gridwork of roadways facilitates the free movement of hazardous materials throughout the region (PennDOT, 2017).

While permitted, identified hazardous substance travel routes are not maintained by the County or regional planning entities. The primary roadways in Westmoreland County are listed as follows (and shown in Figure 4.3.16-1):

- Pennsylvania Turnpike (I-76)
- Pennsylvania Turnpike 66
- Interstate 70 (I-70)
- U.S. Highway 22 (US-22)
- U.S. Highway 30 (US-30)
- U.S. Highway 119 (US-119)

In addition to the major routes of transportation, each fixed facility identified within Westmoreland County poses a potential threat to the surrounding community. The U.S. Environmental Protection Agency (EPA) tracks management of over 650 toxic chemicals that pose a threat to human health and the environment through the Toxic Release Inventory (TRI). Facilities in certain industries that use or house these chemicals in amounts exceeding specified levels must submit annual reports on how each chemical is managed through recycling, energy recovery, treatment, and releases to the environment. A “release” of a chemical means emission to the air or water or placement in some type of land disposal. EPA publishes all TRI data in a publicly accessible database in Envirofacts. In 2018, 92 TRI facilities in Westmoreland County reported to EPA (EPA 2019).

Figure 4.3.16-1. Major Hazardous Materials Transportation Routes in Westmoreland County



4.3.16.2 Range of Magnitude

Environmental hazard incidents within Westmoreland County could range from minor petroleum spills to large, facility-based incidents that could lead to loss of life and damage to property, environment, and economy. Severity of an incident varies with type of material released and distance and related response time for emergency response teams. Areas within closest proximity to the releases are generally at the greatest risk; however, depending on the material, a release can travel great distances or persist over a long time (e.g., nuclear radiation), resulting in far-reaching effects on people and the environment.

A hazardous material release, whether accidental or intentional, can be exacerbated or mitigated by specific circumstances surrounding the event. Exacerbating conditions are characteristics that can enhance or magnify effects of a hazard, and mitigating conditions are characteristics of the target and its physical environment that can reduce effects of a hazard. These conditions are described below.

- Non-compliance with applicable codes (e.g., fire and building codes) and maintenance failures (e.g., fire protection and containment features) – can substantially increase damage to a facility and to surrounding buildings.
- Geographic location of hazardous material site – if occurring within a Special Flood Hazard Area (SFHA), a materials release could cause large-scale water contamination during a flood incident, or a flood incident could compromise production and storage of hazardous chemicals. Stormwaters and floodwaters can also move toxic chemicals swiftly across great distances.
- Weather conditions – affect how the hazard develops.
- Micro-meteorological effects of buildings and terrain – alter dispersion of materials.
- Shielding in the form of sheltering-in-place – protects people and property from harmful effects.

The worst-case scenario would be a large, uncontrolled release of a toxic gas in a major urban area. This scenario would cause large numbers of significant injuries and fatalities. It would likely overwhelm the medical care capacity within the County, and possibly the region.

4.3.16.3 Past Occurrence

Westmoreland County's proximity to the City of Pittsburgh and location near the western border of Pennsylvania provides for an increase in transportation of hazardous materials via rail, air, and road. These transportation routes, combined with the large number of fixed-site facilities and end-users of hazardous materials, have the potential to create frequent chemical and petroleum-product release incidents throughout the County, with several being deemed as serious events.

Table 4.3.16-1 below lists the number of environmental hazard incidents reported to the Pennsylvania Emergency Management Agency (PEMA) between 2006 and 2019 by municipality. There have been a total of 457 hazardous material releases in Westmoreland County from 2006 to 2019 (Knowledge Center 2019). It should be noted that the figures provided below are not comprehensive. The reporting requirements changed in 2007, allowing state agencies to categorize incidents as something other than "Hazardous Materials." For instance, a vehicle collision resulting in a spill of petroleum products (e.g., gasoline, motor oil) may be reported as a vehicle accident instead of a hazardous materials release.

Table 4.3.16-1. Reported Release of Hazardous Materials in Westmoreland County, 2006–2019

Municipality	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Total
Allegheny Township	0	0	0	2	2	0	0	0	0	0	0	0	1	0	5
Arnold City	0	0	1	1	0	2	0	0	0	1	0	0	0	0	5
Arona Borough	0	1	0	0	0	0	1	0	0	0	0	0	0	0	2
Delmont Borough	0	0	1	0	0	1	2	0	0	0	0	0	1	1	6
Derry Township	0	1	1	1	2	1	1	0	0	3	0	4	4	0	18
East Huntingdon Township	0	0	0	0	0	0	1	0	0	2	2	4	3	0	12
East Vandergrift Borough	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Export Borough	0	0	0	0	0	0	2	0	0	0	0	1	0	0	3
Fairfield Township	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
Greensburg City	0	0	0	2	2	1	1	0	0	0	1	1	3	0	11
Hempfield Township	0	4	1	6	8	3	1	0	0	12	18	12	13	1	79
Irwin Borough	0	0	1	0	1	0	0	0	0	0	4	0	3	0	9
Jeannette City	0	0	0	1	1	0	0	0	0	0	1	2	1	0	6
Ligonier Borough	0	0	0	0	0	2	1	0	0	2	0	1	1	1	8
Ligonier Township	0	1	2	0	2	1	0	0	0	1	2	0	2	0	11
Lower Burrell City	0	1	0	1	0	0	1	0	0	0	3	3	0	0	9
Loyalhanna Township	0	1	0	0	1	0	1	0	0	1	0	0	1	0	5
Mount Pleasant Borough	0	0	0	0	0	0	1	0	0	0	0	1	0	1	3
Mount Pleasant Township	0	1	0	1	0	0	0	0	0	1	0	3	1	1	8
Murrysville Borough	1	0	5	3	1	4	0	0	0	5	4	5	1	1	30
New Alexandria Borough	0	0	1	0	0	0	1	0	0	0	0	0	0	0	2
New Florence Borough	0	1	0	0	0	0	0	0	0	0	0	0	0	9	10
New Kensington City	0	0	0	0	1	2	0	0	0	1	0	2	6	0	12
New Stanton Borough	0	2	1	4	0	0	1	0	0	1	0	1	1	0	11
North Belle Vernon Borough	0	0	0	2	0	0	0	0	0	0	0	2	1	0	5
North Huntingdon Township	0	2	5	2	2	1	3	0	0	3	3	5	6	0	32
Penn Township	0	1	0	2	0	0	3	0	0	1	3	2	4	0	16

Municipality	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Total
Rostraver Township	1	2	3	2	0	1	2	0	0	1	2	4	3	0	21
Salem Township	0	0	2	1	0	1	1	0	0	3	4	3	3	1	19
Seward Borough	0	0	0	0	0	1	0	0	0	0	0	1	0	0	2
Sewickley Township	0	1	1	0	1	1	1	0	0	0	0	2	1	0	8
Smithton Borough	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
South Huntingdon Township	0	1	1	3	0	1	2	0	0	0	1	4	0	0	13
Southwest Greensburg Borough	0	0	0	0	1	0	1	0	0	1	0	0	0	0	3
Trafford Borough	0	1	1	1	0	0	0	0	0	0	0	0	1	0	4
Unity Township	1	6	5	2	2	3	4	0	0	1	1	7	2	1	35
Upper Burrell Township	0	0	0	0	0	2	1	0	0	0	1	1	0	0	5
Vandergrift Borough	0	1	0	1	0	0	0	0	0	0	1	2	0	0	5
Washington Township	0	0	0		1	0	2	0	0	0	0	1	1	1	6
West Newton Borough	0	0	2	2	0	0	1	0	0	1	0	1	1	0	8
Youngwood Borough	0	1	0	0	0	0	0	0	0	1	0	1	0	0	3
Unspecified location within Westmoreland County	1	1	0	0	1	0	0	0	0	1	1	1	0	0	6
Westmoreland County	**4**	**30**	**34**	**40**	**29**	**29**	**36**	**0**	**0**	**43**	**52**	**77**	**65**	**18**	**457**

According to the U.S. Department of Transportation (USDOT) Pipeline and Hazardous Materials Safety Administration (PHMSA), which provides an incident report database for information on incidents throughout the United States, there have been 225 incidents (majority highway with one rail) between 2014 and April 2019 (PHMSA 2019). Additionally, EPA TRI records indicate that there have been a total of 13.5 million pounds of chemicals released from fixed sites in Westmoreland County between 2013 and 2017 (EPA 2019).

4.3.16.4 Future Occurrence

Because of the wide scope of definition of environmental hazards, ranging from a small spill to a large release of a highly volatile or toxic hazardous material, incidents can and will happen at any time. Additionally, the County is home to over 900 facilities that generate, transport, treat, store, and dispose of hazardous waste. Although these facilities follow applicable safety and health regulations and best practices, proximities of the facilities to population centers is a concern for the County.

Hazardous materials are also transported via rail, pipeline, and along Pennsylvania Turnpike (I-76), Pennsylvania Turnpike 66, Interstate 70 (I-70), U.S. Highway 22 (US-22), U.S. Highway 30 (US-30), and U.S. Highway 119 (US-119). Transportation of hazardous material on highways involves tanker trucks or trailers; not surprisingly, trucks are responsible for the greatest number of hazardous material incidents. At several points, these transportation routes cross streams within the watersheds that are part of the County's domestic water supply.

While hazardous material release incidents in Westmoreland County have occurred in the past, they are generally considered difficult to predict. Smaller incidents, such as fuel spills, will affect the County many times each year. Although the County does not anticipate severe releases on any regular basis, the possibility of a significant release should not be discounted. Based on Risk Factor Methodology Probability Criteria, likelihood of future occurrences within Westmoreland County remains *highly likely*.

4.3.16.5 Vulnerability Assessment

To understand risk, a community must evaluate assets exposed or vulnerable within the identified hazard area. To assess effects of and risk from environmental hazards, locations of SARA Title III facilities, railways, and major roadways were examined. The following sections evaluate and estimate potential impacts in Westmoreland County, presenting specifically:

- Impacts on (1) life, health, and safety; (2) general building stock and critical facilities; (3) the economy; (4) the environment; and (5) future growth and development
- Effect of climate change on vulnerability
- Further data collections that will assist in understanding this hazard over time.

Facilities that produce, use, or ship hazardous material within the Commonwealth of Pennsylvania are required to comply with regulations set forth within the federal SARA and the Emergency Planning and Community Right to Know Act (EPCRA), and the Commonwealth of Pennsylvania reporting requirements under the Hazardous Materials Emergency Planning and Response Act (Act 165). The County has 516 SARA Title III facilities.

As stated above, hazardous materials are transported via rail and pipeline and along major roadways in the County, including two interstates (I-70, I-76), U.S. Highways (US-22, US-30, US-119Accidents on these routes can result in hazardous material spills that can contaminate and impact surrounding populations and environment.

The vulnerability radius for each hazard facility is determined by the County Local Emergency Planning Committee, and each radius is shown in Appendix I.

Impact on Life, Health, and Safety

Environmental hazards exert the greatest impact on the residential population in Westmoreland County (Table 4.3.16-2 below). Several incidents reported in the County are related to petroleum spills, which may have resulted from motor vehicle incidents.

To estimate the population exposed to environmental hazards, the vulnerability radii boundaries were overlaid upon the 2010 U.S. Census population data in Geographic Information Systems (GIS). Census blocks are not consistent with boundaries of the vulnerability radii, and gross overestimate or underestimate of exposed population can occur via use of the centroid or intersect of the Census block with these zones. It should be noted that due to the considerable number of gas wells both active and abandoned, the entire county's population is considered to be vulnerable to the vulnerability radii of gas wells. Pipeline data was sourced from the Homeland Security Infrastructure Program through the New Jersey Geospatial Information Network, which is publicly available. Limitations of these analyses are recognized, and thus results are used only to provide a general estimate.

Table 4.3.16-2. Estimated Westmoreland County Population Vulnerable to Environmental Hazards

Municipality	Total Population	Population within ¼ mile of railroads	% Population	Population within ¼ mile of major roadways	% Population	Population within vulnerability radii of SARA Facility	% Population	Population within 1/2 mile of Pipeline	% Population
Adamsburg Borough	172	0	0.0%	156	90.8%	0	0.0%	0	0.0%
Allegheny Township	8,164	502	6.2%	3,381	41.4%	2,234	27.4%	0	0.0%
Arnold, City of	5,157	3,536	68.6%	6	0.1%	5,157	100.0%	0	0.0%
Arona Borough	370	0	0.0%	366	98.8%	0	0.0%	13	3.5%
Avonmore Borough	1,011	32	3.2%	890	88.0%	1,011	100.0%	0	0.0%
Bell Township	2,348	240	10.2%	1,736	73.9%	1,724	73.4%	293	12.5%
Bolivar Borough	465	280	60.1%	465	100.0%	0	0.0%	233	50.1%
Cook Township	2,250	0	0.0%	771	34.3%	55	2.4%	0	0.0%
Delmont Borough	2,686	0	0.0%	1,040	38.7%	2,685	100.0%	132	4.9%
Derry Borough	2,688	1,934	72.0%	2,247	83.6%	2,687	100.0%	0	0.0%
Derry Township	14,502	2,613	18.0%	7,268	50.1%	14,204	97.9%	819	5.6%
Donegal Borough	120	0	0.0%	117	97.5%	0	0.0%	0	0.0%
Donegal Township	2,403	0	0.0%	1,155	48.1%	189	7.9%	0	0.0%
East Huntingdon Township	7,963	2,235	28.1%	3,267	41.0%	684	8.6%	0	0.0%
East Vandergrift Borough	674	674	100.0%	577	85.6%	281	41.7%	0	0.0%
Export Borough	917	831	90.7%	24	2.6%	0	0.0%	35	3.8%
Fairfield Township	2,424	22	0.9%	1,214	50.1%	16	0.6%	472	19.5%
Greensburg, City of	14,892	5,902	39.6%	11,292	75.8%	10,784	72.4%	0	0.0%
Hempfield Township	43,241	4,943	11.4%	17,698	40.9%	11,012	25.5%	3,299	7.6%
Hunker Borough	291	225	77.3%	0	0.0%	77	26.3%	0	0.0%
Hyde Park Borough	500	500	100.0%	457	91.4%	0	0.0%	0	0.0%
Irwin Borough	3,973	352	8.9%	3,613	90.9%	1,595	40.2%	0	0.0%
Jeannette, City of	9,654	3,158	32.7%	3,366	34.9%	3,727	38.6%	2,304	23.9%
Latrobe, City of	8,338	2,687	32.2%	3,421	41.0%	8,322	99.8%	0	0.0%

Municipality	Total Population	Population within ¼ mile of railroads	% Population	Population within ¼ mile of major roadways	% Population	Population within vulnerability radii of SARA Facility	% Population	Population within 1/2 mile of Pipeline	% Population
Laurel Mountain Borough	167	0	0.0%	119	71.5%	167	100.0%	0	0.0%
Ligonier Borough	1,573	0	0.0%	1,376	87.5%	901	57.3%	0	0.0%
Ligonier Township	6,603	0	0.0%	2,952	44.7%	585	8.9%	0	0.0%
Lower Burrell, City of	11,761	54	0.5%	3,431	29.2%	11,759	100.0%	0	0.0%
Loyalhanna Township	2,382	11	0.4%	904	37.9%	2,381	100.0%	889	37.3%
Madison Borough	397	0	0.0%	254	63.9%	0	0.0%	0	0.0%
Manor Borough	3,239	839	25.9%	1,525	47.1%	0	0.0%	0	0.0%
Monessen City	7,720	1,857	24.1%	3,092	40.0%	1,810	23.5%	0	0.0%
Mt. Pleasant Borough	4,454	1,201	27.0%	4,179	93.8%	3,591	80.6%	0	0.0%
Mt. Pleasant Township	10,911	1,456	13.3%	5,357	49.1%	460	4.2%	0	0.0%
Murrysville Borough	20,079	1,956	9.7%	3,952	19.7%	2,896	14.4%	9,010	44.9%
New Alexandria Borough	560	0	0.0%	498	88.9%	558	99.6%	510	91.1%
New Florence Borough	689	525	76.2%	565	82.0%	0	0.0%	288	41.8%
New Kensington, City of	13,116	4,409	33.6%	7,262	55.4%	13,103	99.9%	0	0.0%
New Stanton Borough	2,173	783	36.0%	1,371	63.1%	356	16.4%	0	0.0%
North Belle Vernon Borough	1,971	476	24.2%	1,249	63.3%	1,446	73.4%	0	0.0%
North Huntingdon Township	30,609	2,496	8.2%	7,622	24.9%	1,520	5.0%	8,595	28.1%
North Irwin Borough	846	647	76.4%	454	53.6%	153	18.1%	0	0.0%
Oklahoma Borough	809	441	54.5%	719	88.8%	0	0.0%	0	0.0%
Penn Borough	475	475	100.0%	0	0.0%	0	0.0%	0	0.0%

Municipality	Total Population	Population within ¼ mile of railroads	% Population	Population within ¼ mile of major roadways	% Population	Population within vulnerability radii of SARA Facility	% Population	Population within 1/2 mile of Pipeline	% Population
Penn Township	20,005	304	1.5%	6,200	31.0%	547	2.7%	11,039	55.2%
Rostraver Township	11,363	1,689	14.9%	4,407	38.8%	514	4.5%	109	1.0%
Salem Township	6,623	0	0.0%	2,948	44.5%	6,610	99.8%	2,821	42.6%
Scottdale Borough	4,384	1,730	39.5%	2,452	55.9%	1,509	34.4%	0	0.0%
Seward Borough	495	416	84.0%	495	100.0%	0	0.0%	0	0.0%
Sewickley Township	5,996	144	2.4%	586	9.8%	170	2.8%	167	2.8%
Smithton Borough	399	322	80.7%	399	100.0%	0	0.0%	0	0.0%
South Greensburg Borough	2,117	1,297	61.3%	2,019	95.4%	1,788	84.5%	0	0.0%
South Huntingdon Township	5,796	581	10.0%	1,735	29.9%	199	3.4%	1,304	22.5%
Southwest Greensburg Borough	2,155	741	34.4%	1,799	83.5%	686	31.8%	0	0.0%
St. Clair Township	1,518	576	37.9%	951	62.7%	142	9.3%	31	2.0%
Sutersville Borough	605	475	78.5%	0	0.0%	38	6.2%	92	15.2%
Trafford Borough	3,113	2,457	78.9%	2,972	95.5%	0	0.0%	344	11.1%
Unity Township	22,607	770	3.4%	6,800	30.1%	16,434	72.7%	0	0.0%
Upper Burrell Township	2,326	0	0.0%	750	32.2%	1,532	65.9%	0	0.0%
Vandergrift Borough	5,205	3,096	59.5%	4,820	92.6%	3,693	70.9%	0	0.0%
Washington Township	7,422	82	1.1%	3,841	51.8%	404	5.4%	507	6.8%
West Leechburg Borough	1,294	501	38.7%	48	3.7%	0	0.0%	0	0.0%
West Newton Borough	2,633	1,705	64.7%	1,500	57.0%	1,715	65.1%	0	0.0%
Youngstown Borough	326	0	0.0%	326	100.0%	326	100.0%	0	0.0%
Youngwood Borough	3,050	2,013	66.0%	2,651	86.9%	468	15.3%	0	0.0%

Municipality	Total Population	Population within ¼ mile of railroads	% Population	Population within ¼ mile of major roadways	% Population	Population within vulnerability radii of SARA Facility	% Population	Population within 1/2 mile of Pipeline	% Population
WESTMORELAND COUNTY (TOTAL)	**365,169**	**67,189**	**18.4%**	**159,106**	**43.6%**	**144,902**	**39.7%**	**43,306**	**11.9%**

Sources: U.S. Census 2010, Westmoreland County 2019, Homeland Security Infrastructure Program 2019
Notes:
% *Percent*
SARA *Superfund Amendments and Reauthorization Act*

Impact on General Building Stock, Critical Facilities, and Economy

Jurisdictions that are home to EPA-identified hazardous material facilities should be considered vulnerable to releases from these fixed sites. While buildings and critical facilities may be present within the hazard area of a hazardous materials release, estimating direct damage to these structures and facilities is difficult without additional information regarding the specific event (e.g., type of material, concentration, duration of release, etc.). However, damages to the surrounding environment can result in indirect impacts, such as temporary loss of function due to hazard response or damage in the area.

Economic loss from environmental hazards and explosion incidents ranges from non-recordable to losses exceeding millions of dollars. Impact on the local economy from a single incident is almost impossible to measure because of complexities of predicting losses of work, revenue, and future business.

Transportation of hazardous materials also increases risk of hazardous material releases to those jurisdictions through which carriers pass. Transportation carriers must have response plans in place to address accidents; otherwise, the local emergency response team will step in to secure and restore the area. Quick response minimizes the volume and concentration of hazardous materials that disperse through air, water, and soil. Economic loss from environmental hazards and explosion incidents ranges from non-recordable to losses exceeding millions of dollars. Impact on the local economy from a single incident is almost impossible to measure because of the complexities of predicting losses of work, revenue, and future business.

There is a significant present of oil and gas infrastructure throughout Westmoreland County including: wells, pipelines, and support infrastructure. Should a catastrophic failure of this equipment occur, there could be considerable impacts on structures within the County. To estimate replacement cost value exposure and number of structures in the hazard area, default dasymetric building stock data from HAZUS-MH v4.2 and the building footprint layer from the County were used. Replacement cost values of the dasymetric Census blocks with their centroids in the vulnerability buffer of the pipelines were totaled.

Table 4.3.16-3 lists building stock exposure per municipality and lists building stock potential loss within the ½ mile vulnerability buffer of the pipelines. Pipeline data was sourced from the Homeland Security Infrastructure Program through the New Jersey Geospatial Information Network. Additional data on current pipelines, such as the Mariner East 2, or support infrastructure was not publicly available at the time of this plan. Limitations of these analyses are recognized, and thus results are used only to provide a general estimate.

Table 4.3.16-3. Building Stock Exposed to Natural Gas Pipelines

Municipality	Total Number of Structures	Total GBS RCV	Number of Structures within 1/2 mile of pipeline	% Structures	Estimated RCV within 1/2 mile of pipeline	% RCV Exposed
Adamsburg Borough	163	$33,710,000	0	0.0%	$0	0.0%
Allegheny Township	6738	$1,477,670,000	0	0.0%	$0	0.0%
Arnold, City of	2,852	$982,657,000	0	0.0%	$0	0.0%
Arona Borough	319	$54,508,000	12	3.8%	$0	0.0%
Avonmore Borough	809	$297,296,000	0	0.0%	$0	0.0%
Bell Township	2,450	$351,372,000	286	11.7%	$15,875,000	4.5%
Bolivar Borough	366	$64,192,000	171	46.7%	$26,074,000	40.6%
Cook Township	2,957	$322,402,000	0	0.0%	$0	0.0%
Delmont Borough	1,408	$588,678,000	109	7.7%	$25,289,000	4.3%
Derry Borough	1715	$410,373,000	0	0.0%	$0	0.0%
Derry Township	14018	$2,149,630,000	967	6.9%	$148,198,000	6.9%
Donegal Borough	139	$19,585,000	0	0.0%	$0	0.0%
Donegal Township	3586	$482,046,000	0	0.0%	$0	0.0%
East Huntingdon Township	7,556	$1,365,245,000	0	0.0%	$0	0.0%
East Vandergrift Borough	574	$108,645,000	0	0.0%	$0	0.0%
Export Borough	628	$221,524,000	40	6.4%	$3,586,000	1.6%
Fairfield Township	2,994	$289,624,000	466	15.6%	$41,631,000	14.4%
Greensburg, City of	6793	$3,859,723,000	0	0.0%	$0	0.0%
Hempfield Township	27298	$7,618,366,000	2740	10.0%	$533,857,000	7.0%
Hunker Borough	265	$51,852,000	0	0.0%	$0	0.0%
Hyde Park Borough	379	$200,590,000	0	0.0%	$0	0.0%
Irwin Borough	1,679	$875,822,000	0	0.0%	$0	0.0%
Jeannette, City of	5,587	$2,049,741,000	1,300	23.3%	$571,212,000	27.9%
Latrobe, City of	5,256	$1,902,472,000	0	0.0%	$0	0.0%
Laurel Mountain Borough	157	$56,349,000	0	0.0%	$0	0.0%
Ligonier Borough	1129	$477,076,000	0	0.0%	$0	0.0%

Municipality	Total Number of Structures	Total GBS RCV	Number of Structures within 1/2 mile of pipeline	% Structures	Estimated RCV within 1/2 mile of pipeline	% RCV Exposed
Ligonier Township	7,513	$1,690,025,000	0	0.0%	$0	0.0%
Lower Burrell, City of	7,109	$2,167,800,000	0	0.0%	$0	0.0%
Loyalhanna Township	2299	$305,072,000	826	35.9%	$81,976,000	26.9%
Madison Borough	327	$88,528,000	0	0.0%	$0	0.0%
Manor Borough	1,751	$550,925,000	0	0.0%	$0	0.0%
Monessen City	5035	$1,378,401,000	0	0.0%	$0	0.0%
Mt. Pleasant Borough	2585	$1,473,911,000	0	0.0%	$0	0.0%
Mt. Pleasant Township	10537	$2,164,407,000	0	0.0%	$0	0.0%
Murrysville Borough	11490	$4,679,858,000	4633	40.3%	$2,229,555,000	47.6%
New Alexandria Borough	467	$144,207,000	438	93.8%	$140,408,000	97.4%
New Florence Borough	584	$99,781,000	284	48.6%	$50,069,000	50.2%
New Kensington, City of	7,352	$2,972,423,000	0	0.0%	$0	0.0%
New Stanton Borough	1,318	$493,637,000	0	0.0%	$0	0.0%
North Belle Vernon Borough	1292	$374,204,000	0	0.0%	$0	0.0%
North Huntingdon Township	18,046	$6,275,194,000	4,666	25.9%	$1,486,243,000	23.7%
North Irwin Borough	467	$93,070,000	0	0.0%	$0	0.0%
Oklahoma Borough	611	$110,545,000	0	0.0%	$0	0.0%
Penn Borough	332	$65,127,000	0	0.0%	$0	0.0%
Penn Township	12,063	$3,979,549,000	6,534	54.2%	$2,298,855,000	57.8%
Rostraver Township	9,025	$2,119,205,000	133	1.5%	$70,083,000	3.3%
Salem Township	6774	$1,883,346,000	2994	44.2%	$579,206,000	30.8%
Scottdale Borough	2766	$999,267,000	0	0.0%	$0	0.0%
Seward Borough	390	$87,732,000	0	0.0%	$0	0.0%
Sewickley Township	5,486	$928,135,000	254	4.6%	$17,802,000	1.9%
Smithton Borough	294	$214,269,000	0	0.0%	$0	0.0%
South Greensburg Borough	1414	$551,430,000	0	0.0%	$0	0.0%
South Huntingdon Township	6793	$803,093,000	1439	21.2%	$191,257,000	23.8%

Municipality	Total Number of Structures	Total GBS RCV	Number of Structures within 1/2 mile of pipeline	% Structures	Estimated RCV within 1/2 mile of pipeline	% RCV Exposed
Southwest Greensburg Borough	1,351	$393,277,000	0	0.0%	$0	0.0%
St. Clair Township	1,434	$176,087,000	68	4.7%	$0	0.0%
Sutersville Borough	475	$95,741,000	85	17.9%	$19,641,000	20.5%
Trafford Borough	1768	$837,649,000	172	9.7%	$53,090,000	6.3%
Unity Township	15670	$4,329,118,000	0	0.0%	$0	0.0%
Upper Burrell Township	2160	$513,830,000	0	0.0%	$0	0.0%
Vandergrift Borough	3,281	$840,662,000	0	0.0%	$0	0.0%
Washington Township	6,393	$1,110,239,000	525	8.2%	$62,648,000	5.6%
West Leechburg Borough	930	$219,980,000	0	0.0%	$0	0.0%
West Newton Borough	1,810	$459,333,000	0	0.0%	$0	0.0%
Youngstown Borough	299	$76,023,000	0	0.0%	$0	0.0%
Youngwood Borough	1,992	$772,223,000	0	0.0%	$0	0.0%
WESTMORELAND COUNTY (TOTAL)	**259,498**	**$72,828,451,000**	**29,142**	**11.2%**	**$8,660,217,000**	**11.9%**

Source: Westmoreland County 2019, Homeland Security Infrastructure Program 2019, HAZUS v4.2
Notes:
% Percent

Table 4.3.16-4. Critical Facilities Vulnerable to Environmental Hazards

Row Labels	Facility Type																									
	Airport	College University	County Buildings	Dams	Day Care	DPW	EMS	EOC	Fire	Hazmat Facilities	Hospital	Industrial Sites	Libraries	MDJ	Mental Health / Substance Abuse	Municipal Office	Nursing Home	Police	Potable Pump	Potable Treatment Plant	Power	School	School District Offices	Sewer Water Facilities	Water Regulator	Water Tank
Allegheny (T)	0	0	0	1	1	0	0	0	1	6	0	1	0	1	1	1	0	1	0	0	0	0	0	0	0	1
Arnold (C)	0	0	0	0	1	0	0	0	1	1	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0

Row Labels	Facility Type																								
	Airport	College University	County Buildings	Dams	Day Care	DPW	EMS	EOC	Fire	Hazmat Facilities	Hospital	Industrial Sites	Libraries	MDJ	Mental Health / Substance Abuse	Municipal Office	Nursing Home	Police	Potable Pump	Potable Treatment Plant	Power	School	School District Offices	Sewer Water Facilities	Water Regulator	Water Tank
Avonmore (B)	0	0	0	0	0	0	0	0	1	2	0	0	1	0	0	1	0	1	0	0	0	0	0	1	0	1
Bell (T)	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	1	0	1	0	1	0	0	0	0	0	0
Bolivar (B)	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Cook (T)	0	0	0	1	0	0	1	0	1	2	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Delmont (B)	0	0	0	0	1	0	1	0	1	1	0	0	1	0	0	1	0	1	0	0	0	0	0	0	0	0
Derry (B)	0	0	0	1	0	0	0	0	0	2	0	0	1	0	0	1	0	1	0	0	0	0	1	0	0	0
Derry (T)	0	0	0	9	4	0	1	0	3	44	1	0	0	1	0	2	1	0	0	0	0	0	0	0	0	0
Donegal (B)	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Donegal (T)	0	0	0	0	0	0	0	0	0	9	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
East Huntingdon (T)	0	0	0	0	1	0	0	0	2	13	0	6	0	0	0	1	0	0	0	0	0	0	0	0	0	1
East Vandergrift (B)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Export (B)	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0
Fairfield (T)	0	0	0	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Greensburg (C)	0	26	6	0	2	0	1	0	7	7	1	0	1	1	10	2	3	1	0	0	0	3	1	0	0	1
Hempfield (T)	0	8	7	9	4	1	1	2	10	29	0	1	0	1	2	2	5	2	0	0	0	6	1	3	0	9
Hunker (B)	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Hyde Park (B)	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0
Irwin (B)	0	0	0	0	0	1	0	1	0	2	0	1	1	0	0	0	0	1	0	0	0	0	0	0	1	0
Jeannette (C)	0	0	0	0	0	0	1	0	1	2	0	1	1	1	0	1	0	1	0	0	0	0	1	0	0	1
Latrobe (B)	0	0	0	0	3	0	0	0	5	7	1	1	1	0	2	0	0	1	0	0	0	0	1	0	0	0
Laurel Mountain (B)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Ligonier (B)	0	0	0	0	0	0	1	0	1	2	0	0	1	1	0	1	0	1	0	0	0	0	1	0	0	0
Ligonier (T)	0	0	0	6	0	0	0	0	1	10	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	2
Lower Burrell (C)	0	0	0	0	1	0	0	0	2	5	0	0	1	0	1	1	1	1	0	0	0	0	1	0	0	0
Loyalhanna (T)	0	0	0	2	0	0	0	0	0	2	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Madison (B)	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Manor (B)	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	1	0	1	0	0	0	0	0	0	0	0
Monessen (C)	0	0	0	0	1	0	1	0	0	5	0	1	1	1	0	1	0	1	0	0	0	0	0	0	0	0

Row Labels	Facility Type																									
	Airport	College University	County Buildings	Dams	Day Care	DPW	EMS	EOC	Fire	Hazmat Facilities	Hospital	Industrial Sites	Libraries	MDJ	Mental Health / Substance Abuse	Municipal Office	Nursing Home	Police	Potable Pump	Potable Treatment Plant	Power	School	School District Offices	Sewer Water Facilities	Water Regulator	Water Tank
Mount Pleasant (B)	0	0	0	0	1	0	1	0	2	3	1	0	1	0	0	1	1	1	0	0	0	0	0	0	0	0
Mount Pleasant (T)	0	0	0	1	1	0	1	0	3	12	0	1	0	0	0	1	0	0	0	0	0	2	0	0	0	0
Murrysville (M)	0	0	0	1	1	0	1	0	2	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
New Alexandria (B)	0	0	0	0	0	0	1	0	1	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0
New Florence (B)	0	0	0	0	0	0	1	0	1	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0
New Kensington (C)	0	0	0	0	0	0	1	0	5	11	1	0	1	1	0	1	0	1	0	0	0	0	1	0	0	0
New Stanton (B)	0	0	1	0	0	0	1	0	1	2	0	0	0	0	0	1	0	1	0	0	0	1	0	0	0	0
North Belle Vernon (B)	0	0	0	0	1	0	0	0	1	1	0	0	1	0	0	1	0	1	0	0	0	0	0	0	0	0
North Huntingdon (T)	0	0	0	0	5	1	1	0	6	8	0	0	0	1	0	3	2	1	2	0	3	4	1	0	3	1
North Irwin (B)	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Oklahoma (B)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Penn (B)	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	0
Penn (T)	0	0	0	1	0	0	1	0	2	4	0	0	1	1	0	1	1	1	1	0	0	1	1	0	0	0
Rostraver (T)	0	0	0	2	1	0	1	0	2	11	0	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0
Salem (T)	0	0	0	1	0	1	0	2	2	33	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	4
Scottdale (B)	0	0	0	0	1	1	1	0	2	4	0	0	1	1	0	0	1	2	0	0	0	0	0	0	0	0
Seward (B)	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0
Sewickley (T)	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Smithton (B)	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	1	0	1	0	0	0	0	0	0	0	0
South Greensburg (B)	0	0	0	0	1	0	0	0	0	4	0	1	0	0	4	1	0	1	0	0	0	0	0	0	0	0
South Huntingdon (T)	0	0	0	0	0	0	0	0	1	15	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	2
Southwest Greensburg (B)	0	0	0	0	1	0	0	0	1	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
St. Clair (T)	0	0	0	2	1	0	0	0	0	4	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0

Row Labels	Facility Type																								
	Airport	College University	County Buildings	Dams	Day Care	DPW	EMS	EOC	Fire	Hazmat Facilities	Hospital	Industrial Sites	Libraries	MDJ	Mental Health / Substance Abuse	Municipal Office	Nursing Home	Police	Potable Pump	Potable Treatment Plant	Power	School	School District Offices	Sewer Water Facilities	Water Regulator	Water Tank
Sutersville (B)	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Trafford (B)	0	0	0	0	0	0	1	0	1	2	0	0	1	0	0	1	0	1	0	0	0	1	0	0	0	0
Unity (T)	1	32	0	6	4	0	0	0	4	27	0	1	0	1	0	1	2	0	0	0	0	0	0	0	0	2
Upper Burrell (T)	0	10	0	0	1	0	0	0	1	5	0	1	0	0	0	1	0	1	0	0	0	0	0	0	0	0
Vandergrift (B)	0	0	0	0	1	0	0	0	2	3	0	0	1	0	0	1	0	1	0	0	0	0	1	0	0	0
Washington (T)	0	0	0	3	2	0	0	0	1	5	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
West Leechburg (B)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
West Newton (B)	0	0	0	0	2	0	1	0	1	3	0	0	1	0	0	1	0	1	0	0	0	0	0	0	0	0
Youngstown (B)	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Youngwood (B)	0	0	0	0	1	0	0	0	1	3	0	0	1	0	0	1	0	0	0	0	0	0	0	1	0	0
Westmoreland County (Total)	**1**	**76**	**14**	**47**	**46**	**5**	**21**	**5**	**94**	**329**	**5**	**16**	**24**	**15**	**20**	**56**	**18**	**36**	**3**	**1**	**3**	**19**	**11**	**8**	**4**	**29**

Source: Westmoreland County 2019, Penn DOT 2019

Impact on the Environment

As discussed above, transportation and HazMat release incidents can profoundly affect the surrounding environment. Contamination of soil, surface water, and groundwater supplies can result in many direct impacts on surrounding populations and ecosystems. Local flora and fauna within hazard areas are also at risk. The application of salt to de-ice roads may impact groundwater and contaminate potable drinking water sources near major highway corridors and state highway routes in the County. Additional environmental impacts of hazardous material releases include (PEMA 2018):

- Effects on water quality (i.e., changes in water temperature)
- Damage to streams, lakes, ponds, and wetland ecosystems
- Air quality effects – pollutants, smoke, and dust
- Loss of quality in landscape

Future Growth and Development

As discussed in Section 2.4, areas targeted for future growth and development have been identified across Westmoreland County. Any areas of growth could be impacted by environmental hazards if located within identified hazard areas.

Additional Data and Next Steps

Based on limited data regarding the probability and potential impact of this hazard, a quantitative loss estimate was not completed for this Hazard Mitigation Plan (HMP). Over time, the County can work with appropriate agencies to collect additional data to support mitigation planning, consideration of potential risks, and prioritization of mitigation measures for this hazard.

Westmoreland County recognizes it must compile and maintain data regarding specific concerns and past losses from this hazard. These data should include specific information regarding damage or loss of life, property, or infrastructure and any reports pertaining to potential or actual cost and logistics of responding to an event caused by this hazard (locations of road closures, map detours, traffic counts, durations of closures and detours; and costs to respond). These data will be included in future revisions of the HMP and can be used to support future mitigation grant efforts (benefit-cost analysis). Maintaining a record of frequently transported materials can facilitate development of preparatory measures to respond to a release. Predicting costs needed to respond to a release, remediate the environment, or repair damaged infrastructure would be useful for developing mitigation options.

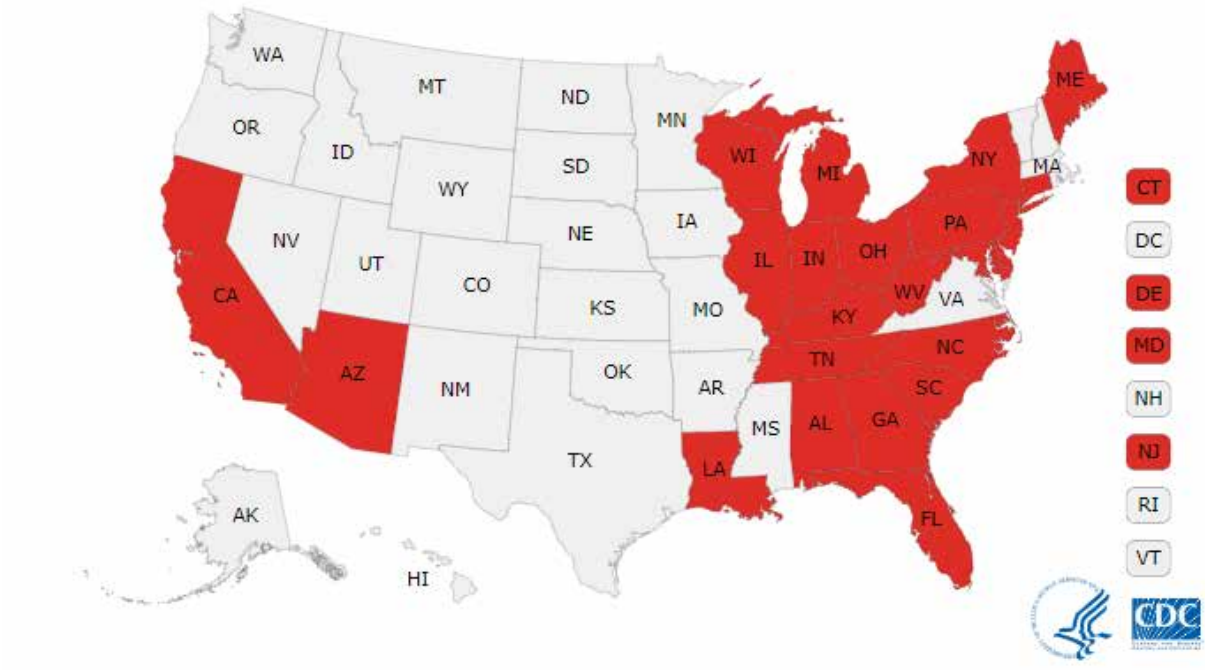
4.3.17 Illicit Drug Use

Pennsylvania is in the midst of an unprecedented epidemic of drug abuse and drug-related overdose deaths impacting every corner of the state and all of its residents. In 2017, 5,456 drug overdose-related deaths occurred in Pennsylvania (Drug Enforcement Administration [DEA] 2018). In 2018, 122 drug and alcohol overdose-related deaths occurred within Westmoreland County, which commonly resulted in "Acute Combined Drug Toxicity" (Westmoreland County 2019). In addition to the significant number of drug-overdose deaths, thousands more County residents are affected by addiction, either personally, or through family, friends, and loved ones.

The rates of drug overdose deaths are continuing to increase. In the United States in 2017, the age-adjusted rate of drug overdose deaths (44.3 per 100,000) was more than three times the rate in 1999 (Hedegaard et al. 2018). In 2017, Pennsylvania had one of the top 3 highest observed age-adjusted drug overdose death rates in the country (Hedegaard et al. 2016). In Westmoreland County, the annual drug overdose death rate per 100,000 people in 2016 was 47.6 (DEA 2017).

Significant increases in drug overdose death rates from 2016 to 2017 were seen in the northeast, midwest, southeast, and western U.S. Census regions. States with statistically significant increases in drug overdose death rates from 2016 to 2017 included Alabama, Arizona, California, Connecticut, Delaware, Florida, Georgia, Illinois, Indiana, Kentucky, Louisiana, Maine, Maryland, Michigan, New Jersey, New York, North Carolina, Ohio, Pennsylvania, South Carolina, Tennessee, West Virginia, and Wisconsin (highlighted on Figure 4.3.17-1) (CDC 2018).

Figure 4.3.17-1. Statistically Significant Drug Overdose Death Rate Increase from 2016 to 2017



Source: Centers for Disease Control and Prevention (CDC) 2018

In 2017, the U.S. Drug Enforcement Administration Philadelphia Division and the University of Pittsburgh prepared a document titled, "Analysis of Overdose Deaths in Pennsylvania, 2016" to assist law enforcement's efforts to identify and combat drug suppliers, and ultimately drug abuse and related overdoses. The drugs included in the analysis, listed in Table 4.3.17-1, were selected based on (1) law enforcement intelligence regarding frequency of abuse and diversion, as well as (2) the most common drugs present in drug-related overdose deaths according to national public safety and public health sources. For the purpose of this HMP update and as identified by the Planning Team, the drugs included in the table will be discussed in further detail in the sections below.

Table 4.3.17-1. Drugs Included in Analysis of Drug-Related Overdose Deaths, Pennsylvania, 2016

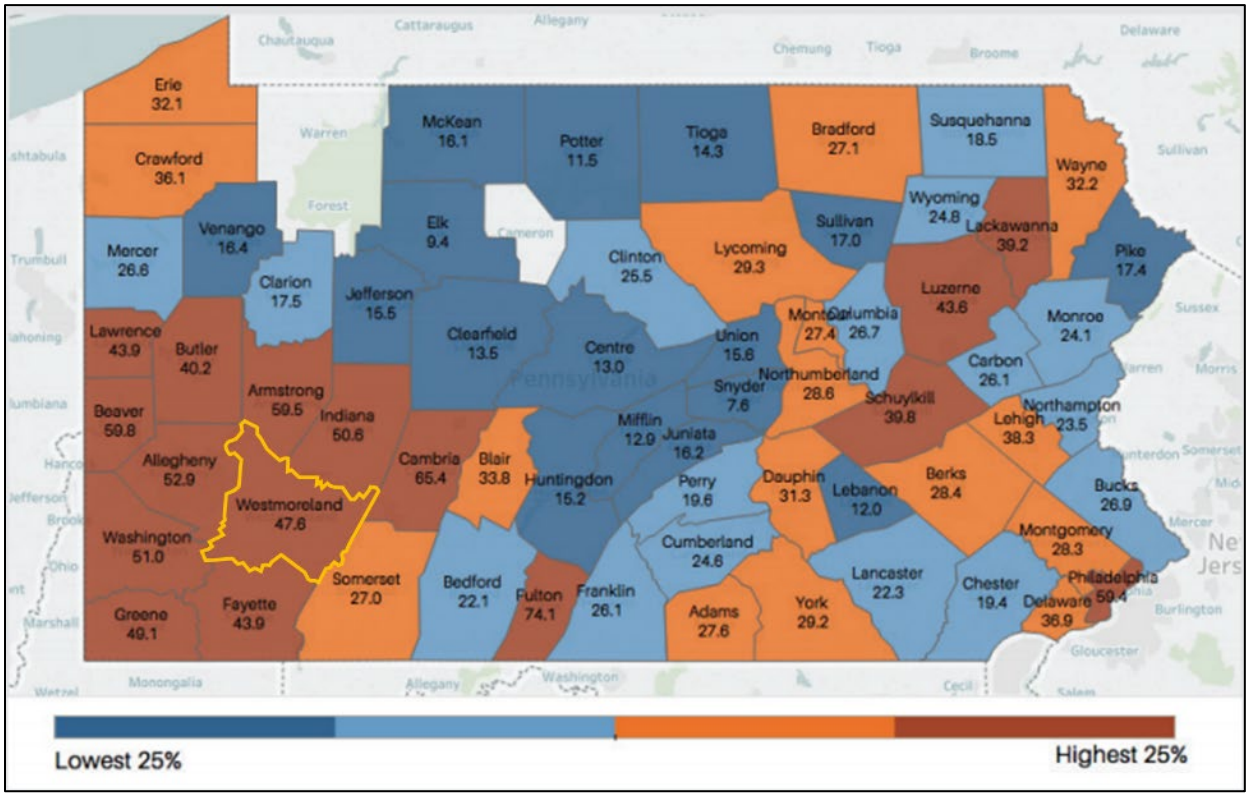
Drug Category	Substances Included in Analysis		
Benzodiazepines	Alprazolam Chlordiazepoxide Clonazepam Delorazepam	Diazepam Estazolam Flurazepam Lorazepam	Midazolam® Oxazepam Temazepam
Cocaine			
Fentanyl/Fentanyl-Related Substances (FRS)/Non-Prescription Synthetic Opioids (NPSOs	3-Methylfentanyl 4-Methoxy-Butyryl Fentanyl Acetyl Fentanyl Acryl Fentany	Carfentanil Fentanyl Fluorobutyrfentanyl Fluorofentanyl	Furanyl Fentanyl Para-Fluoro-Isobutyryl Fentanyl/FIBF Sufentanil U-47700
Heroin			
Other Illicit Drugs	Lysergic Acid Diethylamid (LSD) Methylenedioxy-amphetamine (MDA) 3,4-Methylenedioxymethamphetamine (MDMA)		Methamphetamine Phencyclidine (PCP)
Prescription Opioids	Hydrocodone Hydromorphone Meperidine	Morphine Oxycodone Oxymorphone	Tapentadol Tramadol

Source: DEA Philadelphia Field Division 2016

4.3.17.1 Location and Extent

The number of overdoses within Westmoreland County have increased between 2002 until 2017. The peak number of drug and alcohol overdoses was in 2017 with 193 overdoses. The number of reported drug and alcohol overdoses decreased from 2017 to 2018 from 193 to 122 overdoses (Westmoreland County 2018). As shown on Figure 4.3.17-2, in 2016, Westmoreland County has a rate of 47.6 drug-related overdose deaths per 100,000 people.

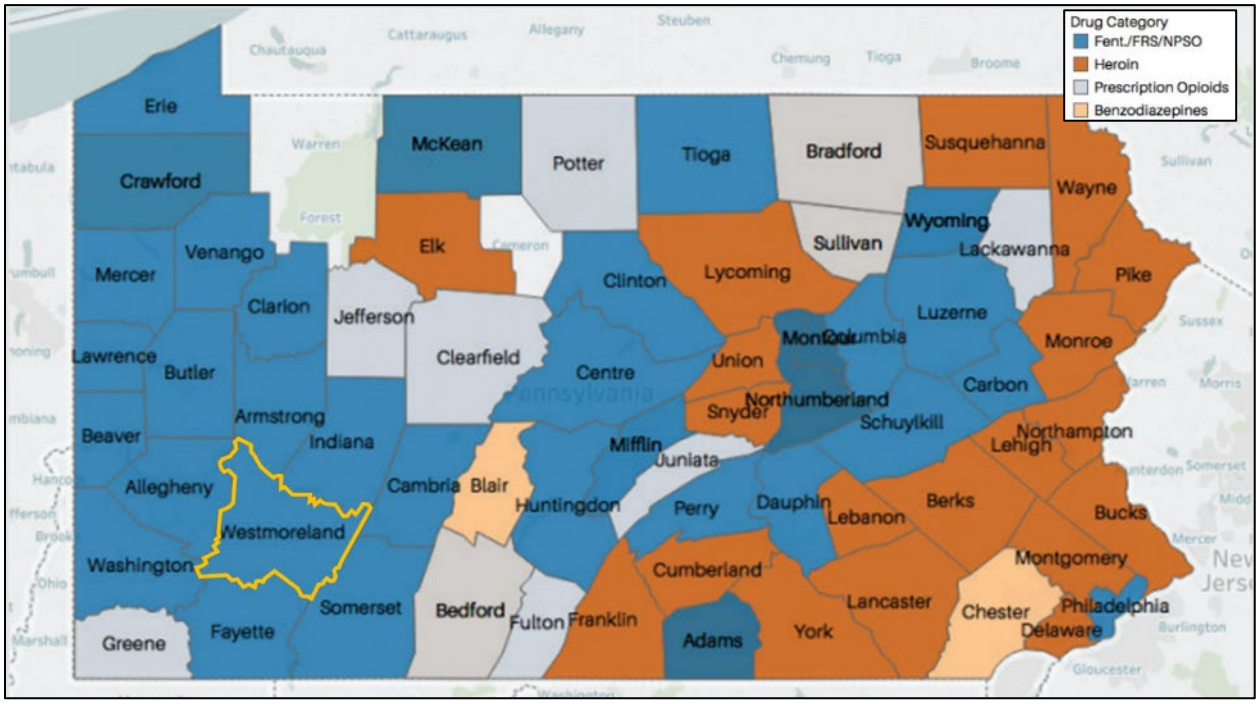
Figure 4.3.17-2. Rate of Drug-Related Overdose Deaths per 100,000 people in Pennsylvania Counties, 2016



Source: Pennsylvania Coroner/Medical Examiner Data 2016
Note: The yellow outline indicates the location of Westmoreland County.

Figure 4.3.17-3 shows that the most commonly identified drug category in toxicology reports varied for counties across Pennsylvania in 2016. Figure 4.3.17-3 indicates that the most frequently reported drug category in Westmoreland County was fentanyl/FRS/NPSO.

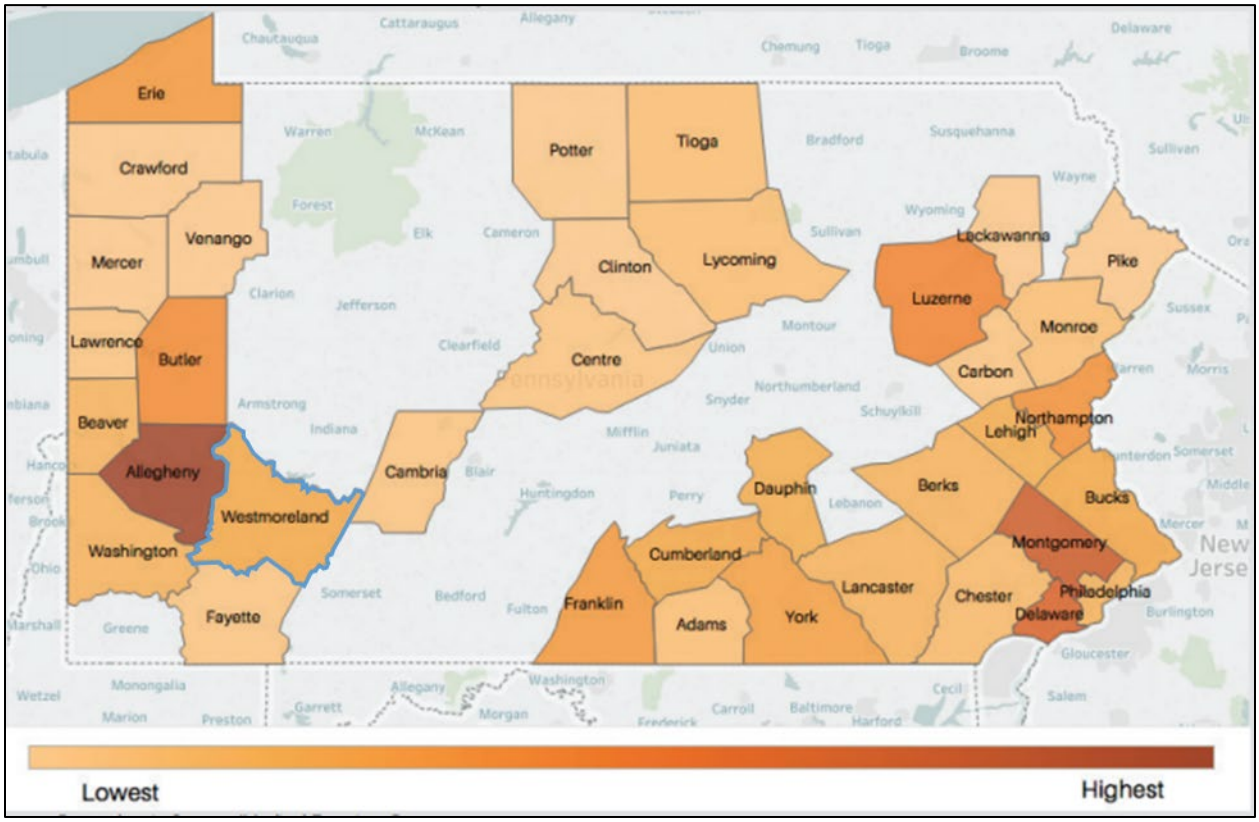
Figure 4.3.17-3. Most Frequently Reported Drug Category in Drug-Related Overdose Decedents by County, 2016



Source: Pennsylvania Coroner/Medical Examiner Data 2016
Note: The yellow outline indicates the location of Westmoreland County.

Fentanyl/FRS/NPSOs emerged as the most frequently reported drug category in overdose deaths in 2016 across the Commonwealth. When analyzed separately, fentanyl was found in 61 of the 64 counties that reported an overdose death in 2016. Fentanyl was found in combination with heroin (64 percent), cocaine (34 percent), ethanol (22 percent), and alprazolam (21 percent) most frequently. Westmoreland County is identified as being in the low to mid-range of the number of fentanyl and synthetic opioids presence in drug-related overdose deaths in Pennsylvania counties. Figure 4.3.17-4 shows the presence of fentanyl-related substances and non-prescription synthetic opioids in drug-related overdose deaths in Pennsylvania in 2016.

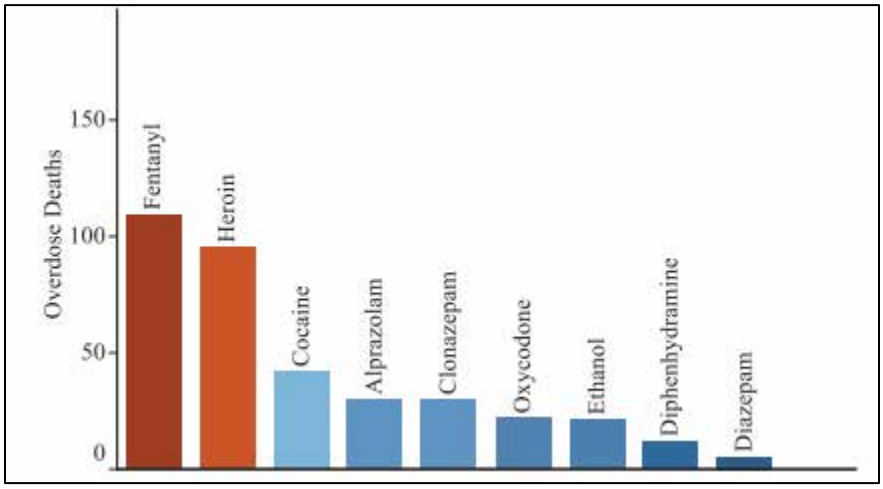
Figure 4.3.17-4. Presence of Fentanyl-Related Substances and Non-Prescription Synthetic Opioids in Drug-Related Overdose Deaths, Pennsylvania, 2016



Source: Pennsylvania Coroner/Medical Examiner Data 2016
Note: The blue outline indicates the location of Westmoreland County.

Figure 4.3.17-5 shows the top 10 drugs present in 2016 drug-related overdose deaths for Westmoreland County. The figure shows that fentanyl caused the highest amount of drug-related overdose deaths in the county, followed by heroin.

Figure 4.3.17-5. Top 10 Drugs Present in 2016 Drug-Related Overdose Deaths, Westmoreland County



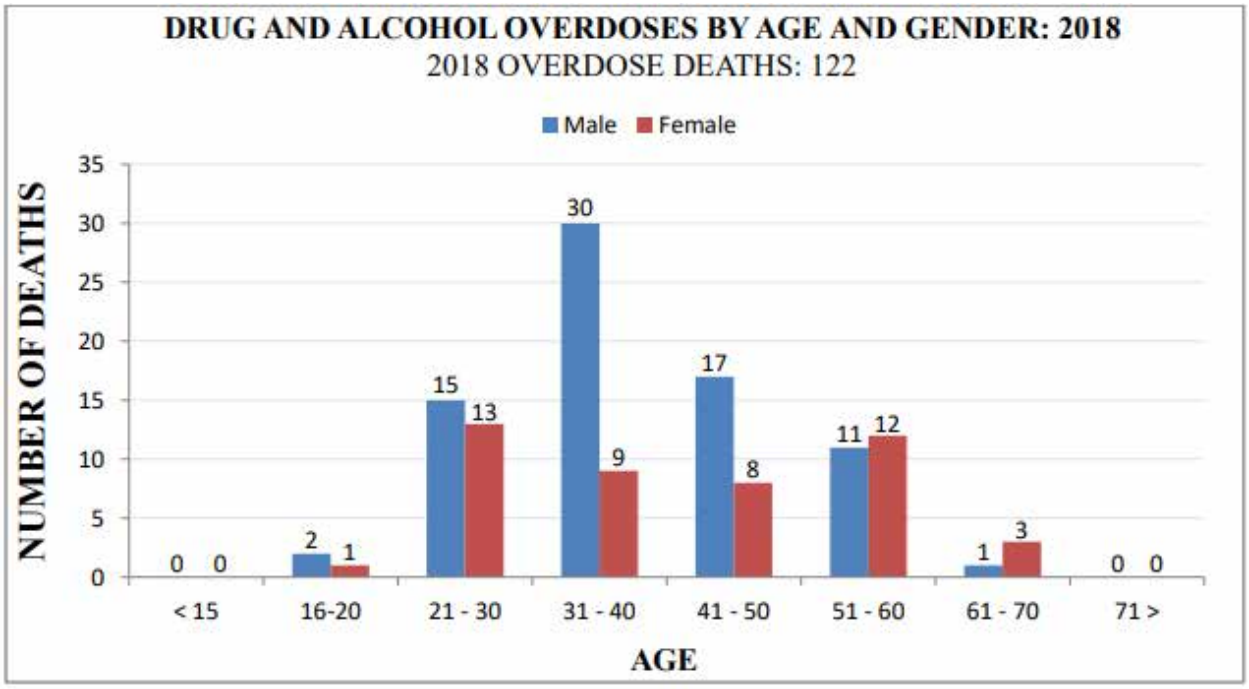
Source: Pennsylvania Coroner/Medical Examiner Data 2016

4.3.17.2 Range of Magnitude

Age

The 2018 Westmoreland County Coroner's Report indicated 122 drug and alcohol overdose deaths in 2018. The age group with the greatest overdoses was with ages 31-40, followed by ages 21-30. Males had a higher rate of overdose deaths in most age groups, with the exception of the 51-60 and 61-70 age groups, as shown in Figure 4.3.17-6. The Coroner's Report noted that in 118 of the 122 drug overdose deaths, the cause of death was a result of multiple drugs found in the decedent's toxicology, known as "Acute Combined Drug Toxicity" (Westmoreland County 2018).

Figure 4.3.17-6. Age Distribution of Drug-Related Overdose Decedents, Pennsylvania, 2018

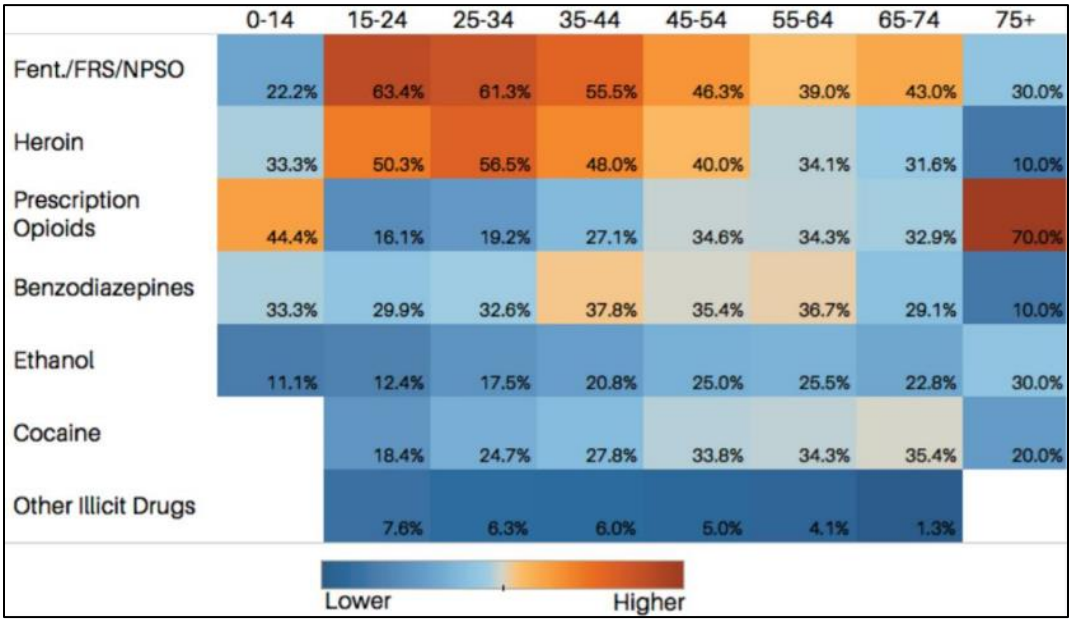


Source: Westmoreland County 2018

Figure 4.3.17-7 shows that fentanyl/FRS/NPSOs was within the top three most present drug categories of all age groups except for the 0-14 and 75+ age categories. Aside from fentanyl/FRS/NPSOs, heroin was more common in younger and middle age groups, benzodiazepines and ethanol were more common in middle age groups, and prescription opioids and cocaine were more common in middle age and older age groups. The presence of illicit drugs declined with age, with usage peaking within the 15-24 age group, with the exception of cocaine which peaks within the 65-74 age group.

The Westmoreland County Coroner's 2018 Annual Report notes a 40-percent decrease in fentanyl-related overdoses, and a 28-percent decrease in prescription opioid-related overdoses from 2017 to 2018 (Westmoreland County 2018).

Figure 4.3.17-7. Drug Presence by Age Group among Drug-Related Overdose Decedents, Pennsylvania, 2016



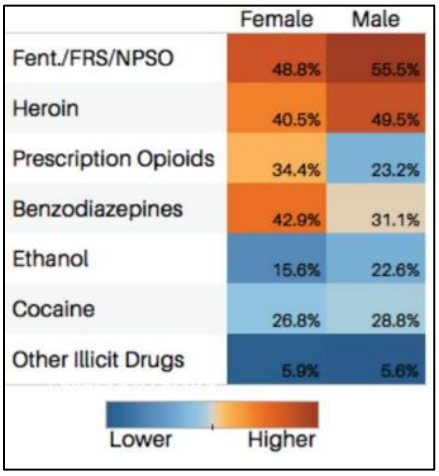
Source: Pennsylvania Coroner/Medical Examiner Data 2016

Gender

In 2016, 3,237 males died of drug-related overdoses (70 percent), compared to 1,403 females (30 percent). Records for two deaths reported did not indicate gender. Because males comprise 49 percent of the Pennsylvania population, they account for a disproportionally high percentage of the overdose deaths in 2016.

The three most prevalent drug categories in toxicology reports for male victims of drug overdose were (in order) fentanyl/FRS/ NPSOs, heroin, and benzodiazepines; the three most prevalent drug categories for females were (in order) fentanyl/FRS/NPSOs, benzodiazepines, and heroin (as listed in Figure 4.3.17-8).

Figure 4.3.17-8. Drug Presence by Gender among Drug-Related Overdose Decedents, Pennsylvania, 2016

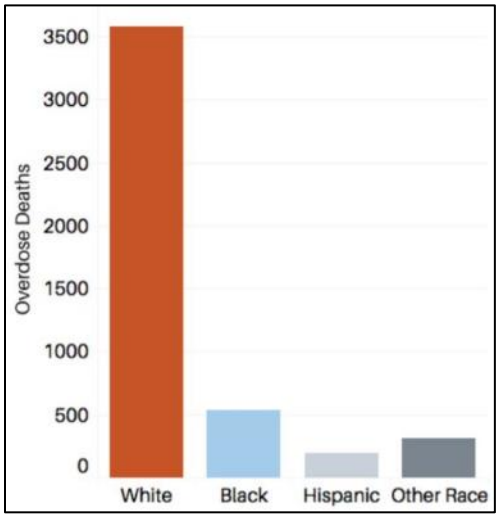


Source: Pennsylvania Coroner/Medical Examiner Data 2016

Race and Ethnicity

In 2016, 3,574 decedents were identified as White (77.0 percent), 534 were identified as Black (11.5 percent), 311 were identified as "Other Race" (6.7 percent), 28 were identified as "Unknown" (0.6 percent), and 195 were identified as Hispanic ethnicity (4.2 percent) (shown in Figure 4.3.17-9). The racial breakdown for overdose deaths also coincides with the racial demographics in Pennsylvania, as Whites comprise approximately 77.9 percent and Blacks comprise approximately 11.6 percent of the population. However, the ethnicity breakdown for overdose deaths do not have the same correlation with racial breakdowns as the percentage of the Hispanic population is 50-percent higher than the percentage of Hispanic decedents.

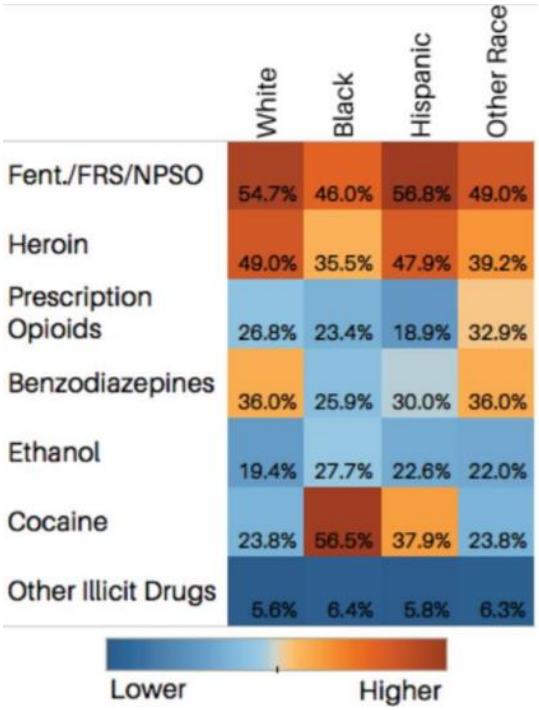
Figure 4.3.17-9. Race and Ethnicity of Drug-Related Overdose Decedents, Pennsylvania, 2016



Source: Pennsylvania Coroner/Medical Examiner Data 2016

Figure 4.3.17-10 shows the breakdown of drug presence by race and ethnicity in Pennsylvania in 2016. For race and ethnicity categories, the two most prevalent drug categories in toxicology reports were fentanyl/FRS/ NPSOs and heroin. Prescription opioids were most prevalent in Other Races, benzodiazepines were most prevalent in Whites and Other Races, and cocaine was most prevalent in Blacks and Hispanics. There was a lesser difference by race and ethnicity for ethanol and no discernable difference in drug-related deaths for other illicit drugs.

Figure 4.3.17-10. Drug Presence by Race and Ethnicity Among Drug-Related Overdose Decedents, Pennsylvania, 2016



Source: Pennsylvania Coroner/Medical Examiner Data 2016

4.3.17.3 Past Occurrence

Deaths from drug overdose are an increasing public health burden in the United States. More than 63,600 drug overdose-related deaths were reported in 2016 (CDC 2017). In Pennsylvania, 4,762 drug overdose deaths were reported in 2016, 209 of which occurred in Westmoreland County (as summarized in Table 4.3.17-2). Figure 4.3.17-11 shows the annual drug-related deaths in Westmoreland County from 1999 to 2016.

(The data provided in this section are based on information gathered from the Pennsylvania Department of Health because it provides the most extensive list of past occurrences. The 2016 data from CDC and the DEA report are not the same.)

Table 4.3.17-2. Drug-Related Deaths, Westmoreland County 1990-2016

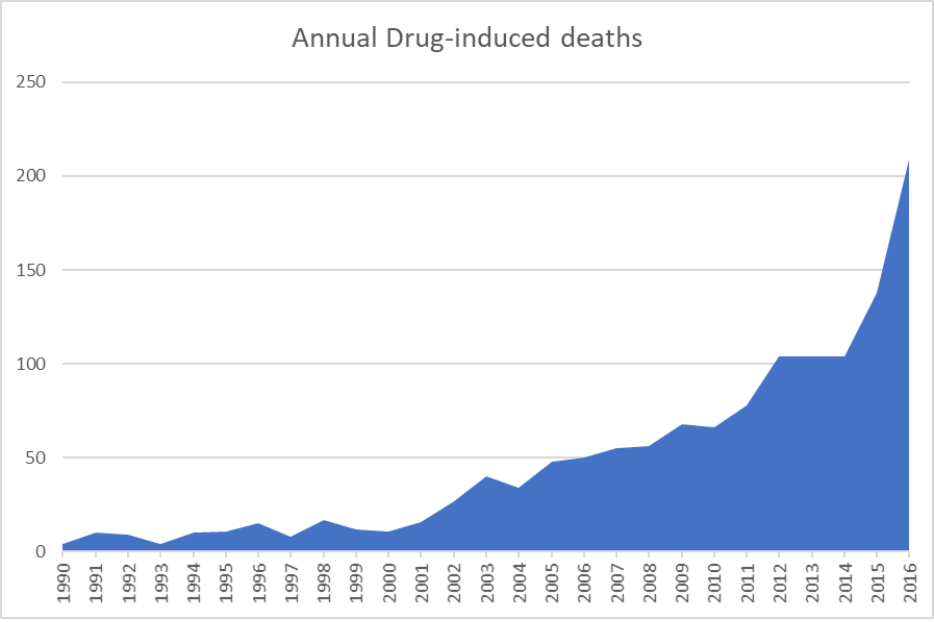
Year	Drug-Related Deaths	Population	Drug-Related Deaths per 100,000
1990	4	370,321	ND
1991	10	372,016	2.5
1992	9	374,300	ND
1993	4	375,405	ND
1994	10	376,451	2.6
1995	11	376,501	3
1996	15	376,297	4.1
1997	8	374,673	ND

Year	Drug-Related Deaths	Population	Drug-Related Deaths per 100,000
1998	17	372,103	4.7
1999	12	370,658	3.3
2000	11	369,993	3.2
2001	16	368,983	4.5
2002	27	368,428	7.9
2003	40	368,224	11.2
2004	34	368,660	9.9
2005	48	367,635	13.9
2006	50	366,440	14.6
2007	55	362,326	15.6
2008	56	361,589	16.4
2009	68	362,251	18.8
2010	66	365,169	19.7
2011	78	364,471	20.4
2012	104	363,395	30.6
2013	104	362,437	29.5
2014	104	359,320	31.4
2015	138	357,956	45
2016	209	355,458	66.8

Source: Pennsylvania Department of Health 2019

Figure 4.3.17-11 shows the changes in overdose death rates per 100,000 persons from 1999 to 2016 for Westmoreland County, Pennsylvania.

Figure 4.3.17-11. Annual Drug-Related Deaths, Westmoreland County, 1990-2016



Source: Pennsylvania Department of Health 2019

Pennsylvania Governor Wolf declared the heroin and opioid epidemic a statewide disaster emergency on January 10, 2018. This first-ever public health disaster declaration is meant to enhance state response, increase access to treatment, and save lives. A command center at the Pennsylvania Emergency Management Agency (PEMA) will track progress and enhance coordination of health and public safety agencies. Within the declaration specifics there are 13 key initiatives organized by three areas of focus. The three areas of focus are listed below, with the associated key initiatives described beneath each area:

1. Enhancing Coordination and Data Collection to Bolster State and Local Response

    - Establishes an Opioid Command Center located at PEMA**,** which will house the Unified Opioid Coordination Group that will meet weekly during the period of the disaster declaration to monitor implementation and progress of the initiatives in the declaration.

    - Expands Access to Prescription Drug Monitoring Program (PDMP) to Other Commonwealth Entities for Clinical Decision-Making Purposes to improve treatment outcomes and better monitor compliance among prescribers. Since 2016, 90,000 physicians have conducted more than 1 million searches on the PDMP.

    - Adds Overdoses and Neonatal Abstinence Syndrome (NAS) as Reportable Conditions in Title 28, Chapter 27 to the DOH to increase data collection and improve outcomes in both areas.

    - Authorizes Emergency Purchase Under Procurement Code for Hotline Contract with Current Vendor, giving the Pennsylvania Department of Drug and Alcohol Program (DDAP) further emergency purchase authorization to allow the department to enter into a contract with the current drug and alcohol hotline vendor for uninterrupted services. To date, the 24/7 helpline, 1-800-662-HELP, has received more than 18,000 calls to connect those suffering from substance use disorder with treatment.

2. Improving Tools for Families, First Responders, and Others to Save Lives

    - Enables emergency medical services providers to leave behind naloxone by amending the current standing order to include dispensing by first responders, including emergency medical technicians (EMT). The existing naloxone standing order and funding for naloxone to first responders has allowed for more than 5,000 lives to be saved so sufferers can be linked to treatment for substance use disorder.

    - Allows Pharmacists to Partner with Other Organizations to Increase Access to Naloxone by waiving regulations to allow pharmacists to partner with other organizations, including prisons and treatment programs, to make naloxone available to at-risk individuals upon discharge from these facilities.

    - Allows for the immediate temporary rescheduling of all fentanyl derivatives to align with the federal DEA schedule while working toward permanent rescheduling.

    - Authorizes emergency purchasing under Section 516 of the Procurement Code to allow for an emergency contract to expand the advanced body scanner pilot program currently in place at Wernersville that is used on re-entrants returning to the facility. This would prevent the program from lapsing.

3. Speeding Up and Expanding Access to Treatment

- Waive the face-to-face physician requirement for Narcotic Treatment Program (NTP) admissions to allow initial intake review by a certified registered nurse practitioner (CRNP) or physician assistant (PA) to expedite initial intakes and streamline coordination of care when an individual is most in need of immediate attention.

- Expand access to medication-assisted treatment (MAT) by waiving the regulatory provision to permit dosing at satellite facilities even though counseling remains at the base NTP. This allows more people to receive necessary treatments at the same location, increasing their access to care and chances for recovery.

- Waive annual licensing requirements for high-performing drug and alcohol treatment facilities to allow for bi-annual licensure process which streamlines licensing functions and better allocates staff time. DDAP will request that facilities seek a waiver by filing exception requests to the annual licensing requirement.

- Waive the fee provided for in-statute for birth certificates for individuals who request a good-cause waiver by attesting that they are affected by opioid use disorder (OUD). This is of particular importance to individuals experiencing homelessness and other vulnerable populations who often cannot obtain copies of their birth certificates to access treatment and other benefits due to the financial requirements.

- Waive separate licensing requirements for hospitals and emergency departments to expand access to drug and alcohol treatment to allow physicians to administer short-term MAT consistent with DEA regulations without requiring separate notice to DDAP.

4.3.17.4 Future Occurrence

One of the most important components in reducing drug-related overdose deaths is to prevent initial drug use; as such, the impact of education and prevention strategies in use today will be shown in future years. The DEA Philadelphia Field Division will continue efforts, in conjunction with law enforcement and public health partners, to define and address the factors impacting availability and abuse of illicit drugs and diverted pharmaceuticals in Pennsylvania, and ultimately overdose deaths.

As evidenced by the upward trajectory of drug-related overdose deaths over the past several years throughout Westmoreland County, Pennsylvania, and United States, the drug overdose hazard is likely to continue if something is not done. A crisis exists among law enforcement, public health entities, and educators to address drug availability, drug treatment, and drug education.

The identified hazards of concern for Westmoreland County were ranked for relative risk in Section 4.4 of this plan. The probability of occurrence, or likelihood of the event, is one parameter used for ranking hazards. Based on historical records, the probability of occurrence for drug overdose events in Westmoreland County is considered *highly likely*. Section 4.4 provides further information on PEMA's risk factor methodology and the risk factors used to determine each hazard's risk rank.

4.3.17.5 Vulnerability Assessment

To understand risk, a community must evaluate the assets that are exposed and potentially vulnerable to the identified hazard. The following subsections evaluate and estimate the potential impact of drug overdose deaths on Westmoreland County, including:

- Overview of vulnerability
- Impact on (1) life, health, and safety; (2) general building stock and critical facilities; (3) economy; (4) the environment; and (6) future growth and development
- Effects of climate change on vulnerability
- Further data collections that will assist understanding of this hazard over time

Overview of Vulnerability

This section is being added as an introductory representation, with hopes that future HMP updates will include more enhanced data for Westmoreland County, as well as successful mitigation actions. However, at this time, the data support the need to create awareness and provide education to Westmoreland County residents regarding this hazard of concern.

Impact on Life, Health, and Safety

The entire population of Westmoreland County is vulnerable to drug overdose. According to the 2013-2017 American Community Survey 5-Year Estimates, Westmoreland County's population was 356,835. The rates of drug overdose deaths are continuing to increase. According to CDC, in 2017, Pennsylvania had one of the top 3 highest observed drug overdose death rates in the country. As discussed above, Westmoreland County drug overdose death rate per 100,000 people was 47.6 in 2016 (DEA Philadelphia Field Division 2017).

Impact on General Building Stock and Critical Facilities

No structures are anticipated to be affected directly by drug overdose deaths.

Impact on the Economy

The impact the drug overdose hazard has on the economy and estimated dollar losses are difficult to measure and quantify.

Impact on the Environment

As discussed in the 2018 PA State HMP, fentanyl and fentanyl-related substances are hazardous materials and should be treated as such. Contact with fentanyl can impact first responders and family and friends of opioid users. Depending on the potency of the drug, it can take as little as the equivalent of a few grams to cause health complications (DEA 2017).

According to a recent study, environmental scientists at the Cary Institute of New York found traces of opioids and other drugs in streams, rivers, and lakes. These traces came from human urine and feces, and medications that have been flushed down the toilet. However, the ecological and environmental impacts are unknown. The U.S. Environmental Protection Agency (EPA) suggests while the risks of pharmaceuticals found in wastewater, ambient water, and drinking water is low, further research is needed (EPA 2014).

Future Growth and Development

Areas targeted for potential future growth and development in the next 5 to 10 years have been identified across Westmoreland County (further discussed in Section 2.4 of this HMP). Any areas of growth could be potentially impacted by the drug overdose hazard because the entire County is exposed and potentially vulnerable.

Effect of Climate Change on Vulnerability

Climate change is not anticipated to affect vulnerability associated with drug overdose deaths.

Additional Data and Next Steps

For the HMP update, any additional information regarding localized concerns and past impacts will be collected and analyzed. These data will be developed to support future revisions to the plan. Future mitigation efforts could include building on existing Pennsylvania, county, and local efforts.

4.3.18 Nuclear Incident

Nuclear hazards and incidents generally refer to incidents involving (1) a release of significant levels of radioactive materials or (2) exposure of workers or the general public to radiation. Primary concerns following a nuclear incident or accident are the impact on public health from (1) direct exposure to a radioactive plume; (2) inhalation of radioactive materials; (3) ingestion of contaminated food, water, and milk; and (4) long-term exposure to deposited radioactive materials in the environment that can lead to either acute (radiation sickness or death) or chronic (cancer) health effects.

The nuclear industry has adopted pre-determined, site-specific Emergency Action Levels (EAL). The EALs provide the framework and guidance for observing, addressing, and classifying the severity of site-specific incidents and conditions that are communicated to off-site emergency response organizations (NRC 2008). Additional EALs specifically deal with issues of security, such as threats of airborne attack, hostile action within the facility, or attack on the facility. These EALs ensure that appropriate notifications of a security threat will occur in a timely manner.

The NRC encourages the use of Probabilistic Risk Assessments (PRA) to estimate quantitatively the potential risk to public health and safety considering the design, operations, and maintenance practices at nuclear power plants. PRAs typically focus on accidents that can severely damage the core and that could challenge containment. FEMA, PEMA, and county governments have formulated Radiological Emergency Response Plans to prepare for radiological emergencies at the five nuclear power-generating facilities in the Commonwealth of Pennsylvania. These plans include a Plume Exposure Pathway Emergency Planning Zone (EPZ) (an area with a radius of 10 miles from each nuclear power facility) and an Ingestion Exposure Pathway EPZ (an area with a radius of 50 miles from each facility).

4.3.18.1 Location and Extent

Stationary Facilities

Of the five nuclear power generation stations in the Commonwealth of Pennsylvania, the Beaver Valley Power Station (BVPS) is closest, located outside and west of Westmoreland County in central Beaver County, and maintains a 50-mile ingestion exposure pathway that includes parts of Westmoreland County. BVPS maintains two pressurized water reactor units on a 453-acre site, producing 1,800 megawatts (MW) of electricity (FirstEnergy 2012).

Figure 4.3.18-1. Westmoreland County Jurisdictions in the 50-Mile Ingestion Exposure Pathway EPZ

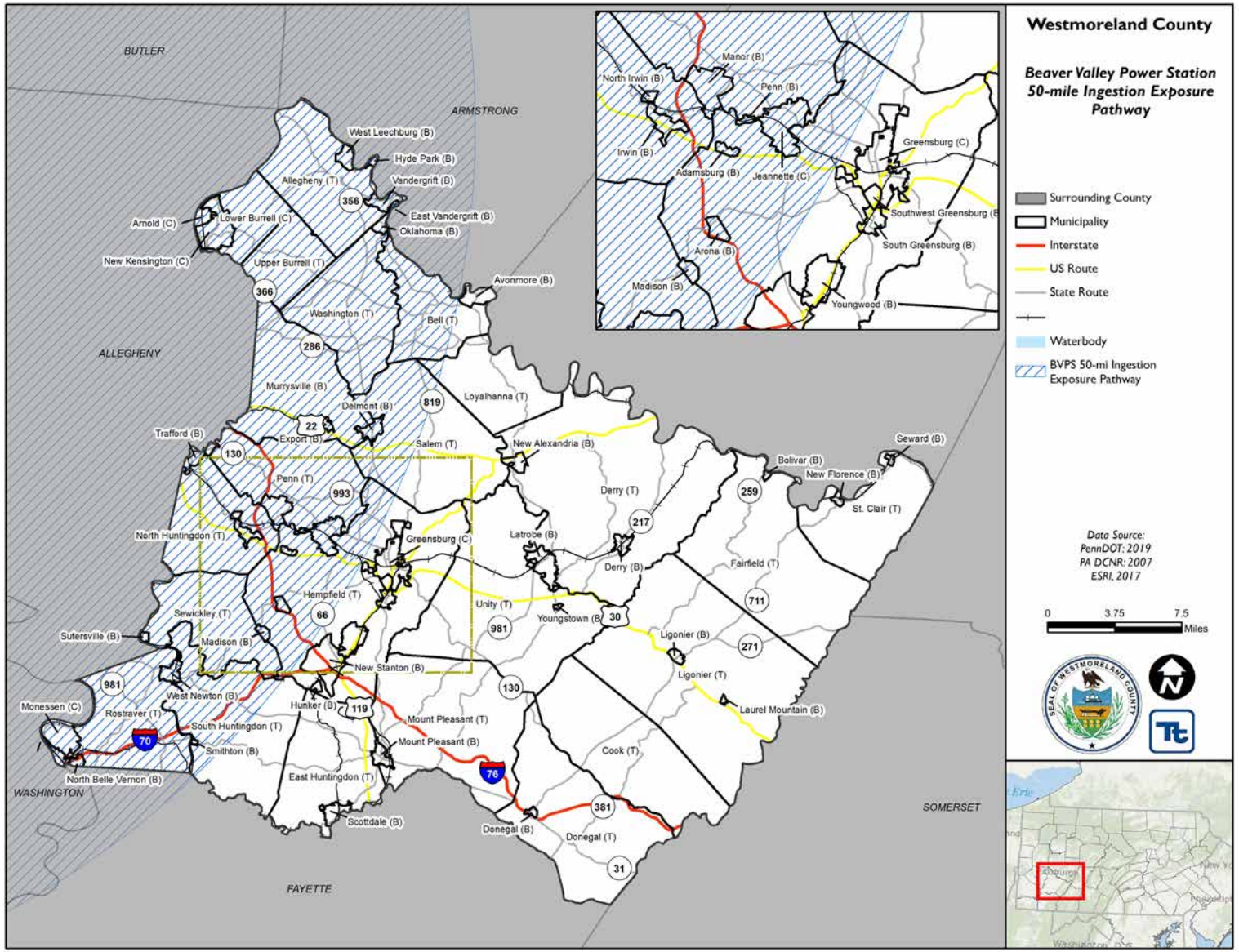


Table 4.3.18-1 lists the jurisdictions in Westmoreland County that are located within the 50-mile Ingestion Zone for the Beaver Valley Power Station.

Table 4.3.18-1. Westmoreland County Jurisdictions within the 50-mile Ingestion Zone for BVPS

Jurisdiction		
Adamsburg	Loyalhanna	Salem
Allegheny	Madison	Sewickley
Arnold	Manor	Smithton
Arona	Monessen	South Huntingdon
Bell	Murrysville	Sutersville
Delmont	New Kensington	Trafford
East Vandergrift	North Belle Vernon	Upper Burrell
Export	North Huntingdon	Vandergrift
Hempfield	North Irwin	Washington
Hyde Park	Oklahoma	West Leechburg
Irwin	Penn Borough	West Newton
Jeannette	Penn Township	
Lower Burrell	Rostraver	

The above-listed jurisdictions maintain numerous locations considered critical infrastructure. Critical infrastructure within Westmoreland County is discussed in Section 2 (County Profile).

Westmoreland County maintains the classification of Support County for the BVPS facility, as Westmoreland County resources would be deployed to support counties and evacuees within the 10-mile EPZ. This classification entails a variety of responsibilities including planning, training, exercising, and provision of support to the BVPS. Westmoreland County maintains a nuclear planning annex to its emergency operations plan (EOP), trains regularly, and completes exercise programs set forth by state and federal entities.

Hazards in Transit

The U.S. Department of Energy transports used nuclear fuel to the repository by rail and road inside sealed containers. The used fuel may be shipped along specified highway routes. Rail is used to transport nuclear waste as well. However, no nuclear fuel is transported through Westmoreland County.

4.3.18.2 Range of Magnitude

The western region of Westmoreland County is closest to the BVPS facility but is well outside the prescribed 10-mile EPZ or evacuation area. In the event of an incident within BVPS, Westmoreland County would become a temporary staging location for some of the hundreds of thousands of residents seeking safety outside the 10-mile EPZ. The 50-Mile Ingestion Exposure Pathway EPZ refers to exposure primarily from ingestion of water or foods, such as milk and fresh vegetables, that have been contaminated with radiation. This kind of exposure can stem from any of the three categories of nuclear accident listed below.

Nuclear facility accidents are classified into three categories, and exposure to radiation can stem from any of the three types of accidents:

- Criticality accidents: Involves loss of control of nuclear assemblies or power reactors.

- Loss-of-coolant accidents: Occurs whenever a reactor coolant system experiences a break or opening large enough so that the coolant inventory in the system cannot be maintained by the normally operating make-up system.
- Loss-of-containment accidents: Involves the release of radioactivity from materials such as tritium; fission products; plutonium; and natural, depleted, or enriched uranium. Points of release have been containment vessels at fixed facilities or damaged packages during transportation accidents.

In accordance with regulations specified by FEMA and NRC, each facility is required to notify jurisdictional agencies of an incident or occurrence within that facility. NRC uses four classification levels for nuclear incidents (NRC 2008). PEMA and facility owners with whom PEMA coordinates use the following notification levels based on an internal trigger:

- Unusual Event: Incidents are occurring or have occurred that indicate potential degradation in the level of safety of the plant. No release of radioactive material requiring off-site response or monitoring is expected unless further degradation occurs.
- Alert: Incidents are in process or have occurred that involve actual or potential substantial degradation in the level of safety of the plant. Any releases of radioactive material from the plant are expected to be limited to a small fraction of the United States. Environmental Protection Agency (EPA) Protective Action Guides (PAG).
- Site Area Emergency: Incidents are in process or have occurred that resulted in actual or likely major failures of plant functions needed for protection of the public. Any releases of radioactive material are not expected to exceed EPA PAGs except near the site boundary.
- General Emergency: Incidents are in process or have occurred that have caused actual or imminent substantial core damage or melting of reactor fuel with potential for loss-of-containment integrity. Radioactive releases during a General Emergency can reasonably be expected to exceed the EPA PAGs over more than the immediate site area.

After a nuclear incident, the primary concern is the effect on the health of the population near the incident. The duration of primary exposure could range in length from hours to months depending on the proximity to the point of radioactive release. External radiation and inhalation and ingestion of radioactive isotopes can cause acute health effects (e.g., death, severe health impairment), chronic health effects (e.g. cancers) and psychological effects.

Potential environmental impacts specific to the 50-Mile Ingestion Exposure Pathway EPZ include the long-term effects of radioactive contamination in the environment and in agricultural products. Westmoreland County can expect some radioactive contamination in very small amounts in the case of a nuclear incident. This is not a significant concern in terms of external exposure and immediate health risks, but even a small amount of radiation will require the protection of the food chain, particularly milk supplies. Small amounts of radiation ingested over time could lead to future health issues. As a result, in the case of a nuclear incident, foodstuffs, crops, milk, livestock feed and forage, and farm water supplies will need to be protected from and tested for contamination, in accordance with Commonwealth and local radiological emergency response procedures. Additionally, spills and releases of radiologically active materials from accidents can result in the contamination of soil and public water supplies.

The worst-case scenario nuclear incidents for Westmoreland County would be if a General Emergency occurred at Beaver Valley Power Station that leaked sufficient radiation to create injuries and fatalities, as well as longer-term damage in the form of contaminated water, soil, and food supplies in the county.

4.3.18.3 Past Occurrence

Westmoreland County experienced a test reactor meltdown accident in the country's first privately owned reactor in 1960 at the Westinghouse Waltz Mill facility. One fuel element melted, resulting in the disposition of 2 million gallons of contaminated water generated during the accident. A portion of the water was retained on-site in lagoons, a condition that eventually led to detectable Strontium-90 in ground water plus contaminated soil. Radioactive krypton and xenon gasses were also released into the atmosphere (Hopey 1993). Westinghouse began an estimated $50 million clean-up effort in 1997. In 2000, a train carrying radioactive soil derailed west of Mount Pleasant. The contaminated soil was not released from their containers (Hopey 2000).

In addition to the Westinghouse Waltz Mill facility incident, Pennsylvania is home to the only recorded nuclear emergency in the U.S. In 1979, the Three Mile Island Nuclear Generating Station declared a General Emergency following an internal system failure. Repercussions from this event were swift, with sweeping changes to NRC oversight that included assignment of responsibility to FEMA for outside support. Growth in the nuclear power industry immediately slowed, with the number of facilities decreasing over the next decade. In addition, public confidence in the nuclear industry decreased considerably.

While reports show conflicting information regarding medical impacts on the residential population following the disaster, costs of the cleanup phase of this incident exceeded $1 billion. No FEMA disaster declarations have since occurred regarding nuclear emergencies in Pennsylvania.

4.3.18.4 Future Occurrence

Pennsylvania has the distinction of having experienced the only nuclear power plant General Emergency in the nation. Since the Three Mile Island incident, nuclear power has become significantly safer and is one of the most heavily regulated industries in the nation. Despite the knowledge gained since then, there is still the potential for a similar accident to occur again at one of the five nuclear generating facilities in the Commonwealth.

The low frequency of U.S. fixed facility nuclear incidents that exceed the Alert Level indicates the stability of the industry. Based upon the Risk Factor Methodology Probability Criteria, probability of an incident at the BVPS facility is classified as unlikely. In addition, FirstEnergy, the parent company to BVPS, continues to improve systems within the facility and communicate with local, state, and federal entities to establish emergency procedures for protecting the health and safety of the public (FirstEnergy 2011).

Based on historical events, Site Area Emergency and General Emergency incidents are very rare. Based on available historical data and the lack of nuclear incident events impacting Westmoreland County, the future occurrence of nuclear incident events can be considered *unlikely* as defined by the Risk Factor Methodology probability criteria, as discussed in Section 4.4 (Hazard Ranking).

4.3.18.5 Vulnerability Assessment

Effects from a radiological incident at a fixed facility would vary depending on the product released (type of radiation), amount of radiation released, current weather conditions, and time of day. The priority following an incident at any of the facilities within the Commonwealth of Pennsylvania is the life and safety of all individuals within the area impacted. Secondary to health and safety would be effects on critical infrastructure, environment, property, and the economy.

Contamination of agriculture, livestock, and production can lead to loss of commerce with other regions of the state, country, and even the world. Recently, many countries halted imports of products from Japan for fear of contamination following the tsunami-related nuclear incident at the Fukishima Power Plant. This loss in revenue compounded losses that Japan and its region were already encountering following the initial disaster.

Impacts within the affected area can include loss of utility service, contamination of local crops and livestock, loss of residential property due to measurable quantities of nuclear materials, and increased risk to health and well-being of individuals within the area.

Portions of Westmoreland County are located within the 50-mile Ingestion EPZ for Beaver Valley Power Station. The municipalities located within an EPZ are more vulnerable to the contamination effects of nuclear incidents. The number of structures and critical facilities within the 50-mile EPZ of each power plant is displayed in Table 4.3.18-2.

Table 4.3.18-2. Structures and Critical Facilities within the 50-mile EPZ

Municipality	Building Count in 50-mile EPZ of Beaver Valley Power Station	Total Critical Facilities in 50-mile EPZ of Beaver Valley Power Station
Adamsburg Borough	163	0
Allegheny Township	6,738	33
Arnold, City of	2,852	5
Arona Borough	319	0
Avonmore Borough	0	0
Bell Township	2,080	9
Bolivar Borough	0	0
Cook Township	0	0
Delmont Borough	1,408	7
Derry Borough	0	0
Derry Township	0	0
Donegal Borough	0	0
Donegal Township	0	0
East Huntingdon Township	**0**	**0**
East Vandergrift Borough	574	1
Export Borough	628	3
Fairfield Township	0	0
Greensburg, City of	0	0
Hempfield Township	10,481	37
Hunker Borough	0	0
Hyde Park Borough	379	3
Irwin Borough	1,679	8
Jeannette, City of	5,587	12
Latrobe, City of	0	0
Laurel Mountain Borough	0	0
Ligonier Borough	0	0
Ligonier Township	0	0
Lower Burrell, City of	7,109	14

Municipality	Building Count in 50-mile EPZ of Beaver Valley Power Station	Total Critical Facilities in 50-mile EPZ of Beaver Valley Power Station
Loyalhanna Township	164	0
Madison Borough	327	2
Manor Borough	1,751	4
Monessen City	5,035	14
Mt. Pleasant Borough	0	0
Mt. Pleasant Township	0	0
Murrysville Borough	11,450	26
New Alexandria Borough	0	0
New Florence Borough	0	0
New Kensington, City of	7,352	23
New Stanton Borough	0	0
North Belle Vernon Borough	1,267	6
North Huntingdon Township	18,038	59
North Irwin Borough	467	2
Oklahoma Borough	611	1
Penn Borough	332	5
Penn Township	12,063	35
Rostraver Township	8,978	39
Salem Township	3,729	28
Scottdale Borough	0	0
Seward Borough	0	0
Sewickley Township	5,486	52
Smithton Borough	294	4
South Greensburg Borough	0	0
South Huntingdon Township	4,266	60
Southwest Greensburg Borough	0	0
St. Clair Township	0	0
Sutersville Borough	475	2
Trafford Borough	1,767	8
Unity Township	0	0
Upper Burrell Township	2,160	21
Vandergrift Borough	3,281	10
Washington Township	6,393	37
West Leechburg Borough	930	5
West Newton Borough	1,810	10
Youngstown Borough	0	0

Municipality	Building Count in 50-mile EPZ of Beaver Valley Power Station	Total Critical Facilities in 50-mile EPZ of Beaver Valley Power Station
Youngwood Borough	0	0
Westmoreland County (Total)	**138,423**	**585**

Source: U.S. Census 2010, Westmoreland County 2019

For areas within the 50-mile EPZ, the county's primary vulnerability to nuclear incidents comes in the form of food, soil, and water contamination. In terms of vulnerable land, the approximately 144,278 acres of farmland are vulnerable to radiological contamination in a nuclear incident. According the USDA 2017 Census of Agriculture, the market value of all agricultural products of these farms totaled approximately $66.3 million. While unlikely that all agricultural products would be lost in the event of a nuclear incident, the county can expect some portion to be lost. Time of year also impacts the vulnerability and losses estimated for a nuclear incident; an incident that occurs during the prime growing and harvesting season will have a larger impact on the county.

The entire county, not just the areas in the EPZ, could be impacted based on the flow of goods and services and where residents get their food supply. Water contamination is a concern in nuclear incidents. Public water suppliers that operate in or provide water to the county, coupled with the county's 2,943 domestic drinking water wells, are all vulnerable to the effects of a nuclear incident (PaGWIS 2019).

4.3.19 Structural Fire

4.3.19.1 Location and Extent

Structural fires within Westmoreland County have had a detrimental impact on life, property, and the local economy over the past decade. The age of many residential structures within the region, combined with changes in building construction and materials, created a threat of fire loss that is occurring on a regular basis.

As defined by the National Fire Protection Agency (NFPA) in the *NFPA 901: Standard Classifications for Incident Reporting and Fire Protection Data*, a structure fire is defined as "Any fire inside, on, under, or touching a structure." This definition includes any mobile living structure, such as a mobile or modular residence, but does not include road-worthy vehicles such as recreation vehicles (National Fire Protection Agency 2011).

4.3.19.2 Range of Magnitude

The severity of structural fires varies according to the losses associated with the incident. The impact to the local economy is minimal with the loss of a residential structure; however, effects of the loss of a large manufacturing facility that employs a large number of people can be extensive. Likewise, the impact to the local environment from a single residential fire is minimal, while the impact from an industrial or commercial fire can take years to measure. Finally, the loss of life caused by structural fires appears to be opposite of the previous two impacts. The loss of life during a residential fire is more likely than during an industrial or commercial building fire. The building composition is combined with the hour of the incident to increase the loss of life during a residential-type fire.

The structural fires within Westmoreland County are usually small and generally affect residential structures. These fires are limited in duration and are generally contained within the local jurisdiction. While the average fire is small, the threat from a large or even catastrophic fire is always present. Many operations within larger industrial and commercial sites within Westmoreland County are prone to and have experienced small fires that, if improperly contained, can and do lead to catastrophic fire losses. Combined with the presence of volatile materials, these threats are ever changing and increasing within the region.

Vacant buildings (both residential and commercial) pose a particular threat concerning structural fires. Multiple incidents of structural fires in unoccupied homes have been reported through the Knowledge Center.

4.3.19.3 Past Occurrence

From 2007 to September 2019, 925 structural fires were reported to Westmoreland County. While not an all-encompassing listing, these fires represent the threshold set forth by the county to be recorded in the Knowledge Center. Table 4.3.19-1 shows an annual fire report for Westmoreland County from 2007 to September 2019. Details on losses, injuries, and fatalities caused by these events were not found. There have been no federally declared disasters as a result of structural fires in Pennsylvania.

Table 4.3.19-1: Reported Structural Fires January 2007 – September 2019

Year	Number of Structure Fires	Year	Number of Structure Fires
2007	51	2014	59
2008	51	2015	104
2009	39	2016	100
2010	65	2017	139
2011	64	2018	153
2012	44	2019	21
2013	35	**Total**	**925**

Source: Knowledge Center 2019
Note: 2019 figure is through August 31.

4.3.19.4 Future Occurrence

Based on the Risk Factor Methodology Probability Criteria, structural fires are categorized as h*ighly likely*. According to the NFPA 2009 report, *A Few Facts at the Household Level*, based on historical data collected, an average household is expected to experience a fire within a structure every 15 years based on an average expectance of the household to be 78 years. While most of these fires will be considered small and may not cause any significant damage, the possibility of a catastrophic loss caused by fire is present (see Table 4.3.19-2). Given that there have been many fires each year in Westmoreland County, the annual probability of a structure fire occurring in the county is 100 percent.

Table 4.3.19-2: Likelihood of Future Occurrences of Structural Fire

County	Avg. #/Year	% Probability	Category
Westmoreland	77.1	100	Highly Likely

The NFPA reports home fire deaths have been cut roughly in half since 1980, and population-based home fire and fire death rates have fallen by roughly two-thirds. The death rate per 1,000 reported fires has remained fairly consistent and was actually slightly higher in recent years than in 1980. It appears that most of the reduction in fire deaths over the past decades is due to a reduction in fires rather than the prevention of harm after a fire is reported (NFPA 2018). This was driven by an even more pronounced increase in the rate for one- and two-family homes. Despite the decrease reported in fire fatalities, Westmoreland County saw an increase in the number of reported structural fires between 2015 and 2018, with the highest number of reported fires occurring in 2018.The quantity of residential and industrial structures within Westmoreland County, combined with a varying range of fire code enforcement, equates to a greater probability of loss in the future. In addition, the influx of commercial and industrial sites within Westmoreland County also increases the possibility of future commercial or industrial fires.

4.3.19.5 Vulnerability Assessment

Structural fires most frequently affect the residential communities within Westmoreland County. While the impact of most structural fires is considered minimal because of the availability of support services after a fire, these fires need to be classified as a high threat based on the frequency and potential for injury and loss of life.

As the population increases within Westmoreland County, there is a greater probability of structural fires. The sustained growth within the county, both commercial and residential, will continue to affect the threat of structural fires in the future.

Overview of Vulnerability

Many factors influence vulnerability to a structural fire. Age of structure, building materials, density of the area of the building location, proximity to flammable vegetation, and the presence of accelerants are all factors that influence likelihood and vulnerability to structural fire. Older structures may not have been built with the same level of fire prevention required by modern building codes and therefore may be more susceptible to fire than a modern structure. More densely populated areas of Westmoreland County face a higher vulnerability because of the close proximity of other structures. Industrial and commercial facilities are also susceptible to structural fire, which may have a greater impact on the county.

Impact on Life, Health, and Safety

The impact of structural fires on life, health, and safety will vary depending on the size and magnitude of fires and available firefighting resources. Structural fires that occur in industrial or commercial buildings may have a significant impact on life, health, and safety depending on the contents of the structures.

Impact on General Building Stock and Critical Facilities

Structural fires will impact the Westmoreland County General Building Stock. Impacts will vary based on the size, severity, and number of structures affected by the fire. Physical damage to structures and contents could occur. Impacts to critical facilities may include damage to equipment, interruption of emergency communications, or disruption of services. If a public safety or medical facility is affected, life, health, and safety of people within the county could be impacted.

Impact on the Economy

Structural fires may cause impacts on the economy depending on the scale and severity of the fire. Economic impacts of structural fires may result in lost wages from temporarily or permanently closed businesses, destruction and damage involving business and personal assets, loss of tax base, recovery costs, and lost investments in destroyed property (PEMA 2018).

Impact on the Environment

Environmental impacts from a structural fire could occur if hazardous materials are released. Debris from fire can also contain chemicals or substances, which may also impact the environment.

Future Growth and Development

Areas targeted for potential future growth and development in the next 5 to 10 years have been identified in Westmoreland County (further discussed in Section 2.4 of this HMP update). Any areas of growth could be impacted by the structural fire hazard because all structures within the county are potentially vulnerable.

Effect of Climate Change on Vulnerability

Climate change could potentially impact the likelihood of structural fire. Areas located in the wild-urban interface could be more susceptible to a structural fire if a naturally occurring wildfire spreads to structures. Extreme temperatures could potentially influence the instance of a structural fire, either from a higher air temperature or from using space heaters and heating appliances indoors during periods of colder weather.

4.3.20 Terrorism

This section provides a profile and vulnerability assessment of the terrorism hazard.

4.3.20.1 Description

According to the Federal Bureau of Investigation (FBI), terrorism is "the unlawful use of force or violence against persons or property to intimidate or coerce a government, the civilian population, or any segment thereof, in furtherance of political or social objectives" (National Institute of Justice 2019). Acts of terrorism include: threats of terrorism, assassinations, kidnappings, hijackings, bomb scares and bombings, cyber-attacks (computer-based attacks), and use of chemical, biological, nuclear, and radiological weapons (FEMA 2009). Various types of terrorism are discussed in the sections below.

Agriterrorism

Agriterrorism is the intentional use of plant or animal pathogens to cause devastating disease in the agricultural sector. There are similarities to bioterrorism, but the aim of agriterrorism is to specifically target crops and livestock to cause a significant economic impact or to damage food supplies (FEMA 2007).

Armed Attacks and Assassinations

Armed attacks include raids and ambushes. An assassination is the killing of a selected victim, usually by bombings or small arms. A drive-by shooting is a common technique employed by unsophisticated or loosely organized terrorist groups. Historically, terrorists have assassinated specific individuals for psychological effect.

Arson and Firebombing

Incendiary devices are inexpensive and easy to hide. Arson and fire-bombings are easily conducted by terrorist groups that may not be as well organized, equipped, or trained as a major terrorist organization. An act of arson or firebombing against a utility, hotel, government building, or industrial center portrays an image to the public that the ruling government is incapable of maintaining order.

Bioterrorism

Bioterrorism refers to intentional release of toxic biological agents to harm and terrorize civilians, in the name of a political or other cause. The U.S. Centers for Disease Control and Prevention (CDC) has classified the viruses, bacteria, and toxins that could be used in an attack. Category A Biological Diseases are most likely to cause the greatest harm. They include:

- Anthrax (*Bacillus anthracis*)
- Botulism (*Clostridium botulinum toxin*)
- Plague (*Yersinia pestis*)
- Smallpox (*Variola major*)
- Tularemia (*Francisella tularensis*)
- Hemorrhagic fever caused by Ebola virus or Marburg virus.

Bombings

Bombings are the most common type of terrorist act. Typically, improvised explosive devices are inexpensive and easy to make. Bombs can range from smaller packages to vehicle-borne bombs that are capable of catastrophic damage. Modern devices are smaller and harder to detect and have destructive capabilities.

Terrorists responsible for this bombing can use materials readily available to the average consumer to construct a bomb.

Cyber Terrorism

Cyber terrorists use information technology to attack civilians and draw attention to the terrorists' cause. They may use information technology, such as computer systems or telecommunications, as a tool to orchestrate a traditional attack. More often, cyber terrorism refers to an attack on information technology itself in a way that would radically disrupt networked services. For example, cyber terrorists could disable networked emergency systems or hack into networks that house critical financial information. There is wide disagreement about the extent of the existing threat by cyber terrorists.

Hijackings and Skyjackings

Hijacking is seizure by force of a surface vehicle, its passengers, or its cargo. Skyjacking is taking of an aircraft, which creates a mobile, hostage barricade situation; provides terrorists with hostages from many nations; and draws heavy media attention. Skyjacking also provides mobility for the terrorists to relocate the aircraft to a country that supports their cause and provides them with a human shield, making retaliation difficult.

Intentional Hazardous Materials Release

Intentional hazardous materials release is intentional leak, spillage, discharge, or disposal of hazardous materials or substances (such as explosives, toxic chemicals, and radioactive materials) (DHS 2018). This could include the intentional release of chemicals commonly used in industry, or the release of chemical agents as a weapon. This might involve attacking hazardous material storage facilities or attacking storage containers in transit. Intentional hazardous materials can have a significant impact on human health and the environment.

Kidnappings and Hostage-Takings

Terrorists use kidnapping and hostage-taking to establish a bargaining position and to elicit publicity. Kidnapping is one of the most difficult acts for a terrorist group to accomplish, but a successful kidnapping can gain terrorists money, release of jailed comrades, and publicity for an extended period. Hostage-taking involves seizure of a facility or location and taking hostages present in that facility. Unlike a kidnapping, hostage-taking provokes a confrontation with authorities. It forces authorities to make dramatic decisions or to comply with the terrorist's demands. It is overt and designed to attract and hold media attention. The intended target is the audience affected by the hostage's confinement, not the hostage.

Nuclear/Radiological Terrorism

Nuclear/radiological terrorism refers to a number of different ways nuclear materials might be exploited as a terrorist tactic. These methods include attacking nuclear facilities, purchasing nuclear weapons, or building nuclear weapons or otherwise finding ways to disperse radioactive materials.

4.3.20.2 Location and Extent

Terrorism can occur anywhere within Westmoreland County depending on the individual's or organization's agenda. Any facility or structure is vulnerable to a terrorist attack, as terrorists have historically sent chemical or biological agents through the mail. High-risk targets include local, county, state, or federal government facilities; major venues and gathering places; sites with historical, cultural, or other significance; and critical infrastructure. Damage to or disruption of operations at government facilities could profoundly impact Westmoreland County's population, even if the terrorism event is relatively small-scale.

An important consideration in evaluating terrorism hazards is the existence of facilities, landmarks, or other buildings of international, national, or regional importance. While Westmoreland County has many notable landmarks from a local historical perspective, there are no sites that are considered significant landmarks in terms of national or international importance. Nonetheless, terrorism can take many forms, and terrorists have a wide range of personal, political, or cultural agendas. Therefore, there is no location that is not a potential terrorist target. Two types of terrorist activity are particularly relevant to Westmoreland County: agroterrorism and intentional hazardous material releases. Agroterrorism is the direct, intentional, generally covert contamination of food supplies or introduction of pests and/or disease agents to crops and livestock. Approximately 20 percent of Westmoreland County's land area is dedicated to agriculture.

Although Westmoreland County does not have a large number of facilities that could be considered nationally important targets, it does have critical infrastructure which if attacked could have significant effects at the local or regional level. Critical infrastructure can include: commercial facilities, communication systems, dams, emergency services, energy facilities, food and agriculture, government facilities, healthcare facilities, transportation systems, and water distribution systems (DHS 2018). Several major transportation routes and gas transmission pipelines traverse Westmoreland County, making intentional hazard material releases a potential threat to citizens and the environment. This hazard is addressed in Section 4.3.16 (Environmental Hazards). In addition, there are several bridges and railways (discussed in Section 4.3.21 [Transportation Accidents]) that connect Westmoreland County to the Pittsburgh metropolitan area that could be considered potential targets. A complete list of critical facilities is included in Appendix I.

Acts of terrorism can occur anywhere at any time of day. The National Terrorism Advisory System (NTAS) communicates information about terrorist threats by providing detailed information to the public, government agencies, first responders, airports and other transportation hubs, and the private sector. Information can be distributed through two mediums: Bulletins or Alerts. NTAS Bulletins are used to disseminate critical information regarding terrorism that may not relate to a specific threat (DHS 2018).

When a threat arises, the Secretary of Homeland Security announces an NTAS Alert and shares the news with the public. The alert may include specific information about the nature of the threat, including the geographic region, mode of transportation, or critical infrastructure potentially affected as well as steps that individuals and communities can take to protect themselves and help prevent, mitigate, or respond to the threat. The alert indicates whether the threat is elevated or imminent. Elevated threats are those that include no specific information about the timing or location. Imminent threats are threats believed to be impending or occurring very soon. The Department of Homeland Security will issue an NTAS advisory through their website, news media, its social media channels such as Facebook and Twitter (DHS 2018).

4.3.20.3 Range of Magnitude

The magnitude of a terrorism event depends on the scale of the attack, population involved, equipment and other key assets affected, and duration of the incident or exposure to the agent used. The effect of a terrorism event can vary depending on the type of attack and the magnitude of the event or events. Terrorism events can cause public fear regarding the use of mass transportation or leaving their homes in the event of a biological or nuclear attack. Communication systems, both public and private, can fail because of an overwhelming amount of usage or damage to its infrastructure. Healthcare facilities can become quickly inundated and must be prepared to triage injured patients, handle mass casualties, and conduct decontamination operations. The secondary hazards resulting from a terrorist attack depend on the size and scope of the incident. Some possible secondary hazards include widespread utility failure, health effects such as epidemics or pandemics, flooding (if a dam was destroyed), and environmental contamination.

The worst-case scenario for a terrorism event in Westmoreland County would be an active threat incident or a mass casualty event. The active threat incident would be a shooting or stabbing resulting in mass casualties similar to the Franklin Regional High School stabbing which occurred on April 9, 2014. Another type of worst-case scenario would be a mass casualty event in the form of a vehicular attack or an improvised explosive device which could result in a combination of mass casualties and fatalities. Generally speaking, any event which results in mass casualties or fatalities could overwhelm the capabilities of Westmoreland County, emergency services, and healthcare facilities/hospitals.

Furthermore, the threat of a nuclear attack is rare but should not be eliminated. There are still several countries in the world with nuclear capability, and other nations continue to try to obtain that capability. Any areas that are identified as high-risk areas or target areas would experience the direct effects of the weapon, including blast, radiation, extreme temperatures, wind, and light that is brighter than the sun. Depending on the size of the device, there could be total destruction within a 4-mile radius of the blast. Any survivors within a 20- mile radius can expect residual effects including fires, flooding, loss of power, fuel and water shortages, plus the release of other hazardous materials that may be in the area. People close to the blast would be killed. As the distance increases, more people will survive; however, people who do survive the initial blast may die due to an increase in exposure to gamma rays.

Because of Westmoreland County's location within the Pittsburgh metropolitan area, should a major attack occur, Westmoreland County should expect to receive some exposure from radioactive fallout. Westmoreland County should also expect to see a surge of people from the Pittsburgh metropolitan area seeking safety.

4.3.20.4 Past Occurrence

Westmoreland County has never suffered an international terrorist attack. However, Westmoreland County has experienced domestic terrorism incidents. Table 4.3.20-1 displays terrorism incidents reported to Westmoreland County between 2007 and 2018. Between 2007 and 2018, 189 terrorism-related incidents were recorded, and the most common terroristic event was bomb threats.

Table 4.3.20-1. Terrorism Incidents/Suspicious Activity in Westmoreland County from 2007 to 2018

Date	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Active Threat	-	-	-	-	-	-	0	1	0	0	0	0
Bomb/Explosives	0	0	0	0	0	2	11	23	24	11	3	4
Bomb Threat	10	10	16	9	8	10	1	3	5	3	4	4
Suspicious Activity	0	0	0	0	1	1	1	0	1	0	0	0
Suspicious Device/Package/Substance	1	0	1	0	2	1	1	0	6	2	1	1
Threatening/ Barricaded Subject; Hostage situation	0	0	0	1	0	3	0	1	0	2	0	0

Source: Westmoreland County 2019

Note: The "-" indicates that data was not previously categorized as this type of terrorist activity.

4.3.20.5 Future Occurrence

Based on historical events, Westmoreland County can expect to experience several terrorist threats or suspicious activities each year; however, few will result in an actual terrorist incident. Previous events in Westmoreland County have not resulted in what are considered significant terrorist attacks; the severity of a future incident cannot be predicted with a sufficient level of certainty. Based on the recent incident events, the future occurrence

of terrorism in Westmoreland County can be considered *highly likely* as defined by the Risk Factor Methodology probability criteria (refer to Section 4.4).

4.3.20.6 Vulnerability Assessment

Impact on Life, Health, and Safety; General Building Stock, Critical Facilities, and the Economy

The probability of Westmoreland County becoming a terrorist target should remain relatively low; however, because of its proximity to other more vulnerable areas, its vulnerability and potential for secondary impacts is increased. Westmoreland County may experience some serious issues with influx of people from the more metropolitan areas to the east in situations of terrorism and/or nuclear threats to these areas. This influx of population in these critical situations would stress the facilities of Westmoreland County and its municipalities.

Since the probability of terrorism occurring cannot be quantified in the same way as that of many natural hazards, it is not possible to assess vulnerability in terms of likelihood of occurrence. Instead, vulnerability is assessed in terms of specific assets. By identifying potentially at-risk terrorist targets in a community, planning efforts can be put in place to reduce the risk of attack. All communities in Westmoreland County are vulnerable on some level, directly or indirectly, to a terrorist attack. However, communities where the previously mentioned potential targets are located should be considered more vulnerable. Site-specific assessments should be based on the relative importance of a particular site to the surrounding community or population. Threats that are known to exist and vulnerabilities include:

- Inherent vulnerability:
  - Visibility – How aware is the public of the existence of the facility?
  - Utility – How valuable might the place be in meeting the objectives of a potential terrorist?
  - Accessibility – How accessible is the place to the public?
  - Asset mobility – Is the asset's location fixed or mobile?
  - Presence of hazardous materials – Are flammable, explosive, biological, chemical, and/or radiological materials present on-site? If so, are they well secured?
  - Potential for collateral damage – What are the potential consequences for the surrounding area if the asset is attacked or damaged?
  - Occupancy – What is the potential for mass casualties based on the maximum number of individuals on-site at a given time?

- Tactical vulnerability:

  Site Perimeter
  - Site planning and Landscape Design – Is the facility designed with security in mind – both site-specific and with regard to adjacent land uses?
  - Parking Security – Are vehicle access and parking managed in a way that separates vehicles and structures?

  Building Envelope
  - Structural Engineering – Is the building's envelope designed to be blast-resistant? Does it provide collective protection against chemical, biological, and radiological contaminants?

  Facility Interior
  - Architectural and Interior Space Planning – Does security screening cover all public and private areas?
  - Mechanical Engineering – Are utilities and HVAC systems protected and/or backed up with redundant systems?

- Electrical Engineering – Are emergency power and telecommunications available? Are alarm systems operational? Is lighting sufficient?
- Fire Protection Engineering – Are the building's water supply and fire suppression systems adequate, code-compliant, and protected? Are on-site personnel trained appropriately? Are local first responders aware of the nature of the operations at the facility?
- Electronic and Organized Security – Are systems and personnel in place to monitor and protect the facility?

To reduce their vulnerability to terrorism hazards, Westmoreland County belongs to the Pennsylvania Region 13 Task Force (Region 13), a group of 13 counties that collaborate to prevent, protect against, prepare for, respond to, recover from, and mitigate against terrorism and other hazards on a regional level. Like the other regional task forces in Pennsylvania, Region 13 is funded by the Pennsylvania Emergency Management Agency (PEMA) using DHS's Homeland Security Grant Program's State Homeland Security Program (SHSP). The counties of Region 13, including Westmoreland County, use this funding to conduct emergency planning, training, and exercise activities, and to purchase equipment to reduce the region's vulnerability to terrorism.

Impact on the Environment

The impacts of terrorism can vary in severity from nominal to catastrophic and are contingent upon the method of the attack, the volume of force applied, and the population density of the attack site. There may be significant loss of life for humans and animals as well as economic losses. Additionally, the impact of the attack itself may be exacerbated by the fact that human services agencies like community support programs, health and medical services, public assistance programs, and social services can experience physical damage to facilities, supplies, and equipment as well as disruption of emergency communications. There may also be ancillary effects of terrorism such as urban fires or, in the case of a radiological device, radioactive fallout that can multiply the impact of a terrorist event (PEMA 2018).

Future Growth and Development

Areas targeted for potential future growth and development in the next five to ten years have been identified across Westmoreland County (further discussed in Section 2.4 of this Hazard Mitigation Plan [HMP]). Any areas of growth could be potentially impacted by the terrorism hazard because Westmoreland County is exposed and potentially vulnerable.

Effects of Climate Change on Vulnerability

Because terrorism is a human-caused hazard, climate change is not anticipated to affected vulnerability associated with terrorism.

Additional Data and Next Steps

Any additional information regarding localized concerns and past impacts will be collected and analyzed for the HMP update. These data will be developed to support future revisions to the plan.

4.3.21 Transportation Accident

This section describes the location and extent, range of magnitude, past occurrence, future occurrence, and vulnerability assessment for the transportation accident hazard for Westmoreland County.

Transportation hazards include hazardous materials in transit, vehicular accidents, aviation accidents, at-grade railroad crossings, and roadways vulnerable to floods. A transportation hazard may be defined as a condition created by movement of anything by common carrier. Transportation hazards can be divided into two categories: hazards created by the material being transported, and hazards created by the transportation medium. Transportation systems available in Westmoreland County include roadways, railways, and several airports. A major road accident in the county is probable; however, aviation or rail accidents are unlikely. All county systems and supporting transportation resources provide services locally, regionally, and nationally. Transportation accidents involving road, air, and rail travel are defined below:

- Vehicular Accidents: A vehicular accident is an incident that usually involves one vehicle colliding with another vehicle or other road user, such as an animal or a stationary roadside object. A vehicular accident may result in injury, property damage, or possible fatalities. Many factors contribute to vehicular accidents, including equipment failure, poor road conditions, weather, traffic volume, and driver behavior.
- Aviation Accidents: According to the International Civil Aviation Organization, an aviation accident is an occurrence during operation of an aircraft from the time a person boards the aircraft with intent to fly to a destination, to the time the person has disembarked the aircraft. Three different situations qualify as an aviation accident: a person is fatally or seriously injured; the aircraft sustains damage or structural failure; or the aircraft is missing or inaccessible. An aviation incident is an occurrence, other than an accident, associated with operation of an aircraft that affects or could affect the safety of operation (International Civil Aviation Organization 2015).
- Hazardous Materials (HazMat) in Transit: A HazMat is defined as a substance or material determined capable of posing an unreasonable risk to health, safety, or property when transported. "Unreasonable risk" covers a broad range of health, fire, and environmental considerations. HazMats come in various forms, some of which can cause death; serious injury; long-lasting health effects; and damage to buildings, homes, and other property. HazMat substances include explosives, flammable solids, substances that become dangerous when wet, oxidizing substances, and toxic liquids. An accident involving a vehicle carrying HazMats becomes a HazMat incident if the HazMat leaks; is involved in a fire; or if the potential for release, fire, or other hazard exists. Hazards can occur during production, storage, transportation, use, or disposal of HazMats (Illinois Emergency Management Agency 2012). More detailed information regarding HazMat incidents can be found in Section 4.3.16 of this plan.
- Railway Accidents: Railway accidents involve one or more trains. They can involve a train derailment or one train impacting another train, vehicle, or pedestrian. Presently, a total of 162.1 miles of rail lines are located within Westmoreland County.

4.3.21.1 Location and Extent

Vehicular Accidents

Several major roadways run through Westmoreland County, including I-70, the Pennsylvania Turnpike – I-76, Pennsylvania Turnpike Route 66, US-22, US-30, and US-119. Westmoreland County, as a whole, is at risk for traffic accidents of all degrees.

Westmoreland County has more than 3,500 miles of roadways, divided as listed in Table 4.3.21-1, and illustrated on Figure 4.3.21-1. Transportation accidents can occur at any point along these roadways, with many occurring at an intersection of two or more roadways.

Table 4.3.21-1. Westmoreland County Transportation Network

Category	Miles
Interstate Highway	57.7
Freeways/Expressways	34.5
Principal Arterials	126
Minor Arterials	254.3
Major Collectors	479.2
Minor Collectors	132.4
Local Roads	2,587.8
Total	**3,671.9**

Source: Pennsylvania Department of Transportation (PennDOT) 2017

Transportation accidents can occur at any point along these roadways, with many occurring at the intersection of two or more roadways.

Structurally-deficient bridges pose a risk for transportation accidents. In response to the collapse of the I-35W Bridge in Minneapolis in August 2007, PennDOT assessed the structural integrity of all bridges in the Commonwealth. Table 4.3.21-2 lists the total number of bridges in Westmoreland County, as well as the number of those that are structurally deficient (in parentheses). Each structurally-deficient bridge poses a risk for transportation accidents.

Table 4.3.21-2. Bridges in Westmoreland County

On State Roads (Structurally Deficient)	On Local Roads (Structurally Deficient)
734 (99)	169 (59)

Source: PennDOT 2019

There is no warning time for vehicular accidents. Factors contributing to these accidents are typically associated with the driver, vehicle, and the environment. Factors associated with the driver include error, speeding, lack of experience, and blood-alcohol level. Factors associated with the vehicle include type, condition, and center of gravity. Environmental factors include quality of the infrastructure, weather, and obstacles. The majority of vehicular accidents are attributed to the driver. Vehicular accidents can severely affect those directly involved, as well as others not directly involved. Other effects may include severe traffic delays, lost sales to businesses, delayed commodity shipments, and increased insurance costs (Cova and Conger 2004).

County and local officials identified the junction of US-119, -70, -76, and -66 in New Stanton as especially problematic for transportation accidents. This impacts Youngwood Borough as well during hazardous weather conditions when the turnpike (I-76) is closed or a traffic incident occurs on the limited access road of I-70.

Railway Accidents

Pennsylvania offers freight, passenger, and commuter rail services. In its 2035 Intercity Passenger and Freight Rail Plan, the Pennsylvania Bureau of Rail Freight, Ports, and Waterways cites that the freight rail network totals 5,095 miles of track with over 60 railroads, making Pennsylvania the fifth-largest rail network in the nation and the state with the greatest number of railroads. Owners of rail lines operating in Westmoreland County include CSX Transportation, Norfolk Southern, Wheeling & Lake Erie, Southwest Pennsylvania, Turtle Creek Industrial, and Allegheny Valley. In addition, Amtrak's passenger train, the Pennsylvanian, operates one per day in each direction, with two stations situated in Westmoreland County in Greensburg and Latrobe.

Rail accidents generally fit into one of three categories (Pennsylvania Emergency Management Agency [PEMA] 2018):

- Derailment – the train leaves the rails

- Collision – a train strikes another train or a vehicle
- Other – including objects on the rails, fires, or explosions.

Classified HazMats are transported along the county's railway system, increasing the potential for a railway accident with an associated HazMat release. Such an accident would further place Westmoreland communities at risk. Additional information regarding the release of HazMats is included in Section 4.3.16 (Environmental Hazard profile).

Aviation Accidents

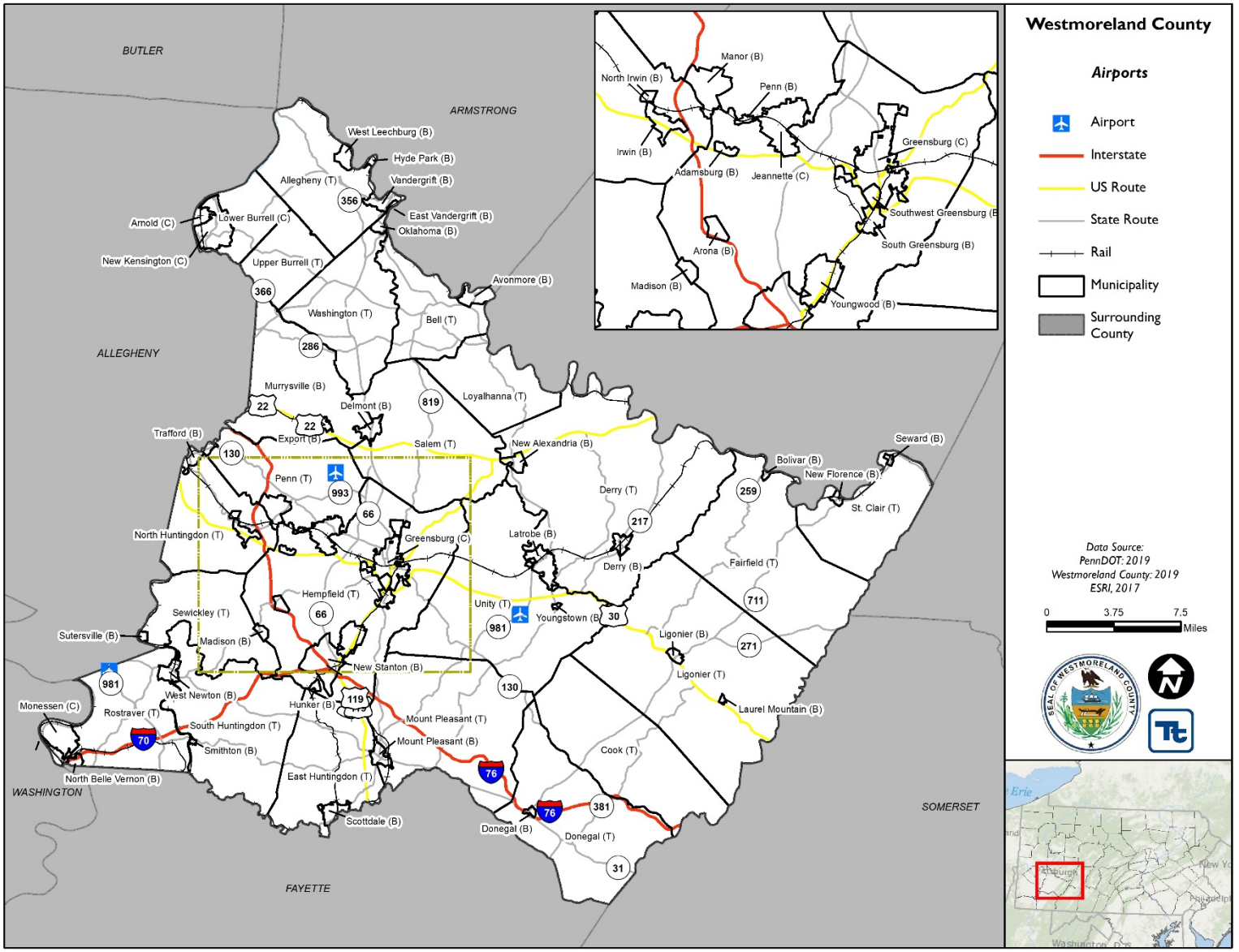
Westmoreland County is host to several airports. The most notable is the Arnold Palmer Regional Airport in Unity Township. Other airports in Westmoreland County include the Greensburg-Jeanette Regional Airport in Penn Township, Mount Pleasant Scottdale Airport in Mount Pleasant Township, Rostraver Airport in Rostraver Township, and Inter County Airport in North Huntingdon Township. Additionally, Aero Medical Services contributes to air traffic within the County. A large international airport in Pittsburgh contributes associated air traffic in the skies above Westmoreland County, which may experience problems in flight and crash in the County. Airports are shown in Figure 4.3.21-1.

Approximately 80 percent of all aviation accidents occur shortly before or during take-off and landing. Reportedly, most of these accidents are caused by human error. Mid-flight accidents are rare. A survey of 1,843 plane crashes between 1950 and 2006 showed that 53 percent were the result of pilot (human) error, 21 percent were caused by mechanical failure, 11 percent were caused by weather, 8 percent were attributed to other human error (lack of communication or improper maintenance), 6 percent were caused by sabotage and terrorism, and 1 percent resulted from other causes (Krasner 2009).

Aviation accidents are often devastating incidents that may result in serious injuries or fatalities. The Federal Aviation Administration (FAA) and the National Transportation Safety Board (NTSB) are the agencies responsible for monitoring air travel and investigating accidents. Some of the most common causes of aviation accidents occur as a result of violations of FAA and NTSB regulations. Some other causes of accidents include those listed below:

- Pilot or flight crew errors – Pilot error is the number one cause of aviation accidents and accounts for the highest number of fatalities. Pilots have the responsibility to transport passengers safely from one place to another and follow the FAA and NTSB regulations to better ensure passenger safety. If a pilot or flight crew member makes an error, an accident may occur.
- Faulty equipment – Faulty aircraft equipment is another common cause of aviation accidents.
- Aircraft design flaws – The manufacturer of an aircraft is responsible for an aviation accident if the structural design is flawed and results in an accident.
- Failure to properly fuel or maintain the aircraft – If any regulations and safety standards set by the FAA or NTSB are violated, an accident may occur.
- Negligence of Federal Air Traffic Controllers – Failure of air traffic controllers to properly monitor the airways is another cause of aviation accidents (Aviation Law News, n.d.).

Figure 4.3.21-1. Major Transportation Routes and Airports in Westmoreland County



4.3.21.2 Range of Magnitude

Roadway accidents in Westmoreland County range from minor crashes to more serious incidents that involve injuries or fatalities, or result in the release of HazMats (Section 4.3.16). PennDOT, District 12-0, provided information regarding injuries and fatalities associated with automobile crashes and for pedestrians involved in transportation incidents for this plan. Additional details are available from the Westmoreland County Coroner's Office on the statistics of fatal vehicular incidents within Westmoreland County, including the year-end reports for 2011 – 2013, and 2018. These figures differed slightly from PennDOT figures for fatalities from automobile crashes. The Coroner's Office statistics were considered to be the best available information and are displayed in Table 4.3.21-3 below.

Table 4.3.21-3. Fatalities from Automobile Crashes and Fatalities of Pedestrians, 2009-2017

Timeline	Fatalities from Automobile Crashes	Fatalities of Pedestrians
2009-2011	116	9
2012-2013	77	9
2013	25	0
2014	32	3
2015	25	4
2016	22	5
2017	18	0
2018	18	*
Total:	**333**	**30**

Source: PennDOT 2017; Office of the Coroner Annual Reports 2018
Note: The Westmoreland County 2018 Coroner's Report does not provide a statistic on Pedestrian Fatalities.

Rail accidents can vary widely in terms of injuries, fatalities, property damage, and interruption of service, depending on the nature and severity of the accident.

Aircraft accidents can vary from a single-engine aircraft having a "hard landing" causing damage to the aircraft, to a crash of a small turboprop or jet aircraft, to a crash of a large jet (such as a Boeing 727). Other aircraft accidents could include helicopter or experimental aircraft crashes. Aviation accidents can also involve radio-controlled or drone aircraft devices, many of which are experimental and not subject to defined regulatory oversight, potentially complicating issues with and for the public that could arise if one of these devices crashes.

A worst-case transportation accident scenario within the county would be the overturn of a tractor-trailer carrying an extremely hazardous substance (described in Section 4.3.16) resulting in a massive release of its cargo on a major roadway. This incident would block traffic on Westmoreland County's major transportation routes and could threaten the health and safety of individuals on the roadways and in surrounding neighborhoods. In addition, a release could necessitate closure of county critical facilities near the accident. The most likely transportation accident in the county would involve a single vehicle hitting an object and sustaining minimal damage.

4.3.21.3 Past Occurrence

Roadway accidents (such as multi-vehicle accidents, those that close roads or bridges, or those involving school buses) are reported by Westmoreland County to PennDOT. The Federal Railroad Administration keeps records on railroad accidents. Table 4.3.21-4 summarizes these accidents from 2011 to 2019. While this table lists accidents reported to the counties and Commonwealth, significantly more minor accidents are not reported.

Table 4.3.21-4. Summary of Transportation Accidents in Westmoreland County, 2011 to February 2019

Year	Vehicle Accidents	Railroad Incidents	Aircraft Accidents
2011*	26	5	0
2012*	41	0	4
2013*	3,209	1	0
2014*	3,272	1	0
2015	357	7	1
2016	601	4	2
2017	946	6	3
2018	1057	8	2
2019	153	1	0
Total	**9,662**	**33**	**12**

Source: PennDOT 2017; Federal Railroad Administration (FRA) 2019; National Transportation Safety Board (NTSB) 2019
** Data from PennDOT and prior HMP. Years after 2015 from Knowledge Center*

Table 4.3.21-5 summarizes significant transportation accidents in Westmoreland County from 2006 through 2019.

Table 4.3.21-5. Significant Accidents in Westmoreland County, 2013 to 2018

Date(s) of Event	Accident Type	Description
February 5, 2013	Rail	Train derailment in Etna. $3,512 in equipment damage. $90,480 in track, signal, way, and structural damage.
February 13, 2014	Rail	Train derailment in North Vandergrift of 21 cars resulted in 4,210 gallons of petroleum crude oil. $1,760,384 in equipment damage. $562,869 in track, signal, way, and structural damage.
October 11, 2015	Automobile accident	A motor vehicle accident in Rostraver Township resulted in a fatality and road closure.
November 20, 2015	Automobile	A vehicle accident in Allegheny Township resulted in a fatality.
October 14, 2016	Aircraft	During a landing at Arnold Palmer Regional Airport, a Piper airplane crashed. The crash was non-fatal
November 19, 2016	Rail	Train derailment in Monessen. $280 in equipment damage. $14,099 in track, signal, way, and structural damage.

Source: Westmoreland County 2019; NTSB 2019

4.3.21.4 Future Occurrence

Transportation hazards are impossible to predict accurately; however, areas prone to these hazards can be located, quantified through analysis of historical records, and plotted on Countywide and municipality base maps. Areas with certain characteristics that contribute to these hazards or increase vulnerability to these hazards can be identified.

Assuming that transportation accidents are as likely to occur in the future as they have occurred in the past, and based on the available data, Westmoreland County can expect the following each year:

- Approximately 3,268 vehicle accidents (The actual number of vehicle accidents in Westmoreland County may be much higher; however, this figure is based on vehicle accidents captured from PennDOT from 2013-2017.)
- 0.625 aircraft incidents
- One railroad incident

Based on the Risk Factor Methodology Probability Criteria, the probability of a transportation accident in the categories listed above is considered to be *highly likely* (summarized in Table 4.4-1).

4.3.21.5 Vulnerability Assessment

The entire county has been identified as the hazard area for transportation accidents. This section evaluates and estimates the potential impact of transportation hazards on Westmoreland County in the following sections:

- Overview of vulnerability
- Data and methodology used for the evaluation
- Impacts on (1) life, safety, and health; (2) general building stock, critical facilities, and economy; (3) the environment; and (4) future growth and development
- Effect of climate change on vulnerability
- Further data collections that will assist in understanding this hazard over time

Overview of Vulnerability

Several types of county transportation rely on use of roadways. Hazards associated with transportation can include natural hazards affecting the roadway, type of material being transported, or hazards pertaining to the transportation medium itself. Multiple major roadways (interstates and other major highways) within the county are used by residents and commuters, as means for transporting all types of materials, including HazMats. A major accident on any of these major roadways is possible and could minimally or severely affect the county.

Data and Methodology

Regarding this hazard, data were obtained from the county, local officials, and federal data sources. In addition, the Planning Team has identified roadways within the county that are vulnerable to other natural hazards (such as flooding).

Impact on Life, Health, and Safety

Transportation hazards could lead to potential losses in categories of human health and life, property, and natural resources. Vehicular accidents, flooded roadways, and other roadway impairments may result in injury or death to drivers and passengers on the road, the public in the immediate vicinity, and emergency services personnel. The number of people exposed to a hazard depends on population density, whether exposure occurs during day or night, and proportions of the population located indoors and outdoors.

The county and its municipalities are prepared to manage and respond to transportation hazards.

Impact on General Building Stock, Critical Facilities, and Economy

Because of insufficient data, a full loss estimate was not completed for the transportation hazard. Loss of roadway use and public transportation services would affect thousands of commuters, employment, day-to-day operations within the county, and delivery of critical municipal and emergency services. Disruption of one or more of these modes of transportation can lead to congestion of another, and affect both the county and the region as a whole. As discussed in Section 2.4 of this HMP, areas targeted for future growth and development

have been identified across Westmoreland County. Increased development in Westmoreland County and region will lead to increased road traffic.

Impact on the Environment

Like the range of magnitude, the environmental impacts associated with transportation crashes can vary greatly. In the case of a simple motor vehicle crash, train derailment, or aviation crash, the environmental impact is minimal. However, if the crash involves any type of vehicle moving chemicals or other HazMats, the impact will be considerably larger and may include an explosion or the release of potential HazMats (PEMA 2018). Section 4.3.16 (Environmental Hazards) includes a complete discussion of the environmental impacts of HazMat releases.

Future Growth and Development

Increased development in Westmoreland County will lead to increased road traffic. Areas targeted for potential future growth and development in the next 5 to 10 years have been identified across Westmoreland County (further discussed in Section 2.4 of this HMP). Any areas of growth could be potentially impacted by the transportation crashes hazard because the entire county is exposed and potentially vulnerable.

Effect of Climate Change on Vulnerability

The 2014 National Climate Assessment notes that the national transportation system is vulnerable to climate change impacts through infrastructure damages and electricity and communication outages (U.S. Global Change Research Program 2014). Damaged infrastructure and ineffective safety systems may lead to an increased risk of transportation crashes. Continued use of transportation that uses fossil fuels also adds to the impact of climate change through the release of greenhouse gas emissions. According to the U.S. Department of Transportation (DOT), 28 percent of total greenhouse gas emissions in United States in 2012 came from the transportation sector (DOT 2017).

Additional Data and Next Steps

Based on limited data regarding the probability and potential impact of this hazard, a quantitative loss estimate was not completed for this HMP. Over time, the county can work with appropriate agencies to collect additional data to support mitigation planning, consideration of potential risks, and prioritization of mitigation measures for this hazard.

Westmoreland County recognizes it must compile and maintain data regarding specific concerns and past losses from this hazard. These data should include specific information regarding damage or loss of life, property, or infrastructure; and any reports pertaining to potential or actual cost and logistics of responding to an event caused by this hazard (locations of road closures, map detours, traffic counts, durations of closures and detours; and costs to respond). These data will be included in future revisions of the HMP, and can be used to support future mitigation grant efforts (benefit-cost analysis).

Studying traffic and potential transportation accident patterns could provide information on vulnerability of specific road segments and nearby populations. Increased understanding of the types of hazardous materials transported through the county will also support mitigation efforts. Maintaining a record of frequently transported materials can facilitate development of preparatory measures to respond to a release. Predicting costs needed to respond to a release, remediate the environment (Section 4.3.16 includes a discussion of environmental impacts due to transportation accidents), or repair damaged infrastructure would be useful for developing mitigation options.

4.3.22 Utility Interruption

A utility interruption could include power failure, potable water service outage, telecommunications infrastructure failure, natural gas infrastructure failure, or sewer infrastructure failure. For the purpose of this plan, utility interruption focuses on power failure, because it is the major cause of utility failure and has had widespread impacts on the county.

A power failure is defined as any interruption or loss of electrical service from disruption of power transmission caused by accident, sabotage, natural hazards, or equipment failure. A significant power failure is defined as any incident of a long duration that would require the involvement of the local or state emergency management organizations to coordinate provision of food, water, heating, cooling, and shelter. Interruptions in other basic utilities (such as data/telecommunications, water, natural gas, or sewer) can have a detrimental impact on Westmoreland County. Utilities that employ aboveground wiring (power and data/telecommunications) are vulnerable to the effects of other hazards such as high wind, heavy snow, ice, rain, and vehicular accidents.

This section describes the location and extent, range of magnitude, past occurrence, future occurrence, and vulnerability assessment for the utility interruption hazard for Westmoreland County.

4.3.22.1 Location and Extent

Utility interruptions occur throughout Westmoreland County, but are usually of small scale and short duration. Utility interruptions in Westmoreland County include disruptions in water, fuel, electric, and telecommunications capabilities. These interruptions are often a secondary impact of another hazard event. For example, severe thunderstorms or winter storms could bring down power lines and cause widespread disruptions in electricity service. Strong heat waves may result in rolling blackouts causing loss of power for an extended period. Local outages may be caused by traffic accidents or wind damage. Further information on hazards that can lead to utility interruptions are described in Sections 4.3.2 (Drought), 4.3.4 (Extreme Temperature), 4.3.6 (Hailstorm), 4.3.7 (Hurricane and Tropical Storm), 4.3.9 (Lightning), 4.3.12 (Tornado and Wind), and 4.3.14 (Winter Storm).

Local companies that provide electricity to Westmoreland County, such as PPL or West Penn Power Company, are capable of handling minor interruptions (Section 2 of this plan describes other utilities in the county). Interruptions are possible anywhere utility service has been installed. Some utility facilities are especially vulnerable. For instance, potable water interruption is possible when water intakes and many water control facilities are in the 1-percent annual chance floodplain, a flood of this magnitude may seriously impair water service. Section 4.3.5 provides more detail on possible flood impacts.

4.3.22.2 Range of Magnitude

Generally speaking, the most severe utility interruptions are regional power outages. Regional loss of power affects lighting; heating, ventilation, and air conditioning (HVAC) and other support equipment; communications; fire and security systems; and refrigerators, which can in turn cause loss of water and sewer service, and food spoilage. These effects are especially severe for individuals with access and functional needs and the elderly.

At a minimum, utility outages can cause short-term disruption of the orderly functioning of businesses, government operations, and private citizen functions and activities. Examples of everyday functions that would be affected by power outages include traffic signals, elevators, and retail sales. A worst-case scenario for utility interruption in Westmoreland County would be a countywide power outage during winter months, forcing the evacuation of vulnerable populations.

Sabotage also plays a role in some utility outages. Sabotage may be the direct result of a malicious attack against utilities, or may be the secondary effect of the theft of copper wiring. In a report published in October 2010 titled "An Updated Assessment of Copper Wire Theft from Electric Utilities," the U.S. Department of Energy's (DOE) Office of Electricity Delivery and Energy Reliability reported that United States-based utilities suffer copper thefts costing several million dollars annually (DOE 2010). The estimated minutes of outages experienced by utilities nationwide as a result of copper theft were 456,000 or about 7,600 hours (American Public Power Association [APPA] 2012).

4.3.22.3 Past Occurrence

Every year, Westmoreland County is susceptible to minor utility interruptions either through technological failure or as the result of inclement weather. Table 4.3.22-1 shows major utility interruptions in the county from 2015 to February 2019.

Table 4.3.22-1. Utility Interruptions from 2015 – February 2019

Utility Type	2015	2016	2017	2018	2019	Utility Total
Boil Water Advisory	0	1	0	0	1	**2**
Communications Outage	4	24	16	13	0	**57**
Natural Gas Outage	4	1	2	0	0	**7**
Power Outage	25	21	14	25	1	**86**
Water Outage	29	19	18	7	1	**74**
Annual Total	**62**	**66**	**50**	**45**	**3**	**226**

Sources: Westmoreland County 2019; Knowledge Center 2019; West Penn Power Company 2019

4.3.22.4 Future Occurrence

Minor utility failure (in other words, short outage events) may occur several times a year for any given area in the county, while major events (long, widespread outage events) occur once every few years. Utility failures often occur during severe weather; therefore, they should be expected during those events. Based on the assumption that the county will experience severe weather annually, in addition to outages from other causes, the future occurrence of utility interruptions in Westmoreland County should be considered *highly likely* as defined by the Risk Factor Methodology probability criteria.

4.3.22.5 Vulnerability Assessment

To understand risk, a community must evaluate the assets that are exposed or vulnerable in the identified hazard area. This section discusses the potential impact of the subsidence and sinkhole hazard on Westmoreland County in the following subsections:

- Impact on (1) life, health, and safety; (2) general building stock; (3) economy; (4) environment; and (5) future growth and development
- Effect of climate change on vulnerability
- Further data collections that will assist understanding of this hazard over time

Impact on Life, Health, and Safety

Utility interruptions most severely affect individuals with access and functional needs (such as children, the elderly, and individuals with special medical needs). Special medical equipment will not function without power. Likewise, a loss of air conditioning during periods of extreme heat or the loss of heating during extreme cold can be especially detrimental to those with medical needs, children, and the elderly. Table 4.3.22-2 shows the demographic change in children and the elderly from 2000 through 2017. The population under the age of 5, and under the age of 18 have decreased, while the population over the age of 65 has increased, as shown in Table 4.3.22-2. The population under the age of 18 has decreased by 17.7 percent. Data on individuals with special medical needs were not available.

Table 4.3.22-2. Demographic Trends for Vulnerable Populations

Vulnerable Population	2000 Census	2010 Census	2013-2017 ACS	2000 to 2017 Change
Children under 5 years	19,175	17,671	16,498	-2,677
Under 18 years	81,399	72,611	66,980	-14,419
65 years and over	67,781	68,877	75,289	+7,508

Source: U.S. Census Bureau 2018

Impact on General Building Stock and Critical Facilities

All facility infrastructure considered critical are vulnerable to utility interruptions, especially the loss of power. The establishment of reliable backup power at these facilities is extremely important to continue to provide for the health, safety, and well-being of Westmoreland County's population.

Impact on the Economy

No data regarding economic impacts from utility interruptions in Westmoreland County are available. However, utility interruptions can cause economic impacts stemming from lost income, spoiled food and other goods, costs to the owners or operators of the utility facilities, and costs to government and community service groups. Calculation of potential impacts of utility interruptions is heavily dependent on the number of rate-paying utility connections affected. The Federal Emergency Management Agency (FEMA) Benefit-Cost Analysis (BCA) Toolkit v.5.3.0 has standard values based on the daily cost per rate-paying connection. The daily cost per value is shown in Table 4.3.22-3.

Table 4.3.22-3. FEMA BCA Toolkit v5.3.0 Daily Standard Values of Utility Services

Utility	Daily Value (per connection/per day)
Electric	$148.00
Potable Water	$105.00
Wastewater	$49.00

Source: FEMA 2017

Impact on the Environment

The most significant impact associated with utility interruptions is when the interruption involves a release of hazardous materials. This hazardous material may be released in a pipeline accident or when a material is in

transit. Section 4.3.16 (Environmental Hazards) includes a complete discussion on the impacts of a hazardous materials release. Pipelines carrying flammable materials also have the possibility of exploding or starting a fire (Pennsylvania Emergency Management Agency [PEMA] 2018).

A number of secondary impacts are associated with utility interruptions. First, interruptions could affect the ability of the government to function, especially if backup power generators or supply is inadequate or unavailable. Utility interruptions also can reduce the efficient and effective communication that is essential to first responders. Heating loss and severe cold can also impact the health and safety of at-risk populations like young children, the elderly, and individuals with disabilities (PEMA 2018).

Future Growth and Development

Areas targeted for potential future growth and development in the next 5 to 10 years have been identified across Westmoreland County (further discussed in Section 2.4 of this HMP). Any areas of growth could be potentially impacted by the utility interruption hazard because the entire county is exposed and potentially vulnerable. An increase in development and population will increase demand for power supply and has the ability to increase the likelihood of utility interruption incidents.

Effect of Climate Change on Vulnerability

According to the Fourth National Climate Assessment, two climate change scenarios were modeled, and temperature change in the northeastern United States is estimated to increase between 3.98 - 5.09°F by 2036-2065 and between 5.27 - 9.11°F by 2071-2100. The annual mean temperature change in Pennsylvania is projected to increase between 5.9 - 6.3°F by 2041 - 2070. Some areas of the world may experience greater temperature changes than others. It is important to note that frequency estimates may not be an accurate representation of future conditions due to the unknown impacts of climate change (PEMA 2018).

Increased average temperatures as a result of climate change make the occurrence of extreme heat more likely. While increased average temperatures would make the occurrence of extreme cold less likely, some climatologists have suggested that warming in the Arctic could impact the position of the jet stream, allowing for more extreme cold weather events to occur. While some research supports this concept, others do not and the impact of climate change on cold weather events is not fully understood (Climate Central 2013). Extreme heat and cold result in greater strain on utilities, increasing the likelihood of utility interruption.

Climatologists expect an increase in the number and intensity of severe weather events. This will include wind events such as hurricanes, tornadoes, and wind associated with thunderstorms, among other phenomena. More storms with higher winds will increase the chance that the utility infrastructure will be impacted by these storms. Additionally, climatologists expect an increase in precipitation, which could come in the form of heavy downpours or winter weather thus causing additional utility interruptions. Increased risk of drought may also threaten water utilities.

Additional Data and Next Steps

For future plan updates, Westmoreland County can track data on power outage events and obtain additional information on past and future events, particularly in terms of any injuries, deaths, shelter needs, pipe freeze incidents, and other impacts. These data will help to identify any concerns or trends for which mitigation measures should be developed or refined. In time, quantitative modeling of estimated power outage events may be feasible as data are gathered and improved.

4.4 Hazard Vulnerability Summary

A risk assessment is the process of measuring the potential loss of life, personal injury, and economic and property damage that may affect a community resulting from identified hazards. It allows planning personnel to address and reduce hazard impacts, and emergency management personnel to establish early response priorities by identifying potential hazards and vulnerable assets. Results of the risk assessment are used in subsequent mitigation planning processes, including determining and prioritizing mitigation actions that reduce each jurisdiction's risk to a specified hazard.

This section describes the vulnerability assessment process for the Westmoreland County Hazard Mitigation Plan (HMP). Past, present, and future conditions must be evaluated to most accurately assess risk for the County and each jurisdiction.

4.4.1 Risk Assessment Methodology

Asset Inventories

Population

As discussed in Section 2 (County Profile) research has shown that some populations are at greater risk from hazard events because of decreased resources or physical abilities. For the purposes of this planning process, vulnerable populations in Westmoreland County include children, elderly people, low-income populations, people with physical or mental disabilities, and non-English speakers.

The 2010 U.S. Census block data layers were used to estimate exposure and potential impacts to the general population. The 2010 U.S. Census demographic data available in Federal Emergency Management Agency's (FEMA) Hazards U.S.—Multi-Hazard (HAZUS-MH) v4.2 model was used to estimate potential impacts to the elderly (over 65 years of age) and populations with income below the poverty threshold.

The census blocks do not follow the boundaries of the hazard areas, possibly leading to gross overestimates or underestimates of exposed populations from use of centroids or intersects of census blocks with these zones. Limitations of these analyses are recognized, and thus the results are used only to provide a general estimate.

For Section 4.3.5 (Flood, Flash Flood, and Ice Jam), the FEMA Digital Flood Insurance Rate Maps (DFIRM) were overlaid upon residential buildings from the general building stock inventory to provide a more accurate exposure estimate. The number of structures located in the hazard areas was totaled and multiplied by the average household size for Westmoreland County – 2.32 (U.S. Census 2010). Limitations of these analyses are recognized, and thus results are used only to provide a general estimate for planning purposes.

Buildings

The building footprint spatial layer provided by the Westmoreland County Geographic Information System (GIS) department and the default general building stock data in HAZUS-MH based on the 2010 U.S. Census and 2016 RSMeans cost data, were used to assess exposure and estimate potential losses to flood and wind events at the municipal level. As noted above, U.S. Census blocks do not follow hazard boundaries, possibly leading to gross overestimates or underestimates of exposed building stock value. Limitations of these analyses are recognized, and thus the results are used only to provide a general estimate.

Critical Facilities

The critical facility inventory, which includes essential facilities, utilities, transportation features and user-defined facilities as outlined in Section 2 (County Profile), was updated beginning with all GIS data provided by the Westmoreland County GIS Department. To protect individual privacy and the security of assets, asset information is presented in some cases in aggregate, without details about specific individual properties or facilities.

New Development

In addition to summarizing the current vulnerability, Westmoreland County examined recent and anticipated new development that can affect the County's vulnerability to hazards. Identifying these changes and integrating into the risk assessment ensures they are considered when developing the mitigation strategy to reduce these vulnerabilities in the future. An exposure analysis was conducted using anticipated and recent new development provided by each jurisdiction.

Methodology

To address the requirements of the Disaster Mitigation Act of 2000 (DMA 2000) and better understand potential vulnerability and losses associated with hazards of concern, Westmoreland County used standardized tools—combined with local, state, and federal data and expertise—to conduct the risk assessment. Three different levels of analysis were used depending upon the data available for each hazard as described below:

1. **Historic Occurrences and Qualitative Analysis** – This analysis includes an examination of historic impacts to understand potential impacts of future events of similar size. In addition, potential impacts and losses are discussed qualitatively using best-available data and professional judgment.
2. **Exposure Assessment** – This analysis involves overlaying available spatial hazard layers, or hazards with defined extent and locations, with assets in GIS to determine which assets are located in the impact area of the hazard. The analysis highlights which assets may be affected by the hazard. If the center of each asset is located in the hazard area, it is deemed exposed and potentially vulnerable to the hazard.
3. **Loss estimation** — The FEMA HAZUS-MH modeling software was used to estimate potential losses for the following hazards: flood, earthquake, severe storm (wind). In addition, an examination of historic impacts and an exposure assessment was conducted for these spatially-delineated hazards.

Hazards U.S. – Multi-Hazard (HAZUS-MH)

In 1997, FEMA developed a standardized model for estimating losses caused by earthquakes, known as Hazards U.S. or HAZUS. HAZUS was developed in response to the need for more effective national-, state-, and community-level planning and the need to identify areas that face the highest risk and potential for loss. HAZUS was expanded into a multi-hazard methodology, HAZUS-MH, with new models for estimating potential losses from wind (hurricanes) and flood (riverine and coastal) hazards. HAZUS-MH is a GIS-based software tool that applies engineering and scientific risk calculations that have been developed by hazard and information technology experts to provide defensible damage and loss estimates. These methodologies are accepted by FEMA and provide a consistent framework for assessing risk across a variety of hazards. The GIS framework also supports the evaluation of hazards and assessment of inventory and loss estimates for these hazards.

HAZUS-MH uses GIS technology to produce detailed maps and analytical reports that estimate a community's direct physical damage to building stock, critical facilities, transportation systems and utility systems. To generate this information, HAZUS-MH uses default data for inventory, vulnerability, and hazards; the default

data can be supplemented with local data to provide a more refined analysis. Damage reports can include induced damage (inundation, fire, threats posed by hazardous materials and debris) and direct economic and social losses (casualties, shelter requirements, and economic impact) depending on the hazard and available local data. HAZUS-MH's open data architecture can be used to manage community GIS data in a central location. The use of this software also promotes consistency of data output now and in the future and standardization of data collection and storage. The guidance, *Using HAZUS-MH for Risk Assessment: How-to Guide* (FEMA 433) was relied upon to support the application of HAZUS-MH for this risk assessment and plan (FEMA 2015). More information on HAZUS-MH is available at https://www.fema.gov/hazus.

HAZUS provides default data for inventory, vulnerability, and hazards; the default data can be supplemented with local data to provide a more refined analysis. The model can carry out three levels of analysis, depending on the format and level of detail of information about the planning area:

- **Level 1**—All of the information needed to produce an estimate of losses is included in the software's default data. This data is derived from national databases and describe in general terms the characteristic parameters of the planning area.
- **Level 2**—More accurate estimates of losses require more detailed information about the planning area. To produce Level 2 estimates of losses, detailed information is required about local geology, hydrology, hydraulics, and building inventory, as well as data about utilities and critical facilities. This information is needed in a GIS format.
- **Level 3**—This level of analysis generates the most accurate estimate of losses. It requires detailed engineering and geotechnical information to customize it for the planning area.

HAZUS-MH uses two types of Census block-based data: homogenous and dasymetric. Homogenous blocks display the full extent of each block, while the dasymetric census blocks have had homogenous undeveloped areas (bodies of water, forests, etc.) removed. The dasymetric blocks were developed to provide more accurate loss estimates by excluding uninhabited and undeveloped areas of a Census block. To estimate the replacement cost value of structures located within the hazard areas, the default dasymetric Census block general building stock data in HAZUS-MH v4.2 was used.

In general, probabilistic analyses are performed to develop estimates of long-term average losses (annualized losses), as well as an expected/estimated distribution of losses (mean return period losses) for the flood and hurricane/wind hazards. The probabilistic hazard analysis generates estimates of damage and loss for specified return periods. For annualized losses, HAZUS-MH v4.2 calculates the maximum potential annual dollar loss resulting from various return periods averaged on a "per year" basis. It is the summation of all HAZUS-supplied return periods (e.g., 10, 50, 100, 200, 500) multiplied by the return period probability (as a weighted calculation). In summary, the estimated cost of a hazard (earthquake and wind) each year is calculated.

Avalanche

A qualitative analysis was conducted for the avalanche hazard based on best-available data and professional judgment.

Drought

To assess the vulnerability to drought and its associated impacts, a qualitative assessment was conducted. The U.S. Department of Agriculture (USDA) Census of Agriculture 2017 (USDA 2018) was used to estimate economic impacts to the County. Information regarding the exposed farmland areas and total market value of

livestock and poultry and other agricultural products sold, etc. was extracted from the report and summarized in the vulnerability assessment.

Earthquake

A probabilistic assessment was conducted for the 500-year mean return period (MRP) event through a Level 2 analysis in HAZUS-MH v4.2 to analyze the earthquake hazard and provide a range of loss estimates. Overall, the three asset inventories (population, building stock, critical facilities) in Westmoreland County are considered exposed and vulnerable to the earthquake hazard. Additionally, potential building damage was evaluated by HAZUS-MH v4.2 across the following damage categories: none, slight, moderate, extensive, and complete.

Extreme Temperature

A qualitative analysis was conducted for the radon hazard based on best-available data and professional judgment.

Flood, Flash Flood, and Ice Jam

The 1-percent and 0.2-percent annual chance flood events were examined to evaluate Westmoreland County's risk to the riverine flood hazard. These flood events are generally those considered by planners and evaluated under federal programs such as the National Flood Insurance Program (NFIP). Generally, Westmoreland County's effective map date is March 17, 2011, though one panel is effective as of September 26, 2014.

FEMA Risk Map products dated March 2011 from the Flood Risk Database (FRD) were considered best-available data for Westmoreland County at the time the 2020 HMP was drafted. The 2011 Risk Map 1- and 0.2-percent annual chance floodplains were used to estimate exposure. The 1-percent annual chance flood depth grid available from Risk Map was integrated into the HAZUS-MH 4.2 riverine flood model to estimate potential losses in the County. The following is an excerpt from FEMA's 2018 "Guidance for Flood Risk Analysis and Mapping" describing this data:

> *In many cases, the core spatial data compiled for the FRD [Flood Risk Database] is derived from other FEMA datasets (e.g., the S_CSLF_Ar feature class is derived from the S_Fld_Haz_Ar feature class from the National Flood Hazard Layer (NFHL) and new Flood Insurance Rate Map (FIRM) databases. These FEMA datasets should have been compiled to FEMA specifications as described in the FIRM Database Technical Reference and other FIRM Database Guidance. In this regard, the flood risk datasets should inherit much of the quality and integrity with which their parent datasets were created (FEMA 2018).*

To estimate exposure to the 1- and 0.2-percent annual chance flood events, the 2011 Risk Map flood boundaries, default general building stock data in HAZUS-MH 4.2, Westmoreland County building footprint layer, updated critical facility inventories and 2010 U.S. Census population data were used; assets with their centroid located in the hazard areas were totaled to estimate exposure. The HAZUS-MH 4.2 riverine flood model was run to estimate potential losses for Westmoreland County for the 1-percent annual chance flood event. HAZUS-MH 4.2 calculated the estimated potential losses to the population (default 2010 U.S. Census data) and potential damages to the updated general building stock and critical facility inventories based on the depth grid generated and the default HAZUS damage functions in the flood model.

To estimate debris generated by the 1-percent annual chance flood event, HAZUS-MH v4.2, which was released on January 29, 2018, was used instead of HAZUS-MH v4.0. This is because a FEMA-known error in v4.0 was detected, and the issue appears to have been resolved with the latest software release.

Hailstorm

A qualitative analysis was conducted for the hailstorm hazard based on best-available data and professional judgment.

Hurricane and Tropical Storm

A HAZUS-MH 4.2 probabilistic analysis was performed to analyze the wind hazard. The probabilistic hurricane model activates a database of thousands of potential storms that have tracks and intensities reflecting the full spectrum of Atlantic hurricanes observed since 1886 and identifies those with tracks associated with Westmoreland County. HAZUS-MH also includes surface roughness and vegetation (tree coverage) maps for the area. Surface roughness and vegetation data support the modeling of wind force across various types of land surfaces. Annualized losses and the 100- and 500-year MRPs were examined for the wind/severe storm hazard. Default demographic and updated building and critical facility inventories in HAZUS-MH 4.2 were used for the analysis.

There is currently a FEMA-acknowledged issue with importing user-defined facilities in HAZUS-MH versions 4.0 and 4.2, available at the time of the 2019 HMP update. To estimate potential losses to user-defined facilities identified by Westmoreland County, they were appended to the Emergency Operation Centers input in HAZUS-MH Comprehensive Data Management System (CDMS) and uploaded to the program.

Landslide

To estimate exposure to landslide, a U.S. Geological Survey (USGS) landslide hazard area was overlaid upon the asset data (population, buildings, critical facilities). County assets with their center located in the hazard area are reported as exposed and potentially vulnerable to landslide events.

Lightning

A qualitative analysis was conducted for the lightning hazard based on best-available data and professional judgment.

Radon Exposure

A qualitative analysis was conducted for the radon hazard based on best-available data and professional judgment.

Subsidence and Sinkholes

There is no standard loss estimation model available for the mine subsidence hazard. To determine the assets that are exposed to this hazard, available and appropriate spatial data delineating the extent of Pennsylvanian rock and anthracite fields (generated by the Pennsylvania Bureau of Topographic and Geologic Survey in 2015) were overlaid upon the asset data (population, buildings, critical facilities). The assets with their center located in the hazard area are reported as exposed and potentially vulnerable to mine subsidence events. The U.S. Census blocks do not align with the anthracite field polygon in the spatial data; therefore, these estimates are for planning purposes only. The limitations of this analysis are recognized and are only used to provide a general estimate of exposure.

Tornadoes and Windstorms

To assess the tornado hazard, the number of manufactured homes was totaled per each municipality to provide an estimate of the vulnerability from a tornado event. The structure totals were pulled from tax assessment

data by the Westmoreland County Planning Division. The following three categories were used to calculate the number of manufactured homes per municipality:

- RT = a trailer where the trailer owner and landowner are the same, but the land is less than 10 acres.
- AT = a trailer where the trailer owner and landowner are the same, but the land is greater than 10 acres.
- T= a trailer where the trailer owner and the landowner are not the same and the land is typically leased.

Wildfire

The wildfire urban interface (WUI)—obtained through the SILVIS Lab, Department of Forest Ecology and Management, University of Wisconsin-Madison—was used to define the wildfire hazard areas. The University of Wisconsin-Madison wildland fire hazard areas are based on the 2010 U.S. Census and 2006 National Land Cover Dataset and the Protected Areas Database. For the purposes of this risk assessment, the high, medium, and low-density interface areas were combined and used as the "interface" hazard area and the high, medium, and low-density intermix areas were combined and used as the "intermix" hazard areas. The defined hazard area was overlaid upon the asset data (population, building stock, critical facilities) to estimate the exposure to the wildfire hazard.

Winter Storm

The entire general building stock inventory in Westmoreland County is exposed and vulnerable to the winter storm hazard. In general, structural impacts include damage to roofs and building frames, rather than building content. Current modeling tools are not available to estimate specific losses for the winter storm hazard. Historic data on structural losses to general building stock are not adequate to predict specific losses to this inventory; therefore, a percentage of the HAZUS-MH v4.2 default general building stock structural replacement cost value was used to estimate damages that could result from winter storm conditions. This methodology is based on FEMA's How-to Series (FEMA 386-2), *Understanding Your Risks, Identifying and Estimating Losses* (FEMA 2001) and FEMA's *Using HAZUS-MH for Risk Assessment* (FEMA 433) (FEMA 2004). Given professional knowledge and the currently available information, the potential losses for this hazard are considered to be overestimated; hence, providing a conservative estimate for losses associated with winter storm events.

Dam Failure

Digital dam failure inundation area maps were not available for inclusion in the risk assessment. A qualitative analysis was conducted for the dam failure hazard based on best-available data and professional judgment.

Environmental Hazards

The Federal Title III Superfund Amendments and Reauthorization Act (SARA), the Emergency Planning and Community Right to Know Act, and the Commonwealth of Pennsylvania set up requirements for producing, storing, and transporting hazardous materials. These hazardous materials may be released either at their storage facility location (fixed site) or in-transit.

The Pennsylvania Department of Transportation State Roads layer (2011) was used to define the hazard area around major roadways. The hazard area was defined as a 0.25-mile buffer around the Interstate, State, and U.S. roadways where hazardous materials may be in transit to estimate areas that may be directly or indirectly impacted by a release. The County provided a rail line spatial layer and a spatial layer for national pipelines was sourced from the Homeland Security Infrastructure Program (HSIP). Like with the major roadways, the hazard area was defined as a 0.25-mile buffer around these features as well. Additionally, the identified

primary vulnerability radii around the SARA Title III facilities from the County spatial layer was used to estimate potential exposure.

The defined hazard areas were overlaid upon the asset data (population, building stock, critical facilities) to estimate the exposure to each hazard.

Illicit Drug Use

A qualitative analysis was conducted for the radon hazard based on best-available data and professional judgment.

Nuclear Incident

Westmoreland County is located within the Ingestion Exposure Pathway Emergency Planning Zones (EPZ) of the Beaver Valley Power Station located in Beaver County, PA. The 50-mile EPZ was used to define the hazard area for a nuclear incident. The defined hazard area was overlaid upon the asset data (population, building and critical facilities) to estimate exposure to the nuclear incident hazard.

Structural Fire

A qualitative analysis was conducted for the structural fire hazard based on best-available data and professional judgment.

Terrorism

A qualitative analysis was conducted for the terrorism hazard based on best-available data and professional judgment.

Transportation Accident

A qualitative analysis was conducted for the transportation accident hazard based on best-available data and professional judgment.

Utility Failure

A qualitative analysis was conducted for the utility interruption hazard based on best-available data and professional judgment.

Limitations

For this risk assessment, the loss estimates, exposure assessments, and hazard-specific vulnerability evaluations rely on the best-available data and methodologies. Uncertainties are inherent in any loss estimation methodology and arise in part from incomplete scientific knowledge concerning natural hazards and their effects on the built environment. Uncertainties also result from the following:

1. Approximations and simplifications necessary to conduct such a study
2. Incomplete or dated inventory, demographic, or economic parameter data
3. The unique nature, geographic extent, and severity of each hazard
4. Mitigation measures already employed by the participating municipalities
5. The amount of notice residents have in advance to prepare for a specific hazard event

These factors can result in a range of uncertainty in loss estimates, possibly by a factor of two or more. Therefore, potential exposure and loss estimates are approximate. These results do not predict precise results

and should be used to understand relative risk. Over the long term, Westmoreland County will collect additional data to assist in developing refined estimates of vulnerabilities to natural and non-natural hazards.

Potential economic loss is based on the present value of the general building stock utilizing best-available data. The County acknowledges significant impacts may occur to critical facilities and infrastructure as a result of these hazard events causing great economic loss. However, monetized damage estimates to critical facilities and infrastructure, and economic impacts were not quantified and require more detailed loss analyses. In addition, economic impacts to industry such as tourism and the real-estate market were not analyzed.

4.4.2 Ranking Results

As discussed in Section 4.2 (Hazard Identification), a comprehensive range of natural and non-natural hazards that pose significant risk to Westmoreland County were selected and considered in this plan. However, the communities in Westmoreland County have differing levels of exposure and vulnerability to each of these hazards. It is important for each community participating in this plan to recognize those hazards that pose the greatest risk to their community and direct their attention and resources accordingly to most effectively and efficiently manage risk.

To this end, a relative hazard risk ranking process was conducted for the County using the Risk Factor (RF) methodology identified in Section 5 and Appendix 9 of Pennsylvania Emergency Management Agency's (PEMA) All-Hazard Planning Standard Operating Guide (PEMA 2013). The guidance states:

> The RF approach produces numerical values that allow identified hazards to be ranked against one another (the higher the RF value, the greater the hazard risk). RF values are obtained by assigning varying degrees of risk to five categories for each hazard: *probability*, *impact*, *spatial extent*, *warning time*, and *duration*.
>
> To calculate the RF value for a given hazard, the assigned risk value for each category is multiplied by the weighting factor. The sum of all five categories equals the final RF value, as demonstrated in the example equation below:

Example Equation

RF Value = [(Probability x .30) + (Impact x .30) +
(Spatial Extent x .20) + (Warning Time x .10) + (Duration x .10)]

> Hazards identified as high risk have RFs greater than or equal to 2.5. RFs ranging from 2.0 to 2.4 are considered moderate-risk hazards. Hazards with RFs less than 2.0 are considered low risk.

Table 4.4-1 summarizes the five risk assessment categories, the criteria and associated risk level indices used to quantify their risk, and the suggested weighting factor (weight value) applied to each risk assessment category. Table 4.4-2 shows the five risk assessment categories' values for each of Westmoreland County's hazards and each hazard's RF.

Table 4.4-1. Summary of Risk Factor (RF) Approach

Summary of Risk Factor (RF) Approach				
Risk Assessment Category	**Degree of Risk**			**Weight Value**
	Level	**Criteria**	**Index**	
PROBABILITY *What is the likelihood of a hazard event occurring in a given year?*	**UNLIKELY**	LESS THAN 1% ANNUAL PROBABILITY	1	30%
	POSSIBLE	BETWEEN 1% & 49.9% ANNUAL PROBABILITY	2	
	LIKELY	BETWEEN 50% & 90% ANNUAL PROBABILITY	3	
	HIGHLY LIKELY	GREATER THAN 90% ANNUAL PROBABILTY	4	
IMPACT *In terms of injuries, damage, or death, would you anticipate impacts to be minor, limited, critical, or catastrophic when a significant hazard event occurs?*	**MINOR**	VERY FEW INJURIES, IF ANY. ONLY MINOR PROPERTY DAMAGE & MINIMAL DISRUPTION ON QUALITY OF LIFE. TEMPORARY SHUTDOWN OF CRITICAL FACILITIES.	1	30%
	LIMITED	MINOR INJURIES ONLY. MORE THAN 10% OF PROPERTY IN AFFECTED AREA DAMAGED OR DESTROYED. COMPLETE SHUTDOWN OF CRITICAL FACILITIES FOR MORE THAN ONE DAY.	2	
	CRITICAL	MULTIPLE DEATHS/INJURIES POSSIBLE. MORE THAN 25% OF PROPERTY IN AFFECTED AREA DAMAGED OR DESTROYED. COMPLETE SHUTDOWN OF CRITICAL FACILITIES FOR MORE THAN ONE WEEK.	3	
	CATASTROPHIC	HIGH NUMBER OF DEATHS/INJURIES POSSIBLE. MORE THAN 50% OF PROPERTY IN AFFECTED AREA DAMAGED OR DESTROYED. COMPLETE SHUTDOWN OF CRITICAL FACILITIES FOR 30 DAYS OR MORE.	4	
SPATIAL EXTENT *How large of an area could be impacted by a hazard event? Are impacts localized or regional?*	**NEGLIGIBLE**	LESS THAN 1% OF AREA AFFECTED	1	20%
	SMALL	BETWEEN 1 & 10.9% OF AREA AFFECTED	2	
	MODERATE	BETWEEN 11 & 25% OF AREA AFFECTED	3	
	LARGE	GREATER THAN 25% OF AREA AFFECTED	4	
WARNING TIME *Is there usually some lead time associated with the hazard event? Have warning measures been implemented?*	**MORE THAN 24 HRS**	SELF-DEFINED	1	10%
	12 TO 24 HRS	SELF-DEFINED	2	
	6 TO 12 HRS	SELF-DEFINED	3	
	LESS THAN 6 HRS	SELF-DEFINED	4	
DURATION *How long does the hazard event usually last?*	**LESS THAN 6 HRS**	SELF-DEFINED	1	10%
	LESS THAN 24 HRS	SELF-DEFINED	2	
	LESS THAN 1 WEEK	SELF-DEFINED	3	
	MORE THAN 1 WEEK	SELF-DEFINED	4	

(NOTE: Levels of warning time and criteria that define them may be adjusted based on hazard addressed.)

(NOTE: Levels of warning time and criteria that define them may be adjusted based on hazard addressed.)

Source: PEMA 2013

Table 4.4-2. Risk Ranking for Westmoreland County

HAZARD RISK	HAZARDS	RISK ASSESSMENT CATEGORY					RISK FACTOR (RF)
		PROBABILITY	IMPACT	SPATIAL EXTENT	WARNING TIME	DURATION	
HIGH	Flood, Flash Flood, and Ice	4	4	2	1	3	3.2
	Illicit Drug Use	4	4	1	4	1	3.1
	Utility Interruptions	4	1	4	4	3	3
	Winter Storm	4	2	4	1	3	3
	Tornado, Windstorm	4	3	2	4	1	3
	Environmental Hazards	4	3	1	4	2	2.9
	Terrorism	4	3	1	4	1	2.8
	Extreme Temperatures	4	1	4	1	3	2.7
	Radon Exposure	4	1	3	1	4	2.6
	Hailstorm	4	1	4	1	1	2.5
	Landslide	3	3	1	4	1	2.5
MODERATE	Wildfire	4	1	1	4	2	2.3
	Drought	2	1	4	1	4	2.2
	Structural Fire	4	1	1	4	1	2.2
	Transportation Accidents	4	1	1	4	1	2.2
	Hurricane and Tropical Storm	2	1	4	1	3	2.1
LOW	Earthquake	1	1	4	4	1	1.9
	Nuclear Incidents	1	1	4	3	2	1.9
	Subsidence and Sinkholes	3	1	1	4	1	1.9
	Lightning	2	1	1	2	1	1.4
	Dam Failure	1	1	1	3	2	1.3
	Avalanche	1	1	1	1	1	1

Based on these results, there are 1 high-risk hazards, 5 moderate-risk hazards, and 6 low-risk hazards in Westmoreland County. Mitigation actions were developed for all high-risk, moderate-risk, and low-risk hazards (further discussed in Section 6.4). The threat posed to life and property for moderate-risk and high-risk hazards is considered significant enough to warrant the need for establishing hazard-specific mitigation actions. Mitigation actions related to future public outreach and emergency service activities are identified to address low-risk hazard incidents.

A risk assessment result for the entire County does not mean that each municipality is at the same amount of risk to each hazard. Table 4.4-3 shows the different municipalities in Westmoreland County and whether their risk is greater than (>), less than (<), or equal to (=) the RF assigned to the County as a whole.

Table 4.4-3. Jurisdictional Risk by Municipality

Municipality	Avalanche	Dam Failure	Drought	Earthquake	Environmental Hazards	Extreme Temperatures	Flood, Flash Flood, and Ice Jam	Hailstorm	Hurricane and Tropical Storm	Illicit Drug Use	Landslide	Lightning	Nuclear Incidents	Radon Exposure	Structural Fire	Subsidence and Sinkholes	Terrorism	Tornado, Windstorm	Transportation Accidents	Utility Interruptions	Wildfire	Winter Storm
	1.0	1.3	2.2	1. 9	2.9	2.7	3.2	2.5	2.1	3.1	2.5	1.4	1.9	2.6	2.2	1.9	2.8	3.0	2.2	3.0	2.3	3.0
Adamsburg Borough	<	<	<	=	>	=	=	=	=	=	=	=	>	=	>	>	=	<	>	=	>	=
Allegheny Township	=	>	=	=	=	=	=	=	=	=	=	=	>	=	=	<	=	=	=	=	>	=
Arnold, City of	<	<	<	=	>	=	=	=	=	=	<	=	>	=	>	<	=	<	>	=	>	=
Arona Borough	<	<	<	=	>	>	>	=	=	>	>	=	>	=	>	<	<	<	>	=	>	=
Avonmore Borough	<	<	<	=	>	=	=	=	=	=	<	=	=	=	>	<	=	<	>	=	>	=
Bell Township	=	>	=	=	>	=	=	=	=	=	=	=	>	=	=	<	=	=	=	=	>	=
Bolivar Borough	<	<	<	=	>	=	>	=	=	=	=	=	=	=	>	<	=	<	>	=	>	=
Cook Township	=	<	=	=	<	=	>	>	=	=	=	=	<	=	=	<	<	=	=	=	>	=
Delmont Borough	<	<	<	=	>	=	=	=	=	=	=	=	>	=	>	=	=	<	>	=	>	=
Derry Borough	<	<	<	=	>	=	>	=	=	=	<	=	=	=	>	<	=	<	>	=	>	=
Derry Township	=	>	=	=	>	=	>	=	=	=	=	=	=	=	=	=	=	=	=	=	>	=
Donegal Borough	<	<	<	=	>	=	=	=	=	=	=	=	=	=	>	<	=	<	>	=	>	=
Donegal Township	=	>	=	=	=	=	=	=	=	=	=	=	=	=	=	<	=	=	=	=	>	=
East Huntingdon Township	=	<	=	=	=	=	=	=	=	=	<	=	=	=	=	=	=	=	=	=	<	=
East Vandergrift Borough	<	<	<	=	>	=	=	=	=	=	<	=	>	=	>	<	=	<	>	=	>	=
Export Borough	<	<	<	=	>	=	>	=	=	=	=	=	>	=	>	=	=	<	>	=	>	=
Fairfield Township	=	>	=	=	=	=	=	=	=	=	>	=	=	=	=	<	=	=	=	=	>	=
Greensburg, City of	<	<	<	=	>	=	=	=	=	=	>	=	=	=	>	>	>	<	>	=	<	=
Hempfield Township	=	>	=	=	=	=	=	=	=	=	=	=	>	=	=	=	=	=	=	=	<	=

Municipality	Avalanche	Dam Failure	Drought	Earthquake	Environmental Hazards	Extreme Temperatures	Flood, Flash Flood, and Ice Jam	Hailstorm	Hurricane and Tropical Storm	Illicit Drug Use	Landslide	Lightning	Nuclear Incidents	Radon Exposure	Structural Fire	Subsidence and Sinkholes	Terrorism	Tornado, Windstorm	Transportation Accidents	Utility Interruptions	Wildfire	Winter Storm
	1.0	1.3	2.2	1. 9	2.9	2.7	3.2	2.5	2.1	3.1	2.5	1.4	1.9	2.6	2.2	1.9	2.8	3.0	2.2	3.0	2.3	3.0
Hunker Borough	<	<	<	=	>	=	=	=	=	=	>	=	=	=	>	<	=	<	>	=	<	=
Hyde Park Borough	<	<	<	=	>	=	=	=	=	=	<	=	>	=	>	>	=	<	>	=	>	=
Irwin Borough	<	<	<	=	>	=	=	=	=	=	=	=	>	=	>	>	=	<	>	=	<	=
Jeannette, City of	<	>	<	=	=	=	=	=	=	>	=	=	>	=	>	<	=	<	>	>	<	=
Latrobe, City of	<	<	<	=	>	=	>	=	=	=	<	=	=	=	>	>	=	<	>	=	<	=
Laurel Mountain Borough	<	<	<	=	>	=	=	=	=	=	<	=	=	=	>	<	=	<	>	=	>	=
Ligonier Borough	<	=	<	=	>	=	>	=	=	=	<	=	=	=	>	<	=	<	>	=	>	=
Ligonier Township	=	>	=	=	=	=	>	=	=	=	>	=	<	>	=	<	<	=	=	>	>	=
Lower Burrell, City of	<	<	<	=	>	=	=	=	=	=	<	=	>	=	>	<	=	<	>	=	<	=
Loyalhanna Township	=	<	=	=	>	=	=	=	=	=	=	=	>	=	=	<	=	=	=	=	>	=
Madison Borough	<	<	<	=	>	=	=	=	=	=	>	=	>	=	>	=	=	<	>	=	<	=
Manor Borough	<	<	<	=	=	=	>	=	=	=	>	=	>	=	>	>	=	<	>	=	<	=
Monessen, City of	<	<	<	=	=	=	=	=	=	=	>	=	>	=	>	>	=	<	>	=	<	=
Mount Pleasant Borough	<	<	<	=	>	=	=	=	=	=	>	=	=	=	>	>	=	<	>	=	<	=
Mount Pleasant Township	=	>	=	=	=	=	=	=	=	=	=	=	=	=	=	>	=	=	=	=	<	=
Murrysville, Municipality of	<	<	<	=	=	=	=	=	=	=	=	=	>	=	>	<	=	<	>	=	>	=
New Alexandria Borough	<	<	<	=	>	=	>	=	=	=	=	=	=	=	>	<	=	<	>	=	>	=
New Florence Borough	<	<	<	=	>	=	>	=	=	=	<	=	=	=	>	<	=	<	>	=	>	=
New Kensington, City of	<	<	<	=	>	=	=	=	=	=	<	=	>	=	>	<	=	<	>	=	>	=
New Stanton Borough	<	<	<	=	>	=	=	=	=	=	<	=	=	=	>	<	=	<	>	=	<	=

Municipality	Avalanche	Dam Failure	Drought	Earthquake	Environmental Hazards	Extreme Temperatures	Flood, Flash Flood, and Ice Jam	Hailstorm	Hurricane and Tropical Storm	Illicit Drug Use	Landslide	Lightning	Nuclear Incidents	Radon Exposure	Structural Fire	Subsidence and Sinkholes	Terrorism	Tornado, Windstorm	Transportation Accidents	Utility Interruptions	Wildfire	Winter Storm
	1.0	1.3	2.2	1. 9	2.9	2.7	3.2	2.5	2.1	3.1	2.5	1.4	1.9	2.6	2.2	1.9	2.8	3.0	2.2	3.0	2.3	3.0
North Belle Vernon Borough	<	<	<	=	>	=	=	=	=	=	<	=	>	=	>	>	=	<	>	=	>	=
North Huntingdon Township	=	>	=	=	<	=	=	=	<	=	>	=	>	=	=	>	=	=	=	=	>	<
North Irwin Borough	<	<	<	=	>	=	=	=	=	=	=	=	>	=	>	>	=	<	>	=	>	=
Oklahoma Borough	<	<	<	=	>	=	=	=	=	=	=	=	>	=	>	<	=	<	>	=	>	=
Penn Borough	<	<	<	=	>	=	>	=	=	=	<	=	>	=	>	<	=	<	>	=	>	=
Penn Township	<	>	<	=	>	=	=	=	=	=	=	=	>	=	<	>	=	<	=	>	=	=
Rostraver Township	=	<	=	=	=	=	=	=	=	=	=	=	>	=	=	>	=	=	=	=	=	=
St. Clair Township	=	>	=	=	>	=	>	=	=	=	<	=	=	=	=	<	=	=	=	=	>	=
Salem Township	=	<	=	=	>	=	>	=	=	=	>	=	>	=	=	>	=	=	=	=	>	=
Scottdale Borough	<	<	<	=	>	=	>	=	=	=	<	=	=	=	>	<	=	<	>	=	<	=
Seward Borough	<	<	<	=	>	=	=	=	=	=	<	=	=	=	>	<	=	<	>	=	>	=
Sewickley Township	=	<	=	=	<	=	>	=	=	=	=	=	>	=	=	>	=	=	=	=	<	=
Smithton Borough	<	<	<	=	>	=	>	=	=	=	<	=	>	=	>	>	=	<	>	=	<	=
South Greensburg Borough	<	<	<	=	>	=	=	=	=	=	<	=	=	=	>	<	=	<	>	=	<	=
South Huntingdon Township	=	>	=	=	<	=	>	=	=	=	=	=	>	=	=	=	=	=	=	=	<	=
Southwest Greensburg Borough	<	<	<	=	>	=	=	=	=	<	<	=	<	=	>	>	=	<	>	=	<	=
Sutersville Borough	<	<	<	=	>	=	>	=	=	=	<	=	>	=	>	>	=	<	>	=	<	=
Trafford Borough	<	<	<	=	>	=	>	=	=	=	=	>	>	=	>	<	=	<	>	=	>	=
Unity Township	=	>	=	=	>	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=

Municipality	Avalanche	Dam Failure	Drought	Earthquake	Environmental Hazards	Extreme Temperatures	Flood, Flash Flood, and Ice Jam	Hailstorm	Hurricane and Tropical Storm	Illicit Drug Use	Landslide	Lightning	Nuclear Incidents	Radon Exposure	Structural Fire	Subsidence and Sinkholes	Terrorism	Tornado, Windstorm	Transportation Accidents	Utility Interruptions	Wildfire	Winter Storm
	1.0	1.3	2.2	1. 9	2.9	2.7	3.2	2.5	2.1	3.1	2.5	1.4	1.9	2.6	2.2	1.9	2.8	3.0	2.2	3.0	2.3	3.0
Upper Burrell Township	=	<	=	=	>	=	=	=	=	=	>	=	>	=	=	<	=	=	=	=	>	=
Vandergrift Borough	<	<	<	=	>	=	=	=	=	=	=	=	>	=	>	<	=	<	>	=	>	=
Washington Township	=	<	=	=	=	=	=	=	=	=	=	=	>	=	=	<	=	=	=	=	>	=
West Leechburg Borough	<	<	<	=	=	=	=	=	=	=	=	=	>	=	>	<	=	<	>	=	>	=
West Newton Borough	=	>	=	=	>	=	>	=	=	=	=	=	>	<	=	>	=	=	=	=	<	=
Youngstown Borough	<	<	<	=	>	=	=	=	=	=	<	=	=	=	>	<	=	<	>	=	>	=
Youngwood Borough	=	<	=	<	>	<	>	=	<	=	=	=	=	<	=	<	<	=	>	=	<	>

4.4.3 Potential Loss Estimates

Potential loss estimates for hazard events help a community understand the monetary value of what might be at stake during a hazard event. Estimates are considered *potential* in that they generally represent losses that could occur in a countywide hazard scenario. In events that are localized, losses may be lower, while regional events could yield higher losses.

The data utilized to conduct the vulnerability assessment came from a variety of sources as noted throughout each hazard profile and Appendix A. As summarized in the Methodology subsection, the 2010 U.S. Census demographic data and default building inventory and associated replacement cost value of the structures and contents in HAZUS MH 4.2 were used for Westmoreland County. Replacement cost value is the current cost of returning an asset to its pre-damaged condition, using present-day cost of labor and materials. A comprehensive critical facility inventory update was developed by gathering input from the Westmoreland County Department of Public Safety, Westmoreland County Department of Information Systems, participating municipalities, and the Planning Team.

Potential loss estimates provided in Section 4.3 (Hazard Profiles) were either based on historic losses, current-condition losses, and/or predictive losses by performing spatial analyses in GIS and hazard probabilistic modeling. In summary, HAZUS-MH was used to estimate potential losses for the earthquake, flood, and tornado/wind storm hazards. For many of the hazards evaluated, historic data are not adequate to model future losses at this time. For these hazards of concern, areas and inventory susceptible to specific hazards were mapped and exposure was evaluated to help guide mitigation efforts (mitigation efforts are discussed further in Section 6). Spatial analyses were conducted to assess potential exposure for hazards of concern with delineated hazard areas: environmental hazards; flood, flash flood, and ice jam; landslide; nuclear incident; subsidence and sinkhole; and wildfire. Where GIS data are not available for some hazards, a qualitative analysis was conducted using the best-available data and professional judgment.

For this risk assessment, the loss estimates, exposure assessments, and hazard-specific vulnerability evaluations rely on the best-available data and methodologies. Uncertainties are inherent in any loss estimation methodology and arise in part from incomplete scientific knowledge concerning natural hazards and their effects on the built environment. Uncertainties also result from the following:

1) Approximations and simplifications necessary to conduct such a study
2) Incomplete or dated inventory, demographic, or economic parameter data
3) The unique nature, geographic extent, and severity of each hazard
4) Mitigation measures already employed by the participating municipalities and the amount of advance notice residents have to prepare for a specific hazard event

These factors can result in a range of uncertainty in loss estimates, possibly by a factor of 2 or more. Therefore, potential exposure and loss estimates are approximate. These results do not predict precise results and should be used to understand relative risk. Over the long-term, Westmoreland County will collect additional data to assist in developing refined estimates of vulnerabilities to natural and non-natural hazards.

For more details on the potential loss estimates for each hazard, refer to Section 4.3 (Hazard Profiles).

4.4.4 Future Development and Vulnerability

Risk and vulnerability to natural and human-caused hazard events are not static. Risk will increase or decrease as counties and municipalities see changes in land use and development as well as changes in population.

Population change (in terms of total and demographics) and the age of the housing stock continue to be main indicators of vulnerability change in Westmoreland County.

Westmoreland County experienced a 4-percent decrease in population from 2000 to 2017, as summarized in Section 2. According to the U.S. Census 2000, 2010, and 2018, over 75 percent of the municipalities in Westmoreland County are projected to see a decrease in population whereas 15 municipalities are projected to see an increase.

Continued analysis of the age structure in Westmoreland County will provide deeper understanding on future vulnerability to at-risk populations. Approximately 21 percent of Westmoreland County's population is age 65 or older. As these residents continue to age in the County, they may have increased special needs. For example, many residents in this age bracket may be unable to drive; therefore, development of special evacuation plans for them may be necessary. They may also have hearing or vision impairments that could hinder their reception of emergency instructions. Both older and younger populations are at higher risks for contracting certain diseases. Westmoreland County's combined populations under 5 years of age and over 65 constitute approximately 25.7 percent of its population.

Approximately 2.3 percent of Westmoreland County's population lives in group quarters, which are communal settings that can include inmates in a prison; students in a dorm; or elderly persons, or people with physical or mental disabilities living in group-care homes. Many residents living in group quarters have special needs. It is important to ensure that each group-living facility has its own emergency plan to account for the unique needs of its residents during a hazard event.

Approximately 0.6 percent of Westmoreland County's population is not proficient in English. Future hazard mitigation strategies should consider addressing language barriers to ensure that all residents can receive emergency instructions.

In addition, remote and sparsely-populated municipalities also face higher vulnerability to hazards because they do not have easy access to care facilities or response personnel. For instance, the sparsely populated municipality of Donegal Borough faces increased vulnerability to tornadoes, windstorms, and winter storms due to isolation, access issues, and longer emergency response times.

The aging housing stock in Westmoreland County is another source of current and future vulnerability in many hazard events. According to the U.S. Census, approximately 10.6 percent of the County's residential properties are vacant. Vacant buildings are more vulnerable to criminal activity. A total of 45,000 structures in Westmoreland County were built earlier than 1940 (22 percent of the building stock). As discussed throughout Section 4 (Risk Assessment), Westmoreland County can experience strong gusts of wind during windstorms, tornadoes, hurricane, tropical storms, or Nor'easters. The structure of these older houses may be more at risk of destruction under strong wind conditions. These structures may also be at risk during flooding and winter storm events if the materials are either not strong enough to withstand the pressure or weight of the precipitation, or are liable to leak, causing further risk of destruction to the house.

While any development increases the risk of damage and loss to natural hazards, a number of factors indicate that this increase in risk is low and mitigated by existing federal, state, county, and local regulations, policies, and programs. Twenty-nine municipalities in Westmoreland County have adopted the County's Subdivision and Land Development Ordinance (SALDO). Twenty-three municipalities have zoning regulations, and two have the capability underway. The Westmoreland County Planning Commission reviews and reports on subdivisions, land developments, comprehensive plans, and municipal land use ordinance amendments. This broad range of planning review services is separated into two areas of activity: subdivision and land development reviews and community planning reviews. Most types of reviews are presented to the

commission for its consideration at a public meeting prior to them being forwarded on to the respective municipalities and/or applicants.

Westmoreland County and its municipalities have identified areas of potential new urban growth and will work with non-profit and private-sector partners to plan and pursue these projects. These areas are described in Section 2 (County Profile). As development occurs in these areas, local officials will determine to which hazards the proposed development is vulnerable, and will protect structures and infrastructure appropriately.

SECTION 5 CAPABILITY ASSESSMENT

The capability assessment evaluates the community's capabilities and resources already in place at the municipal, county, state, and federal levels to reduce hazard risks. The assessment also identifies where improvements can be made to increase disaster resistance in the community.

The first step in organizing hazard mitigation capabilities or resources is to describe the basic approaches available to reduce hazard risks. According to the 2013 Pennsylvania Emergency Management Agency (PEMA) All-Hazard Mitigation Planning Standard Operating Guide (SOG), the following four general approaches may reduce hazard risks: (1) local plans and regulations, (2) structure and infrastructure, (3) natural systems protection, and (4) education and awareness. A brief description of each (according to the PEMA All-Hazard Mitigation Planning SOG) is provided below:

- **Local Plans and Regulations** – These actions include government authorities, policies, or codes that influence the ways land and buildings are developed and built.
- **Structure and Infrastructure** – These actions involve modifying existing structures and infrastructure or constructing new structures to reduce hazard vulnerability.
- **Natural Systems Protection** – These actions minimize damage and losses and preserve or restore the functions of natural systems.
- **Education and Awareness** – These actions inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate these hazards, and may also include participation in national programs.

Capability assessments document the existing resources available to local communities to reduce hazard risks. Resources can be divided into five categories: human, physical, technical, informational, and financial. For each basic capability or approach, one or more of the five resources may be available. A brief description of each resource (PEMA 2013) is provided below:

- **Human resources** include local police, fire, ambulance, and emergency management and response personnel; local government services; and electric, gas, and other utility providers that are critical during disasters.
- **Physical resources** include the equipment and vehicles (such as emergency response and recovery equipment and vehicles), public lands, facilities, and buildings available to the community.
- **Technical/technological resources** include early warning systems, weather alert radios, stream-level monitoring gauges, and 9-1-1 communications systems. Technical/technological resources also include technical requirements established by law, regulation, or ordinance.
- **Informational resources** include materials about disasters and hazard mitigation and planning; these resources are available from a wide variety of sources, such as applicable websites, libraries, and state and federal agencies.
- **Financial resources** identify the sources of funding available for hazard mitigation. Most state and federal grant programs require local communities to provide at least part of the necessary project funding in real dollars or through in-kind services. Local communities need to assess their financial capability and resources to implement hazard mitigation action plans.

During this plan update process, Westmoreland County and all participating municipalities were surveyed to provide an updated assessment of their mitigation planning capabilities. Each municipality was provided with a Capability Assessment Survey, which was created based on the Capability Assessment Survey provided in Appendix 3 of the October 2013 edition of the PEMA All-Hazard Mitigation Planning SOG. The survey was provided to each of the municipal planning points of contact during the kickoff meetings and throughout the

planning process as needed. Capability Assessment Surveys completed by the municipalities are provided in Appendix D.

This section describes and summarizes the federal, state, county, and local capabilities to address hazard risk in Westmoreland County.

5.1 Update Process Summary

During the plan update process, Westmoreland County and all participating municipalities were asked to provide an updated assessment of their mitigation planning capabilities. Each municipality was provided with a Capability Assessment Survey based on Appendix 3 of the October 2013 edition of the PEMA All-Hazard Mitigation Planning SOG (PEMA 2013). The survey was provided to each of the municipal planning points of contact at the Planning Team kickoff meeting. Completed Capability Assessment Surveys, whether completed by hand, electronically, or filled in working alongside the planning consultant, are provided in Appendix D.

Westmoreland County has several resources available to implement hazard mitigation initiatives, including emergency response measures; local planning and regulatory tools; administrative assistance and technical expertise; fiscal capabilities; and participation in local, regional, state, and federal programs. These resources enable community resiliency through actions taken before, during, and after a hazard event. Emergency services, manpower, equipment, and fiscal resources are important tools in addressing hazard potential and mitigation in Westmoreland County communities.

This section describes and summarizes the federal, state, county, and local capabilities to address hazard risk in Westmoreland County.

5.2 Capability Assessment Findings

A jurisdiction's ability to effectively manage natural hazard risk is directly related to its level of hazard mitigation capabilities. As such, mitigation strategies developed in coordination with Westmoreland County's municipalities have a direct effect on establishing new capability functions in the community or strengthening existing capabilities.

Westmoreland County and most of its municipalities updated and completed the Capability Assessment Survey (Appendix D). If municipalities did not update or partially updated their capabilities information, the same information provided by those municipalities for the 2013 Hazard Mitigation Plan (HMP) was carried forward into this plan update.

The following sections further detail the capability assessment findings.

5.2.1 Planning and Regulatory Capability

While municipalities in Pennsylvania must comply with the minimum regulatory requirements established under the Pennsylvania Municipal Planning Code, they otherwise have considerable latitude in adopting ordinances, policies, and programs that can be used to manage natural and non-natural hazard risks. Specifically, municipalities can manage these risks through comprehensive land use planning, hazard-specific ordinances (for example, flood damage prevention, sinkholes, and steep slopes), zoning, site-plan approval, and building code enforcement. When effectively prepared and administered, these regulations can lead to hazard mitigation.

For example, the adoption of the National Flood Insurance Program (NFIP) and the Pennsylvania Flood Plain Management Act (Act 166 of 1978) established minimum floodplain management criteria. A municipality must adopt and enforce these minimum criteria to be eligible for participation in the NFIP. Municipalities have the option of adopting a single-purpose ordinance or incorporating these provisions into their zoning and/or subdivision and land development ordinances or building codes, thereby mitigating the potential impacts of local flooding.

County and Municipal Planning Capabilities

Westmoreland County Comprehensive Plan

A comprehensive plan is a policy document that states objectives and guides the future growth and physical development of a municipality. The comprehensive plan is a blueprint for housing, transportation, community facilities, utilities, and land use. It examines how the past led to the present and charts the community's future path. The Pennsylvania Municipalities Planning Code (MPC) Act 247 of 1968, as reauthorized and amended, requires counties to prepare and maintain a comprehensive plan. In addition, the MPC requires counties to update the comprehensive plan every 10 years.

Section 301a.(2) of the MPC requires comprehensive plans to include a plan for land use, which, among other provisions, suggests that the plan should give consideration to floodplains and other areas of special hazards and other similar uses. The MPC also requires comprehensive plans to include a plan for community facilities and services and recommends giving consideration to storm drainage and floodplain management.

The Westmoreland County Comprehensive Plan, "Reimagining Our Westmoreland," is slated to guide Westmoreland County until 2030. The plan was adopted in December of 2018 and updated the 2005 Comprehensive Plan. The overarching goal of the plan is to enact strategies that attract, develop, and retain a diverse and stable workforce that will sustain a healthy economy. The "Reimagining Our Westmoreland" Comprehensive Plan is composed of seven core objectives:

- **Align workforce, education, employers, and entrepreneurship.** This objective aims to retain existing jobs and create new employment opportunities in an effort to counteract population decline.
- **Discover Westmoreland.** This objective aims to attract visitors to the county through the identification of arts and entertainment, locally grown food, recreational destinations, etc.
- **Reposition our towns.** This objective aims to reestablish neighborhood and town centers to encourage smarter development and community engagement.
- **Connect with parks and nature.** This objective aims to preserve and leverage open space as well as protect natural resources.
- **Build healthy and whole communities.** This objective aims to eliminate blight, increase aesthetic value and community planning, promote sustainability, increase public health, and address issues with fragmentation of local government.
- **Plug into the new economy.** This objective aims to develop the county's technological capabilities, provide industrial investment opportunities, and advocate for the ability of the agricultural industry to grow hemp as a crop to counteract the decline in market value of products sold.
- **Create transportation choices**. This objective aims to increase available transportation options for visitors and residents, including freight.

Building off of recommendations in the Comprehensive Plan, the County Planning Division will begin efforts to address fragmentation using regional cooperation. The aim of the Planning District Process is to help communities in each of the seven Planning Districts of the County to set a course of implementation and coordination with the county.

The first area identified to begin the process is the Alle-Kiski region encompassing the townships of Allegheny, Upper Burrell, and Washington; the boroughs of East Vandergrift, Hyde Park, Oklahoma, Vandergrift, and West Leechburg; and the cities of Arnold, Lower Burrell, and New Kensington.

Although the MPC requires that municipal plans be in accord with the county plan, the code provides no measures for ensuring this occurs. Several municipalities have adopted or are developing single- or multi-jurisdictional regional comprehensive plans.

Stormwater Management Planning

In 1978, the Pennsylvania General Assembly passed the Stormwater Management Act (Act 167) of 1978 (Pennsylvania State Data Center 1978). Act 167 requires counties to prepare stormwater management plans on a watershed-by-watershed basis. The plans must be developed in consultation with the affected municipalities.

Each new plan is required to provide standards for control of runoff from new development, based on a detailed hydrologic assessment. A key objective of each plan is to coordinate the stormwater management decisions of the watershed municipalities. Implementation of each plan is through mandatory municipal adoption of ordinance provisions consistent with the plan.

Plans prepared under Act 167 will not resolve all drainage issues. A key goal of the planning process is to maintain existing peak runoff rates throughout a watershed as land development continues to take place. While the planning process does not solve existing flooding problems, it aims to prevent these problems from getting worse. Each municipality is responsible for correcting existing flooding problems.

Phase I of the Stormwater Management Plan for Westmoreland County was completed in 2010, and the report was developed in accordance with requirements outlined by Act 167. Phase I included the scope of study for future stormwater management planning efforts and outlined the logistics of developing and implementing Phase II based on the results of the Phase I report. Funding for Phase I was acquired through the Pennsylvania Department of Environmental Protection and included a summary of watershed characteristics, an inventory of relevant problems, and a proposed scope of study, schedule, and budget for completion of the Phase II project. Additionally, during Phase I, a Watershed Plan Advisory Committee (WPAC) was formed, which consisted of county and municipal representatives. The WPAC served as the advisory panel during Phase I development and will continue to serve as such in future stormwater management activities.

Phase I successfully augmented municipal and county stormwater management planning initiatives in order to maintain a thorough and consistent overview of stormwater management issues and recommended actions throughout the county. Referenced plans included the following:

- The Westmoreland County Comprehensive Plan
- Subdivision and Land Development Ordinance of the County of Westmoreland
- Sewickley Creek Watershed Conservation Plan
- Tubmill Creek Watershed Protection and Restoration Project
- The Natural Heritage Inventory
- Kiski Conemaugh Basin Greenway Feasibility Study
- Turtle Creek Watershed Act 167 Stormwater Management Plan
- Macroinvertabrate Study
- Loyalhanna Watershed Assessment and Restoration Plan

Westmoreland County's 2019 Integrated Water Resources Plan (IWRP) is available for viewing at www.wcdpa.com and at the IWRP website www.westmorelandstormwater.org. The Plan is Phase 2 of the Stormwater Management Plan and is written to be in concert with the Comprehensive Plan.

The plan discusses the following goals:

- Advance Sustainable Water Resources
- Encourage Partnerships to Support Water Resource Initiatives
- Provide Accessible Information on Water Resources
- Meeting Regulatory Mandates for Water Resources

The plan develops a scope of work for actions to be taken. Based on feedback from hundreds of residents, municipal leaders, engineers, developers, and natural resource agencies, the IWRP offers 25 strategies to address the issues of water resource management across the county.

The plan broadens the scope from only addressing stormwater management to addressing a comprehensive approach to all county water resources, including flooding. The plan identifies and maps areas that are susceptible to flooding and includes resources and potential solutions to flooding.

The plan establishes a WPAC to guide Phase 2 of the county's Act 167 Plan and IWRP in data collection, review, analysis, and decision making. The appendix of the plan includes the model stormwater management ordinance that municipalities can adopt. The appendix also includes watershed plans, educational materials for homeowners, and other resources.

The Westmoreland Conservation District maps areas of stormwater flooding, as reported by complaints. This information can be used to identify areas that are prone to stormwater flooding, probable sources of the flooding, and potential mitigation actions to reduce the flooding risk.

Water Supply Planning

Westmoreland County has developed the Water Shortage Response Plan to establish measures for essential conservation of water resources and to provide for equitable distribution of limited water supplies in order to balance demand and limited available supplies. The plan ensures that sufficient water is available to preserve public health and safety within the service area of the Municipal Authority of Westmoreland County (MAWC) during periods of drought, supply contamination, water system physical or mechanical failure, or shortages for any other current or anticipated reason. The local Water Shortage Response Plan establishes conservation measures to complement water restrictions or ban orders as issued by officials at the county, state, or federal level.

Natural Resource Planning

Westmoreland County has prepared several documents related to natural resource planning. *New Horizons: A County-wide Greenways and Blueways Network* serves as a companion document to the Comprehensive Plan relevant to initiatives and issues related to the county's land use, parks, recreation, and open space planning efforts.

Open Space Planning

Westmoreland County has prepared several plans with the goal of preserving open space in the county for recreational and environmental purposes. These plans include the Parks and Horizons Plan (2000) and the Greenways and Open Space Plan (2008). A greenway is a corridor of open space. The plan identifies conservation, cultural/recreational, conservation/cultural, and scenic greenways and evaluates how local ordinances may protect greenways.

The Steering Committee will comment on open space issues identified in these plans during project reviews.

Informational Resources

Westmoreland County has a variety of informational resources available to the public. Many of the publications discussed previously are available for review by the public on the Westmoreland County website: http://www.co.westmoreland.pa.us/. Westmoreland County also responds to floodplain information requests from the public. The county has sponsored seminars related to stormwater management, floodplain issues, model environmental ordinances, and basic courses in subdivision review and zoning as well as a basic course for planning commissioners. Information is also posted on municipal websites, and hard copies of informational materials are available in municipal offices.

It is noted that Westmoreland County and many of the municipalities have identified specific mitigation initiatives in this plan update to help build and enhance mitigation-related planning and regulatory capabilities in Westmoreland County.

Westmoreland County Department of Public Safety

The Westmoreland County Department of Public Safety (DPS) is a strong county-level emergency management capability that supports Westmoreland County. Westmoreland County operates an emergency 9-1-1 call center and emergency operations center (EOC) during emergencies. In addition, the county provides or supports emergency service programs and measures including emergency response, public alert and warning systems, emergency communications systems, hazard event monitoring systems, and public information and outreach programs. These capabilities are described below.

9-1-1 Center

9-1-1 is the telephone number used to report emergencies, 24 hours a day. Citizens use the service in the event of the presence or potential for an immediate threat to life or property and to request response from police, fire, or emergency medical services (EMS) agencies. Examples include reporting a crime that has just occurred or is in progress; describing an odor such as gas or reporting a fire; or calling for assistance with a sick or injured person who requires treatment and possibly transportation to a hospital emergency department. The 9-1-1 system is capable of accepting calls from hearing or speech-impaired callers using a Telecommunications Device for the Deaf (TDD), and text messages. Each county in Pennsylvania operates a 9-1-1 Public Safety Answering Point (PSAP). Personnel at these PSAPs would need to coordinate their efforts in a regional hazard event. Computerized mapping of streets with address information is critical for emergency response purposes. The 9-1-1 center is also used to alert citizens during an emergency. Opportunities exist to streamline the regional 9-1-1 coordination through development of fully integrated, consistent mapping and databases.

Emergency Operations Center

In the event of an impending emergency or disaster, Westmoreland County would activate their EOC. The purpose of the EOC is to manage the emergency response and coordinate the distribution of resources to a disaster incident. When the EOC is activated and becomes operational, it is staffed with highly trained experienced personnel with the authority, flexibility, imagination, and initiative needed to make command and coordination decisions relative to their field of expertise in accordance with the National Response Framework (NRF) and the Commonwealth Emergency Operations Plan (EOP). Each discipline is assigned a coordinating agency and at least one primary agency and one support agency. In cases where more than one agency has primary jurisdiction over a discipline, a coordinating agency is designated from among them. Where there is only one agency with primary jurisdiction, that agency is also the coordinating agency. EOC staffing usually includes the personnel from the following disciplines:

- Transportation
- Firefighting
- Communications/Radio Amateur Civil Emergency Services (RACES)
- Public Works and Engineering
- Emergency Management
- Mass Care/Housing and Human Services
- Resource Support
- Public Health and Medical Services
- Urban Search and Rescue
- Oil and Hazardous Materials Response
- Energy
- Public Safety and Security
- Long-Term Community Recovery and Mitigation
- Agriculture and Natural Resources
- External Affairs

When activated, the EOCs are in constant communication with the 9-1-1 centers to ensure coordination of activities.

The Westmoreland County DPS capabilities fall under two categories: emergency service measures and public information programs. These capabilities are described below.

Emergency Service Measures

Emergency service measures protect people during and immediately following a disaster.

- Emergency Alert System (EAS) – Westmoreland County participates in the EAS, which disseminates emergency information and warnings to the general public within the counties, using the resources from both broadcast and cable industries. The EAS allows state and local officials to quickly send out important area-specific state and local information, and it also recognizes the need to provide emergency information to people whose first language is not English. The EAS is capable of providing alerts in a language, such as Spanish, which is commonly used by television stations or the cable company.

- Monitoring Systems – The county monitors several systems that will disseminate emergency information and warnings. These systems include: Satellite Emergency Voice Alerting Network (SEVAN), Knowledge Center, PaSTAR, RACES, Integrated Flood Observing and Warning System (IFLOWS), NOAA weather radios, 800-Mhz statewide radios, VHF paging, and the Mobile Command and Communication Center (MCCC), which are described below.

    - The SEVAN is the voice component of the satellite warning system. This allows PEMA, counties, regional offices, and cities to communicate directly in real-time regardless of the status of the telephone system. Warning messages are routinely broadcast by PEMA using the system.

    - Knowledge Center is a web-based interactive incident management tool that provides emergency managers with the ability to gather large quantities of information related to incidents, and then to coordinate that information with the proper agencies. For small-scale events, one or two responder agencies would be contacted, and for large-scale events that involve complex, multi-jurisdictional responses, hundreds of agencies from the local, state, federal, non-governmental, and private sector organizations may be contacted. The system allows for seamless communication with neighboring jurisdictions, counties, and the state about the types of incidents and emergencies occurring.

    - The Pennsylvania Statewide Telecommunication and Alerting System (PaSTAR) is a computer network that uses satellite-based technology and the latest computer server and client systems. The system allows data sharing, reporting, and textual and graphics communications to flow unimpaired between users connected to the system. The core of PaSTAR consists of a commercially available computer server and email software packages.

    - The RACES is a group of amateur radio operators who donate their services in times of natural disaster or emergency. They provide communication to fire, police, and other agencies that need assistance.

    - The IFLOWS relies on a radio system that reports rain, and stream gauges that provide rainfall and stream-level data through radio and satellite frequencies. This data is transmitted to counties, Pennsylvania EOC, PEMA offices, and the National Weather Service (NWS) serving Pennsylvania. Actual rainfall is compared with NWS Flash Flood Guidance (FFG), and alarms are triggered at various preset levels according to the FFG. The FFG estimates the number of inches of rainfall for given durations required to produce flash flooding in the counties. These estimates are based on current soil moisture conditions, but it should be noted that in urban

areas, less rainfall is required to produce flash flooding. The IFLOWS computer is alarmed with both audible and visual signals that are transmitted to counties and all sites on the satellite network when rainfall or stream levels may lead to flash flooding.

- NOAA Weather Radio (NWR) All Hazards Network is a nationwide network of radio stations broadcasting continuous weather information directly from a nearby NWS office. NWR broadcasts NWS warnings, watches, forecasts, and other hazard information 24 hours a day. NWR also broadcasts warning and post-event information for all types of hazards, including natural and man-made (such as chemical releases or oil spills) and public safety (such as AMBER alerts or 9-1-1 telephone outages).

- The 800-Mhz radio system provides two-way voice and data communications for all county and state agencies. The primary function of this system is to provide redundant communications between the county and the partner agency facilities in the event that the primary means of communication becomes interrupted.

- Westmoreland County utilizes a VHF emergency paging system to alert emergency personnel (i.e., Fire, EMS and emergency coordinators) of an incident occurring within Westmoreland County.

- When emergencies (natural and human-caused) or special events requiring on-site incident command occur in Westmoreland County, the Mobile Command and Communications Center (MCCC) becomes a vital component to the response mission. The MCCC can operate independently or in conjunction with the county EOC. The primary function of the MCCC is to support the direction, management, and employment of emergency services and resources in Westmoreland County.

Emergency Response Planning

Emergency Operations Plan

The EOP prepared by Westmoreland County documents the county's emergency preparedness planning. The EOP includes county-specific emergency response procedures during significant emergency events. Westmoreland County annually reviews and continually updates the EOP, as needed. The county's EOP was last updated in 2017. The following annexes are included in the Westmoreland EOP:

- Direction and Control
- Communications
- Warning
- Public Information
- Radiological Emergency Response Procedures
- Hazardous Materials
- Dams
- Police Services
- Fire and Rescue
- Health and Medical Services
- Mass Care Center Operations
- Evacuation
- Transportation
- Resource Management
- Public Works and Engineering
- Damage Assessment and Reporting
- Agriculture
- Education Services
- Aircraft Crash Incidents
- Disaster Assistance
- Terrorism Incidents
- Crude Oil Unit Train Emergency Response Plan

Numerous private and business entities also have emergency operations plans in places such as Arcelor Mittal, Dominion Energy, Gabriel Performance Products, Greensburg Salem S.D., and Waltz Mill.

Mutual Aid Agreements

Westmoreland County has mutual aid agreements (formal agreements) with the contiguous Pennsylvania counties as a result of the Pennsylvania Intrastate Mutual Assistance Program. Every county in the state participates in this program. Westmoreland County is also part of a larger county consortium, the PA Region 13 Counter-terrorism Task Force, that works together and shares resources during times of emergency. This unprecedented intergovernmental agreement is between the following entities:

- Allegheny County
- Armstrong County
- Beaver County
- Butler County
- Cambria County
- Fayette County
- Greene County
- Indiana County
- Lawrence County
- Mercer County
- Somerset County
- Washington County
- Westmoreland County
- City of Pittsburgh

Regional Planning Initiatives

Westmoreland County also assists in county or regional planning and preparation for the following:

- Local (Municipal) EOPs
- Medical facilities
- Dams
- Airports
- Pandemic
- Mass casualty/fatality incidents
- Counter-terrorism preparedness
- Special events, such as concerts, parades, etc.
- School emergency planning
- Daycare, group home, and special needs facilities
- Evacuation and Detour Plan
- Superfund Amendments and Reauthorization Act of 1986 (SARA) – The Local Emergency Planning Committee program is based on the SARA of 1986, Title III. This legislation requires local planning by businesses and response agencies (such as fire departments and hazardous materials teams) whenever hazardous materials are involved. SARA also requires the establishment of a system in each community that informs the citizens of chemicals used, manufactured, and stored locally.
- In cooperation with the American Red Cross, the county has designated shelters that may be used during emergencies and disasters.

Local Emergency Management Capabilities

According to Pennsylvania Title 35 (Emergency Management Services Code), Chapter 7500, the following stipulations apply:

- Each political subdivision of this Commonwealth is directed and authorized to establish a local emergency management organization in accordance with the plan and program of PEMA. Each local organization shall have responsibility for emergency response and recovery within the territorial limits of the political subdivision within which it is organized and, in addition, shall conduct such services outside of its jurisdictional limits as may be required under this part.
- The governing body of a political subdivision may declare a local disaster emergency upon finding a disaster has occurred or is imminent. The effect of a declaration of a local disaster emergency is to activate the response and recovery aspects of any and all applicable local emergency management plans and to authorize the furnishing of aid and assistance.
- Each local organization of emergency management shall have a coordinator who shall be responsible for the planning, administration, and operation of the local organization.
- Each political subdivision shall adopt an Intergovernmental Cooperation agreement with other political subdivisions to accomplish the following:
    - Prepare, maintain, and keep current a disaster emergency management plan for (1) the prevention and minimization of injury and damage caused by a disaster, (2) prompt and effective response to disaster, and (3) disaster emergency relief and recovery consistent with the Pennsylvania Emergency Management Plan.
    - Establish, equip, and staff an EOC (integrated with warning and communication systems) to support government operations in emergencies, and provide other essential facilities and equipment for agencies and activities assigned emergency functions.
    - Provide individual and organizational training programs to ensure prompt, efficient, and effective disaster emergency services.
    - Organize, prepare, and coordinate all locally available manpower, materials, supplies, equipment, facilities, and services necessary for disaster emergency readiness, response, and recovery.
    - Adopt and implement precautionary measures to mitigate the anticipated effects of a disaster. Execute and enforce such rules and orders as the agency shall adopt and promulgate under the authority of this part.
    - Cooperate and coordinate with any public and private agency or entity in achieving any purpose of this part.
    - Have available for inspection at its EOC all emergency management plans, rules, and orders of the Governor and PEMA.
    - Provide prompt and accurate information regarding local disaster emergencies to appropriate Commonwealth and local officials and agencies and the general public.
    - Participate in all tests, drills, and exercises—including remedial drills and exercises—scheduled by the agency or by the federal government.
    - Participate in the program of integrated flood warning systems under Section 7313 (6) (relating to powers and duties).
- Direction of disaster emergency management services is first the responsibility of the lowest level of government affected. When two or more political subdivisions within a county are affected, the county organization shall exercise responsibility for coordination and support to the area of operations. When two or more counties are involved, coordination shall be provided by PEMA or by area organizations established by PEMA.
- When all appropriate locally available forces and resources are fully committed by the affected political subdivision, assistance from a higher level of government shall be provided.

- Local coordinators of emergency management shall develop mutual aid agreements with adjacent political subdivisions for reciprocal emergency assistance. The agreements shall be consistent with the plans and programs of PEMA.

Mutual Aid Agreements

Westmoreland County has formal mutual aid agreements in place with 65 of its municipalities. Mutual Aid is covered under Act 93.

Emergency Operations Centers

In the event of an impending emergency or disaster, the local EOC may be activated. The purpose of the EOC is to manage the emergency response and coordinate distribution of resources to a disaster incident at the local level.

Emergency Response

Each municipality is responsible for providing emergency response to their municipality consisting of EMS, fire, and police. If a municipality does not have one of these providers in their community, they should have mutual aid agreements with an adjacent political subdivision or the Commonwealth (e.g., law enforcement coverage by the Pennsylvania State Police [PSP]) to respond.

Monitoring Systems

The municipalities may also be equipped with several systems to monitor emergency information and warnings, including RACES, NWS, and Knowledge Center, which have been described previously.

Emergency Response Planning

The municipalities may also assist with planning for:

- Municipal EOPs
- Medical facilities
- Dams
- Counter-terrorism preparedness
- Special events
- School emergency planning
- Day care, group homes, and special needs facilities
- Evacuation

A summary of existing federal, state, regional, and county programs (regulatory and otherwise) to manage specific hazard risks may be found in the hazard profiles in Section 4 of this plan update. While the risk of certain hazards can be addressed at least partially through mitigation, the risks of other hazards (particularly certain non-natural hazards) are primarily managed through the preparedness and response elements of emergency management or through other regulatory programs at the federal and state levels.

Participation in the National Flood Insurance Program

According to the Federal Emergency Management Agency's (FEMA) 2002 NFIP: Program Description, the U.S. Congress established the NFIP with the passage of the National Flood Insurance Act of 1968 (FEMA 2002). The NFIP is a federal program enabling property owners in participating communities to purchase insurance as a protection against flood losses in exchange for state and community floodplain management regulations that reduce future flood damages.

Participation in the NFIP is based on an agreement between communities and the federal government. If a community adopts and enforces a floodplain management ordinance to reduce future flood risk to new construction and substantial improvements in floodplains, the federal government will make flood insurance available within the community as a financial protection against flood losses. This insurance is designed to

provide an alternative to disaster assistance and reduce the escalating costs of repairing damage to buildings and their contents caused by floods.

NFIP-participating communities in Westmoreland County are required to adopt a flood damage prevention ordinance (also sometimes called a "floodplain" or "floodplain management ordinance") and update this ordinance whenever the regulatory NFIP Flood Insurance Rate Maps (FIRM) are officially updated. The Pennsylvania Department of Community and Economic Development (PA DCED) (Commonwealth-coordinating agency for the NFIP) provides support to municipalities by providing suggested text for floodplain management ordinances.

60 of the county's 65 municipalities participate in the NFIP. Two municipalities (New Alexandria Borough and Youngstown Borough) participated at one point, but do not currently. Westmoreland County's municipalities' Digitized Flood Insurance Rate Maps (DFIRMs) were made effective in March 2011. All participating municipalities have adopted a floodplain ordinance, and many have adopted a stormwater management ordinance.

The municipalities' floodplain administrators, who are often either the code enforcement officer or zoning officer for the municipality, enforce the floodplain ordinances locally. Throughout Westmoreland County, all municipalities enforce the Uniform Construction Code, and most enforce zoning regulations. Rather than using a specific Floodplain Development Permit, the county's municipalities include a space for applicants to state whether the proposed development is in the floodplain on zoning and/or building permit applications. The permit application reviewer confirms whether the property in question is in the floodplain. If it is, the municipal floodplain administrator reviews the proposed development against the municipality's floodplain management ordinance. The floodplain administrator conducts similar reviews of any revisions to the permit application until all requirements are met. As the proposed activity is conducted, the floodplain administrator works with the code enforcement officer and/or zoning officer to conduct inspections and ensure that the proposed activity is carried out as it was permitted.

NFIP-participating communities in Westmoreland County are required to make current NFIP FIRMs available to their residents for review and may provide mapping assistance through their floodplain administrators. Typically, this mapping is available at the municipal offices in each community. Floodplain administrators provide information about mapping to their residents using established outreach methods such as municipal websites, newsletters, and mailings. At the time of this plan update, the Westmoreland County FEMA DFIRM (dated 2011) were used to evaluate exposure and determine potential future losses.

FEMA's Risk Mapping, Assessment, and Planning (Risk MAP) Program is responsible for the FIRM process. Standards for the program were updated in April 2019. Standard changes include streamlining simpler projects that are modernizing legacy maps, producing future FIRM images using an automated tool to reduce cost, converting Standard Identification Number (SID) to a program standard, and formalizing processes for tracking regional cost allocations and status of funds for flood map projects including studies and other investments (FEMA 2019).

Floodplain administrators also use established outreach methods to provide information about flood insurance to residents and business owners. They can provide information on the availability of flood insurance, how to get a flood insurance policy, and determining the appropriate level of coverage.

Flood hazard risk management in Westmoreland County is further supported by the intention to complete a Phase II Stormwater Management Plan, which would include stormwater runoff modeling for each of the 11 watersheds in Westmoreland County and would lead to ways to address the runoff in those watersheds. In turn, the development of this plan would hopefully reduce the effects of flooding in certain areas of the county.

Additional information on the NFIP program and its implementation within the county can be found in the flood hazard profile in Section 4.3.5.

Community Rating System (CRS)

In the 1990s, the Flood Insurance Administration (FIA) established the CRS to encourage local governments to increase their standards for floodplain development. The goal of the program is to encourage communities, through flood insurance rate adjustments, to implement standards beyond the minimum required in order to:

- Reduce losses from floods
- Facilitate accurate insurance ratings
- Promote public awareness of the availability of flood insurance

CRS is a voluntary program designed to reward participating jurisdictions for their efforts to create more disaster-resistant communities using the principles of sustainable development and management. By enrolling in CRS, municipalities can leverage greater flood protection while receiving flood insurance discounts.

There are 10 CRS classes that provide varied reduction in insurance premiums. Class 1 requires the most credit points and gives the largest premium reduction; Class 10 receives no premium reduction. CRS premium discounts on flood insurance range from 5 percent for Class 9 communities up to 45 percent for Class 1 communities. The CRS recognizes 18 creditable activities that are organized under four categories: Public Information, Mapping and Regulations, Flood Damage Reduction, and Flood Preparedness.

Currently, the Township of Penn is the only municipality that participates in the CRS Program. Increased participation will be supported by the county and will be promoted through the local emergency management coordinators as identified in the updated mitigation strategies.

Municipal Capabilities

Participating municipalities in this planning effort were provided a Capability Assessment Survey. Table 5-1 summarizes the responses of the municipalities based on planning and regulatory capability, supplemented by information received from the county regarding municipal capabilities. Detailed information regarding Westmoreland County municipalities' planning and regulatory capabilities can be found in the municipal survey responses provided in Appendix D.

Table 5-1. Planning and Regulatory Capability

Municipality	Hazard Mitigation Plan	EOP	Disaster Recovery Plan	Evacuation Plan	COOP Plan	NFIP	NFIP – CRS	Floodplain Regulations	Floodplain Mgmt. Plan	Zoning Regulations	Subdivision Regulations	Comprehensive Land Use Plan (or General, Master, or Growth Mgmt. Plan)	Open Space Mgmt. Plan	Stormwater Mgmt. Plan/Ordinance	Natural Resource Protection Plan	Capital Improvements Plan	Economic Dev. Plan	Historic Preservation Plan	Farmland Preservation	Building Code	Fire Code	Other
Westmoreland County	+	X	X	X	X	-	-	-	-	-	-	-	-	-	-	+	+	-	-	-	-	-
Adamsburg Borough	+	-	-	-	-	X	-	X	-	-	-	-	-	-	-	-	-	-	-	X	-	-
Allegheny Township	+	-	-	-	X	X	-	X	-	-	-	-	-	-	-	-	-	-	-	X	-	-
Arnold City	+	-	-	-	-	X	-	X	-	-	-	-	-	-	-	-	-	-	-	X	-	-
Arona Borough	+	-	-	-	-	X	-	X	-	-	-	-	-	-	-	-	-	-	-	X	-	-
Avonmore Borough	+	-	-	X	-	X	-	X	-	X	X	X	-	-	-	-	-	-	-	X	-	-
Bell Township	+	-	-	-	-	X	-	X	-	-	-	-	-	-	-	-	-	-	-	X	-	-
Bolivar Borough	+	-	-	-	-	X	-	X	-	-	-	-	-	-	-	-	-	-	-	X	-	-
Cook Township	+	-	-	-	-	X	-	X	-	-	-	-	-	-	-	-	-	-	-	X	-	-
Delmont Borough	+	X	+	+	+	X	-	X	X	X	X	+	+	X	+	+	+	+	+	X	X	-
Derry Borough	+	-	-	-	-	X	-	X	-	-	-	-	-	-	-	-	-	-	-	X	-	-
Derry Township	+	-	-	-	-	X	-	X	-	-	-	-	-	-	-	-	-	-	-	X	-	-
Donegal Borough	+	-	-	-	-	X	-	X	-	-	-	X	-	-	-	-	-	-	-	X	-	-
Donegal Township	+	X	-	-	-	X	-	X	-	-	-	X	-	-	-	-	-	-	-	X	-	-
East Huntington Township	+	X	-	-	-	X	-	X	-	-	X	-	-	X	-	-	-	-	X	X	-	-
East Vandergrift Borough	+	X	-	-	-	X	-	X	-	-	-	-	-	-	-	-	-	-	-	X	-	-
Export Borough	+	X	-	-	-	X	-	X	X	X	-	-	-	-	-	-	-	-	-	X	-	-
Fairfield Township	+	-	X	X	-	X	-	X	X	-	-	-	-	-	-	-	-	-	-	X	-	-
Greensburg City	+	X	+	X	X	X	-	X	X	X	X	X	-	X	-	-	X	-	-	X	X	-
Hempfield Township	+	X	X	+	+	X	-	X	X	X	X	X	X	X	X				X	X	X	
Hunker Borough	+	-				X	-	X												X		
Hyde Park Borough	+	-				X	-	X												X		

Municipality	Hazard Mitigation Plan	EOP	Disaster Recovery Plan	Evacuation Plan	COOP Plan	NFIP	NFIP – CRS	Floodplain Regulations	Floodplain Mgmt. Plan	Zoning Regulations	Subdivision Regulations	Comprehensive Land Use Plan (or General, Master, or Growth Mgmt. Plan)	Open Space Mgmt. Plan	Stormwater Mgmt. Plan/Ordinance	Natural Resource Protection Plan	Capital Improvements Plan	Economic Dev. Plan	Historic Preservation Plan	Farmland Preservation	Building Code	Fire Code	Other
Irwin Borough	+	X	+	+	+	X	-	X	+	X	X	X	X	X	+	X	X	X	+	X	X	+
Jeannette City	+	-	X	X	X	X	-	X	X	X	X	X	X	X	-	X	X	X	-	X	X	-
Latrobe Municipality	+	X	-	+	-	X	-	X	-	X	X	X	--	X	-	-	-	-	-	X	-	-
Laurel Mountain Borough	+	X	-	-	-	X	-	X	-	X	-	-	-	+	-	-	-	-	-	X	-	-
Ligonier Borough	+	-	-	-	-	X	-	X	-	X	X	X	-	-	-	-	-	-	-	X	-	-
Ligonier Township	+	-	-	X	-	X	-	X	X	X	X	-	-	-	-	-	-	-	-	X	-	-
Lower Burrell City	+	X				X	-	X												X		
Loyalhanna Township	+	X				X	-	X												X		
Madison Borough	+	-				X	-	X												X		
Manor Borough	+	-	+	-	-	X	-	X	X	X	X	X	X	X	-	-	-	-	-	X	X	-
Monessen City	+	X	-	-	-	X	-	X	X	X	X	-	-	X	-	-	-	-	-	X	X	-
Mount Pleasant Borough	+	X	X	X	X	X	-	X	X	X	-	+	+	X	+	X	X	X	-	X	X	-
Mount Pleasant Township	+	X				X	-	X												X		
Murrysville Municipality	+	X	-	X	-	X	-	X	X	X	X	X	X	X	-	X	-	-	X	X	X	-
New Alexandria Borough	+	X	-	-	-	-	-	-	-	X	-	-	-	+	-	-	-	-	-	X	-	-
New Florence Borough	+	-				X	-	X												X		
New Kensington City	+	-				X	-	X												X		
New Stanton Borough	+	-	-	-	-	X	-	X	-	X	X	X	-	X	-	-	-	-	-	X	X	-
North Belle Vernon Borough	+	-				X	-	X												X		
North Huntington Township	+	-	-	-	-	X	-	X	-	X	X	X	-	X	-	X	X	-	-	X	X	-
North Irwin Borough	+	-				X	-	X												X		
Oklahoma Borough	+	X	-	-	-	X	-	X	-	X	X	-	-	-	-	-	-	-	-	X	-	-
Penn Borough	+	-				X	-	X												X		
Penn Township	+	X	+	+	+	X	-	X	X	X	X	X	X	X	-	+	+	-	-	X	-	-

Municipality	Hazard Mitigation Plan	EOP	Disaster Recovery Plan	Evacuation Plan	COOP Plan	NFIP	NFIP – CRS	Floodplain Regulations	Floodplain Mgmt. Plan	Zoning Regulations	Subdivision Regulations	Comprehensive Land Use Plan (or General, Master, or Growth Mgmt. Plan)	Open Space Mgmt. Plan	Stormwater Mgmt. Plan/Ordinance	Natural Resource Protection Plan	Capital Improvements Plan	Economic Dev. Plan	Historic Preservation Plan	Farmland Preservation	Building Code	Fire Code	Other
Rostraver Township	+	-				X	-	X												X		
Salem Township	+	X	+	X	+	X	-	X	+	+	+	+	+	+	+	+	+	+	+	X	+	
Scottdale Borough	+	+	+	+	+	X	-	X	+	X	X									X	X	
Seward Borough	+	-				X	-	X												X		
Sewickley Township	+	-				X	-	X												X		
Smithton Borough	+	X	-	-	-	X	-	X	-	-	-	-	-	-	-	-	-	-	-	X	-	-
South Greensburg Borough	+	X	-	X	X	X	-	X	X	X	X	+	+	+	-	+	+	-	-	X	X	-
South Huntingdon Township	+	X	-	X	-	X	-	X	X	-	-	-	-	-	-	-	-	-	X	X	-	-
Southwest Greensburg	+	-				X	-	X												X		
St. Clair Township	+	-	-	-	-	X	-	X	X	-	-	-	-	-	-	-	-	-	-	X	-	-
Sutersville Borough	+	-				X	-	X												X		
Trafford Borough	+	-				X	-	X												X		
Unity Township	+	-				X	-	X												X		
Upper Burrell Township	+	-	-	-	-	X	-	X	X	X	-	-	-	X	-	-	-	-	-	X	-	-
Vandergrift Borough	+	X				X	-	X												X		
Washington Township	+	X	-	X	X	X	-	X	X	-	X	X	X	X	-	-	-	-	X	X	-	-
West Leechburg Borough	+	X				X	-	X												X		
West Newton Borough	+	X	+	X	+	X	-	X	X	X	X	+	+	X	+	X	+	+	+	X	X	-
Youngstown Borough	+	-				-	-	-												X		
Youngwood Borough	+	X	-	-	-	X	-	X	-	+	X	-	-	X	-	-	-	-	-	X	-	-

Notes:
"X" indicates that the municipality currently has this capability in place.
"-" indicates no capability is currently in place.
"+" indicates that the capability is under development.
"N/A": Not applicable
Blank space indicates no response was received from the municipality.

5.2.2 Administrative and Technical Capability

Administrative capability is described as the adequacy of departmental and personnel resources for the implementation of mitigation-related activities. Technical capability relates to an adequacy of knowledge and technical expertise of local government employees or the ability to contract outside resources for this expertise in order to effectively execute mitigation activities. Common examples of skillsets and technical personnel needed for hazard mitigation include: planners with knowledge of land development/management practices, engineers or professionals trained in construction practices related to buildings and/or infrastructure (e.g., building inspectors), planners or engineers with an understanding of natural and/or human-caused hazards, emergency managers, floodplain managers, land surveyors, scientists familiar with hazards in the community, staff with the education or expertise to assess community vulnerability to hazards, personnel skilled in geographic information systems, resource development staff or grant writers, and fiscal staff to handle complex grant application processes.

Municipalities are further supported by county, regional, state, and federal administrative and technical capabilities. For this HMP, the majority of support agencies and resources have been identified and referenced throughout this plan update.

It is noted that the county and many of its municipalities have identified specific mitigation initiatives described in this plan update, which will help build and enhance mitigation-related administrative and technical capabilities in Westmoreland County.

Federal and Commonwealth Capabilities

Federal agencies that can provide technical assistance for mitigation activities include but are not limited to:

- U.S. Army Corps of Engineers
- Department of Housing and Urban Development
- Department of Agriculture
- Economic Development Administration
- Emergency Management Institute
- Environmental Protection Agency
- FEMA
- Small Business Administration
- USACE Silver Jackets

Commonwealth agencies which can provide technical assistance for mitigation activities include, but are not limited:

- Pennsylvania Department of Community and Economic Development
- Pennsylvania Department of Conservation and Natural Resources
- Pennsylvania Department of Environmental Protection
- Pennsylvania Silver Jackets

Municipal Capabilities

Participating municipalities in this planning effort were provided with a capabilities survey. Table 5-2 summarizes the responses of the municipalities based on administrative and technical capability. Copies of the individual municipal responses are found in Appendix D.

Table 5-2. Administrative and Technical Capability

Municipality	Planners (with land use/land development knowledge)	Planners or Engineers (with natural and/or human-caused hazards knowledge)	Engineers or Professionals trained in building and/or infrastructure construction practices	Emergency Manager	NFIP Floodplain Administrator	Land Surveyors	Scientists or Staff familiar with the hazards of the community	Personnel skilled in GIS and/or the FEMA HAZUS program	Grant Writers or Fiscal Staff to handle large/complex grants	Staff with expertise or training in Benefit-Cost Analysis	Other
Westmoreland County	-	-	-	X	-	-	X	-	X	-	
Adamsburg Borough				X	X						
Allegheny Township				X	X						
Arnold City				X	X						
Arona Borough				X	X						
Avonmore Borough	X	X	X	X	X	X	X	X	-	-	-
Bell Township				X	X						
Bolivar Borough				X	X						
Cook Township				X	X						
Delmont Borough	X	-	X	X	X	X	-	X	X	X	-
Derry Borough				X	X						
Derry Township				X	X						
Donegal Borough	-	-	X	-	X	-	-	-	-	-	-
Donegal Township	-	-	X	-	X	-	-	-	-	-	-
East Huntington Township	-	-	-	X	X	-	-	-	-	-	
East Vandergrift Borough				X	X						
Export Borough	X	-	X	X	X	X	-	-	-	-	-
Fairfield Township	-	-	-	X	X	-	-	-	-	-	-
Greensburg City	X	-	X	X	X	X	-	-	-	-	-
Hempfield Township	X	X	X	X	X	X	-	X	X	-	-
Hunker Borough				X	X						
Hyde Park Borough				X	X						
Irwin Borough	X	X	X	X	X	X	-	X	X	-	-
Jeannette City	X	X	X	X	X	-	-	-	-	-	-
Latrobe Municipality	X	X	X	X	X	-	-	X	X	X	-
Laurel Mountain Borough	-	-	X	X	X	-	-	-	-	-	-
Ligonier Borough	-	-	-	X	X	-	-	X	-	-	-
Ligonier Township	-	-	-	X	X	-	-	-	-	-	-
Lower Burrell City				X	X						
Loyalhanna Township				X	X						
Madison Borough				X	X						
Manor Borough	-	-	X	X	X	X	-	-	-	-	-
Monessen City	-	X	X	X	X	-	-	X	X	X	-

Municipality	Planners (with land use/land development knowledge)	Planners or Engineers (with natural and/or human-caused hazards knowledge)	Engineers or Professionals trained in building and/or infrastructure construction practices	Emergency Manager	NFIP Floodplain Administrator	Land Surveyors	Scientists or Staff familiar with the hazards of the community	Personnel skilled in GIS and/or the FEMA HAZUS program	Grant Writers or Fiscal Staff to handle large/complex grants	Staff with expertise or training in Benefit-Cost Analysis	Other
Mount Pleasant Borough	X	X	X	X	X	X	-	-	-	-	-
Mount Pleasant Township				X	X						
Murrysville Municipality	X	X	X	X	X	X	X	X	X	X	-
New Alexandria Borough	-	-	-	X	-	-	-	X	-	-	-
New Florence Borough				X	X						
New Kensington City				X	X						
New Stanton Borough	X	X	X	X	X	X	X	X	-	-	-
North Belle Vernon Borough				X	X						
North Huntington Township	X	X	X	X	X	-	X	X	-	X	-
North Irwin Borough				X	X						
Oklahoma Borough	-	X	-	X	X	-	-	-	-	-	-
Penn Borough				X	X						
Penn Township	X	X	X	X	X	X	X	X	X	X	-
Rostraver Township				X	X						
Salem Township	-	X	X	X	X	-	-	-	-	-	-
Scottdale Borough	-	-	-	X	X	-	-	X	-	-	-
Seward Borough				X	X						
Sewickley Township				X	X						
Smithton Borough	-	-	-	X	X	-	X	-	-	-	-
South Greensburg Borough	X	X	X	X	X	X	-	-	-	X	-
South Huntingdon Township	-	X	X	X	X	-	-	-	-	-	-
Southwest Greensburg Borough				X	X						
St. Clair Township				X	X						
Sutersville Borough				X	X						
Trafford Borough				X	X						
Unity Township				X	X						
Upper Burrell Township	X	X	X	X	X	-	-	-	-	-	-
Vandergrift Borough				X	X						
Washington Township	X	X	X	X	X	-	X	-	X	-	-
West Leechburg Borough				X	X						
West Newton Borough	X	X	X	X	X	-	-	-	-	X	-
Youngstown Borough				X	-						

Municipality	Planners (with land use/land development knowledge)	Planners or Engineers (with natural and/or human-caused hazards knowledge)	Engineers or Professionals trained in building and/or infrastructure construction practices	Emergency Manager	NFIP Floodplain Administrator	Land Surveyors	Scientists or Staff familiar with the hazards of the community	Personnel skilled in GIS and/or the FEMA HAZUS program	Grant Writers or Fiscal Staff to handle large/complex grants	Staff with expertise or training in Benefit-Cost Analysis	Other
Youngwood Borough	X	-	X	X	X	-	-	-	-	-	-

Notes:
"X" indicates that the municipality currently has this capability in place.
"-" indicates no capability is currently in place.
Blank space indicates no response was received from the municipality.

5.2.3 Financial Capability

Mitigation projects and initiatives are largely or entirely dependent on available funding. As such, it is critical to identify all available sources of funding at the local, county, regional, state, and federal level to support implementation of the mitigation strategies identified in this plan update.

Jurisdictions fund mitigation projects though existing local budgets, local appropriations (including referendums and bonding), and through myriad federal and state loan and grant programs.

Federal mitigation grant funding (Stafford Act 404 and 406) (FEMA 2000) is available to all communities with a current HMP (this plan); however, most of these grants require a "local share" in the range of 10 to 25 percent of the total grant amount.

Federal Hazard Mitigation Funding Opportunities

The Hazard Mitigation Grant Program

The Hazard Mitigation Grant Program (HMGP) (Stafford Act 404 and 406) is a post-disaster mitigation program made available to states by FEMA after each federal disaster declaration. The HMGP can provide up to 75 percent funding for hazard mitigation measures and can be used to fund cost-effective projects to protect public or private property in an area covered by a federal disaster declaration or that projects to reduce the likely damage from future disasters. Examples of projects include acquisition and demolition of structures in hazard-prone areas, flood proofing, or elevation to reduce future damage, minor structural improvements, and development of state or local standards.

Projects must fit into an overall mitigation strategy for the area identified as part of a local planning effort. All applicants must have a FEMA-approved HMP. Applicants who are eligible for the HMGP include state and local governments, certain nonprofit organizations or institutions that perform essential government services, and Indian tribes and authorized tribal organizations. Individuals or homeowners cannot apply directly for the HMGP; a local government must apply on their behalf. Applications are submitted to PEMA and ranked in order for available funding and submitted to FEMA for final approval. Eligible projects not selected for funding are placed in an inactive status and may be considered as additional HMGP funding becomes available.

Sections 404 and 406 hazard mitigation funding are two distinct criteria associated with mitigation funding. Participation in FEMA 404 HMGP may cover mitigation activities, including raising, removing, relocating, or replacing structures within flood hazard areas. FEMA 406 HMGP is applied to parts of a facility that were actually damaged by a disaster, and the mitigation measures that provide protection from subsequent events.

Flood Mitigation Assistance Program

Flood Mitigation Assistance (FMA) provides funding to assist states and communities in implementing measures to reduce or eliminate the long-term risk of flood damage to buildings, manufactured homes, and other structures insurable under the NFIP. FMA is funded annually; no federal disaster declaration is required. Only NFIP-insured homes and businesses are eligible for mitigation in this program. Funding for FMA is limited and, as with the HMGP, individuals cannot apply directly. Applications must come from local governments or other eligible organizations.

The federal government cost share for an FMA project is 75 percent. At least 25 percent of the total eligible costs must be provided by a non-federal source, and of this 25 percent, no more than half can be provided as in-kind contributions from third parties. At a minimum, a FEMA-approved local HMP is required before a project can be approved. FMA funds are distributed from FEMA to the Commonwealth. PEMA serves as the grantee and program administrator for FMA.

As of fiscal year 2013, the Severe Repetitive Loss and Repetitive Flood Claims Programs were dismantled and incorporated into the FMA Program. As a result, residential and non-residential properties currently insured with NFIP are eligible to receive FMA funds as long as they meet either the Repetitive Loss Properties (RLP) or Severe Repetitive Loss (SRL) property definitions as described in Section 4.3.3 of this plan.

Pre-Disaster Mitigation Program

The Pre-Disaster Mitigation (PDM) Program is an annually funded, nationwide, competitive grant program. No disaster declaration is required. Federal funds will cover 75 percent of a project's cost up to $3 million. As with the HMGP and FMA, a FEMA-approved local HMP is required to be approved for funding under the PDM program.

Federal Disaster Assistance Programs

Following a disaster, various types of assistance may be made available by local, state, and federal governments. The types and levels of disaster assistance depend on the severity of the damage and the declarations that result from the disaster event. General types of assistance that may be provided, should the President of the United States declare the event a major disaster, include the following:

- Individual Assistance – Provides help for homeowners, renters, businesses, and some nonprofit entities after disasters occur. This program is largely funded by the U.S. Small Business Administration. For homeowners and renters, those who suffered uninsured or underinsured losses may be eligible for a Home Disaster Loan to repair or replace damaged real estate or personal property. Renters are eligible for loans to cover personal property losses. Individuals may borrow up to $200,000 to repair or replace real estate, $40,000 to cover losses to personal property, and an additional 20 percent for mitigation. For businesses, loans may be made to repair or replace disaster damages to property owned by the business, including real estate, machinery and equipment, inventory, and supplies. Businesses of any size are eligible. Nonprofit organizations such as charities, churches, private universities, etc., are also eligible. An Economic Injury Disaster Loan provides necessary working capital until normal operations resume after a physical disaster. These loans are restricted, by law, to small businesses only.
- Public Assistance – Provides cost reimbursement aid to local governments (state, county, local, municipal authorities, and school districts) and certain nonprofit agencies that were involved in disaster response and recovery programs or that suffered loss or damage to facilities or property used to deliver government-like services.

U.S. Department of Housing and Urban Development Community Development Block Grants

The U.S. Department of Housing and Urban Development (HUD) Community Development Block Grants (CDBG) are federal funds intended to provide low- and moderate-income citizens with decent housing, a suitable living environment, and expanded economic opportunities. Eligible activities include community facilities and improvements, roads and infrastructure, housing rehabilitation and preservation, development activities, public services, economic development, planning, and administration. Public improvements may include flood and

drainage improvements. In limited instances, and during times of "urgent need" (for example, post-disaster) as defined by the CDBG National Objectives, CDBG funding may be used to acquire a property located in a floodplain that was severely damaged by a recent flood, demolish a structure severely damaged by an earthquake, or repair a public facility severely damaged by a hazard event. All municipalities in the county are eligible for CDBG funds through the county.

Additional Federal Resources

Weatherization Assistance Program: Minimizes the adverse effects of high-energy costs on low-income, elderly, and handicapped citizens through client education activities and weatherization services like heating system modifications and insulation (US DOE 2011).

Section 108 Loan Guarantee Programs: Provides loan guarantees as security for federal loans for acquisition, rehabilitation, relocation, clearance, site preparation, special economic development activities, and construction of certain public facilities and housing (HUD 2011).

U.S. Department of Agriculture: Provides disaster assistance through the following:

- The Emergency Conservation Program provides emergency funding for farmers to rehabilitate farmland damaged by natural disasters and for carrying out emergency water conservation measures during periods of severe drought.
- The Non-Insured Crop Disaster Assistance Program provides financial assistance for non-insurable crop losses and planting prevented by disasters.

Emergency Watershed Protection Program: Undertakes emergency measures including the purchase of floodplain easements for runoff retardation and soil erosion prevention to safeguard lives and property from floods, drought, and the products of erosion on any watershed whenever fire, flood, or any other natural occurrence is causing or has caused a sudden impairment of the watershed (NRCS 2011). It is not necessary for an emergency to be declared by the President for an area to be eligible for assistance. The program objective is to assist sponsors and individuals in implementing emergency measures to relieve imminent hazards to life and property created by a natural disaster. Activities include providing financial and technical assistance to remove debris from streams, protecting destabilized stream banks, establishing cover on critically eroding lands, repairing conservation practices, and purchasing of floodplain easements. The program is designed for installation of recovery measures.

Water Resources Development Act: Congress authorizes most U.S. Army Corps of Engineers (USACE) civil works activities in the Water Resources Development Act (WRDA). Project authorizations in WRDA usually fall into three general categories: studies, projects, and modifications to existing authorizations. In order to get a project authorized, a water resource problem should be identified, the USACE will draft legislative language, and the language will be submitted for insertion into the upcoming WRDA. Pre-authorized continuing authorities' programs can also provide an avenue for funding (USACE 2019).

Commonwealth Hazard Mitigation Funding Opportunities

Commonwealth programs that may provide financial support for mitigation activities include but are not limited to:

- Abandoned and Orphan Oil and Gas Wells and the Well Plugging Program
- Community Conservation Partnerships Program
- Community Revitalization Program
- Floodplain Land Use Assistance Program
- Growing Greener Program
- Keystone Grant Program
- Local Government Capital Projects Loan Program
- Land Use Planning and Technical Assistance Program
- Pennsylvania Heritage Areas Program

- Pennsylvania Recreational Trails Program
- Shared Municipal Services
- Technical Assistance Program

Abandoned and Orphan Oil and Gas Wells and the Well Plugging Program

It is estimated that somewhere between 100,000 and 560,000 oil and gas wells are unaccounted for in state records. Because of the recognized human health and the environmental risks, oil and gas operators are required to plug abandoned wells, except for those which have been granted inactive status. An abandoned well is defined by the Oil and Gas Act as:

- Any well that has not been used to produce, extract, or inject any gas, petroleum, or other liquid within the preceding 12 months, or
- Any well for which the equipment necessary for production, extraction, or injection has been removed, or
- Any well, considered dry, not equipped for production within 60 days after drilling, re-drilling, or deepening.

The 1984 Oil and Gas Act established permit surcharges to fund the Abandoned and Orphan Well Plugging Program. The Department of Environmental Protection (DEP) plugged its first abandoned well in 1989. The 2012 update of the Oil and Gas Act continued the permit surcharge provision. Orphan wells or abandoned wells, where no responsible party can be identified, are eligible to be plugged by the DEP's Abandoned and Orphaned Well Plugging Program.

Marcellus Shale Legacy Fund - Act 13 of 2012

Watershed Restoration and Protection Program (WRPP): Act 13 of 2012 establishes the Marcellus Legacy Fund and allocates funds to the Commonwealth Financing Authority for watershed restoration and protection projects. The overall goal of this program is to restore, and maintain restored stream reaches impaired by the uncontrolled discharge of non-point source polluted runoff, and ultimately to remove these streams from the PA DEP's Impaired Waters list.

Greenways, Trails and Recreation Program (GTRP): In addition, Act 13 of 2012 allocates funds to the Commonwealth Financing Authority (the "Authority") for planning, acquisition, development, rehabilitation, and repair of greenways, recreational trails, open space, parks, and beautification projects. Projects can involve development, rehabilitation, and improvements to public parks, recreation areas, greenways, trails, and river conservation.

Flood Mitigation Projects: Finally, Act 13 of 2012 allocates funds to the Commonwealth Financing Authority (the "Authority") for funding statewide initiatives to assist with flood mitigation projects.

While most of the identified fiscal capabilities are available to all of the municipalities in Westmoreland County, the extent to which communities have leveraged these funding sources varies widely. It is expected that communities familiar with accessing grant programs will continue to pursue those grant sources, as appropriate.

Pennsylvania ACT 152 County Wide Demolition Program (DEMOFUND)

The DEMOFUND program was established to help remediate blight and alleviate the costs associated with the demolition of abandoned and blighted properties county-wide. The Department of Planning and Development, in collaboration with the Redevelopment Authority, evaluates and scores municipal applications. In 2019 the local municipalities that were awarded were as follows: Avonmore Borough, Derry Township, South Greensburg Borough, City of Monessen, Rostrevor Township, Youngwood Borough, New Stanton Borough, and the City of Jeannette. The county enters into agreements with each local municipality that is selected, and the Redevelopment Authority provides program delivery services for the demolition of the structures. The program could be utilized to target areas of repetitive loss and assist in flood mitigation.

Municipal Capabilities

The implementation of mitigation actions requires time and fiscal resources. While some mitigation actions are less costly than others, it is important that funds are available locally to implement policies and projects. Financial resources are particularly important if jurisdictions are trying to take advantage of Commonwealth or federal mitigation grant funding opportunities that require local-match contributions.

Capital Improvement Planning

Capital improvement plans are often recommended by counties to their municipalities because these plans help identify specific capital projects to be funded and completed according to a defined schedule. Some of these projects involve improvements to facilities and infrastructure that provide hazard mitigation benefits. As such, during this update process, the county and its municipalities have been encouraged to consider the mitigation benefits associated with their known or anticipated capital projects as a way to help prioritize their execution and to develop awareness that mitigation grants may be available to help fund such projects.

Special Purpose Taxes

Communities may exercise their taxing authority to raise funds for any project they see fit. This includes special taxes to fund mitigation measures. Spreading the cost of a community project among the community's taxpayers helps provide the greatest public good for relatively little individual cost.

Gas/Electric Utility Fees

In the same way that special taxes can be levied to fund mitigation projects, another avenue for financing a project that a community may utilize is to dedicate a portion of homeowners' gas and electric utilities' fees to upgrade and maintain the related infrastructure. Burying transmission lines, thereby mitigating from the effects of winds and ice storms, is expensive. These fees help to offset that cost.

Water/Sewer Fees

Water Authorities and Fees

Water authorities are multipurpose authorities with water projects, many of which operate both water and sewer systems. The financing of water systems for lease back to the municipality is among the principal activities of the local government facilities' financing authorities. An operating water authority issues bonds to purchase existing facilities or to construct, extend, or improve a system. The primary source of revenue is user fees based on metered usage.

The cost of constructing or extending water supply lines can be funded by special assessments against abutting property owners. Tapping fees also help fund water system capital costs. Water utilities are directly operated by municipal governments and by privately owned public utilities regulated by the Pennsylvania Public Utility Commission. The PA DEP has a program to assist with consolidation of small individual water systems to make system upgrades more cost-effective.

Sewer Authorities and Fees

Sewer authorities include multipurpose authorities with sewer projects. The authorities issue bonds to finance acquisition of existing systems or to finance construction, extension, and improvements. Sewer authority operating revenues originate from user fees. The fee frequently is based on the amount of water consumed, and payment is enforced by the ability to terminate service or the imposition of liens against real estate. In areas with no public water supply, flat rate charges are calculated on average use per dwelling unit.

Stormwater Utility Fees

Stormwater utility fees are assessed and collected to offset the cost of maintaining and upgrading stormwater management structures such as drains, retention ponds, and culverts.

Development Impact Fees

Development impact fees are one-time fees assessed to offset the cost of providing public services to a new development. They may be dedicated to providing the related new water or sewer infrastructure, roads, parks, and recreational areas, libraries, schools, etc. The new infrastructure may be less vulnerable to hazard impacts.

General Obligation, Revenue, and/or Special Tax Bonds

Jurisdictions may simply decide to dedicate general fund or similar financing to implement hazard mitigation projects.

Partnering Arrangements or Intergovernmental Agreements

Intergovernmental cooperation is one manner of accomplishing common goals, solving mutual problems, and reducing expenditures. There are 65 municipalities within Westmoreland County. Each of these municipalities conducts its daily operations and provides various community services according to local needs and limitations. Each municipality varies in staff size, resource availability, fiscal status, service provision, constituent population, overall size, and vulnerability to the identified hazards.

Circuit Rider Program (Engineer)

The Circuit Rider Program is an example of intergovernmental cooperation. This program offers municipalities the ability to join together to accomplish a common goal. The Circuit Rider is a municipal engineer who serves several small municipalities simultaneously. These are municipalities that may be too small to hire a professional engineer for their own operations yet need the skills and expertise the engineer can offer. Municipalities can jointly obtain what no single municipality could obtain on its own.

Municipalities participating in this planning effort were provided with a capabilities survey. Table 5-3 summarizes the responses of the municipalities based on financial capabilities. Copies of the individual municipal responses are found in Appendix D.

Table 5-3. Fiscal Capability

Municipality	Capital Improvements Program	Community Development Block Grants (CDBG)	Special Purpose Taxes	Gas/Electric Utility Fees	Water/Sewer Fees	Stormwater Utility Fees	Development Impact Fees	General Obligation, Revenue, and/or Special Tax Bonds	Partnering Arrangements or Intergovernmental Agreements	Other
Westmoreland County	-	-	-	-	-	-	-	-	X	X
Adamsburg Borough										
Allegheny Township										
Arnold City										
Arona Borough										
Avonmore Borough	-	-	-	-	-	-	-	-	-	-
Bell Township										
Bolivar Borough										
Cook Township										
Delmont Borough	-	-	X	-	X	-	-	-	-	-
Derry Borough										
Derry Township										

Municipality	Capital Improvements Program	Community Development Block Grants (CDBG)	Special Purpose Taxes	Gas/Electric Utility Fees	Water/Sewer Fees	Stormwater Utility Fees	Development Impact Fees	General Obligation, Revenue, and/or Special Tax Bonds	Partnering Arrangements or Intergovernmental Agreements	Other
Donegal Borough	-	-	-	-	-	-	-	-	-	-
Donegal Township	-	X	X	-	-	-	-	-	X	-
East Huntington Township	-	-	-	-	-	-	-	-	-	-
East Vandergrift Borough										
Export Borough	-	X	-	-	X	-	-	-	X	-
Fairfield Township	-	X	-	-	X	-	-	-	X	-
Greensburg City	X	X	-	-	-	-	-	-	X	-
Hempfield Township	-	X	-	-	-	-	-	X	X	-
Hunker Borough										
Hyde Park Borough										
Irwin Borough	X	X	X	X	X	-	X	-	X	-
Jeannette City	X	X	X	-	-	-	-	X	X	-
Latrobe Municipality	-	-	-	-	-	-	-	X	-	-
Laurel Mountain Borough	-	-	-	-	-	-	-	-	X	-
Ligonier Borough	-	-	-	-	-	-	-	-	-	-
Ligonier Township	-	-	-	-	X	-	-	-	-	-
Lower Burrell City										
Loyalhanna Township										
Madison Borough										
Manor Borough	-	X	X	X	X	-	X	X	X	-
Monessen City	-	X	X	-	X	X	X	-	-	-
Mount Pleasant Borough	-	X	-	X	X	-	-	-	X	-
Mount Pleasant Township										
Murrysville Municipality	X	X	X	-	-	-	X	X	-	-
New Alexandria Borough	-	-	-		X	-	-	-	-	-
New Florence Borough										
New Kensington City										
New Stanton Borough	-	X	X	-	-	-	-	X	X	-
North Belle Vernon Borough										
North Huntington Township	X	X	-	-	-	-	-	X	X	-
North Irwin Borough										
Oklahoma Borough	-	-	-	-	X	-	-	-	-	-
Penn Borough										
Penn Township	X	X	X	-	-	-	X	-	X	-
Rostraver Township										
Salem Township	X	X	X	-	X	-	-	X	X	-

Municipality	Capital Improvements Program	Community Development Block Grants (CDBG)	Special Purpose Taxes	Gas/Electric Utility Fees	Water/Sewer Fees	Stormwater Utility Fees	Development Impact Fees	General Obligation, Revenue, and/or Special Tax Bonds	Partnering Arrangements or Intergovernmental Agreements	Other
Scottdale Borough	-	-	X	X	X	-	-	X	-	-
Seward Borough										
Sewickley Township										
Smithton Borough	-	X	-	-	-	-	-	-	-	-
South Greensburg Borough	X	X	X	-	-	-	-	-	-	-
South Huntingdon Township	-	X	-	-	-	-	-	-	-	-
Southwest Greensburg	X	X	X	-	-	-	-	-	-	-
St. Clair Township										
Sutersville Borough										
Trafford Borough										
Unity Township										
Upper Burrell Township	X	-	-	-	-	-	-	-	-	-
Vandergrift Borough										
Washington Township	-	-	X	-	X	-	X	-	X	-
West Leechburg Borough										
West Newton Borough	X	X	-	-	X	-	X	X	X	-
Youngstown Borough										
Youngwood Borough	-	X	-	-	-	-	-	X	X	-

Notes:

"X" indicates that the municipality currently has this capability in place.

"-" indicates no capability is currently in place.

Blank space indicates no response was received from the municipality.

5.2.4 Education and Outreach

Education and outreach programs and methods are used to implement mitigation activities and communicate hazard-related information. Examples include obtaining certification in programs such as Firewise and StormReady and developing and communicating hazard awareness and safety information to residents.

At the municipal level, education and outreach capabilities vary. Some municipalities have the capability to handle outreach initiatives while others rely on county resources. Several municipal websites post local plans and ordinances, and many municipalities post information regarding hazard-related topics. The local fire departments and emergency managers are active in the schools participating in programs such as fire safety in the fall and attending other community activities to conduct outreach. Appendix D details the outreach and education conducted at the municipal level.

Public Information Programs

Flood Maps

Flood maps and flood data are accessible to the county through their GIS departments, and other information is available through the county assessment offices. The following information is available through the county GIS offices: county and municipality maps, tax maps, village rate schedules, property assessment records, and deeds.

Library Education Tools

Libraries have educational materials, available upon request, which are used at public speaking events or county meetings, when appropriate. The following educational materials are available but are not limited to:

- Various types of training videos
- Pennsylvania emergency preparedness guides
- American Red Cross packets for flash flooding, hurricane, thunder and lightning, tornado, and winter storms
- Family disaster planning guides
- Homeland security information for businesses, family, individuals, neighborhoods, and schools
- Pandemic brochures

Region 13 Public Awareness

Various types of public awareness information are provided on the Region 13 website: https://swpa-region13.com/. The following educational materials are available:

- Disaster Awareness
    - Biological Threat
    - Chemical Threat
    - Cyber Security
    - Earthquake
    - Explosion
    - Extreme Cold
    - Extreme Heat
    - Fire
    - Flooding
    - Hurricane
    - Landslide
    - Mass Transit
    - Power Outage
    - Public Health
    - Radiation Threat
    - Terrorism
    - Tornado
    - Tsunami
- Be Prepared
    - Evacuation
    - Household Disaster Plan
    - Shelter-in-Place
    - Special Needs
    - Emergency Supply Kit
    - Utility Shutoff

Outreach Projects

Several organizations (both public and private sector) have developed outreach projects, educational tools, and training programs. The county promotes both online and traditional in-person programs to appeal to as wide an audience as possible.

- TV Media Public Awareness Campaign – This program aims for Westmoreland County to collaborate with the local media to disseminate information on severe weather and storm-related preparedness to the general public.
- Utility Public Awareness Campaign – The following utility agencies have available safety information accessible to the public:
    - West Penn Power: https://www.firstenergycorp.com/content/customer/help/safety.html
    - Peoples Natural Gas: http://www.peoples-gas.com/Safety.aspx
    - Columbia Natural Gas: https://www.columbiagaspa.com/stay-safe
    - Municipal Authority of Westmoreland County: http://www.mawc.org/content/CustServWater/public-notification
- Are You Ready? – This is an in-depth program for citizen preparedness (individual, family, and community) that provides a step-by-step approach to disaster preparedness by walking the participant through steps to become informed about local emergency plans, identify hazards that affect their area, and develop and maintain an emergency communications plan and disaster supply kit. Other topics include evacuation, emergency public shelters, animal handling during disasters, and information specific to people with disabilities. The program includes actions that can be taken before, during, and after each hazard type and provides in-depth information on specific hazards such as the following:
    - Floods
    - Tornadoes
    - Hurricanes
    - Thunderstorms and lightning
    - Winter storms and extreme cold
    - Extreme heat
    - Earthquakes
    - Volcanoes
    - Landslide and debris flows (mudslide)
    - Tsunamis
    - Fires and wildfires
    - Hazardous materials incidents
    - Household chemical emergencies
    - Nuclear power plants
    - Terrorism (explosion, biological, chemical, nuclear, and radiological hazards)
- ReadyPA Campaign – Established by the Commonwealth of Pennsylvania, www.readypa.org is a website that aims to prepare the public for times of disaster by providing education on the risks within Pennsylvania, template emergency plans and kits, and information on ways to get involved with community organizations to help others.
- Community Emergency Response Teams (CERT) – CERT provides training to educate citizens about disaster preparedness and instruction in basic disaster response skills, such as fire suppression, medical operations during disasters, light search and rescue, team organization, disaster psychology, and terrorism awareness. The goal of this program is for emergency personnel to train members of neighborhoods, community organizations, or workplaces in basic response skills. If a disastrous event overwhelms or delays the community's professional response, CERT members can assist others by

applying the basic response and organizational skills that they learned during training. These skills can help save and sustain lives following a disaster until help arrives.

- Citizen Corps Council – The mission of the Citizen Corps is to harness the power of every individual through education, training, and volunteer service to make communities safer, stronger, and better prepared to respond to the threats of terrorism, crime, public health issues, and disasters of all kinds.
- Emergency management courses are provided through the county DPS to local coordinators and elected officials. The following courses are provided: Duties and Responsibilities of the Local Emergency Management Coordinator (LEMC), Initial Damage Assessment, EMA Orientation, Knowledge Center Training, NWS Training, and Emergency Management course updates and information as provided by FEMA, PEMA, and other federal and state agencies such as the Department of Homeland Security (DHS), Department of Health and Education, Hazard Materials Bureau of PEMA, etc.

Local Emergency Planning Committee

The Local Emergency Planning Committee (LEPC) works closely with the business industry community to form a safety net around the chemical industry to protect the general population from the possible outcome of hazardous material incidents. The following features of the LEPC demonstrate the capability of the LEPC to support county emergency management and preparedness initiatives.

- The LEPC shall have a minimum of seven members, with at least one representative from each of the following groups:
    - Group 1 – Elected official representing local government within the county
    - Group 2 – Local law enforcement, first aid, health, environmental, hospital, and transportation personnel
    - Group 3 – Firefighting personnel
    - Group 4 – Civil defense and emergency management personnel
    - Group 5 – Broadcast and print media personnel
    - Group 6 – Community groups not affiliated with emergency service groups
    - Group 7 – Owners and operators of facilities subject to the requirements of SARA Title III
- Reporting Facilities – The minimum reporting threshold for which facilities are required to have or prepared a Material Safety Data Sheet is 10,000 pounds of hazardous chemicals. This document provides workers and emergency personnel with procedures for handling or working with hazardous materials in a safe manner. It includes information on the chemicals' physical properties, toxicity, health effects, first aid, reactivity, storage, disposal, protective equipment, and spill-handling procedures.
- Planning Facilities – The reporting threshold for Extremely Hazardous Substances (as designated under Section 302 of Title III) is 500 pounds or the threshold planning quantity, whichever is lower. Qualifying facilities are subject to additional reports and accident prevention regulations.

Technical Assistance

The county DPS can support local, public, and private entities as needed through coordination and provision of information and equipment resources. These include both existing county capabilities, such as the county Hazardous Materials Response Team and Technical Rescue Team and predetermined private and public resources.

Municipalities participating in this planning effort were provided with a Capability Assessment Survey. Table 5-4 summarizes the responses of the municipalities based on education and outreach capabilities. Copies of the individual municipal responses are found in Appendix D.

Table 5-4. Education and Outreach Capability

Municipality	Firewise Communities Certification	StormReady Certification	Natural Disaster or Safety-Related School Programs	Ongoing public education or information program (e.g. responsible water use, fire safety, household preparedness, environmental education)	Public-private partnership initiatives addressing disaster-related issues	Local citizen groups or nonprofit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.	Other
Westmoreland County	-	X	-	X	X	X	-
Adamsburg Borough		X					
Allegheny Township		X					
Arnold City		X					
Arona Borough		X					
Avonmore Borough		X					
Bell Township		X					
Bolivar Borough		X					
Cook Township		X					
Delmont Borough		X					
Derry Borough		X					
Derry Township		X					
Donegal Borough		X					
Donegal Township	-	X	-	X	-	-	-
East Huntington Township		X					
East Vandergrift Borough		X					
Export Borough	-	X	-	-	-	-	-
Fairfield Township		X					
Greensburg City	-	X	X	X	-	X	-
Hempfield Township	-	X	X	X	X	-	-
Hunker Borough		X					
Hyde Park Borough		X					
Irwin Borough	-	X	-	X	X	X	-
Jeannette City	-	X	-	X	-	-	-
Latrobe Municipality	-	X	X	X	-	-	-
Laurel Mountain Borough	-	X	X	-	-	X	-
Ligonier Borough		X					
Ligonier Township	-	X	-	-	-	-	-
Lower Burrell City		X					
Loyalhanna Township		X					
Madison Borough		X					
Manor Borough	-	X	-	X	-	-	-
Monessen City	-	X	-	-	-	-	-
Mount Pleasant Borough	-	X	X	X	-	-	-

Municipality	Firewise Communities Certification	StormReady Certification	Natural Disaster or Safety-Related School Programs	Ongoing public education or information program (e.g. responsible water use, fire safety, household preparedness, environmental education)	Public-private partnership initiatives addressing disaster-related issues	Local citizen groups or nonprofit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.	Other
Mount Pleasant Township		X					
Murrysville Municipality	-	X	X	X	-	X	-
New Alexandria Borough		X					
New Florence Borough		X					
New Kensington City		X					
New Stanton Borough		X					
North Belle Vernon Borough		X					
North Huntington Township	-	X	-	-	-	-	-
North Irwin Borough		X					
Oklahoma Borough		X					
Penn Borough		X					
Penn Township	-	X	-	X	-	X	-
Rostraver Township		X					
Salem Township	-	X	-	X	-	-	-
Scottdale Borough	-	X	-	X	X	X	-
Seward Borough		X					
Sewickley Township		X					
Smithton Borough	-	X	-	-	-	-	-
South Greensburg Borough	-	X	-	X	-	-	-
South Huntingdon Township	-	X	-	-	-	-	-
Southwest Greensburg		X		X			
St. Clair Township		X					
Sutersville Borough		X					
Trafford Borough		X					
Unity Township		X					
Upper Burrell Township		X					
Vandergrift Borough		X					
Washington Township	-	X	X	X	X	-	-
West Leechburg Borough		X					
West Newton Borough		X	X	X	X	X	
Youngstown Borough		X					
Youngwood Borough	-	X	-	-	-	X	-

Notes:
"X" indicates that the municipality currently has this capability in place.
"-" indicates no capability is currently in place.
Blank space indicates no response was received from the municipality.

5.2.5 Plan Integration

According to FEMA, plan integration is a process where communities look critically at their existing planning framework and align their efforts. Integration of hazard mitigation principles into other local planning mechanisms (comprehensive plans, transportation plans, floodplain ordinances, etc.) and vice versa is vital to build a safer, more resilient community. This two-way exchange of information supports community-wide risk reduction, both before and after disasters occur. Not only will the community's planning efforts be better integrated, but by going through this process, there is a higher level of interagency coordination, which is just as important as the planning mechanisms themselves.

Within Westmoreland County, there are many existing plans and programs that support hazard risk management; thus, it is critical that this HMP integrate and coordinate with, and complement, those mechanisms.

The intention of the Planning Team and participating jurisdictions is to incorporate mitigation planning as an integral component of daily government operations. Planning Team members will work with local government officials to integrate the newly adopted hazard mitigation goals and actions into the general operations of government and partner organizations. Further, the sample adoption resolution (located in Section 8 of this HMP) includes a resolution item stating the intent of the local governing body to incorporate mitigation planning as an integral component of government and partner operations. By doing so, the Planning Team anticipates the following:

1) Hazard mitigation planning will be formally recognized as an integral part of overall emergency management efforts.
2) Hazard mitigation planning will be formally recognized as an integral part of land use policies and mechanisms.
3) The HMP, the county and municipal comprehensive plans, and the county and municipal EOPs will become mutually supportive documents that work in concert to meet the goals and needs of county residents.
4) Duplication of effort can be minimized.

As noted in Section 6 of this plan, Westmoreland County has made a concerted effort to reduce its vulnerability to natural and non-natural hazards in its planning and in its daily operations since the Westmoreland County HMP was last updated in 2013. The county and its jurisdictions have implemented various programs and projects to reduce the impacts of hazards. These projects, programs, and regulations have reduced risk caused by natural and non-natural hazards and support the goals and objectives of this HMP. It is the intent of the county and its participating municipalities to strengthen this focus on mitigation by continuing existing policies and by further implementing the mitigation policies contained in this HMP.

Implementation actions will include incorporating the goals of the HMP into ongoing planning, zoning, building, and engineering activities. Specifically, the county will urge municipalities to take the following actions:

- Fund hazard mitigation projects or actions in operating budgets to the extent possible.
- Notify other municipalities about grant and other funding opportunities as they arise.
- Use data and maps from this HMP as supporting documentation in grant applications.
- Review mitigation actions when allocating funding for the municipal budgets.
- Include hazard mitigation when updating municipal ordinances.
- Identify hazard areas in updates of comprehensive plans to identify land use issues.
- Review the HMP prior to land use or zoning changes and permitting or development decisions.

The information on hazards, risk, vulnerability, and mitigation contained in this HMP is based on the best science and technology available at the time of the plan's preparation. Additionally, certain plans (including Blueprints) were incorporated directly into this HMP update. All participating jurisdictions recognize that this information can be invaluable in making decisions under other planning programs, such as comprehensive, capital improvement, and emergency management plans. Figure 5-1 illustrates the interrelationships between the HMP,

the Westmoreland County Comprehensive Plan, the County EOP, and other community planning mechanisms. Existing processes and programs through which the HMP should be implemented are described below.

Plan participants will make every effort to implement the relevant sections and or data contained in the HMP utilizing administrative, budgetary, and regulatory processes as well as partnerships to the maximum extent, as described below.

Administrative

Administrative processes include departmental or organizational work plans, policies, or procedural changes that can be addressed by the following departments:

- Behavioral Health/Developmental Services
- Department of Public Safety
- Westmoreland County Public Works Department
- Redevelopment Authority
- Solid Waste Advisory Committee
- Planning Division
- Sheriff's Office

Additional administrative measures may include the creation of paid or unpaid internships to assist in HMP maintenance.

The Westmoreland County DPS is responsible for preparing and maintaining the County EOP, including a minimum biennial review. Whenever portions of the plan are implemented in an emergency event or training exercise, a review is performed, and changes are made where necessary. The Westmoreland County DPS posts the County EOP online. Municipalities are notified of changes to the EOP and directed to the EOP website. The risk assessment information presented in the 2013 HMP was used to update the hazard Vulnerability Assessment section of the County EOP. The updated risk assessment information will affect subsequent updates to the EOP. Recommended changes to the HMP, based on changes to the EOP, will then be coordinated with the Planning Team.

The Westmoreland County Planning Division is responsible for maintaining and updating the Westmoreland County Comprehensive Plan, which covers all 65 municipalities. The Planning Division meets to review, discuss, and comment on municipal subdivision and land development plans, municipal floodplain ordinances, municipal stormwater management plans and ordinances, and other community planning and development matters. Since the adoption of the original Westmoreland County HMP, these reviews have included informal cross-referencing of the planned development or regulatory activity with the provisions of the HMP. It uses this information to identify necessary revisions and to amend the comprehensive plan.

The administrative practices described above will continue through the development of subsequent Westmoreland County Comprehensive Plan updates using the information in this updated HMP. In return, the Westmoreland County Comprehensive Plan, located on the Westmoreland County Planning Division's website, was incorporated into multiple aspects of this HMP. Information from the comprehensive plan and other documents was used to formulate the county profile, identify the history of individual hazards, and detail the population projections in Westmoreland County.

Budgetary Process

In terms of budgetary processes, the county will review capital budgets and, if funding is available, include a line item for mitigation actions. In addition, the county will maximize mitigation aspects of proposed projects, and will encourage municipalities to do likewise.

Regulatory Measures

Regulatory measures—such as the creation of executive orders, ordinances, and other directives—will be considered to support hazard mitigation in the following areas:

- Comprehensive Planning – Institutionalize hazard mitigation for new construction and land use.
- Zoning and Ordinances
- Building Codes – Enforce codes or higher standard in hazard areas.
- Capital Improvements Plan – Ensure that the person responsible for projects under this plan evaluates whether new construction is in a high-hazard area (such as a flood plain) so the construction is designed to mitigate the risk. Revise requirements for this plan to include hazard mitigation in the design of new construction.
- NFIP – Continue participation in this program and explore participation in CRS Program.
- Stormwater Management – Continue to implement storm water management plans.
- HMP Plan Coordination – Prior to formal changes (amendments) to master plans, zoning, ordinances, capital improvement plans, or other mechanisms that control development, all above-mentioned plans must be reviewed to ensure they are consistent with the HMP.

Funding

The county and its jurisdictions will consider multiple grant sources to fund eligible projects. These opportunities may include but are not limited to:

- Federal
    - FEMA Pre-Disaster Mitigation Program (PDM)
    - FEMA Flood Mitigation Assistance Program (FMA)
    - FEMA Hazard Mitigation Grant Program (HMGP) – Stafford Act, Section 404
    - U.S. Department of Housing and Urban Development (HUD) – Community Development Block Grant (CDBG)
    - U.S. Department of Agriculture (USDA) – USDA Community Facilities
    - U.S. Economic Development Administration (EDA) Public Works Program
- Commonwealth
    - Pennsylvania Department of Transportation (PennDOT) Pennsylvania Infrastructure Bank
    - Act 13 Marcellus Shale Legacy Funds – Flood Mitigation Program
- Nonprofit organizations, foundations, and private sources

Other potential federal funding sources include:

- Stafford Act, Section 406 – Public Assistance Program Mitigation Grants
- Federal Highway Administration
- Catalog of Federal Domestic Assistance
- U.S. Fire Administration – Assistance to Firefighter Grants
- U.S. Small Business Administration Pre- and Post-Disaster Mitigation Loans
- U.S. Department of Economic Development Administration Grants
- U.S. Army Corps of Engineers
- U.S. Department of Interior, Bureau of Land Management
- Other sources as yet to be defined

Partnerships

The following opportunities for partnerships will be encouraged to provide a broader support and understanding of hazard mitigation:

Creative Partnerships for Funding and Incentives

- Public-private partnerships, including utilities and businesses
- State cooperation
- In-kind resources

Working with other Federal and Commonwealth Agencies

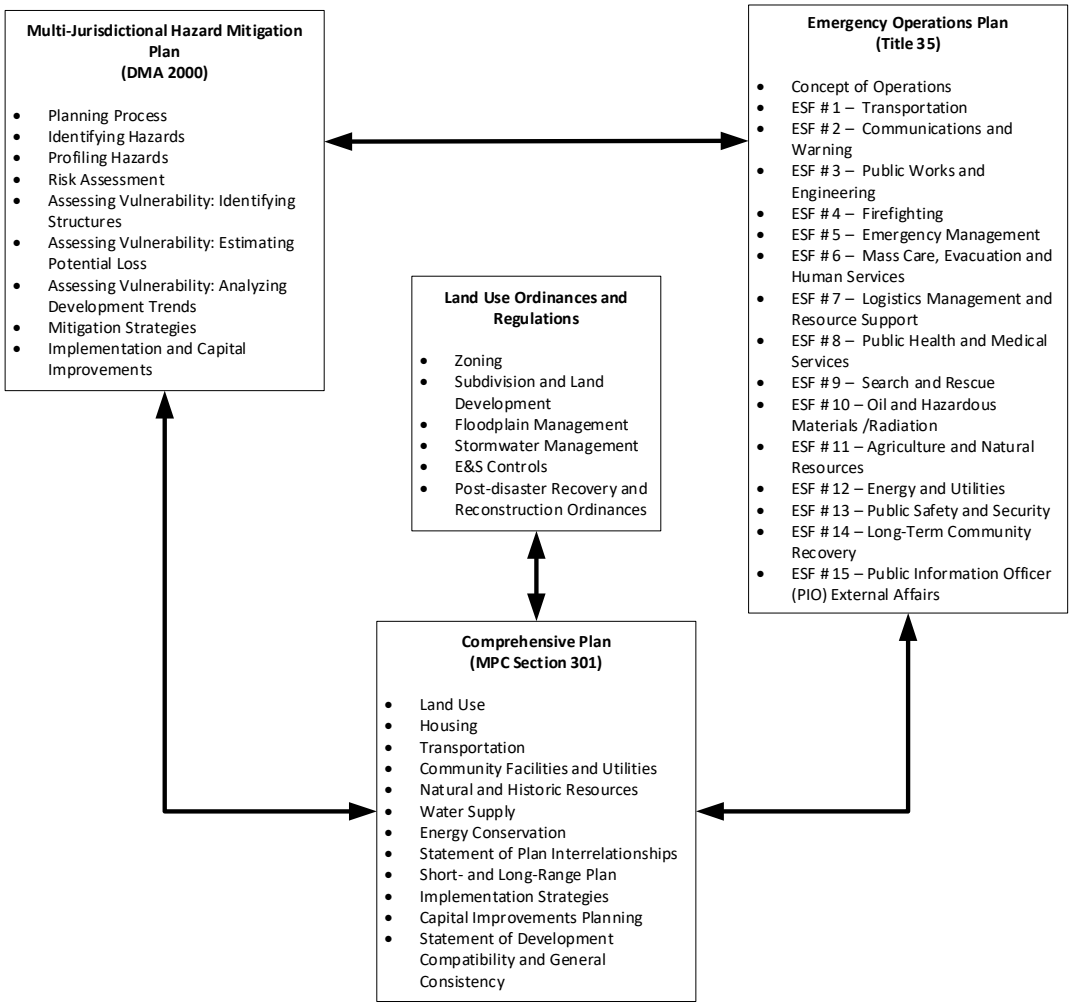
- U.S. Army Corps of Engineers (USACE)
- Department of Homeland Security (DHS)
- Federal Emergency Management Agency (FEMA)
- National Oceanic and Atmosphere Administration (NOAA)
- National Weather Service (NWS)
- Pennsylvania Department of Transportation (PennDOT)
- Pennsylvania Department of Environmental Protection (PADEP)
- Pennsylvania State Police (PSP)
- United States Department of Agriculture (USDA)
- United States Department of Transportation (USDOT)
- United States Geological Service (USGS)
- American Red Cross

Watershed Associations

- Loyalhanna Watershed Association, Inc. (www.loyalhannawatershed.org)
- Mountain Watershed Association (www.mtwatershed.com)
- Sewickley Creek Watershed Association (www.sewickleycreek.com)
- Turtle Creek Watershed Association (www.turtlecreekwatershed.org/home.html)
- Pucketa and Chartiers Watershed Association
- Jacobs Creek Watershed Association (http://www.jacobscreekwatershed.org/)
- Kiskiminetas Watershed Association

Several of the watershed associations have outreach and educational programs in place which could be utilized to also provide outreach on flood mitigation, natural systems protection, and water quality control.

Figure 5-1. Plan Interrelationships



Note:
E&S Erosion and Sedimentation
MPC Municipal Planning Code

During the plan evaluation process, the Planning Team will identify additional policies, programs, practices, and procedures that could be modified to accommodate hazard mitigation actions and will include these findings and recommendations in the HMP Progress Report.

SECTION 6 MITIGATION STRATEGY

This section describes the process by which the Westmoreland County Planning Team will reduce or eliminate potential losses from the natural and non-natural hazards identified in Section 4.2 of this Hazard Mitigation Plan (HMP). The mitigation strategy focuses on existing and potential future mitigation actions to alleviate the effects of hazards on Westmoreland County's population, economy, and general building stock.

This section provides a summary of the 2020 HMP update process, outlines the mitigation goals and objectives set forth in the 2020 HMP update, describes the process for identifying and analyzing mitigation techniques, and provides the mitigation action plan.

6.1 Update Process Summary

The goals and objectives listed in the Westmoreland County HMP were first examined through the dispersal of the Mitigation Strategy 5-Year Plan Review Worksheet (Mitigation Review Worksheet). During the 5-year review, the Planning Team members were afforded the opportunity to comment on the goals, objectives, and actions that were listed in the existing HMP.

The general mitigation planning approach used to develop this plan is based on (1) the Federal Emergency Management Agency (FEMA) publication, "Local Mitigation Planning Handbook" (FEMA 2013), and (2) the Pennsylvania All-Hazard Mitigation Planning Standard Operating Guide (SOG) (PEMA 2013):

1. **Review of Existing Mitigation Plan Goals, Objectives, and Mitigation Action Plan:** Existing mitigation goals and objectives, and the 2015 HMP mitigation actions were first examined at the Kick-Off Meeting and revisited during the Mitigation Solutions Workshop. These meetings were open to members of the Planning Team and stakeholders. The Hazard Mitigation Working Group (HMWG) thoroughly reviewed and updated the mitigation goals and objectives utilizing the latest information gathered through the hazard profiles, vulnerability assessments, and the risk assessment; the mitigation goals and objectives were also compared to the Pennsylvania HMP goals and objectives. The updated goals and objectives were then presented at the Mitigation Solutions Workshop for final review and approval. Plan participants continued to review and provide progress on the 2015 mitigation actions throughout the planning process.
2. **Develop and Update Mitigation Strategies:** Mitigation actions were identified based on the risk assessment, mitigation goals and objectives, existing policies, and input from the Planning Team and planning partners.
3. **Mitigation Strategy Prioritization and Implementation:** The potential mitigation actions were qualitatively evaluated and are described in more detail in Section 6.4 of this HMP. Mitigation actions were prioritized into three categories: high, medium, and low. High priority and medium priority mitigation actions are recommended for implementation before low priority actions; however, based on County and municipal-specific needs, cost estimation, and available funding, some low priority mitigation actions may be addressed first.
4. **Document the Mitigation Planning Process:** The entire mitigation planning process is documented throughout this HMP, particularly in Section 3.

This section summarizes past mitigation goals and past mitigation action status and provides an update of mitigation strategies and additional past mitigation accomplishments.

6.1.1 Review of the Past Mitigation Goals

The mitigation goals identified in the 2015 version of the HMP are listed below:

- **Goal 1:** To minimize the risk to human life associated with natural and non-natural hazards.

- **Goal 2:** To promote hazards avoidance, especially in floodplains, by removing high-risk and repetitive loss structures, and by issuing building restrictions on future development.
- **Goal 3:** To reduce the damage from natural and non-natural hazards to existing and future public and private assets including structures, critical facilities, and infrastructure.
- **Goal 4:** To protect and restore existing natural resources, including wetlands, floodplains, and riparian buffers.
- **Goal 5:** To develop, prioritize, and implement cost-effective, long-term actions that will reduce the impacts of natural and non-natural hazards.
- **Goal 6:** To enhance planning and emergency response efforts among local, county, state, and federal emergency management personnel to protect public health and safety.
- **Goal 7:** To promote public awareness on the potential impacts of natural and non-natural hazards and actions to reduce those impacts.

Table 6-1 shows the results of the HMWG and Planning Team review of the 2015 goals.

Table 6-1. HMWG and Planning Team Evaluation of 2015 Goals and Objectives

2015 Westmoreland County Hazard Mitigation Plan Goals		Evaluation
Goal 1	To minimize the risk to human life associated with natural and non-natural hazards.	Updated to new Goal 1.
Goal 2	To promote hazards avoidance, especially in floodplains, by removing high-risk and repetitive loss structures, and by issuing building restrictions on future development.	Updated to new Goal 2.
Goal 3	To reduce the damage from natural and non-natural hazards to existing and future public and private assets, including structures, critical facilities, and infrastructure.	Updated to be a part of new Goal 2.
Goal 4	To protect and restore existing natural resources, including wetlands, floodplains, and riparian buffers.	Maintained as new Goal 3.
Goal 5	To develop, prioritize, and implement cost-effective, long-term actions that will reduce the impacts of natural and non-natural hazards.	Deleted. This goal was redundant with the purpose of an HMP.
Goal 6	To enhance planning and emergency response efforts among local, county, state, and federal emergency management personnel to protect public health and safety.	Updated to include enhancing awareness as well. This is new Goal 4.
Goal 7	To promote public awareness on the potential impacts of natural and non-natural hazards and actions to reduce those impacts.	Maintained as new Goal 5.

6.1.2 Past Mitigation Action Status and Update of Mitigation Strategies

In the 2015 HMP, Westmoreland County identified 50 actions and initiatives to support an improved understanding of hazard risk and vulnerability, to enhance mitigation capabilities, and/or to reduce vulnerability of infrastructure. Progress on the 2015 mitigation actions was evaluated during the 2020 update process.

Westmoreland County, via various representatives on the HMWG and Planning Team, was provided with a Mitigation Review Worksheet identifying all of the county and municipal actions and initiatives from the 2015 HMP. The respondents were asked to indicate the status of each action ("No Progress/Unknown," "In Progress/Not Yet Complete," "Continuous," "Completed," or "Discontinued") and provide review comments on each.

The completed Mitigation Action Plan Review Worksheet is provided in Table 6-2. Projects and initiatives identified as "Complete" and "Discontinued" have been removed from this plan update. The actions that the county has identified as "No Progress/Unknown" or "In Progress/Not Yet Complete" have been carried forward in the updated mitigation strategies identified in Table 6-4 (unless otherwise determined by the county to be a discontinued project). Actions from the 2015 HMP that reflect continuously maintaining capabilities have also been removed. The language in some actions being carried over has been adjusted to reflect changes to County needs and capabilities. Some actions were also merged to reduce redundant efforts on behalf of the county and its municipalities.

Table 6-2. Past Mitigation Action Status

Description	Status	Review Comments
1. Mt. Pleasant Borough - Install additional stormwater runoff pipes and upgrade/replace existing deteriorated pipes.	No Progress	• This action had not been started due to lack of time and financial resources.
2. Hunker Borough - Procure and install a back-up generator into Hunker Borough Emergency Operations Center (EOC).	No Progress	• This action had not been started due to lack of time and financial resources.
3. Hunker Borough - Procure and install air conditioning units into community building / community shelter.	No Progress	• This action had not been started due to lack of time and financial resources.
4. Hunker Borough - Retrofit community building to prevent flooding in basement.	No Progress	• This action had not been started due to lack of time and financial resources.
5. Hunker Borough - Pave Bellson Street in Hunker Borough. Install proper drainage to prevent flooding.	No Progress	• This action had not been started due to lack of time and financial resources.
6. Hunker Borough - Implement the redirection of the stormwater catch basin at the intersection of Walnut and Bridge Street.	No Progress	• This action had not been started due to lack of time and financial resources.
7. Hunker Borough - Demolition of abandoned home.	No Progress	• This action had not been started due to lack of time and financial resources.
8. Hunker Borough - Install sub-flooring to prevent roadway along Locust Street. from sinking.	No Progress	• This action had not been started due to lack of time and financial resources.
9. Hunker Borough - Retrofit Walnut Street Bridge to prevention erosion.	No Progress	• This action had not been started due to lack of time and financial resources.
10. Unity Township - Construct and install a new culvert in Lloydsville to enhance hydraulic capacity.	No Progress	• This action had not been started due to lack of time and financial resources.
11. Unity Township - Install a stormwater detention system in Lawson Heights.	No Progress	• This action had not been started due to lack of time and financial resources.
12. Allegheny Township - Replace and enhance stormwater runoff pipes in Moreland Manor.	No Progress	• This action had not been started due to lack of time and financial resources.
13. St. Clair Township - Reconstruction of Bridge River Hill Bridge.	No Progress	• This action had not been started due to lack of time and financial resources.
14. St. Clair Township - Reconstruction of Bridge Sugar Run Road.	No Progress	• This action had not been started due to lack of time and financial resources.
15. Fairfield Township - Reconstruction of Patterson Bridge.	No Progress	• This action had not been started due to lack of time and financial resources.
16. Sewickley Township - Install storm water drainage system along Pinewood Road.	No Progress	• This action had not been started due to lack of time and financial resources.
17. Sewickley Township - Procure a skid loader/grab attachment for storm clean up and culvert clean out.	No Progress	• This action had not been started due to lack of time and financial resources.
18. Sewickley Township - Procure remote receive sites to enhance communications.	No Progress	• This action had not been started due to lack of time and financial resources.
19. Sewickley Township - Procure sweeper truck for stormwater management.	No Progress	• This action had not been started due to lack of time and financial resources.

Description	Status	Review Comments
20. Sewickley Township - Procure and install a back-up generator into Hutchinson Volunteer Fire Department (VFD) Station 85.	No Progress	• This action had not been started due to lack of time and financial resources.
21. Sewickley Township - Procure and install a back-up generator into Lowber VFD Station 16.	No Progress	• This action had not been started due to lack of time and financial resources.
22. Sewickley Township - Procure and install a back-up generator into Rillton VFD Station 14.	No Progress	• This action had not been started due to lack of time and financial resources.
23. Sewickley Township - Procure skid steer attachment to clear debris around culverts.	No Progress	• This action had not been started due to lack of time and financial resources.
24. Fairfield Township - Develop and implement an action plan to mitigate recurring flooding on Creek Road.	No Progress	• This action had not been started due to lack of time and financial resources.
25. Upper Burrell Township - Procure and install an emergency generator.	No Progress	• This action had not been started due to lack of time and financial resources.
26. County and all municipalities - Retrofit structures located in hazard-prone areas to protect structures from future damage, with repetitive loss and severe repetitive loss properties as priority. Phase 1: Identify appropriate candidates for retrofitting based on cost-effectiveness versus relocation. Phase 2: Where retrofitting is determined a viable option, work with property owners toward implementation based on available funding from FEMA and local match availability.	Continuous	• Donegal Township marked this continuous. • The City of Jeannette marked this continuous. • Penn Township marked this continuous. • Salem Township marked this continuous.
27. County and all municipalities - Purchase, or relocate structures located in hazard-prone areas to protect structures from future damage, with repetitive loss and severe repetitive loss properties as priority. Phase 1: Identify appropriate candidates for relocation based on cost-effectiveness versus retrofitting. Phase 2: Where relocation is determined a viable option, work with property owners toward implementation based on available funding from FEMA and local match availability.	Continuous	• The City of Jeannette marked this continuous. • Salem Township marked this continuous.
28. All Municipalities - Maintain compliance with and be in good standing in the National Flood Insurance Program (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.	Continuous	• Donegal Township marked this continuous. • Hempfield Township marked this continuous. • Irwin Borough marked this continuous. • The City of Jeannette marked this continuous. • The Municipality of Murrysville marked this continuous. • Penn Township marked this continuous. • Salem Township marked this continuous. • Washington Township marked this continuous.
29. All Municipalities - Begin the process to adopt higher regulatory standards to manage flood risk (i.e. increased freeboard, cumulative substantial damage/improvements) and sinkhole risk (e.g. carbonate bedrock standards).	Complete/ Continuous	• Laurel Mountain Borough marked this as in progress. • Donegal Township marked this continuous. • The Municipality of Murrysville marked this continuous. • Penn Township marked this continuous. • Salem Township marked this continuous.

Description	Status	Review Comments
30. All Municipalities - Determine if a Community Assistance Visit (CAV) or Community Assistance Contact (CAC) is needed, and schedule if needed.	Complete/ Continuous	• The City of Jeannette marked this as in progress. • The Municipality of Murrysville marked this continuous. • Salem Township marked this continuous.
31. All Municipalities - Have designated NFIP Floodplain Administrator (FPA) become a Certified Floodplain Manager through the Association of State Floodplain Managers (ASFPM), and pursue relevant continuing education training such as FEMA Benefit-Cost Analysis.	Complete/ Continuous	• Washington Township marked this as in progress – the FPA is not a CFM. • Hempfield Township marked this continuous. • Irwin Borough marked this continuous. • Penn Township marked this continuous. • Salem Township marked this continuous.
32. All Municipalities - Participate in the Community Rating System (CRS) to further manage flood risk and reduce flood insurance premiums for NFIP policyholders. This process starts by submitting to FEMA-DHS of Letter of Intent to join CRS, followed by completing and submitting an application to the program once the community's current compliance with the NFIP is established.	Continuous	• Irwin Borough marked this continuous. • Penn Township marked this continuous. • Salem Township marked this continuous.
33. County and all municipalities - Continue to support the implementation, monitoring, maintenance, and updating of this Plan, as defined in Section 7.0.	In Progress/ Continuous	• WCPD marked this in progress. • Hempfield Township marked this as in progress. • Donegal Township marked this continuous. • Irwin Borough marked this continuous. • The City of Jeannette marked this continuous. • The Municipality of Murrysville marked this continuous. • Penn Township marked this continuous. • Salem Township marked this continuous. • Washington Township marked this continuous – through plan updates by the Westmoreland County Department of Public Safety (WC DPS) plan updates.
34. County and all municipalities - Complete the ongoing updates of the Comprehensive Plans.	In Progress/ Continuous/ Completed	• Hempfield Township marked this as in progress. • Donegal Township marked this continuous. • Irwin Borough marked this continuous. • The City of Jeannette marked this continuous. • Penn Township marked this continuous. • Salem Township marked this continuous. • Washington Township marked this continuous – through WCDPS plan updates. • County Plan Completed December 2018.
35. County - Enhance the Westmoreland County Stormwater Management Plan by implementing Phase 2 of the plan.	In Progress/ Continuous	• County plan is preparing for adoption. • Irwin Borough marked this continuous. • The Municipality of Murrysville marked this continuous. • Salem Township marked this continuous.

Description	Status	Review Comments
36. County and all municipalities - Create/enhance/ maintain mutual aid agreements with neighboring counties / communities for continuity of operations.	In Progress/ Continuous	• The Municipal Authority of Westmoreland County (MAWC) owns/operates emergency interconnects with adjacent water purveyors. • Laurel Mountain Borough marked this as in progress. • Hempfield Township marked this continuous. • Irwin Borough marked this continuous. • The Municipality of Murrysville marked this continuous. • Salem Township marked this continuous. • Washington Township marked this continuous – through Region 13.
37. County - Identify and develop agreements with entities that can provide support with FEMA/PEMA paperwork after disasters. Qualified damage assessment personnel should be available for post-disaster efforts, including damage assessment; FEMA/PEMA paperwork compilation, submittals, and record-keeping.	In Progress/ Continuous	• Washington Township marked this in progress. • Irwin Borough marked this continuous. • The City of Jeannette marked this continuous. • The Municipality of Murrysville marked this continuous. • Salem Township marked this continuous.
38. County - Work with regional agencies (i.e. Region 13 and PEMA) to develop damage assessment capabilities at the local level through training programs, certification of qualified individuals (e.g. code officials, floodplain managers, engineers).	In Progress/ Continuous	• Washington Township marked this in progress. • Irwin Borough marked this continuous. • The City of Jeannette marked this continuous. • The Municipality of Murrysville marked this continuous. • Salem Township marked this continuous.
39. County and all municipalities - Partner with community groups such as local community organizations, including civic, business, town watch, faith-based, senior, special needs and tenant associations to promote emergency preparedness and mitigation efforts.	In Progress/ Continuous	• MAWC personnel meet with local civic groups, etc. (upon request) to discuss various aspects of the MAWC's business practices including emergency management. • Washington Township marked this in progress. • Irwin Borough marked this continuous. • The City of Jeannette marked this continuous. • The Municipality of Murrysville marked this continuous. • Salem Township marked this continuous.
40. County and all municipalities - Develop geospatial and analytical tools to support community engagement, policy reform, and county and regional planning efforts.	Continuous	• MAWC employs full-time GIS, IT, PR, and Engineering personnel to support these activities. • City of Greensburg marked in progress. • Irwin Borough marked this continuous. • The Municipality of Murrysville marked this continuous. • Salem Township marked this continuous.
41. County and all municipalities - Develop a hazard event GIS database to help county and local emergency managers with hazard mitigation and other planning initiatives.	In Progress/ Continuous	• MAWC employs full-time GIS, IT, PR, and Engineering personnel to support these activities. • The City of Jeannette marked this as in progress. • Irwin Borough marked this continuous. • The Municipality of Murrysville marked this continuous. • Salem Township marked this continuous. • Washington Township marked this continuous.

Description	Status	Review Comments
42. County and all municipalities - Maintain and exercise continuity of government plan to enable the county government to provide critical services during an interruption of business.	In Progress/ Continuous	• MAWC developed and maintains an Emergency Action Plan to address this concern. • The City of Jeannette marked this as in progress. • Washington Township marked this in progress. • Irwin Borough marked this continuous. • The Municipality of Murrysville marked this continuous. • Salem Township marked this continuous.
43. County and all municipalities - Implement seismic retrofits to vulnerable critical facilities.	In Progress/ Continuous	• The City of Jeannette marked this as in progress. • The Municipality of Murrysville marked this continuous. • Salem Township marked this continuous.
44. All municipalities - Regulate development to reduce flood losses in vulnerable fluvial areas.	In Progress/ Continuous	• The City of Jeannette marked this as in progress. • Irwin Borough marked this continuous. • The Municipality of Murrysville marked this continuous. • Salem Township marked this continuous. • Washington Township marked this continuous – through the Planning Commission.
45. County - Develop and maintain an outreach program to provide information and guidance to municipalities on their role in flood plain development.	Continuous	• Irwin Borough marked this continuous. • The Municipality of Murrysville marked this continuous. • Salem Township marked this continuous.
46. County and all municipalities - Support and utilize an advanced warning system that provides emergency text and email alerts to the public.	In Progress/ Continuous	• The City of Jeannette marked this as in progress. • Irwin Borough marked this continuous. • The Municipality of Murrysville marked this continuous. • Salem Township marked this continuous. • Washington Township marked this continuous – through social media, email, township newsletter.
47. County and all municipalities - Procure redundant power sources (portable generators).	Continuous	• MAWC owns stationary and portable back-up generators. • City of Greensburg marked this completed. • The Municipality of Murrysville marked this continuous. • Salem Township marked this continuous. • Washington Township marked this continuous.
48. County and all municipalities - Maintain redundant power sources.	Continuous	• MAWC owns stationary and portable back-up generators. • City of Greensburg marked this as completed. • The Municipality of Murrysville marked this continuous. • Salem Township marked this continuous. • Washington Township marked this continuous.

Description	Status	Review Comments
49. County and all municipalities - Develop and distribute educational information on hazards, emergency preparedness and fire prevention.	Continuous	• MAWC communicates with its customers on a regular basis concerning emergency preparedness and fire protection. • Donegal Township marked this continuous. • City of Greensburg marked this as continuous. • Irwin Borough marked this continuous. • The Municipality of Murrysville marked this continuous. • Salem Township marked this continuous. • Washington Township marked this continuous – generators are in place at the Township Building and Fire Department.
50. County and all municipalities - Develop and distribute public outreach materials on water conservation.	Continuous	• MAWC distributes water conservation materials to its customers. • Irwin Borough marked this continuous. • The Municipality of Murrysville marked this continuous. • Salem Township marked this continuous. • Washington Township marked this continuous.

6.1.3 Additional Past Mitigation Accomplishments

Westmoreland County and its municipalities are dedicated to mitigation activities and comprehensive all-hazards planning. To that end, the county has engaged in mitigation activities beyond those identified in its 2015 HMP. Stakeholders throughout the county have demonstrated a proactive approach, commitment to resiliency, and desire to protect both physical assets, environment, and citizens against hazard losses through the following additional accomplishments:

- Westmoreland County – The county receives a cut of $1.9 million in federal funds to help prevent flooding.
- Westmoreland County – USDA will spend money to develop watershed project plans and conduct feasibly studies in Westmoreland County.
- Scottdale and East Huntingdon – Westmoreland County will work to stem flooding from Jacob's Creek and the connected streams in Scottdale and East Huntingdon.

6.2 Mitigation Goals and Objectives

This section describes the mitigation goals and objectives set forth in the 2020 HMP update.

6.2.1 2020 Mitigation Goals

The HMWG reviewed the 2015 HMP goals to determine their continuing applicability to county mitigation needs and decided to update them. The updated goals and objectives were distributed to the Planning Team at the Mitigation Solutions Workshop. The Planning Team reviewed and approved the updated goals for the 2020 HMP. The 2020 County HMP goals are in line with State mitigation goals, embody the overarching needs and concerns of the county and participating municipalities, and address both natural and non-natural hazard risk reduction.

The 2020 County HMP goals are listed below:

1. **Goal 1:** Prevent injury/death and damage from natural and human-made hazards in Westmoreland County.
2. **Goal 2:** Protect the citizens of Westmoreland County as well as public and private property from the impacts of natural and human-caused hazards.
3. **Goal 3:** To protect and restore existing natural resources including wetlands, floodplains, and riparian buffers.
4. **Goal 4:** To enhance awareness, understanding, and preparedness among local, county, state, and federal emergency management personnel to protect public health and safety.
5. **Goal 5:** To promote public awareness on the potential impacts of natural and non-natural hazards, and actions to reduce those impacts.

6.2.2 2020 Mitigation Objectives

The goals listed above were used to develop relevant objectives. The objectives address the results of the vulnerability assessment in more specific terms and reflect the possible effects that can be mitigated for the identified hazards, as well as existing limitations in available data and information. The objectives that were originally identified during the 2015 HMP update process were reviewed by the HMWG and updated to reflect changes in County priorities and capabilities since the HMP was written in 2015. The revised and updated objectives were presented to the Planning Team at the October 2019 Mitigation Strategy Workshop. Objectives related to each of the goals are listed below, and Table 6-1 summarizes the evaluation of all goals and objectives from the 2015 HMP.

Goal 1: Prevent injury/death and damage from natural and human-made hazards in Westmoreland County.

Objective 1.1 Develop regulations limiting development in hazard-prone areas.

Objective 1.2 Develop and enforce stormwater management regulations.

Goal 2: Protect the citizens of Westmoreland County as well as public and private property from the impacts of natural and human-caused hazards.

Objective 2.1 Protect existing structures, including critical facilities, from damage that can be caused by hazards.

Objective 2.2 Acquire, relocate, elevate, and/or retrofit existing structures, including repetitive loss properties, located in hazard areas.

Objective 2.3 Improve and maintain stormwater management systems to reduce flooding.

Objective 2.4 Encourage homeowners, renters, and businesses to insure their properties against all hazards, including flood coverage under the National Flood Insurance Program (NFIP).

Objective 2.5 Protect the health of County residents from illicit drug use.

Goal 3: To protect and restore existing natural resources, including wetlands, floodplains, and riparian buffers.

Objective 3.1 Lessen impacts on natural resources and open space from natural and human-caused hazards.

Objective 3.2 Provide appropriate safeguards for the preservation of the quality of water resources, stream corridors, watershed areas, and floodplains.

Goal 4: To enhance awareness, understanding, and preparedness among local, county, state, and federal emergency management personnel to protect public health and safety.

Objective 4.1 Ensure adequate training and resources for those involved in emergency response services, relief, or hazard mitigation.

Objective 4.2 Ensure adequacy of equipment and technology.

Objective 4.3 Develop awareness of hazardous materials being transported or stored throughout Westmoreland County.

Objective 4.4 Encourage residents and visitors to provide information regarding hazard impacts.

Goal 5: To promote public awareness on the potential impacts of natural and non-natural hazards and actions to reduce those impacts.

Objective 5.1 Develop public education outreach programs on hazards and hazard mitigation.

Objective 5.2 Educate property owners in hazard-risk areas regarding their risks and the precautions they can take.

Objective 5.3 Encourage residents to implement hazard mitigation and preparedness measures on their properties.

Objective 5.4 Encourage local participation in the Community Rating System (CRS) Program.

Objective 5.5 Develop and enforce a requirement for property sellers to disclose hazards that exist on the property to potential buyers.

6.3 Identification and Analysis of Mitigation Techniques

Concerted efforts were made to ensure that the county and its municipalities developed updated mitigation strategies. Updated strategies included activities and initiatives covering the range of mitigation action types described in recent FEMA planning guidance, "Local Mitigation Planning Handbook" (FEMA 2013). Mitigation action types listed in the FEMA guidance include the following:

1. **Local Plans and Regulations:** These actions include government authorities, policies, or codes that influence the way land and buildings are being developed and built.
2. **Structure and Infrastructure Projects:** These actions involve modifying existing structures and infrastructure to protect them from a hazard or remove them from a hazard area. These project types 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.
3. **Natural Systems Protection:** These are actions that minimize damage and losses and also preserve or restore the functions of natural systems.
4. **Education and Awareness Programs:** 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 NFIP and CRS, StormReady (NOAA), and Firewise (National Fire Protection Association [NFPA]) Communities (FEMA 2013).

The participants of the Mitigation Strategy Workshop and the Planning Team identified actions that relate to the techniques listed above. Table 6-3 identifies which mitigation techniques are applicable for the hazards included in the 2020 HMP. In some cases, the mitigation techniques identified for a particular hazard reflect ongoing mitigation capabilities, not specific projects included in the updated HMP.

Table 6-3. Mitigation Technique Matrix

Hazard	Local Plans and Regulations	Structure and Infrastructure Projects	Natural Systems Protection	Education and Awareness Programs
Dam Failure	✓	✓		✓
Drought	✓			✓
Earthquake	✓			✓
Environmental Hazards	✓	✓		✓
Flood, Flash Flood, and Ice Jam	✓	✓	✓	✓
Hailstorm	✓			✓
Invasive Species	✓			✓
Nuclear Incident	✓			✓
Pandemic	✓			✓
Radon Exposure				✓
Subsidence and Sinkholes				✓
Tornadoes and Windstorms	✓			✓

Hazard	Local Plans and Regulations	Structure and Infrastructure Projects	Natural Systems Protection	Education and Awareness Programs
Transportation Accidents	✓	✓		✓
Utility Interruption	✓	✓		✓
Wildfire	✓			✓
Winter Storm	✓			✓

6.4 Mitigation Action Plan

Representatives from the county and all participating municipalities selected mitigation strategies and initiatives to pursue until the next plan update. These actions also include some actions identified during the 2015 update that are still relevant or in progress. This section describes 2020 mitigation initiatives, mitigation strategy prioritization and implementation, and prioritization of mitigation actions.

6.4.1 2020 Mitigation Initiatives

Table 6-4 summarizes the updated mitigation strategies identified by the county and all municipalities, including the following information:

- Mitigation actions for individual and multiple hazards
- Mitigation action type
- Department or agency primarily responsible for project initiation and/or implementation
- Estimated cost for the mitigation action and identification of known or potential sources of funding
- Implementation schedule
- Implementation priority

The updated mitigation actions were documented using the Mitigation Action Worksheet distributed at the Mitigation Solution Workshop. Refer to Appendix G for a blank version of the Mitigation Action Worksheet and to Appendix H for completed worksheets. Specific mitigation actions were identified to prevent future losses; however, current funding is not identified for all of these actions at present, but potential funding sources (see Section 5) are indicated to support future implementation. The county and municipalities have limited resources to take on new responsibilities or projects. The implementation of these mitigation actions is dependent on the approval of the local elected governing body and the ability of the jurisdiction to obtain funding from local or outside sources.

The Planning Team prioritized proposed mitigation actions during the Mitigation Action Worksheet documentation process. In general, mitigation actions ranked as highest priorities should be addressed first within each jurisdiction, depending upon funding. However, medium or low priority mitigation actions will be considered for implementation as funding becomes available. Therefore, the ranking levels should be considered as a preliminary ranking, which will evolve based on prevailing priorities and discretion of local governments, the public, the Pennsylvania Emergency Management Agency (PEMA), and FEMA as the plan update is implemented.

Table 6-4. Hazard Mitigation Strategy

Note: Some of the identified mitigation initiatives in Table 6-4 are dependent upon available funding (grants and local match availability) and may be modified or omitted at any time based on the occurrence of new hazard events and changes in County or municipal priorities. Actions that have been carried over from the 2015 version of the HMP may have been reworded and given a new initiative designation to conform to current needs and procedures. The county-wide actions apply to the county as an entity and participating municipalities. For most County-Wide actions, the action applies to all participating municipalities. See Appendix H for action worksheets that specify to which municipalities other County-Wide actions apply.

Initiative*	Mitigation Initiative	Applies to New and/or Existing Structures**	Hazard(s) Mitigated	Goals Met	Lead Agency	Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category
County-Wide (Multiple Municipalities)												
Westmoreland C-1	Develop a task force with one individual from each municipality to work on the issues.	N/A	All hazards	2	HMWG		Med.	Low	Operating Budget	Short	Medium	LPR
Westmoreland C-2	Acquire vacant, abandoned, or unsafe structures, especially those in hazard areas, and turn into open space.	Existing	Flood, Flash Flood, and Ice Jams; Landslide; Subsidence and Sinkholes; Wildfire; Dam Failure; Environmental Hazards	2	DPS	Municipal EMCs	High	High	FEMA HMGP, PDM, FMA; PA DCED FMP	Long	Medium	SIP
Westmoreland C-3	Assess all roads and truck routes used by natural gas operators to prevent accidents and spills from hazardous waste trucks.	Existing	Environmental Hazards; Transportation Accidents	2	DPW		High	Low	FEMA HMGP, PDM, FMA; PA DCED FMP; Operating Budget	Short	Low	SIP
Westmoreland C-4	Work with hazmat facilities to inform them of the hazards they face and ensure emergency plans are current.	N/A	All hazards	2	LEPC	County DPS and Municipal EMCs	High	Med.	Act 165 Funds	Short	High	LPR

Initiative*	Mitigation Initiative	Applies to New and/or Existing Structures**	Hazard(s) Mitigated	Goals Met	Lead Agency	Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category
Westmoreland C-5	Work with police departments in each municipality to ensure their emergency plans are updated, and inform them of the hazard areas in which they are located.	N/A	All hazards	2	DPS		High	Med.	Operating Budget	Short	Low	LPR
Westmoreland C-6	Work with daycare owners/operators in each municipality to ensure their emergency plans are updated, and inform them of the hazard areas in which they are located.	N/A	All hazards	2	Municipal EMCs		High	Med.	Operating Budget	Short	Low	LPR
Westmoreland C-7	Update County COOP/COG Plan.	N/A	All hazards	2	DPS	All depts.	High	Med.	Region 13 Funding	Short	High	LPR
Westmoreland C-8	Work with dam owners and operators to ensure EAPs are current for all -1 and -2 dams.	Existing	All hazards	2	DPS	Municipal EMCs and engineers	High	Med.	Operating Budget	Short	High	LPR
Westmoreland C-9	Work with schools and school districts to inform them of the hazards they face and ensure emergency plans are current.	Existing	All hazards	2	DPS	Municipal EMCs	High	Med.	Operating Budget	Short	High	LPR
Westmoreland C-10	Begin the process to adopt higher regulatory standards to manage flood risk and sinkhole risk.	N/A	Flood, flash flood, and ice jams; subsidence/ sinkholes	2	Municipal-ities		High	Low	Operating Budget	Long	Low	LPR

Initiative*	Mitigation Initiative	Applies to New and/or Existing Structures**	Hazard(s) Mitigated	Goals Met	Lead Agency	Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category
Westmoreland C-11	Complete the ongoing updates of the Comprehensive Plans.	N/A	All hazards	2	Municipal-ities		Med.	Low	Operating Budget	Short	Medium	LPR
Westmoreland C-12	Create/enhance/maintain mutual aid agreements with neighboring counties/communities for continuity of operations.	N/A	All hazards	2	Municipal-ities		Med.	Low	Operating Budget	Short	Medium	LPR
Westmoreland C-13	Develop a hazard event GIS database to help county and local emergency managers with hazard mitigation and other planning initiatives.	N/A	All hazards	2	Municipal-ities		Med.	Low	Operating Budget	Short	Medium	LPR
Westmoreland C-14	Develop and distribute educational information on hazards, emergency preparedness, and fire prevention.	N/A	All hazards	2	Municipal-ities		Med.	Low	Operating Budget	Short	Medium	LPR
Westmoreland C-15	Develop and distribute public outreach materials on water conservation.	New	Environmental Hazards	2	MAWC		Med.	Low	Operating Budget	Short	Medium	EAP
Westmoreland C-16	Develop and maintain an outreach program to provide information and guidance to municipalities on their role in floodplain management.	N/A	Flood, Flash Flood, and Ice Jams	2	HMWG		Med.	Low	Operating Budget	Short	Medium	EAP

Initiative*	Mitigation Initiative	Applies to New and/or Existing Structures**	Hazard(s) Mitigated	Goals Met	Lead Agency	Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category
Westmoreland C-17	Develop geospatial and analytical tools to support community engagement, policy reform, and county and regional planning efforts.	N/A	All hazards	2	Municipal-ities		Med.	Low	Operating Budget	Short	Medium	LPR
Westmoreland C-18	Enhance the Westmoreland County Stormwater Management Plan by implementing Phase 2 of the plan.	N/A	Flood, Flash Flood, and Ice Jams	2	Planning		Med.	Low	Operating Budget	Short	Medium	LPR
Westmoreland C-19	Have designated NFIP Floodplain Administrator become a Certified Floodplain Manager through the ASFPM, and pursue relevant continuing education training such as FEMA Benefit-Cost Analysis.	N/A	Flood, Flash Flood, and Ice Jams	2	Municipal FPA		Med.	Low	Operating Budget	Short	Low	LPR
Westmoreland C-20	Identify and develop agreements with entities that can provide support with FEMA/ PEMA paperwork after disasters.	N/A	All hazards	2	DPS		Med.	Low	Operating Budget	Short	Medium	LPR
Westmoreland C-21	Implement seismic retrofits to vulnerable critical facilities.	New	All hazards	2	DPW		High	High	FEMA, PEMA	Long	High	SIP

Initiative*	Mitigation Initiative	Applies to New and/or Existing Structures**	Hazard(s) Mitigated	Goals Met	Lead Agency	Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category
Westmoreland C-22	Maintain and exercise continuity of government plan to enable the government to provide critical services during the interruption of business.	N/A	All hazards	2	Municipal EMCs	County DPS	Med.	Low	Region 13 Funding	Short	Medium	LPR
Westmoreland C-23	Maintain compliance with and be in good standing in the NFIP, including adoption and enforcement of floodplain management requirements, floodplain identification and mapping, and flood insurance outreach to the community.	N/A	Flood, Flash Flood, and Ice Jams	2	Municipal FPA		High	Low	Operating Budget	Short	High	LPR
Westmoreland C-24	Participate in the Community Rating System (CRS) to further manage flood risk and reduce flood insurance premiums for NFIP policyholders.	N/A	Flood, Flash Flood, and Ice Jams	2	Municipal FPA		Med.	Low	Operating Budget	Short	Medium	LPR
Westmoreland C-25	Partner with community groups and local organizations, including civic, business, town watch, faith-based, senior, special needs and tenant associations, to promote emergency preparedness and mitigation efforts.	New	All hazards	2	County DPS	Municipal EMCs	Med.	Low	Operating Budget	Short	Medium	EAP

Initiative*	Mitigation Initiative	Applies to New and/or Existing Structures**	Hazard(s) Mitigated	Goals Met	Lead Agency	Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category
Westmoreland C-26	Procure and maintain redundant power sources (portable generators).	New	Utility Interruption	2	DPW	Municipal EMC	High	Med.	FEMA HMGP, PDM; RACP	Short	Medium	SIP
Westmoreland C-27	Purchase or relocate structures located in hazard-prone areas to protect structures from future damage, with repetitive loss properties as a priority.	Existing	All hazards	2	Municipal CEO		High	High	FEMA HMGP, PDM; RACP	Long	High	SIP
Westmoreland C-28	Regulate development to reduce flood losses in vulnerable fluvial areas.	N/A	Flood, Flash Flood, and Ice Jams	2	Planning		Med.	Low	Operating Budget	Short	Medium	LPR
Westmoreland C-29	Retrofit structures located in hazard-prone areas to protect structures from future damage, with repetitive loss and severe repetitive loss properties as priority.	Existing	All hazards	2	Municipal CEO		High	High	FEMA HMGP, PDM; RACP	Long	High	SIP
Westmoreland C-30	Support and utilize an advanced warning system that provides emergency text and email alerts to the public.	New	All hazards	2	DPS	Municipal EMCs	Med.	Low	Region 13 Funding	Short	Medium	LPR

Initiative*	Mitigation Initiative	Applies to New and/or Existing Structures**	Hazard(s) Mitigated	Goals Met	Lead Agency	Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category
Westmoreland C-31	Work with regional agencies to develop damage assessment capabilities at the local level through training programs and certification of qualified individuals.	New	All hazards	2	DPS		Med.	Low	Operating Budget	Short	Medium	LPR
Westmoreland C-32	Identify mitigation or structural projects to reduce vulnerability to stormwater flooding incidents from Crabtree Creek dividing Hempfield, Unity, and Salem Townships.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW	Municipal DPWs	Med.	Med.	FEMA HMGP, PDM	Long	Medium	SIP
Westmoreland C-33	Work with dam operators to protect C-1 and C-2 dams to the 0.2% annual chance flood level.	Existing	Flood, Flash Flood, and Ice Jams	3	DPW	Dam Operators	High	High	Operating Budget	Long	Medium	SIP
Westmoreland C-34	Educate Mariner East Pipeline well operators, compressor station operators, truck drivers and residents of hazardous materials, spills, well blowouts, exposure, etc.	Existing	Environmental Hazards; Transportation Accidents	3	LEPC	DPS	Med.	Low	Operating Budget	Short	Medium	EAP
Westmoreland C-35	Encourage homeowners to install appropriate devices to alleviate radon concentrations within homes.	N/A	Radon Exposure	3	DPS	Municipal CEOs, EMCs	Med.	Low	Operating Budget	Short	Low	EAP

Initiative*	Mitigation Initiative	Applies to New and/or Existing Structures**	Hazard(s) Mitigated	Goals Met	Lead Agency	Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category
Westmoreland C-36	Work with PennDOT to improve drainage on Route 993 between Trafford and Irwin to prevent flooding.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW	Trafford Borough and Irwin Borough DPWs	Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Operating Budget	Short	Low	SIP
Westmoreland C-37	Conduct analysis of the high-hazard potential dams in Westmoreland County to meet the requirements of FEMA's HHPD Grant Program.	Existing	Dam Failure	4	DPS	DPW	Low	Low	Operating Budget	Short	Medium	LPR
Aliquippa City												
AliquippaC-1	Identify mitigation or structural projects to reduce vulnerability to stormwater flooding incidents in Aliquippa.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM; Operating Budget	Long	Medium	SIP
Allegheny Township ***(not currently eligible for HMA funding)***												
AlleghenyT-1	Assess and determine best action to prevent further erosion along Pine Run.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
AlleghenyT-2	Improve drainage along Lower Tunnel Hill.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP

Initiative*	Mitigation Initiative	Applies to New and/or Existing Structures**	Hazard(s) Mitigated	Goals Met	Lead Agency	Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category
AlleghenyT-3	Improve drainage in Brookview residential area.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
AlleghenyT-4	Improve stormwater runoff and sewage at High Meadows Mobile Home Park.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW	FPA, Municipal EMC	High	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP, Sewer Grant; Sewer Fees	Short	High	SIP
AlleghenyT-5	Protect AMD and Pine Run from pollution.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
AlleghenyT-6	Remove stone from washout on Alter Road.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Low	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Medium	SIP
AlleghenyT-7	Replace and enhance stormwater runoff pipes in Moreland Manor.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	High	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Medium	SIP

Initiative*	Mitigation Initiative	Applies to New and/or Existing Structures**	Hazard(s) Mitigated	Goals Met	Lead Agency	Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category
AlleghenyT-8	Work with Kiski Valley Water Pollution Control Authority to protect its facility to the 0.2% annual chance flood level.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW	FPA, Municipal EMC	High	High	FEMA HMGP, PDM, FMA; PA DCED FMP; Sewer Fees	Short	High	SIP
Arnold City ***(not currently eligible for HMA funding)***												
ArnoldC-1	Improve infrastructure along Thomas Blvd, Woodmont Ave, Ivy-Pine-Cherry Alleys, and Norne Boulevard.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
Arona Borough												
AronaB-1	Protect the post office to the 0.2% annual chance flood level.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW	USPS; Municipal FPA	High	Med.	FEMA HMGP, PDM; Operating Budget	Short	High	SIP
AronaB-2	Protect the structures in Arona Park to the 0.2% annual chance flood level.	Existing	Flood, Flash Flood, and Ice Jams	2	Parks and Recreation	DPW, Municipal EMC, PEMA	High	Med.	FEMA HMGP, PDM; Operating Budget	Short	Medium	SIP
Avonmore Borough ***(not currently eligible for HMA funding)***												
AvonmoreB-1	Assess and determine best action to prevent erosion at Indiana Avenue Extension.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
AvonmoreB-2	Assess and determine best action to prevent further erosion at Westmoreland Avenue.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP

Initiative*	Mitigation Initiative	Applies to New and/or Existing Structures**	Hazard(s) Mitigated	Goals Met	Lead Agency	Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category
AvonmoreB-3	Protect Avonmore Borough STP to the 0.2% annual chance flood level.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW	FPA, Municipal EMC	High	High	FEMA HMGP, PDM, FMA; PA DCED FMP, Sewer Grant; Sewer Fees	Short	High	SIP
AvonmoreB-4	Work with Avonmore Borough hazmat facility owner to protect it to the 0.2% chance flood level.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW	FPA, Municipal EMC	High	High	FEMA HMGP, PDM, FMA; PA DCED FMP; Sewer Fees	Short	High	SIP
Bell Township ***(not currently eligible for HMA funding)***												
BellT-1	Assess and determine best action to prevent further erosion in Salina.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
BellT-2	Protect AMD near Wolford Run from pollution.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
Bolivar Borough ***(not currently eligible for HMA funding)***												
BolivarB-1	Improve drainage infrastructure in Bolivar Borough.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP

Initiative*	Mitigation Initiative	Applies to New and/or Existing Structures**	Hazard(s) Mitigated	Goals Met	Lead Agency	Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category
Cook Township												
CookT-1	Assess and determine the best action to prevent further erosion on Weaver Mill Road.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
CookT-2	Work with General Carbide Corp/Plant 1 facility owner to protect it to the 0.2% annual chance flood level.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW	FPA, Municipal EMC	High	High	FEMA HMGP, PDM, FMA; PA DCED FMP; Sewer Fees	Short	High	SIP
CookT-3	Work with General Carbide Corp/Plant 3 facility owner to protect it to the 0.2% chance flood level.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW	FPA, Municipal EMC	High	High	FEMA HMGP, PDM, FMA; PA DCED FMP; Sewer Fees	Short	High	SIP
Delmont Borough ***(not currently eligible for HMA funding)***												
DelmontB-1	Assess and determine best action to prevent erosion on Christie Road.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
DelmontB-2	Improve drainage at Rose Court.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP

Initiative*	Mitigation Initiative	Applies to New and/or Existing Structures**	Hazard(s) Mitigated	Goals Met	Lead Agency	Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category
DelmontB-3	Improve drainage infrastructure on Pittsburgh Street.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
Derry Borough ***(not currently eligible for HMA funding)***												
DerryB-1	Improve drainage on 2nd Avenue.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
DerryB-2	Improve infrastructure on Shade Street.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
DerryB-3	Protect McGee Run from habitat loss and prevent further erosion.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
DerryB-4	Protect Police Station 420 Derry Borough to the 0.2% annual chance flood level.	Existing	Flood, Flash Flood, and Ice Jams	2	Derry Borough PD		High	High	FEMA HMGP, PDM, FMA; PA DCED FMP, Sewer Grant; Sewer Fees	Short	Medium	SIP
DerryB-5	Work with Verizon Derry Co facility owner to protect it to the 0.2% annual chance flood level.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW	FPA, Municipal EMC	High	High	FEMA HMGP, PDM, FMA; PA DCED FMP; Sewer Fees	Short	High	SIP

Initiative*	Mitigation Initiative	Applies to New and/or Existing Structures**	Hazard(s) Mitigated	Goals Met	Lead Agency	Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category
Derry Township												
DerryT-1	Protect Fire station 92-1 facility to the 0.2% annual chance flood level.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW	FPA, Municipal EMC	High	Med.	FEMA HMGP, PDM; Operating Budget	Short	High	SIP
DerryT-2	Assess and determine best action to prevent further erosion on Millwood Road.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
DerryT-3	Assess and determine the best action to prevent further sedimentation of Conemaugh dam upstream.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
DerryT-4	Improve drainage infrastructure along Redcut Lodge Road.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
DerryT-5	Improve drainage infrastructure in residential areas.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
DerryT-6	Improve drainage on Green Thumb Road.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP

Initiative*	Mitigation Initiative	Applies to New and/or Existing Structures**	Hazard(s) Mitigated	Goals Met	Lead Agency	Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category
DerryT-7	Improve drainage on Saxman Run.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
DerryT-8	Improve infrastructure on Brenizer.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
DerryT-9	Protect Saxman Run and AMD from pollution.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
DerryT-10	Work with Derry Township Hazmat facility owner to protect it to the 0.2% annual chance flood level.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW	FPA, Municipal EMC	High	High	FEMA HMGP, PDM, FMA; PA DCED FMP; Sewer Fees	Short	High	SIP
Donegal Township												
DonegalT-1	Assess and determine best action to mitigate sedimentation of Donegal Lake.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP

Initiative*	Mitigation Initiative	Applies to New and/or Existing Structures**	Hazard(s) Mitigated	Goals Met	Lead Agency	Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category
DonegalT-2	Assess and determine best action to prevent further erosion of Rock Canyon Road.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
DonegalT-3	Assess and determine best action to prevent further erosion of Skyview Road.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
DonegalT-4	Improve drainage infrastructure on Route 381.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
East Huntingdon Township ***(not currently eligible for HMA funding)***												
EastHuntingdonT-1	Improve drainage on Central Street.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
EastHuntingdonT-2	Improve drainage on Ruffsdale.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP

Initiative*	Mitigation Initiative	Applies to New and/or Existing Structures**	Hazard(s) Mitigated	Goals Met	Lead Agency	Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category
EastHuntingdonT-3	Improve drainage; larger piping on Route 119 Smouse Road.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW	Municipal EMC	High	High	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
EastHuntingdonT-4	Protect Buffalo Run AMD from pollution.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
EastHuntingdonT-5	Protect Southmoreland High School from the 0.2% annual chance flood level.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW	FPA, Municipal EMC	High	High	FEMA HMGP, PDM; Operating Budget	Long	High	SIP
EastHuntingdonT-6	Upgrade the culvert along Preacher Street with one with higher capacity.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
EastHuntingdonT-7	Work with Suburban Propane LP facility owner to protect it to the 0.2% annual chance flood level.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW	FPA, Municipal EMC	High	High	FEMA HMGP, PDM, FMA; PA DCED FMP; Sewer Fees	Short	High	SIP
EastHuntingdonT-8	Work with Westmoreland / Fayette Municipal Sewage Authority facility owner to protect it to the 0.2% annual chance flood level.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW	FPA, Municipal EMC	High	High	FEMA HMGP, PDM, FMA; PA DCED FMP; Sewer Fees	Short	High	SIP

Initiative*	Mitigation Initiative	Applies to New and/or Existing Structures**	Hazard(s) Mitigated	Goals Met	Lead Agency	Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category
Export Borough												
ExportB-1	Assess and determine best action to prevent further erosion of Italy Road.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
ExportB-2	Assess and determine best action to prevent further erosion on Puckety Drive.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
ExportB-3	Protect the MDJ facility to the 0.2% annual chance flood level.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW	FPA, Municipal EMC	High	High	FEMA HMGP, PDM; Operating Budget	Long	High	SIP
ExportB-4	Protect the Municipal Office to the 0.2% chance annual flood level.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW	FPA, Municipal EMC	High	High	FEMA HMGP, PDM, FMA; PA DCED FMP, Sewer Grant; Sewer Fees	Short	High	SIP
ExportB-5	Protect Turtle Creek/Kennedy Avenue from urban impacts, pollution, habitat loss, and sedimentation.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
Fairfield Township ***(not currently eligible for HMA funding)***												
FairfieldT-1	Improve drainage along Love Hollow Road and Richmond Farm Lane.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP

Initiative*	Mitigation Initiative	Applies to New and/or Existing Structures**	Hazard(s) Mitigated	Goals Met	Lead Agency	Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category
FairfieldT-2	Reconstruction of Patterson Bridge.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		High	High	FEMA HMGP, PDM, FMA; PA DCED FMP; Operating Budget	Long	Low	SIP
FairfieldT-3	Assess and determine best action to prevent further erosion of Beaufords Road.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
FairfieldT-4	Assess and determine best action to prevent further erosion of Bridges Road.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
FairfieldT-5	Assess and determine the best action to prevent further erosions for Zufall Road.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
FairfieldT-6	Develop and implement an action plan to mitigate recurring flooding on Creek Road.	New	Flood, Flash Flood, and Ice Jams	2	Fairfield Township		Med.	Low	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Medium	Medium	SIP

Initiative*	Mitigation Initiative	Applies to New and/or Existing Structures**	Hazard(s) Mitigated	Goals Met	Lead Agency	Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category
Greensburg City												
GreensburgC-1	Assess and determine best action to prevent further erosion and pollution of Zellers Run.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
GreensburgC-2	Elevate road or install a culvert along Catherine Street near Spino's Tires.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		High	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	High	SIP
GreensburgC-3	Enforce code ordinances to raise property values and prevent houses from falling into disrepair.	Existing	All hazards	2	DPS		High	Med.	Operating Budget	Short	Medium	LPR
GreensburgC-4	Fix the stream walls along Jacks Run.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA, PA DCED FMP; Capital Improvement Budlget	Short	Low	SIP
GreensburgC-5	Get a cab company for the city.	Existing	Transportation Accident	2	Transportation		Low	Low	Operating Budget	Short	Low	SIP
GreensburgC-6	Improve drainage on Highland Street; remove leaves from Church.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Low	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP

Initiative*	Mitigation Initiative	Applies to New and/or Existing Structures**	Hazard(s) Mitigated	Goals Met	Lead Agency	Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category
GreensburgC-7	Improve drainage in Lynch Field.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
GreensburgC-8	Improve drainage on Dornin Street.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
GreensburgC-9	Improve drainage pipe along Coal Tar Run.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
GreensburgC-10	Improve infrastructure at Northmont.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
GreensburgC-11	Improve stormwater drainage infrastructure in Saybrook Village.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW	FPA, Municipal EMC	High	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP, Sewer Grant; Sewer Fees	Short	High	SIP
GreensburgC-12	Install speed bump on Belmont Street by daycare.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Low	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP

Initiative*	Mitigation Initiative	Applies to New and/or Existing Structures**	Hazard(s) Mitigated	Goals Met	Lead Agency	Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category
Harrison City												
HarrisonC-1	Improve drainage on Route 130 between Harrison City and Trafford to prevent flooding.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Operating Budget	Short	Low	SIP
HarrisonC-2	Install back-up generators at Penn-Trafford High School.	New	Utility Interruption	2	DPW		Med.	Low	Hazard Mitigation grants	Short	Medium	SIP
HarrisonC-3	Install back-up generators at Trafford Elementary School.	New	Utility Interruption	2	DPW		Med.	Low	Hazard Mitigation grants	Short	Medium	SIP
HarrisonC-4	Install back-up generators at Level Green Elementary School.	New	Utility Interruption	2	DPW		Med.	Low	Hazard Mitigation grants	Short	Medium	SIP
HarrisonC-5	Install back-up generators at Penn-Trafford Middle School.	New	Utility Interruption	2	DPW		Med.	Low	Hazard Mitigation grants	Short	Medium	SIP
Hempfield Township												
HempfieldT-1	Work with UPitt Greensburg to ensure they know what hazard areas they arere in, and develop/update emergency plans.	Existing	All hazards	2	Hempfield T EMC		High	Med.	Operating Budget	Short	Low	LPR
HempfieldT-2	Assess and determine best action to prevent further erosion along Dunn Road.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP

Initiative*	Mitigation Initiative	Applies to New and/or Existing Structures**	Hazard(s) Mitigated	Goals Met	Lead Agency	Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category
HempfieldT-3	Assess and determine best action to prevent further erosion at Little Sewickley Creek at Crib Station.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		High	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP, Capital Improvement Budget	Short	Low	SIP
HempfieldT-4	Assess and determine best action to prevent further erosion in Fort Allen neighborhood.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
HempfieldT-5	Assess and determine best action to prevent further erosion/habitat loss on Sells Lane.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
HempfieldT-6	Improve drainage at West Hempfield residential area.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
HempfieldT-7	Improve drainage infrastructure at Stamford Drive to Green Valley in West Point.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP

Initiative*	Mitigation Initiative	Applies to New and/or Existing Structures**	Hazard(s) Mitigated	Goals Met	Lead Agency	Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category
HempfieldT-8	Improve drainage infrastructure on Holly Drive.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
HempfieldT-9	Improve drainage on Carbon Road at Red Onion.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
HempfieldT-10	Improve drainage on Hillis Street and Jacks Run.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
HempfieldT-11	Improve drainage on Oakford Park route 130.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
HempfieldT-12	Improve drainage within the 119 commercial area.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP

Initiative*	Mitigation Initiative	Applies to New and/or Existing Structures**	Hazard(s) Mitigated	Goals Met	Lead Agency	Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category
HempfieldT-13	Improve infrastructure on Brookside Drive.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
HempfieldT-14	Protect Fire station 75 and USPS Hannastown 15635 facility to the 0.2% annual chance flood level.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW	FPA, Municipal EMC	High	Med.	FEMA HMGP, PDM; Operating Budget	Short	High	SIP
HempfieldT-15	Protect New Stanton STP to the 0.2% annual chance flood level.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW	FPA, Municipal EMC	High	High	FEMA HMGP, PDM, FMA; PA DCED FMP, Sewer Grant; Sewer Fees	Short	High	SIP
HempfieldT-16	Replace the bridge over Slate Creek with a larger opening.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW	Municipal EMC	Med.	High	FEMA HMGP, PDM, FMA; PA DCED FMP; Operating Budget	Long	Low	SIP
HempfieldT-17	Work with First Student, Inc #25067 facility owner to protect it to the 0.2% annual chance flood level.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW	FPA, Municipal EMC	High	High	FEMA HMGP, PDM, FMA; PA DCED FMP; Sewer Fees	Short	High	SIP
HempfieldT-18	Work with Seton Hill to ensure they know what hazard areas they are in, and develop/update emergency plans.	Existing	All hazards	2	County DPS	Greensburg C and Hempfield T EMCs	High	Med.	Operating Budget	Short	Low	LPR

Initiative*	Mitigation Initiative	Applies to New and/or Existing Structures**	Hazard(s) Mitigated	Goals Met	Lead Agency	Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category
HempfieldT-19	Work with Westmoreland Community College to ensure they know what hazard areas they are in, and develop/update emergency plans.	Existing	All hazards	2	County DPS	Hempfield T and Penn T EMCs	High	Med.	Operating Budget	Short	Low	LPR
Hunker Borough												
HunkerB-1	Conduct demolition of abandoned home.	Existing	Environmental Hazards; Transportation Accidents	2	DPW		Med.	Med.	PEMA, FEMA	Long	Low	SIP
HunkerB-2	Implement the redirection of the stormwater catch basin at the intersection of Walnut and Bridge Street.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
HunkerB-3	Improve infrastructure on Alexander Avenue.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
HunkerB-4	Install sub-flooring to prevent roadway along Locust Street from sinking.	Existing	Subsidence/sink holes	2	DPW		High	High	Operating Budget	Long	Medium	SIP
HunkerB-5	Pave Bellson Street and install proper drainage to prevent flooding.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP

Initiative*	Mitigation Initiative	Applies to New and/or Existing Structures**	Hazard(s) Mitigated	Goals Met	Lead Agency	Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category
HunkerB-6	Procure and install a back-up generator into Hunker Borough EOC.	Existing	Utility Interruption	2	DPW		Med.	Low	Hazard Mitigation grants	Short	Medium	SIP
HunkerB-7	Procure and install air conditioning units into community building/community shelter.	New	Utility Interruption	2	DPW		Low	Low	PEMA, FEMA	Short	Low	SIP
HunkerB-8	Repair small sinkhole in front of fire department.	Existing	Subsidence/sink holes	2	DPW		Med.	Med.	FEMA HMGP, PDM; Operating Budget	Short	Low	SIP
HunkerB-9	Retrofit community building to prevent flooding in basement.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	PA CDBG, PEMA, FEMA	Mediu m	Low	SIP
HunkerB-10	Retrofit Walnut Street Bridge to prevent erosion.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		High	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Medium	SIP
Irwin Borough												
IrwinB-1	Improve drainage between Ash and Poplar Streets.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
IrwinB-2	Improve drainage between Cypress and Elm Streets.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP

Initiative*	Mitigation Initiative	Applies to New and/or Existing Structures**	Hazard(s) Mitigated	Goals Met	Lead Agency	Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category
IrwinB-3	Improve drainage infrastructure along Conley Drive.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
IrwinB-4	Prevent further habitat loss along Route 30 from commercial development.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
IrwinB-5	Protect AMD and Tinkers Run from pollution from Rt 30.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
IrwinB-6	Protect Norwin Public Library to the 0.2% annual chance flood level.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW	FPA, Municipal EMC	High	High	FEMA HMGP, PDM, FMA; PA DCED FMP, Sewer Grant; Sewer Fees	Short	Medium	SIP
Jeannette City												
JeannetteC-1	Assess and determine the best action to further prevent erosion on Bull Run.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP

Initiative*	Mitigation Initiative	Applies to New and/or Existing Structures**	Hazard(s) Mitigated	Goals Met	Lead Agency	Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category
JeannetteC-2	Assess and determine the best action to prevent further erosion of 12th Street.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
JeannetteC-3	Improve drainage on 4th Street.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
JeannetteC-4	Improve drainage on Locust Street.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
JeannetteC-5	Improve stormwater drainage at Agnew Road at bottom of hill.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
JeannetteC-6	Improve the design of intersection on Route 130.	Existing	Transportation Accident	2	DPW	PennDOT	High	High	TIP; PennDOT	Long	Medium	SIP
JeannetteC-7	Improve the design of merging lanes on Route 130 before Jeannette.	Existing	Transportation Accident	2	DPW	PennDOT	High	High	TIP; PennDOT	Long	Medium	SIP
JeannetteC-8	Improve the design of Western Ave by adding guardrails along the creek.	Existing	Transportation Accident	2	DPW	PennDOT	High	High	TIP; PennDOT	Short	Medium	SIP

Initiative*	Mitigation Initiative	Applies to New and/or Existing Structures**	Hazard(s) Mitigated	Goals Met	Lead Agency	Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category
JeannetteC-9	Prevent habitat loss along Brush Creek and Down Run.	Existing	Flood, Flash Flood, and Ice Jams, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP, DEP	Short	Low	SIP
JeannetteC-10	Protect Jeannette WPCP to the 0.2% annual chance flood level.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW	FPA, Municipal EMC	High	High	FEMA HMGP, PDM, FMA; PA DCED FMP, Sewer Grant; Sewer Fees	Short	High	SIP
JeannetteC-11	Remove high risk/deficient structurally unsound dam that pose a flooding threat to the community.	Existing	Dam Failure	2	PEMA	DPW, Municipal EMCs, PA DEP Dam Safety	Med.	High	FEMA HMGP, PDM, FMA; PA DCED FMP; Operating Budget	Short	Low	SIP
Latrobe Borough												
LatrobeB-1	Assess and determine best action to prevent further habitat loss/pollution of the Loyalhanna channel.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
LatrobeB-2	Improve drainage at Sulfur Run and Raymond Avenue.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
Laurel Mountain Borough												
LaurelMountainB-1	Replace bridge over Nature Run Road with a larger opening.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW	Municipal EMC	Med.	High	FEMA HMGP, PDM, FMA; PA DCED FMP; Operating Budget	Long	Low	SIP

Initiative*	Mitigation Initiative	Applies to New and/or Existing Structures**	Hazard(s) Mitigated	Goals Met	Lead Agency	Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category
Ligonier Borough												
LigonierB-1	Improve drainage on Loyalhanna Street.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
LigonierB-2	Protect Ligonier Valley School District office to the 0.2% annual chance flood level.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW	FPA, Municipal EMC	High	High	FEMA HMGP, PDM; Operating Budget	Long	High	SIP
LigonierB-3	Remove debris from Loyalhanna Creek and Mill Creek to improve drainage.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP	Short	Low	SIP
Ligonier Township												
LigonierT-1	Assess and determine best action to prevent further erosion of Betz Road.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
LigonierT-2	Assess and determine best action to prevent further erosion of Peoples Road.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Operating Budget	Short	Low	SIP
LigonierT-3	Assess and determine best action to prevent further erosion of Tunnelton Road.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP

Initiative*	Mitigation Initiative	Applies to New and/or Existing Structures**	Hazard(s) Mitigated	Goals Met	Lead Agency	Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category
LigonierT-4	Assess and determine best action to prevent further erosion of unnamed trib to Hannas Run.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
LigonierT-5	Conduct a detailed flood study of Loyalhanna Creek.	New	Flood, Flash Flood, and Ice Jams	2	Municipal FPA	Municipal EMC	Low	Med.	FEMA RiskMap; Private Developers	Short	Medium	LPR
LigonierT-6	Improve drainage in Red Rock residential neighborhood.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Operating Budget	Short	Low	SIP
LigonierT-7	Improve drainage infrastructure on Rector Road.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Operating Budget	Short	Low	SIP
LigonierT-8	Improve drainage on Baltic Road.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Operating Budget	Short	Low	SIP
LigonierT-9	Improve infrastructure on Hidden Valley Road.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Operating Budget	Short	Low	SIP
LigonierT-10	Protect Ligonier WPCP to the 0.2% annual chance flood level.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW	FPA, Municipal EMC	High	High	FEMA HMGP, PDM, FMA; PA DCED FMP, Sewer Grant; Sewer Fees	Short	High	SIP

Initiative*	Mitigation Initiative	Applies to New and/or Existing Structures**	Hazard(s) Mitigated	Goals Met	Lead Agency	Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category
LigonierT-11	Retrofit road across the street from 162 Nature Run, Laughlintown to prevent future erosion.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		High	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Medium	SIP
LigonierT-12	Work with Ligonier Construction Company facility owner to protect it to the 0.2% annual chance flood level.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW	FPA, Municipal EMC	High	High	FEMA HMGP, PDM, FMA; PA DCED FMP; Sewer Fees	Short	High	SIP
Lower Burrell City												
LowerBurrellC-1	Work with Braeburn Alloy Steel facility owner to protect it to the 0.2% annual chance flood level.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW	FPA, Municipal EMC	High	High	FEMA HMGP, PDM, FMA; PA DCED FMP; Sewer Fees	Short	High	SIP
LowerBurrellC-2	Work with Hazmat facility owner to protect it to the 0.2% annual chance flood level.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW	FPA, Municipal EMC	High	High	FEMA HMGP, PDM, FMA; PA DCED FMP; Sewer Fees	Short	High	SIP
LowerBurrellC-3	Assess and determine best action to prevent further erosion on Edge Cliff Road.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
LowerBurrellC-4	Assess and determine best action to prevent further erosion on Route 56, Little Pucketa Creek.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP

Initiative*	Mitigation Initiative	Applies to New and/or Existing Structures**	Hazard(s) Mitigated	Goals Met	Lead Agency	Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category
LowerBurrellC-5	Assess and determine the best action to prevent further erosion of Pucketa Creek, Wildlife Lodge Road.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
LowerBurrellC-6	Assess and determine the best action to prevent sedimentation on Watters Road/Burrell Lake Park Entrance.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
LowerBurrellC-7	Improve drainage in Kinlock.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
Loyalhanna Township												
LoyalhannaT-1	Assess and determine best action to mitigate further pollution on Getty Run.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
LoyalhannaT-2	Assess and determine best solution to prevent further erosion on Route 981 Loyalhanna Tributary.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP

Initiative*	Mitigation Initiative	Applies to New and/or Existing Structures**	Hazard(s) Mitigated	Goals Met	Lead Agency	Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category
Manor Borough												
ManorB-1	Assess and determine best action for Rowe Road to prevent further erosion.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		High	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Long	Medium	SIP
ManorB-2	Assess and determine the best action to prevent further erosion from urban impacts along Bushy Run.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
ManorB-3	Improve drainage infrastructure to prevent flooding at Ranbar Electrical and Materials.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
ManorB-4	Protect Cameron Drive and Brandywine Residential area to the 0.2% annual chance flood level.	Existing	Flood, Flash Flood, and Ice Jams	2	Municipal FPA		High	High	FEMA HMGP, PDM, FMA; PA DCED FMP, Sewer Grant; Sewer Fees	Short	Medium	SIP
ManorB-5	Protect Police Station 121 Manor to the 0.2% annual chance flood level.	Existing	Flood, Flash Flood, and Ice Jams	2	Manor Borough PD		High	High	FEMA HMGP, PDM, FMA; PA DCED FMP, Sewer Grant; Sewer Fees	Short	Medium	SIP
ManorB-6	Protect the Municipal Office to the 0.2% chance annual flood level.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW	FPA, Municipal EMC	High	High	FEMA HMGP, PDM, FMA; PA DCED FMP, Sewer Grant; Sewer Fees	Short	High	SIP

Initiative*	Mitigation Initiative	Applies to New and/or Existing Structures**	Hazard(s) Mitigated	Goals Met	Lead Agency	Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category
Monessen City												
MonessenC-1	Add storm drainage facilities to resolve flooding near the intersection of Grand Boulevard and State Road.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
MonessenC-2	Add storm drainage facilities to resolve flooding on Cemetery Street.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
MonessenC-3	Add storm drainage facilities to resolve flooding on Spring Drive.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
MonessenC-4	Add storm drainage facilities to resolve the icing condition on State Road near the pump station.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
MonessenC-5	Assess and determine best action for Parente Boulevard to prevent future erosion.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		High	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Long	Medium	SIP

Initiative*	Mitigation Initiative	Applies to New and/or Existing Structures**	Hazard(s) Mitigated	Goals Met	Lead Agency	Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category
MonessenC-6	Assess and determine the best action for Tyrol Boulevard to prevent further erosion.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		High	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Long	Medium	SIP
MonessenC-7	Improve storm drainage facilities to resolve icing condition on Grand Boulevard at Pleasant Drive.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
MonessenC-8	Mine subsidence on Coolidge Avenue.	Existing	Environmental Hazards; Transportation Accidents	2	DPW		Med.	Med.	FEMA HMGP	Mediu m	Low	SIP
MonessenC-9	Open mine vents.	Existing	Environmental Hazards; Transportation Accidents	2	DPW		Med.	Low	FEMA HMGP	Short	Low	SIP
MonessenC-10	Protect city from future landslides.	Existing	Environmental Hazards; Transportation Accidents	2	DPW		High	Med.	PA CDBG, PA DEP, PEMA	Mediu m	Low	SIP
MonessenC-11	Protect Monessen City Park, stream bank from future erosion and habitat loss.	Existing	Flood, Flash Flood, and Ice Jams	2	DEP		High	Low	FEMA PA DEP	Short	Medium	SIP
MonessenC-12	Protect Monessen Public Library to the 0.2% annual chance flood level.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW	FPA, Municipal EMC	High	High	FEMA HMGP, PDM, FMA; PA DCED FMP, Sewer Grant; Sewer Fees	Short	Medium	SIP

Initiative*	Mitigation Initiative	Applies to New and/or Existing Structures**	Hazard(s) Mitigated	Goals Met	Lead Agency	Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category
MonessenC-13	Protect Police Station 071 Monessen to the 0.2% annual chance flood level.	Existing	Flood, Flash Flood, and Ice Jams	2	Monessen City PD		High	High	FEMA HMGP, PDM, FMA; PA DCED FMP, Sewer Grant; Sewer Fees	Short	Medium	SIP
MonessenC-14	Protect SPHS Child Learning Center Monessen Site to the 0.2% annual chance flood level.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW	FPA, Municipal EMC	High	High	FEMA HMGP, PDM, FMA; PA DCED FMP, Sewer Grant; Sewer Fees	Short	Medium	SIP
MonessenC-15	Protect the Municipal Office to the 0.2% chance annual flood level.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW	FPA, Municipal EMC	High	High	FEMA HMGP, PDM, FMA; PA DCED FMP, Sewer Grant; Sewer Fees	Short	High	SIP
MonessenC-16	Rehabilitate 48" brick combination sewer interceptor in 12th Street from Reservoir Avenue to Schoonmaker Avenue.	Existing	Flood, Flash Flood, and Ice Jams; Utility Interruption	2	DPW		High	High	PA CDBG, PA DEP, PEMA	Short	Medium	SIP
MonessenC-17	Rehabilitate 48" brick combination sewer interceptor in 9th Street from Vine Street to Schoonmaker Avenue.	Existing	Flood, Flash Flood, and Ice Jams; Utility Interruption	2	DPW		High	High	PA CDBG, PA DEP, PEMA	Short	Medium	SIP
MonessenC-18	Rehabilitate 7'x5' brick combination sewer interceptor in the alley between Schoonmaker Avenue and Donner Avenue from 8th Street to 12th Street.	Existing	Flood, Flash Flood, and Ice Jams; Utility Interruption	2	DPW		High	High	PA CDBG, PA DEP, PEMA	Short	Medium	SIP

Initiative*	Mitigation Initiative	Applies to New and/or Existing Structures**	Hazard(s) Mitigated	Goals Met	Lead Agency	Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category
MonessenC-19	Rehabilitate 84" tin whistle storm sewer for entire length of Parente Boulevard.	Existing	Flood, Flash Flood, and Ice Jams; Utility Interruption	2	DPW		High	High	PA CDBG, PA DEP, PEMA	Medium	Medium	SIP
MonessenC-20	Rehabilitate the 48" brick combination sewer interceptor for the entire length of 3rd Street.	Existing	Flood, Flash Flood, and Ice Jams; Utility Interruption	2	DPW		High	High	PA CDBG, PA DEP, PEMA	Short	Medium	SIP
MonessenC-21	Replace 42" brick combination sewer interceptor on hillside from Shawnee Park to Parente Boulevard.	Existing	Flood, Flash Flood, and Ice Jams; Utility Interruption	2	DPW		High	High	PA CDBG, PA DEP, PEMA	Short	Medium	SIP
MonessenC-22	Replace undersized culvert on Grand Boulevard to eliminate flooding at the intersection of Parente Boulevard and Grand Boulevard.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW	Municipal EMC	Med.	High	FEMA HMGP, PDM, FMA; PA DCED FMP; Operating Budget	Short	Low	SIP
MonessenC-23	Replace washed out subbase and concrete pavement on 12th Street.	Existing	Flood, Flash Flood, and Ice Jams; Utility Interruption	2	DPW	Municipal EMC	Med.	High	FEMA HMGP, PDM, FMA; PA DCED FMP; Operating Budget	Long	Low	SIP
MonessenC-24	Replace washed out subbase and concrete pavement on Herron Street.	Existing	Flood, Flash Flood, and Ice Jams; Utility Interruption	2	DPW	Municipal EMC	Med.	High	FEMA HMGP, PDM, FMA; PA DCED FMP; Operating Budget	Long	Low	SIP
MonessenC-25	Replace washed out subbase and concrete pavement on Nash Avenue.	Existing	Flood, Flash Flood, and Ice Jams; Utility Interruption	2	DPW	Municipal EMC	Med.	High	FEMA HMGP, PDM, FMA; PA DCED FMP; Operating Budget	Long	Low	SIP

Initiative*	Mitigation Initiative	Applies to New and/or Existing Structures**	Hazard(s) Mitigated	Goals Met	Lead Agency	Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category
MonessenC-26	Restore UNT-1 to the Monongahela River and add retention pond on Grand Boulevard between Euclid Drive and the gas stations to eliminate flooding at the intersection of Parente Boulevard and Grand Boulevard.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	High	FEMA HMGP, PDM, FMA; PA DCED FMP; Operating Budget	Short	Low	SIP
MonessenC-27	Work with ArcelorMittal Monessen Coke Plant facility owner to protect it to the 0.2% annual chance flood level.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW	FPA, Municipal EMC	High	High	FEMA HMGP, PDM, FMA; PA DCED FMP; Sewer Fees	Short	High	SIP
MonessenC-28	Work with Steel Fusion Clinical Toxicology Laboratory facility owner to protect it to the 0.2% annual chance flood level.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW	FPA, Municipal EMC	High	High	FEMA HMGP, PDM, FMA; PA DCED FMP; Sewer Fees	Short	High	SIP
Mount Pleasant Township												
MountPleasant T-1	Work with Laurelville Church Center facility owner to protect it to the 0.2% annual chance flood level.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW	FPA, Municipal EMC	High	High	FEMA HMGP, PDM, FMA; PA DCED FMP; Sewer Fees	Short	High	SIP
MountPleasant T -2	Work with MAX Environmental Technologies, Inc./Yukon facility owner to protect it to the 0.2% annual chance flood level.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW	FPA, Municipal EMC	High	High	FEMA HMGP, PDM, FMA; PA DCED FMP; Sewer Fees	Short	High	SIP

Initiative*	Mitigation Initiative	Applies to New and/or Existing Structures**	Hazard(s) Mitigated	Goals Met	Lead Agency	Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category
MountPleasant T -3	Work with Mount Pleasant Township facility owner to protect it to the 0.2% annual chance flood level.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW	FPA, Municipal EMC	High	High	FEMA HMGP, PDM, FMA; PA DCED FMP; Sewer Fees	Short	High	SIP
Mount Pleasant Borough												
MtPleasantB-1	Assess and determine best action to prevent further erosion at Jacobs Creek at Laurelville Mennonite Camp.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
MtPleasantB-2	Assess and determine best action to prevent further erosion of Shupe Run.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
MtPleasantB-3	Assess and determine best action to prevent further erosion of Welty Run.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
MtPleasantB-4	Assess and determine best action to prevent further sedimentation loss from Brush Run.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP

Initiative*	Mitigation Initiative	Applies to New and/or Existing Structures**	Hazard(s) Mitigated	Goals Met	Lead Agency	Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category
MtPleasantB-5	Improve drainage on Eagle Street.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
MtPleasantB-6	Improve drainage on Warden Street.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
MtPleasantB-7	Improve drainage piping at Ramsey Terrace.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
MtPleasantB-8	Install additional stormwater runoff pipes and upgrade/replace existing deteriorated pipes.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW	Municipal EMC	High	High	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
Murrysville Manor												
MurrysvilleM-1	Assess and determine best action to prevent erosion of Sardis Road/Haymaker Run.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP

Initiative*	Mitigation Initiative	Applies to New and/or Existing Structures**	Hazard(s) Mitigated	Goals Met	Lead Agency	Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category
MurrysvilleM-2	Assess and determine best action to prevent further erosion of Kistler Road bank.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
MurrysvilleM-3	Assess and determine best action to prevent further erosion on the streambanks along Turtle Creek.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		High	High	FEMA HMGP, PDM, FMA; PA DCED FMP	Medium	Medium	SIP
MurrysvilleM-4	Assess and determine solutions to mitigate further pollution of Noca Road-AMD and Borland Farm Road-AMD.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		High	High	FEMA HMGP, PDM, FMA; PA DCED FMP	Medium	Medium	SIP
MurrysvilleM-5	Assess and determine the best action to prevent further erosion at Bear Hollow Park.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
MurrysvilleM-6	Assess and determine the best action to prevent further erosion of Haymaker Run.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		High	High	FEMA HMGP, PDM, FMA; PA DCED FMP	Medium	Medium	SIP
MurrysvilleM-7	Assess and determine the best action to prevent further erosion of Trout Haven Drive.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		High	High	FEMA HMGP, PDM, FMA; PA DCED FMP	Medium	Medium	SIP
MurrysvilleM-8	Conduct a thorough flood study of Turtle Creek.	New	Flood, Flash Flood, and Ice Jams	2	Municipal FPA	Municipal EMC	Low	Med.	FEMA RiskMap; Private Developers	Short	Medium	LPR

Initiative*	Mitigation Initiative	Applies to New and/or Existing Structures**	Hazard(s) Mitigated	Goals Met	Lead Agency	Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category
MurrysvilleM-9	Improve drainage along Forest Lane.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
MurrysvilleM-10	Improve drainage on Hill Church Road.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
MurrysvilleM-11	Protect Murrysville Community Library to the 0.2% annual chance flood level.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW	FPA, Municipal EMC	High	High	FEMA HMGP, PDM, FMA; PA DCED FMP, Sewer Grant; Sewer Fees	Short	Medium	SIP
New Florence Borough ***(not currently eligible for HMA funding)***												
NewFlorenceB-1	Improve drainage infrastructure on Vine, 9th Chestnut Streets, New Florence Manor, Beech, Penn, 10th Walnut, Cherry.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
NewFlorenceB-2	Protect EMS 711 Laurel Valley station to the 0.2% annual chance flood level.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW	FPA, Municipal EMC	High	High	FEMA HMGP, PDM; Operating Budget	Short	High	SIP
NewFlorenceB-3	Protect Fire station 46 to the 0.2% annual chance flood level.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW	FPA, Municipal EMC	High	Med.	FEMA HMGP, PDM; Operating Budget	Short	High	SIP

Initiative*	Mitigation Initiative	Applies to New and/or Existing Structures**	Hazard(s) Mitigated	Goals Met	Lead Agency	Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category
NewFlorenceB-4	Protect New Florence Public Library to the 0.2% annual chance flood level.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW	FPA, Municipal EMC	High	High	FEMA HMGP, PDM, FMA; PA DCED FMP, Sewer Grant; Sewer Fees	Short	Medium	SIP
NewFlorenceB-5	Protect Police Station 048 New Florence to the 0.2% annual chance flood level.	Existing	Flood, Flash Flood, and Ice Jams	2	New Florence Borough PD		High	High	FEMA HMGP, PDM, FMA; PA DCED FMP, Sewer Grant; Sewer Fees	Short	Medium	SIP
New Kensington City												
NewKensingtonC-1	Assess and determine best action to prevent further erosion in Memorial Park.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
NewKensingtonC-2	Protect New Kensington-Arnold School District office to the 0.2% annual chance flood level.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW	FPA, Municipal EMC	High	High	FEMA HMGP, PDM; Operating Budget	Long	High	SIP
NewKensingtonC-3	Protect Valley High School to the 0.2% annual chance flood level.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW	FPA, Municipal EMC	High	High	FEMA HMGP, PDM; Operating Budget	Long	High	SIP
NewKensingtonC-4	Work with Cannon Boiler Works Inc facility owner to protect it to the 0.2% annual chance flood level.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW	FPA, Municipal EMC	High	High	FEMA HMGP, PDM, FMA; PA DCED FMP; Sewer Fees	Short	High	SIP

Initiative*	Mitigation Initiative	Applies to New and/or Existing Structures**	Hazard(s) Mitigated	Goals Met	Lead Agency	Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category
New Stanton Borough ***(not currently eligible for HMA funding)***												
NewStantonB-1	Assess and determine best action for New Stanton Park to prevent further erosion.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		High	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Long	Medium	SIP
NewStantonB-2	Assess and determine best action to prevent further erosion from urban impacts along the PA Turnpike.	Existing	Flood, Flash Flood, and Ice Jams	2	PA Turnpike		High	High	FEMA HMGP, PDM, FMA; PA DCED FMP	Long	Medium	SIP
NewStantonB-3	Protect Center Ave and Chanticleer Residential area to the 0.2% annual chance flood level.	Existing	Flood, Flash Flood, and Ice Jams	2	Municipal FPA		High	High	FEMA HMGP, PDM, FMA; PA DCED FMP, Sewer Grant; Sewer Fees	Short	Medium	SIP
North Belle Vernon Borough ***(not currently eligible for HMA funding)***												
NorthBelleVernonB-1	Assess and determine best action for PennDOT I-70 to prevent further outfall erosion.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		High	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Long	Medium	SIP
NorthBelleVernonB-2	Protect the First Baptist Church to the 0.2% annual chance flood level.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW	FPA, Municipal EMC	High	High	FEMA HMGP, PDM, FMA; PA DCED FMP, Sewer Grant; Sewer Fees	Short	High	SIP

Initiative*	Mitigation Initiative	Applies to New and/or Existing Structures**	Hazard(s) Mitigated	Goals Met	Lead Agency	Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category
North Huntingdon Township												
NorthHuntingdonT-1	Assess and determine best action to prevent further erosion and habitat loss along Adams Drive, Harold Drive, and Roth Drive.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
NorthHuntingdonT-2	Assess and determine the best action to protect the township from landslides.	Existing	Landslides	2	DPW		Med.	High	FEMA HMGP, PDM, FMA; PA DCED FMP; Operating Budget	Long	Low	SIP
NorthHuntingdonT-3	Improve drainage along Barnes Lake Road at Clay Pike.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
NorthHuntingdonT-4	Improve drainage along McKee Road.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
NorthHuntingdonT-5	Improve drainage infrastructure along Colt Drive culvert.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP

Initiative*	Mitigation Initiative	Applies to New and/or Existing Structures**	Hazard(s) Mitigated	Goals Met	Lead Agency	Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category
NorthHuntingdonT-6	Improve drainage infrastructure at the Westmoreland City VFD.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
NorthHuntingdonT-7	Assess and determine best action to prevent further erosion along Long Run at Lincoln Highway.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
NorthHuntingdonT-8	Assess and determine best action to prevent further erosion at Brush Creek ballfields.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
NorthHuntingdonT-9	Assess and determine best action to prevent further erosion of channel near Mickanin Road.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
NorthHuntingdonT-10	Assess and determine best action to prevent further habitat loss along Tinkers Run at PA Turnpike.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW	PA Turnpike	Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP

Initiative*	Mitigation Initiative	Applies to New and/or Existing Structures**	Hazard(s) Mitigated	Goals Met	Lead Agency	Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category
NorthHuntingdonT-11	Improve drainage along Frog Road.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
NorthHuntingdonT-12	Improve drainage along Park Hill Road.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
NorthHuntingdonT-13	Improve drainage at Turner Valley Soccer Fields along Crawford Run.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
NorthHuntingdonT-14	Improve drainage from PennDOT to Browntown Road.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
NorthHuntingdonT-15	Replace the 1st Street Bridge.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW	Municipal EMC	Med.	High	FEMA HMGP, PDM, FMA; PA DCED FMP; Operating Budget	Long	Low	SIP
NorthHuntingdonT-16	Work with Cleveland/Price, Inc. facility owner to protect it to the 0.2% annual chance flood level.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW	FPA, Municipal EMC	High	High	FEMA HMGP, PDM, FMA; PA DCED FMP; Sewer Fees	Short	High	SIP

Initiative*	Mitigation Initiative	Applies to New and/or Existing Structures**	Hazard(s) Mitigated	Goals Met	Lead Agency	Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category
NorthHuntingdonT-17	Work with Hazmat facility owner to protect it to the 0.2% annual chance flood level.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW	FPA, Municipal EMC	High	High	FEMA HMGP, PDM, FMA; PA DCED FMP; Sewer Fees	Short	High	SIP
North Irwin Borough ***(not currently eligible for HMA funding)***												
NorthIrwinB-1	Improve drainage infrastructure on 4th Street at the park.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
NorthIrwinB-2	Improve stormwater drainage to mitigate alleyway runoff.	Existing	Flood, Flash Flood, and Ice Jams	2	Parks and Recreation	DPW	Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Long	Medium	SIP
NorthIrwinB-3	Install drainage ditches along Coal Run to reduce runoff onto the roadway.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
NorthIrwinB-4	Upgrade drainage piping in North Huntingdon Township.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW	Municipal EMC	High	High	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
Penn Township												
PennT-1	Install a back-up generator at the Claridge Fire Department.	New	Utility Interruption	2	DPW		Med.	Low	Hazard Mitigation grants	Short	Medium	SIP

Initiative*	Mitigation Initiative	Applies to New and/or Existing Structures**	Hazard(s) Mitigated	Goals Met	Lead Agency	Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category
PennT-2	A plan needs to be created and funds allocated to address outdated stormwater infrastructure.	N/A	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	LPR
PennT-3	Conduct a traffic light study in Harrison City for more efficient timing.	Existing	Transportation Accident	2	DPW	PennDOT	Low	Low	Operating Budget	Short	Low	LPR
PennT-4	Fix existing catch basin at the corner of Rose and Pamela.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Low	FEMA HMGP, PDM, FMA; PA DCED FMP, Sewer Grant; Sewer Fees	Short	Medium	SIP
PennT-5	Hire more public works employees.	N/A	All hazards	2	DPW		Med.	Med.	Operating Budget	Long	Medium	SIP
PennT-6	Improve drainage infrastructure at Fawn Lawn and Pheasant Run Road.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
PennT-7	Improve drainage infrastructure in Claridge.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
PennT-8	Improve drainage on Concord Dr/4045.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP

Initiative*	Mitigation Initiative	Applies to New and/or Existing Structures**	Hazard(s) Mitigated	Goals Met	Lead Agency	Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category
PennT-9	Improve drainage on Denmark/Manor Road to prevent flooding.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Operating Budget	Short	Low	SIP
PennT-10	Improve infrastructure in Level Green neighborhood.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
PennT-11	Improve major highways to accommodate amount of traffic: Route 130, Pleasant Valley, Hyland.	Existing	Transportation Accident	2	DPW	PennDOT	High	High	Operating Budget	Long	Medium	SIP
PennT-12	Improve most roads within the Township to make them safer.	Existing	Transportation Accident	2	DPW	PennDOT	High	High	Operating Budget	Long	Medium	SIP
PennT-13	Install a blinker light at Mullor Road and Claridy Export Road.	Existing	Transportation Accident	2	DPW	PennDOT	Med.	Low	Operating Budget	Short	Low	SIP
PennT-14	Install a turn restriction for tractor trailers at the traffic light at SR 993/Walnut and SR 130.	Existing	Transportation Accident	2	DPW	PennDOT	Med.	Low	Operating Budget	Short	Low	SIP
PennT-15	Install sidewalks in communities.	Existing	Transportation Accident	2	DPW		Med.	Low	Operating Budget	Short	Medium	SIP
PennT-16	Intersections without designated left turn lane need to have "no left turn" sign posted.	Existing	Transportation Accident	2	DPW	PennDOT	Med.	Low	Operating Budget	Short	Low	SIP
PennT-17	Pave residential roads: Rose Acres, parts of Level Green Sunrise.	Existing	Transportation Accident	2	DPW	PennDOT	High	High	Operating Budget	Long	Medium	SIP

Initiative*	Mitigation Initiative	Applies to New and/or Existing Structures**	Hazard(s) Mitigated	Goals Met	Lead Agency	Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category
PennT-18	Prevent further pollution of AMD at Penny Lane.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW	FPA, Municipal EMC	High	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP, Sewer Grant; Sewer Fees	Short	Medium	SIP
PennT-19	Protect AMD at Boxcartown Road from further pollution.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW	FPA, Municipal EMC	High	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP, Sewer Grant; Sewer Fees	Short	Medium	SIP
PennT-20	Repair sinkholes on Pleasant Valley Road.	Existing	Subsidence/sink holes	2	DPW		Med.	Low	Operating Budget	Short	Low	SIP
PennT-21	Stormwater rehabilitation and upgrade at Rose Acres.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
PennT-22	Work with Triumvirate Environmental of Pittsburgh Inc facility owner to protect it to the 0.2% annual chance flood level.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW	FPA, Municipal EMC	High	High	FEMA HMGP, PDM, FMA; PA DCED FMP; Sewer Fees	Short	High	SIP
PennT-23	Install back-up generators at Sunrise Elementary School.	New	Utility Interruption	2	DPW		Med.	Low	Hazard Mitigation grants	Short	Medium	SIP
PennT-24	Install back-up generators at McCullough Elementary School.	New	Utility Interruption	2	DPW		Med.	Low	Hazard Mitigation grants	Short	Medium	SIP
PennT-25	Install back-up generators at Penn Middle School.	New	Utility Interruption	2	DPW		Med.	Low	Hazard Mitigation grants	Short	Medium	SIP

Initiative*	Mitigation Initiative	Applies to New and/or Existing Structures**	Hazard(s) Mitigated	Goals Met	Lead Agency	Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category
PennT-26	Install back-up generators at Harrison Park Elementary School.	New	Utility Interruption	2	DPW		Med.	Low	Hazard Mitigation grants	Short	Medium	SIP
Rostraver Township ***(not currently eligible for HMA funding)***												
RostraverT-1	Assess and determine best action for Orr Road to prevent further erosion.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		High	High	FEMA HMGP, PDM, FMA; PA DCED FMP	Short	Medium	SIP
RostraverT-2	Assess and determine best action for Rankin Road to prevent further erosion.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		High	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Long	Medium	SIP
RostraverT-3	Assess and determine best action for Webster Hollow to prevent further erosion.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		High	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Long	Medium	SIP
RostraverT-4	Protect Elks Place to the 0.2% annual chance flood level.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW	FPA, Municipal EMC	High	High	FEMA HMGP, PDM, FMA; PA DCED FMP, Sewer Grant; Sewer Fees	Short	High	SIP
RostraverT-5	Work with facility owner to protect Farnham and Pfile Rental and Sales to the 0.2% chance annual flood level.	Existing	Flood, Flash Flood, and Ice Jams	2	Municipal FPA		High	High	FEMA HMGP, PDM, FMA; PA DCED FMP, Sewer Grant; Sewer Fees	Short	Medium	SIP
RostraverT-6	Protect Fire station 31 facility to the 0.2% annual chance flood level.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW	FPA, Municipal EMC	High	Med.	FEMA HMGP, PDM; Operating Budget	Short	High	SIP

Initiative*	Mitigation Initiative	Applies to New and/or Existing Structures**	Hazard(s) Mitigated	Goals Met	Lead Agency	Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category
RostraverT-7	Protect Speers Run from urban impacts, habitat loss, and pollution.	Existing	All hazards	2	DPW	FPA, Municipal EMC	High	High	FEMA HMGP, PDM, FMA; PA DCED FMP, Sewer Grant; Sewer Fees	Short	High	SIP
RostraverT-8	Protect Trailer Court to the 0.2% annual chance flood level.	Existing	Flood, Flash Flood, and Ice Jams	2	Municipal FPA		High	High	FEMA HMGP, PDM, FMA; PA DCED FMP, Sewer Grant; Sewer Fees	Short	Medium	SIP
RostraverT-9	Work with the facility owner to repair sinkhole behind BF Foods Service station.	Existing	Subsidence/sink holes	2	Municipal CEO		Low	Med.	Operating Budget	Short	Low	SIP
RostraverT-10	Work with the owner of Pricedale Shopping Center to protect the facility to the 0.2% annual chance flood level.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW	FPA, Municipal EMC	High	High	FEMA HMGP, PDM, FMA; PA DCED FMP, Sewer Grant; Sewer Fees	Short	High	SIP
RostraverT-11	Work with the property owner to protect of the Rostraver Road shopping center to the 0.2% annual chance flood level.	Existing	Flood, Flash Flood, and Ice Jams	2	Municipal CEO		High	High	FEMA HMGP, PDM, FMA; PA DCED FMP, Sewer Grant; Sewer Fees	Short	Medium	SIP
Saint Clair Township ***(not currently eligible for HMA funding)***												
StClairT-1	Elevate structures on Robb Road that are at risk of flooding.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		High	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	High	SIP

Initiative*	Mitigation Initiative	Applies to New and/or Existing Structures**	Hazard(s) Mitigated	Goals Met	Lead Agency	Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category
StClairT-2	Work with daycare owner to protect Lori Clark Family Child Care Home facility to the 0.2% annual chance flood level.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW	FPA, Municipal EMC	High	High	FEMA HMGP, PDM, FMA; PA DCED FMP, Sewer Grant; Sewer Fees	Short	Medium	SIP
StClairT-3	Protect the Municipal Office to the 0.2% chance annual flood level.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW	FPA, Municipal EMC	High	High	FEMA HMGP, PDM, FMA; PA DCED FMP, Sewer Grant; Sewer Fees	Short	High	SIP
StClairT-4	Reconstruct the River Hill Bridge.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		High	High	FEMA HMGP, PDM, FMA; PA DCED FMP; Operating Budget	Long	Low	SIP
StClairT-5	Reconstruct the bridge over Baldwin Creek on Sugar Run Road.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		High	High	FEMA HMGP, PDM, FMA; PA DCED FMP; Operating Budget	Long	Low	SIP
Salem Township												
SalemT-1	Assess and determine best action to prevent further erosion and habitat loss along Cloverleaf Road/Route 22.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
SalemT-2	Assess and determine best action to prevent further erosion and pollution on Jobe Road/Beaver Run.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP

Initiative*	Mitigation Initiative	Applies to New and/or Existing Structures**	Hazard(s) Mitigated	Goals Met	Lead Agency	Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category
SalemT-3	Flood proof sewage and AMD on Depot Street.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW	FPA, Municipal EMC	High	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP, Sewer Grant; Sewer Fees	Short	High	SIP
SalemT-4	General clearing and cleaning of streams.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		High	Med.	Operating Budget; PA DEP	Short	Medium	SIP
SalemT-5	Improve drainage along Crabtree Creek and Hannastown.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
SalemT-6	Improve drainage on Rock Springs Road.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
SalemT-7	Improve drainage on Salem Drive bridge from Loyalhanna back-up.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
SalemT-8	Improve infrastructure on Garden Way.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP

Initiative*	Mitigation Initiative	Applies to New and/or Existing Structures**	Hazard(s) Mitigated	Goals Met	Lead Agency	Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category
SalemT-9	Prevent further habitat loss in Shieldsburg.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
SalemT-10	Protect Salem Township EOC facility to the 0.2% annual chance flood level.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW	FPA, Municipal EMC	High	Med.	FEMA HMGP, PDM; Operating Budget	Short	High	SIP
SalemT-11	Protect Thorn Run from pollution.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
SalemT-12	Install a static generator at Slickville Fire Department.	Existing	Utility Interruption	2	DPW		High	Med.	Hazard Mitigation Grants	Short	Medium	SIP
SalemT-13	Install a static generator at the Salem Township Municipal Building.	Existing	Utility Interruption	2	DPW		High	Med.	Hazard Mitigation Grants	Short	Medium	SIP
SalemT-14	Install a static generator at the Congruity United Presbyterian Church (emergency shelter).	Existing	Utility Interruption	2	DPW		High	Med.	Hazard Mitigation Grants	Short	Medium	SIP
Scottdale Borough												
ScottdaleB-1	Improve drainage in West Park Area (Anderson Run).	Existing	Flood, Flash Flood, and Ice Jams, and Ice Jams	2	Parks and Recreation	DPW	Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Operating Budget	Short	Low	SIP

Initiative*	Mitigation Initiative	Applies to New and/or Existing Structures**	Hazard(s) Mitigated	Goals Met	Lead Agency	Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category
ScottdaleB-2	Improve drainage on Little Sherrick Run Area.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW	DPW	Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Operating Budget	Short	Low	SIP
ScottdaleB-3	Improve drainage on Stauffer Avenue.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW	DPW	Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Operating Budget	Short	Low	SIP
ScottdaleB-4	Protect Police Station 065 Scottdale to the 0.2% annual chance flood level.	Existing	Flood, Flash Flood, and Ice Jams	2	Scottdale Borough PD		High	High	FEMA HMGP, PDM, FMA; PA DCED FMP, Sewer Grant; Sewer Fees	Short	Medium	SIP
ScottdaleB-5	Work with R E Uptegraff Manufacturing Co facility owner to protect it to the 0.2% annual chance flood level.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW	FPA, Municipal EMC	High	High	FEMA HMGP, PDM, FMA; PA DCED FMP; Sewer Fees	Short	High	SIP
ScottdaleB-6	Work with Summerill Tube Corp facility owner to protect it to the 0.2% annual chance flood level.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW	FPA, Municipal EMC	High	High	FEMA HMGP, PDM, FMA; PA DCED FMP; Sewer Fees	Short	High	SIP
ScottdaleB-7	Improve drainage in West Park.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP

Initiative*	Mitigation Initiative	Applies to New and/or Existing Structures**	Hazard(s) Mitigated	Goals Met	Lead Agency	Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category
ScottdaleB-8	Improve drainage on Garfield Avenue.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
ScottdaleB-9	Improve drainage on Parker Avenue.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
ScottdaleB-10	Improve drainage on Penn Line.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
ScottdaleB-11	Protect Stauffer Run from future habitat loss due to flooding.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
Seward Borough ***(not currently eligible for HMA funding)***												
SewardB-1	Protect the Municipal Office to the 0.2% chance annual flood level.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW	FPA, Municipal EMC	High	High	FEMA HMGP, PDM, FMA; PA DCED FMP, Sewer Grant; Sewer Fees	Short	High	SIP

Initiative*	Mitigation Initiative	Applies to New and/or Existing Structures**	Hazard(s) Mitigated	Goals Met	Lead Agency	Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category
Sewickley Township												
SewickleyT-1	Assess and determine best action to prevent further erosion on Yukon Road, Sewickley Creek.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
SewickleyT-2	Install stormwater drainage system along Pinewood Road.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		High	High	FEMA HMGP, PDM, FMA; PA DCED FMP; Operating Budget	Short	Low	SIP
SewickleyT-3	Procure a skid loader/grab attachment for storm cleanup and culvert clean out.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		High	High	Operating Budget	Short	Low	SIP
SewickleyT-4	Procure and install a back-up generator into Hutchinson VFD Station 85.	New	Utility Interruption	2	DPW	Municipal EMC	High	Med.	FEMA HMGP, PDM; RACP	Short	Medium	SIP
SewickleyT-5	Procure and install a back-up generator into Lowber VFD Station 16.	New	Utility Interruption	2	DPW	Municipal EMC	High	Med.	FEMA HMGP, PDM; RACP	Short	Medium	SIP
SewickleyT-6	Procure and install back-up generator into Rillton VFD Station 14.	New	Utility Interruption	2	DPW	Municipal EMC	High	Med.	FEMA HMGP, PDM; RACP	Short	Medium	SIP
SewickleyT-7	Procure remote receive sites to enhance communications.	New	All hazards	2	DPW		High	Med.	FEMA HMGP	Short	Medium	SIP
SewickleyT-8	Procure skid steer attachment to clear debris around culverts.	New	Flood, Flash Flood, and Ice Jams	2	DPW	Municipal EMC	High	High	FEMA PDM, possible local budgetary match	Short	High	SIP
SewickleyT-9	Procure sweeper truck for stormwater management.	New	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA, PEMA	Short	Medium	SIP

Initiative*	Mitigation Initiative	Applies to New and/or Existing Structures**	Hazard(s) Mitigated	Goals Met	Lead Agency	Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category
SewickleyT-10	Protect Fire Station 16 to the 0.2% annual chance flood level.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW	FPA, Municipal EMC	High	Med.	FEMA HMGP, PDM; Operating Budget	Short	High	SIP
SewickleyT-11	Improve drainage along Lowber Road.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
SewickleyT-12	Improve drainage infrastructure in Herminie.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
SewickleyT-13	Protect Rillton from future habitat loss due to pollution.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
Smithton Borough												
SmithtonB-1	Assess and determine the best action for Dutch Hollow Road to prevent further erosion.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		High	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Long	Medium	SIP
SmithtonB-2	Install a flood wall or stream bank stabilization to prevent future erosion.	New	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	High	Hazard Mitigation grants, Flood Mitigation grants	Long	Low	SIP
SmithtonB-3	Install emergency generator for Borough building/EOC.	New	Utility Interruption	2	DPW		Med.	Low	Hazard Mitigation grants	Short	Medium	SIP

Initiative*	Mitigation Initiative	Applies to New and/or Existing Structures**	Hazard(s) Mitigated	Goals Met	Lead Agency	Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category
SmithtonB-4	Install generator at Smithton VFD to serve as a warming center during extended winter power outages.	New	Utility Interruption	2	DPW		Med.	Low	Hazard Mitigation grants	Short	Medium	SIP
SmithtonB-5	Install rip-rap gabions along Sulphur Creek.	New	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	Hazard Mitigation grants	Short	Low	SIP
SmithtonB-6	Protect Fire Station 17 to the 0.2% chance annual flood level.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW	FPA, Municipal EMC	High	Med.	FEMA HMGP, PDM; Operating Budget	Short	High	SIP
SmithtonB-7	Protect Police Station 627 Smithton Boro to the 0.2% annual chance flood level.	Existing	Flood, Flash Flood, and Ice Jams	2	Smithton Borough PD		High	High	FEMA HMGP, PDM, FMA; PA DCED FMP, Sewer Grant; Sewer Fees	Short	Medium	SIP
SmithtonB-8	Protect Smithton Public Library to the 0.2% annual chance flood level.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW	FPA, Municipal EMC	High	High	FEMA HMGP, PDM, FMA; PA DCED FMP, Sewer Grant; Sewer Fees	Short	Medium	SIP
SmithtonB-9	Protect the Municipal Office to the 0.2% chance annual flood level.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW	FPA, Municipal EMC	High	High	FEMA HMGP, PDM, FMA; PA DCED FMP, Sewer Grant; Sewer Fees	Short	High	SIP
SmithtonB-10	Stabilize steep cliffside below Route 981 all the way down the stream bed.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	PennDOT, mitigation grants	Long	Medium	SIP

Initiative*	Mitigation Initiative	Applies to New and/or Existing Structures**	Hazard(s) Mitigated	Goals Met	Lead Agency	Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category
South Greensburg Borough												
SouthGreensburgB-1	Improve drainage along Slate Creek.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
SouthGreensburgB-2	Improve drainage along S. Main Street/Huff Avenue.	Existing	Flood, Flash Flood, and Ice Jams	2	Municipal FPA		High	High	FEMA HMGP, PDM, FMA; PA DCED FMP, Sewer Grant; Sewer Fees	Short	Medium	SIP
South Huntingdon Township												
SouthHuntingdonT-1	Assess and determine best action to prevent from further erosion of Dutch Hollow Road.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
SouthHuntingdonT-2	Improve stormwater management within the I70 commercial area.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
Southwest Greensburg												
SouthwestGreensburgB-1	Work with Suburban Propane Heating Oil Partners facility owner to protect it to the 0.2% annual chance flood level.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW	FPA, Municipal EMC	High	High	FEMA HMGP, PDM, FMA; PA DCED FMP; Sewer Fees	Short	High	SIP

Initiative*	Mitigation Initiative	Applies to New and/or Existing Structures**	Hazard(s) Mitigated	Goals Met	Lead Agency	Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category
Sutersville Borough ***(not currently eligible for HMA funding)***												
SutersvilleB-1	Improve drainage on 1st Street residential and commercial area.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		High	High	FEMA HMGP, PDM, FMA; PA DCED FMP, Sewer Grant; Sewer Fees	Short	Medium	SIP
SutersvilleB-2	Work with the owner of the Nancy H Westerman Family Child Care Home to protect the facility to the 0.2% annual chance flood level.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW	FPA, Municipal EMC	High	High	FEMA HMGP, PDM, FMA; PA DCED FMP, Sewer Grant; Sewer Fees	Short	Medium	SIP
SutersvilleB-3	Protect the Municipal Office to the 0.2% chance annual flood level.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW	FPA, Municipal EMC	High	High	FEMA HMGP, PDM, FMA; PA DCED FMP, Sewer Grant; Sewer Fees	Short	High	SIP
Trafford Borough												
TraffordB-1	Improve drainage along Mehaffey Hill in Trafford along Brush Creek to prevent flooding.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Operating Budget	Short	Low	SIP
TraffordB-2	Protect the Trafford Elementary School to the 0.2% annual chance flood level.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW	FPA, Municipal EMC	High	High	FEMA HMGP, PDM, FMA; PA DCED FMP, Sewer Grant; Sewer Fees	Short	Medium	SIP
TraffordB-3	Protect the Westinghouse Dumpsite to the 0.2% annual chance flood level.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW	FPA, Municipal EMC	High	High	FEMA HMGP, PDM, FMA; PA DCED FMP, Sewer Grant; Sewer Fees	Short	Medium	SIP

Initiative*	Mitigation Initiative	Applies to New and/or Existing Structures**	Hazard(s) Mitigated	Goals Met	Lead Agency	Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category
TraffordB-4	Protect townhomes on the west side of Trafford Borough to the 0.2% annual chance flood level.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW	FPA, Municipal EMC	High	High	FEMA HMGP, PDM, FMA; PA DCED FMP, Sewer Grant; Sewer Fees	Short	Medium	SIP
TraffordB-5	Update inadequate infrastructure.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
TraffordB-6	Work with Multi-Flow Industries facility owner to protect it to the 0.2% annual chance flood level.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW	FPA, Municipal EMC	High	High	FEMA HMGP, PDM, FMA; PA DCED FMP; Sewer Fees	Short	High	SIP
Unity Township												
UnityT-1	Assess and determine best action to prevent further erosion at Sewickley Creek at Phillips Road.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
UnityT-2	Assess and determine the best action to prevent future erosion at Indian Camp Run along Bethel Church Road.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
UnityT-3	Construct and install a new culvert in Lloydsville to enhance hydraulic capacity.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Operating Budget	Short	Low	SIP

Initiative*	Mitigation Initiative	Applies to New and/or Existing Structures**	Hazard(s) Mitigated	Goals Met	Lead Agency	Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category
UnityT-4	Improve drainage at Nine Mile Run.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
UnityT-5	Improve drainage in Baggaley.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
UnityT-6	Improve drainage in Dorothy.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
UnityT-7	Improve drainage on Route 30, 982 Cloverleaf.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
UnityT-8	Improve stormwater infrastructure in Edgewater Terrace.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
UnityT-9	Install a back-up generator at the Harrison City Fire Department.	New	Utility Interruption	2	DPW		Med.	Low	Hazard Mitigation grants	Short	Medium	SIP

Initiative*	Mitigation Initiative	Applies to New and/or Existing Structures**	Hazard(s) Mitigated	Goals Met	Lead Agency	Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category
UnityT-10	Install a stormwater detention system in Lawson Heights.	New	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	High	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Medium	SIP
UnityT-11	Work with the facility owner to protect the Growing Tree Child Development Center to the 0.2% annual chance flood level.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW	FPA, Municipal EMC	High	High	FEMA HMGP, PDM, FMA; PA DCED FMP, Sewer Grant; Sewer Fees	Short	Medium	SIP
UnityT-12	Work with Leigh Specialty Melting Inc facility owner to protect it to the 0.2% annual chance flood level.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW	FPA, Municipal EMC	High	High	FEMA HMGP, PDM, FMA; PA DCED FMP; Sewer Fees	Short	High	SIP
UnityT-13	Work with St. Vincent College to ensure they know what hazard areas they are in, and develop/update emergency plans.	Existing	All hazards	2	Unity T EMC		High	Med.	Operating Budget	Short	Low	LPR
Upper Burrell Township ***(not currently eligible for HMA funding)***												
UpperBurrellT-1	Assess and determine best action to prevent further erosion on Turkey Ridge Road from Whitten Hollow Road to Barnview Lane.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP

Initiative*	Mitigation Initiative	Applies to New and/or Existing Structures**	Hazard(s) Mitigated	Goals Met	Lead Agency	Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category
UpperBurrellT-2	Improve drainage infrastructure at Lincoln Beach.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
UpperBurrellT-3	Improve drainage infrastructure at Lower Drennen Road.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
UpperBurrellT-4	Procure and install an emergency generator.	New	Utility Interruption	2	DPW	Municipal EMC	High	Med.	FEMA HMGP, PDM; RACP	Short	Medium	SIP
UpperBurrellT-5	Work with PSU New Kensington to ensure they know what hazard areas they are in, and develop/update emergency plans.	Existing	All hazards	2	Upper Burrell T EMC		High	Med.	Operating Budget	Short	Low	LPR
Vandergrift Borough ***(not currently eligible for HMA funding)***												
VandergriftB-1	Work with Ati FRPH, LLC-Vandergrift facility owner to protect it to the 0.2% annual chance flood level.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW	FPA, Municipal EMC	High	High	FEMA HMGP, PDM, FMA; PA DCED FMP; Sewer Fees	Short	High	SIP
Washington Township												
WashingtonT-1	Assess and determine the best action to prevent further erosion of Owens Road.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP

Initiative*	Mitigation Initiative	Applies to New and/or Existing Structures**	Hazard(s) Mitigated	Goals Met	Lead Agency	Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category
WashingtonT-2	Assess and determine the best action to prevent further erosion of Paulton.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
WashingtonT-3	Improve drainage along Pine Run Creek/Meadows Mobile Home Park, replace undersized culverts.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW	Municipal EMC	High	High	FEMA PDM, possible local budgetary match	Short	High	SIP
WashingtonT-4	Improve drainage infrastructure on Jefferson Drive.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
West Leechburg Borough ***(not currently eligible for HMA funding)***												
WestLeechburgB-1	Assess and determine best action to prevent erosion on 1st Avenue.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
West Newton Township												
WestNewtonT-1	Add drainage piping to control and direct existing natural tributary that runs near residential homes and businesses.	New	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	High	PA DEP, PA DCNR, PEMA	Short	Low	SIP
WestNewtonT-2	Assess and determine best action to prevent further erosion along Vernon Drive.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP	Short	Low	SIP

Initiative*	Mitigation Initiative	Applies to New and/or Existing Structures**	Hazard(s) Mitigated	Goals Met	Lead Agency	Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category
WestNewtonT-3	Develop a Flood Control Project to minimize damage from Stormwater Flash Flooding events that damage properties and homes along Vernon Run.	New	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	High	PA DEP, PEMA	Short	Low	SIP
WestNewtonB-4	Improve drainage infrastructure on Atomic Way.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		High	High	FEMA HMGP, PDM, FMA; PA DCED FMP, Sewer Grant; Sewer Fees	Short	Medium	SIP
WestNewtonB-5	Install a Flood Stream Gage on the western side of the West Newton Bridge to monitor and provide flood prediction tools.	New	Flood, Flash Flood, and Ice Jams; Utility Interruption	2	DPW		High	Med.	USGS, PA DOT, PEMA, FEMA	Short	Medium	SIP
WestNewtonB-6	Install back-up generator at Lion's Club to serve as a shelter during emergencies.	New	Utility Interruption	2	DPW		Med.	Low	Hazard Mitigation grants	Short	Medium	SIP
WestNewtonB-7	Install back-up generator at school to serve as a shelter during emergencies.	New	Utility Interruption	2	DPW		Med.	Low	Hazard Mitigation grants	Short	Medium	SIP
WestNewtonB-8	Install back-up generator at the gym to serve as a shelter during emergencies.	New	Utility Interruption	2	DPW		Med.	Low	Hazard Mitigation grants	Short	Medium	SIP

Initiative*	Mitigation Initiative	Applies to New and/or Existing Structures**	Hazard(s) Mitigated	Goals Met	Lead Agency	Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category
WestNewtonB-9	Protect West Newton Public Library to the 0.2% annual chance flood level.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW	FPA, Municipal EMC	High	High	FEMA HMGP, PDM, FMA; PA DCED FMP, Sewer Grant; Sewer Fees	Short	Medium	SIP
WestNewtonB-10	Protect Fire Station 82 to the 0.2% annual chance flood level.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW	FPA, Municipal EMC	High	Med.	FEMA HMGP, PDM; Operating Budget	Short	High	SIP
WestNewtonB-11	Protect Police Station 621 West Newton to the 0.2% annual chance flood level.	Existing	Flood, Flash Flood, and Ice Jams	2	West Newton PD		High	High	FEMA HMGP, PDM, FMA; PA DCED FMP, Sewer Grant; Sewer Fees	Short	Medium	SIP
WestNewtonB-12	Protect the library to the 0.2% annual chance flood level.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW	FPA, Municipal EMC	High	Med.	FEMA HMGP, PDM; Operating Budget	Short	High	SIP
WestNewtonB-13	Protect the Municipal Office to the 0.2% chance annual flood level.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW	FPA, Municipal EMC	High	High	FEMA HMGP, PDM, FMA; PA DCED FMP, Sewer Grant; Sewer Fees	Short	High	SIP
WestNewtonB-14	Work with the nursing home/personal care center to protect the facility to the 0.2% annual chance flood level.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW	FPA, Municipal EMC	High	Med.	FEMA HMGP, PDM; Operating Budget	Short	High	SIP
WestNewtonB-15	Protect the post office to the 0.2% annual chance flood level.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW	FPA, Municipal EMC	High	Med.	FEMA HMGP, PDM; Operating Budget	Short	High	SIP
WestNewtonB-16	Protect the West Newton Borough Sewage Treatment Plant to the 0.2% annual chance flood level.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW	FPA, Municipal EMC	High	High	FEMA HMGP, PDM, FMA; PA DCED FMP, Sewer Grant; Sewer Fees	Short	High	SIP

Initiative*	Mitigation Initiative	Applies to New and/or Existing Structures**	Hazard(s) Mitigated	Goals Met	Lead Agency	Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category
WestNewtonB-17	Repair Orr Rd, and hillside, which will restore road back to 2 lanes.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW	PennDOT	High	Med.	PA Liquid Fuels, PA DEP, PEMA	Short	High	SIP
WestNewtonB-18	Replace back-up generator for West Newton Volunteer Fire Company Station 82.	New	Utility Interruption	2	DPW		Med.	Med.	PEMA, FEMA	Short	Low	SIP
WestNewtonB-19	Replace back-up power generator for EMS station.	New	Utility Interruption	2	DPW	Municipal EMC	High	Med.	FEMA HMGP, PDM; RACP	Short	Medium	SIP
WestNewtonB-20	Replace collapsed road in the northern part of West Newton Borough.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW	Municipal EMC	Med.	High	FEMA HMGP, PDM, FMA; PA DCED FMP; Operating Budget	Long	Low	SIP
WestNewtonB-21	Separate the combined storm water and sewage lines 2/3rd of the Borough.	Existing	Flood, Flash Flood, and Ice Jams; Utility Interruption	2	DPW		High	High	PA CDBG, PA DEP, PEMA	Short	Medium	SIP
WestNewtonB-22	Separate the combined storm water and sewage lines on the east side of town.	Existing	Flood, Flash Flood, and Ice Jams; Utility Interruption	2	DPW		High	High	PA CDBG, PA DEP, PEMA	Short	Medium	SIP
WestNewtonB-23	Work with Chemstation facility owner to protect it to the 0.2% annual chance flood level.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW	FPA, Municipal EMC	High	High	FEMA HMGP, PDM, FMA; PA DCED FMP; Sewer Fees	Short	High	SIP
WestNewtonB-24	Work with Verizon West Newton Co (PA59172) Facility owner to protect it to the 0.2% annual chance flood level.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW	FPA, Municipal EMC	High	High	FEMA HMGP, PDM, FMA; PA DCED FMP; Sewer Fees	Short	High	SIP

Initiative*	Mitigation Initiative	Applies to New and/or Existing Structures**	Hazard(s) Mitigated	Goals Met	Lead Agency	Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category
WestNewtonB-25	Work with West Newton Borough Hazmat facility owner to protect it to the 0.2% annual chance flood level.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW	FPA, Municipal EMC	High	High	FEMA HMGP, PDM, FMA; PA DCED FMP; Sewer Fees	Short	High	SIP
Youngstown Borough ***(not currently eligible for HMA funding)***												
YoungstownB-1	Improve drainage on Sawmill Run, Route 982.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
Youngwood Borough												
YoungwoodB-1	Assess and determine best action to further prevent further erosion from driveway onto Silvis Farm Road.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
YoungwoodB-2	Assess and determine best action to prevent further erosion at Jacks Run streambank.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
YoungwoodB-3	Assess and determine best action to prevent further erosion on Wineman Lane.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
YoungwoodB-4	Demolition of dilapidated homes to prevent fires.	Existing	Structure fires	2	PEMA	Municipal EMCs	High	High	FEMA HMGP, PDM, FMA; PA DCED FMP	Long	Medium	SIP

Initiative*	Mitigation Initiative	Applies to New and/or Existing Structures**	Hazard(s) Mitigated	Goals Met	Lead Agency	Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category
YoungwoodB-5	Improve drainage along Depot St and Jacks Run.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
YoungwoodB-6	Improve drainage along Route 119.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW	PennDOT	Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
YoungwoodB-7	Improve infrastructure along S 5th Street.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
YoungwoodB-8	Install additional stormwater runoff pipes and upgrade/replace deteriorated pipes.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW	Municipal EMC	High	High	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
YoungwoodB-9	Install larger pipes along Clawson Avenue to improve drainage.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW	Municipal EMC	High	High	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP
YoungwoodB-10	Protect Youngwood Borough STP to the 0.2% annual chance flood level.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW	FPA, Municipal EMC	High	High	FEMA HMGP, PDM, FMA; PA DCED FMP, Sewer Grant; Sewer Fees	Short	High	SIP

Initiative*	Mitigation Initiative	Applies to New and/or Existing Structures**	Hazard(s) Mitigated	Goals Met	Lead Agency	Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category
YoungwoodB-11	Replace culvert on 5th and Hillis.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW		Med.	Med.	FEMA HMGP, PDM, FMA; PA DCED FMP; Operating Budget	Short	Low	SIP
YoungwoodB-12	Slow traffic through Borough-Route 119	Existing	Transportation Accident	2	DPW	PennDOT	Med.	Low	Operating Budget	Short	Low	SIP
YoungwoodB-13	Upgrade/replace existing pipes installed by private property owners on Clawson Avenue.	Existing	Flood, Flash Flood, and Ice Jams	2	DPW	Municipal EMC	High	Low	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget	Short	Low	SIP

Notes:

** The letters associated with the initiative number indicate the lead agency (i.e., County or municipality)*
*** Does this mitigation initiative reduce the effects of hazards on new and/or existing buildings and/or infrastructure? Not applicable (N/A) is inserted if this does not apply.*

Depts. = Departments
EMA = Emergency Management Agency
EMC = Emergency Management Coordinator
EMS = Emergency Medical Services
FEMA = Federal Emergency Management Agency
FPA = Floodplain Administrator
MDJ = Magisterial District Justice
Med. = Medium
PA DEP = Pennsylvania Department of Environmental Protection
PDM = Pre-Disaster Mitigation Program
PEMA = Pennsylvania Emergency Management Agency
PSU = Penn State University
SPHS = Southwestern Pennsylvania Human Services, Inc.
STP = Sewage Treatment Plant
USPS = United States Postal Service
WPCP = Water Pollution Control Plant
WWTP = Wastewater Treatment Plant

Costs:
These rough estimates should be used where actual project costs cannot reasonably be established at this time:
Low = < $10,000
Medium = $10,000 to $100,000
High = > $100,000

DOF = Depending on funding
HMGP = Hazard Mitigation Grant Program

Timeline:
Short Term = 1 to 5 years. Long Term = 5 years or greater.

Mitigation Category:

- Education and Awareness Programs (EAP) - 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.
- Local Plans and Regulations (LPR) - Actions include government authorities, policies, or codes that influence the way land and buildings are being developed and built.
- Natural Systems Protection (NSP) - Actions that minimize damage and losses, and also preserve or restore the functions of natural systems.
- Structure and Infrastructure Project (SIP) - Actions that 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.

6.4.2 Mitigation Strategy Prioritization and Implementation

Section 201.6(c) (3) (iii) of Title 44 Code of Federal Regulations (44 CFR) requires the prioritization of the action plan to emphasize the extent to which benefits are maximized according to a cost-benefit review of the proposed projects and their associated costs. This allows the jurisdictions to select the most cost-effective actions for implementation first, not only to use resources efficiently but also to make a realistic start toward mitigating risks.

Mitigation benefits are defined as future damages and losses that would be eliminated and/or reduced by implementing the proposed mitigation project and include physical damage to structures and infrastructure, loss of service or function, and emergency management costs. Particularly for physical ("shovel-in-the-ground") mitigation projects, jurisdictions were encouraged to estimate project costs as well as to identify the anticipated benefits. Where exact project costs and potential benefits were not available, ranges were identified (high, medium, low) for each, allowing a qualitative evaluation of project cost-effectiveness.

PEMA has developed a mitigation actions evaluation and prioritization process to provide a consistent, uniform approach for counties and jurisdictions to use to consider, in a systematic way, the best mitigation strategies for their communities (PEMA 2013). Jurisdictions first evaluate feasibility of mitigation actions by using the following ten evaluation criteria:

- **Life Safety:** The Planning Team assesses to what extent a mitigation action will protect individuals from being injured or killed by a hazard.
- **Property Protection:** The Planning Team assesses to what extent the action will protect property, including homes, businesses, and critical infrastructure.
- **Technical:** It is important to determine whether the proposed action is technically feasible, will help to reduce losses in the long term, and has minimal secondary impacts. Here, the Planning Team determines whether the alternative action is a whole or partial solution or not a solution at all.
- **Political:** Understanding current opinions of community and state political leadership regarding issues related to the environment, economic development, safety, and emergency management will provide valuable insight into the level of political support offered for mitigation activities and programs. Proposed mitigation objectives sometimes fail because of a lack of political acceptability.
- **Legal:** Without the appropriate legal authority, the action cannot lawfully be undertaken. When considering this criterion, the Planning Team determines whether a jurisdiction has the legal authority at the state, tribal, or local level to implement the action, or whether the jurisdiction must pass new laws or regulations. Each level of government operates under a specific source of delegated authority. As a general rule, most local governments operate under enabling legislation that gives them the power to engage in different activities. Jurisdictions should identify the unit of government undertaking the mitigation action and include an analysis of the inter-relationships between local, regional, state, and federal governments. Legal authority is likely to have a significant role later in the process when the state, tribe, or community determines the ways in which mitigation activities can best be carried out, and the extent to which mitigation policies and programs can be enforced.
- **Environmental:** Impact on the environment is an important consideration because of public desire for sustainable and environmentally healthy communities. In addition, many statutory considerations, such as the National Environmental Policy Act (NEPA), should be counted when using federal funds. Jurisdictions need to evaluate whether, when implementing mitigation actions, the potential negative consequences to environmental assets such as threatened and endangered species, wetlands, and other protected natural resources.
- **Social:** The public must support the overall implementation strategy and specific mitigation actions. Therefore, the projects have to be evaluated in terms of community acceptance. Likewise, the Planning Team should determine if implementing a mitigation action will have a beneficial or negative effect on a particular segment of the population.

- **Administrative:** Under this part of the evaluation criteria, the Planning Team examines the anticipated staffing, funding, and maintenance requirements for the mitigation action to determine whether the jurisdiction has the personnel and administrative capabilities necessary to implement the action or whether outside help will be necessary.
- **Local Champion:** Having an individual who will lead the implementation of a project, particularly a complex project, is essential for implementing it.
- **Other Community Objectives:** The Planning Team evaluates to what extent implementing the mitigation action supports other community objectives, such as increasing parks and recreation, quality of life, and economic development.

Table 6-5 shows the feasibility evaluation for each identified mitigation action. For each criterion, how feasible or effective the action is in the above criteria was indicated with a "+" (highly effective or feasible), "N" (neutral or not applicable), or a "-" (ineffective or not feasible). All actions were deemed feasible.

Table 6-5. Evaluation of Mitigation Actions

Initiative	Mitigation Action	Life Safety	Property Protection	Technical	Political	Legal	Environmental	Social	Administrative	Local Champion	Other Community Objectives	Total Score
WestmorelandC-1	Develop a task force with one individual from each municipality to work on the issues.	N	N	+	+	+	N	N	+	N	+	5 (+) 5 (N) 0 (-)
WestmorelandC-2	Acquire vacant, abandoned, or unsafe structures, especially those in hazard areas, and turn into open space.	N	+	+	+	N	N	+	+	N	+	6 (+) 4 (N) 0 (-)
WestmorelandC-3	Assess all roads and truck routes used by natural gas operators to prevent accidents and spills from hazardous waste trucks.	+	+	+	+	+	+	+	+	N	N	8 (+) 2 (N) 0 (-)
WestmorelandC-4	Work with hazmat facilities to inform them of the hazards they face and ensure emergency plans are current.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)
WestmorelandC-5	Work with police departments in each municipality to ensure their emergency plans are updated, and inform them of the hazard areas in which they are located.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)
WestmorelandC-6	Work with daycare owners/operators in each municipality to ensure their emergency plans are updated, and inform them of the hazard areas in which they are located.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)
WestmorelandC-7	Update County COOP/COG Plan.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)
WestmorelandC-8	Work with dam owners and operators to ensure EAPs are current for all -1 and -2 dams.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)
WestmorelandC-9	Work with schools and school districts to inform them of the hazards they face and ensure emergency plans are current.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)
WestmorelandC-10	Begin the process to adopt higher regulatory standards to manage flood risk and sinkhole risk.	+	+	+	+	+	N	+	+	N	+	8 (+) 2 (N) 0 (-)
WestmorelandC-11	Complete the ongoing updates of the Comprehensive Plans.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)

Initiative	Mitigation Action	Life Safety	Property Protection	Technical	Political	Legal	Environmental	Social	Administrative	Local Champion	Other Community Objectives	Total Score
WestmorelandC-12	Create/enhance/maintain mutual aid agreements with neighboring counties/communities for continuity of operations.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
WestmorelandC-13	Develop a hazard event GIS database to help county and local emergency managers with hazard mitigation and other planning initiatives.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
WestmorelandC-14	Develop and distribute educational information on hazards, emergency preparedness, and fire prevention.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
WestmorelandC-15	Develop and distribute public outreach materials on water conservation.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
WestmorelandC-16	Develop and maintain an outreach program to provide information and guidance to municipalities on their role in floodplain management.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
WestmorelandC-17	Develop geospatial and analytical tools to support community engagement, policy reform, and county and regional planning efforts.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
WestmorelandC-18	Enhance the Westmoreland County Stormwater Management Plan by implementing Phase 2 of the plan.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
WestmorelandC-19	Have designated NFIP Floodplain Administrator become a Certified Floodplain Manager through the ASFPM, and pursue relevant continuing education training such as FEMA Benefit-Cost Analysis.	N	N	+	+	+	N	+	+	N	N	5 (+) 5 (N) 0 (-)
WestmorelandC-20	Identify and develop agreements with entities that can provide support with FEMA/PEMA paperwork after disasters.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
WestmorelandC-21	Implement seismic retrofits to vulnerable critical facilities.	+	+	+	+	+	N	+	N	N	N	6 (+) 4 (N) 0 (-)
WestmorelandC-22	Maintain and exercise continuity of government plan to enable the government to provide critical services during the interruption of business.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
WestmorelandC-23	Maintain compliance with and be in good standing in the NFIP, including adoption and enforcement of floodplain management requirements, floodplain identification and mapping, and flood insurance outreach to the community.	+	+	+	+	+	N	+	+	N	+	8 (+) 2 (N) 0 (-)

Initiative	Mitigation Action	Life Safety	Property Protection	Technical	Political	Legal	Environmental	Social	Administrative	Local Champion	Other Community Objectives	Total Score
WestmorelandC-24	Participate in the Community Rating System (CRS) to further manage flood risk and reduce flood insurance premiums for NFIP policyholders.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
WestmorelandC-25	Partner with community groups and local organizations, including civic, business, town watch, faith-based, senior, special needs and tenant associations, to promote emergency preparedness and mitigation efforts.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
WestmorelandC-26	Procure and maintain redundant power sources (portable generators).	+	+	+	+	+	N	+	N	N	+	7 (+) 3 (N) 0 (-)
WestmorelandC-27	Purchase or relocate structures located in hazard-prone areas to protect structures from future damage, with repetitive loss properties as a priority.	+	+	+	+	+	N	-	N	N	+	6 (+) 3 (N) 1 (-)
WestmorelandC-28	Regulate development to reduce flood losses in vulnerable fluvial areas.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
WestmorelandC-29	Retrofit structures located in hazard-prone areas to protect structures from future damage, with repetitive loss and severe repetitive loss properties as priority.	+	+	+	+	+	N	+	N	N	+	7 (+) 3 (N) 0 (-)
WestmorelandC-30	Support and utilize an advanced warning system that provides emergency text and email alerts to the public.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
WestmorelandC-31	Work with regional agencies to develop damage assessment capabilities at the local level through training programs and certification of qualified individuals.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
WestmorelandC-32	Identify mitigation or structural projects to reduce vulnerability to stormwater flooding incidents from Crabtree Creek dividing Hempfield, Unity, and Salem Townships.	N	+	+	+	+	N	+	N	N	N	5 (+) 5 (N) 0 (-)
WestmorelandC-33	Work with dam operators to protect C-1 and C-2 dams to the 0.2% annual chance flood level.	+	+	+	+	+	N	+	+	N	+	8 (+) 2 (N) 0 (-)
WestmorelandC-34	Educate Mariner East Pipeline well operators, compressor station operators, truck drivers and residents of hazardous materials, spills, well blowouts, exposure, etc.	+	N	+	+	+	+	N	N	+	N	6 (+) 4 (N) 0 (-)
WestmorelandC-35	Encourage homeowners to install appropriate devices to alleviate radon concentrations within homes.	+	N	+	+	+	+	N	N	+	N	6 (+) 4 (N) 0 (-)

Initiative	Mitigation Action	Life Safety	Property Protection	Technical	Political	Legal	Environmental	Social	Administrative	Local Champion	Other Community Objectives	Total Score
WestmorelandC-36	Work with PennDOT to improve drainage on Route 993 between Trafford and Irwin to prevent flooding.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
WestmorelandC-37	Conduct analysis of the high-hazard potential dams in Westmoreland County to meet the requirements of FEMA's HHPD Grant Program.	+	+	+	+	+	N	+	N	+	+	8 (+) 2 (N) 0 (-)
Aliquippa C-1	Identify mitigation or structural projects to reduce vulnerability to stormwater flooding incidents in Aliquippa.	N	+	+	+	+	N	+	N	N	N	5 (+) 5 (N) 0 (-)
Allegheny T-1*	Assess and determine best action to prevent further erosion along Pine Run.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
Allegheny T-2*	Improve drainage along Lower Tunnel Hill.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
Allegheny T-3*	Improve drainage in Brookview residential area.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
Allegheny T-4*	Improve stormwater runoff and sewage at High Meadows Mobile Home Park.	+	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
Allegheny T-5*	Protect AMD and Pine Run from pollution.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
Allegheny T-6*	Remove stone from washout on Alter Road.	+	N	N	+	+	N	+	+	N	N	5 (+) 5 (N) 0 (-)
Allegheny T-7*	Replace and enhance stormwater runoff pipes in Moreland Manor.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)
Allegheny T-8*	Work with Kiski Valley Water Pollution Control Authority to protect its facility to the 0.2% annual chance flood level.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)
ArnoldC-1*	Improve infrastructure along Thomas Blvd, Woodmont Ave, Ivy-Pine-Cherry Alleys, and Norne Boulevard.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)

Initiative	Mitigation Action	Life Safety	Property Protection	Technical	Political	Legal	Environmental	Social	Administrative	Local Champion	Other Community Objectives	Total Score
AronaB-1	Protect the post office to the 0.2% annual chance flood level.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)
AronaB-2	Protect the structures in Arona Park to the 0.2% annual chance flood level.	N	+	+	+	+	N	+	+	N	+	7 (+) 3 (N) 0 (-)
AvonmoreB-1*	Assess and determine best action to prevent erosion at Indiana Avenue Extension.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
AvonmoreB-2*	Assess and determine best action to prevent further erosion at Westmoreland Avenue.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
AvonmoreB-3*	Protect Avonmore Borough STP to the 0.2% annual chance flood level.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)
AvonmoreB-4*	Work with Avonmore Borough hazmat facility owner to protect it to the 0.2% chance flood level.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)
BellT-1*	Assess and determine best action to prevent further erosion in Salina.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
BellT-2*	Protect AMD near Wolford Run from pollution.	N	+	+	+	+	+	+	+	N	N	7 (+) 3 (N) 0 (-)
BolivarB-1*	Improve drainage infrastructure in Bolivar Borough.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
CookT-1	Assess and determine the best action to prevent further erosion on Weaver Mill Road.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
CookT-2	Work with General Carbide Corp/Plant 1 facility owner to protect it to the 0.2% annual chance flood level.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)
CookT-3	Work with General Carbide Corp/Plant 3 facility owner to protect it to the 0.2% chance flood level.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)

Initiative	Mitigation Action	Life Safety	Property Protection	Technical	Political	Legal	Environmental	Social	Administrative	Local Champion	Other Community Objectives	Total Score
DelmontB-1*	Assess and determine best action to prevent erosion on Christie Road.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
DelmontB-2*	Improve drainage at Rose Court.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
DelmontB-3*	Improve drainage infrastructure on Pittsburgh Street.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
DerryB-1*	Improve drainage on 2nd Avenue.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
DerryB-2*	Improve infrastructure on Shade Street.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
DerryB-3*	Protect McGee Run from habitat loss and prevent further erosion.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
DerryB-4*	Protect Police Station 420 Derry Borough to the 0.2% annual chance flood level.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)
DerryB-5*	Work with Verizon Derry Co facility owner to protect it to the 0.2% annual chance flood level.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)
DerryT-1	Protect Fire station 92-1 facility to the 0.2% annual chance flood level.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)
DerryT-2	Assess and determine best action to prevent further erosion on Millwood Road.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
DerryT-3	Assess and determine the best action to prevent further sedimentation of Conemaugh dam upstream.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
DerryT-4	Improve drainage infrastructure along Redcut Lodge Road.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)

Initiative	Mitigation Action	Life Safety	Property Protection	Technical	Political	Legal	Environmental	Social	Administrative	Local Champion	Other Community Objectives	Total Score
DerryT-5	Improve drainage infrastructure in residential areas.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
DerryT-6	Improve drainage on Green Thumb Road.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
DerryT-7	Improve drainage on Saxman Run.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
DerryT-8	Improve infrastructure on Brenizer.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
DerryT-9	Protect Saxman Run and AMD from pollution.	N	+	+	+	+	+	+	+	N	N	7 (+) 3 (N) 0 (-)
DerryT-10	Work with Derry Township Hazmat facility owner to protect it to the 0.2% annual chance flood level.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)
DonegalT-1	Assess and determine best action to mitigate sedimentation of Donegal Lake.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
DonegalT-2	Assess and determine best action to prevent further erosion of Rock Canyon Road.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
DonegalT-3	Assess and determine best action to prevent further erosion of Skyview Road.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
DonegalT-4	Improve drainage infrastructure on Route 381.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
EastHuntingdonT-1*	Improve drainage on Central Street.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
EastHuntingdonT-2*	Improve drainage on Ruffsdale.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)

Initiative	Mitigation Action	Life Safety	Property Protection	Technical	Political	Legal	Environmental	Social	Administrative	Local Champion	Other Community Objectives	Total Score
EastHuntingdonT-3*	Improve drainage; larger piping on Route 119 Smouse Road.	N	+	+	+	+	N	N	+	N	+	6 (+) 4 (N) 0 (-)
EastHuntingdonT-4*	Protect Buffalo Run AMD from pollution.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
EastHuntingdonT-5*	Protect Southmoreland High School from the 0.2% annual chance flood level.	N	+	+	+	+	N	+	+	N	+	7 (+) 3 (N) 0 (-)
EastHuntingdonT-6*	Upgrade the culvert along Preacher Street with one with higher capacity.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
EastHuntingdonT-7*	Work with Suburban Propane LP facility owner to protect it to the 0.2% annual chance flood level.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)
EastHuntingdonT-8*	Work with Westmoreland / Fayette Municipal Sewage Authority facility owner to protect it to the 0.2% annual chance flood level.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)
ExportB-1	Assess and determine best action to prevent further erosion of Italy Road.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
ExportB-2	Assess and determine best action to prevent further erosion on Puckety Drive.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
ExportB-3	Protect the MDJ facility to the 0.2% annual chance flood level.	N	+	+	+	+	N	+	+	N	+	7 (+) 3 (N) 0 (-)
ExportB-4	Protect the Municipal Office to the 0.2% chance annual flood level.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)
ExportB-5	Protect Turtle Creek/Kennedy Avenue from urban impacts, pollution, habitat loss, and sedimentation.	N	+	+	+	+	+	+	+	N	N	7 (+) 3 (N) 0 (-)
FairfieldT-1*	Improve drainage along Love Hollow Road and Richmond Farm Lane.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)

Initiative	Mitigation Action	Life Safety	Property Protection	Technical	Political	Legal	Environmental	Social	Administrative	Local Champion	Other Community Objectives	Total Score
FairfieldT-2*	Reconstruction of Patterson Bridge.	N	+	+	+	+	N	+	N	N	N	5 (+) 5 (N) 0 (-)
FairfieldT-3*	Assess and determine best action to prevent further erosion of Beaufords Road.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
FairfieldT-4*	Assess and determine best action to prevent further erosion of Bridges Road.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
FairfieldT-5*	Assess and determine the best action to prevent further erosions for Zufall Road.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
FairfieldT-6*	Develop and implement an action plan to mitigate recurring flooding on Creek Road.	N	N	+	+	+	N	+	+	N	+	6 (+) 4 (N) 0 (-)
GreensburgC-1	Assess and determine best action to prevent further erosion and pollution of Zellers Run.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
GreensburgC-2	Elevate road or install a culvert along Catherine Street near Spino's Tires.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
GreensburgC-3	Enforce code ordinances to raise property values and prevent houses from falling into disrepair.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)
GreensburgC-4	Assess and determine the best action to fix the stream walls along Jacks Run.	+	+	+	+	+	N	+	+	N	N	6 (+) 3 (N) 0 (-)
GreensburgC-5	Get a cab company for the city.	N	N	+	+	+	N	+	+	N	N	5 (+) 4 (N) 0 (-)
GreensburgC-6	Improve drainage on Highland Street; remove leaves from Church.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
GreensburgC-7	Improve drainage in Lynch Field.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)

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GreensburgC-8	Improve drainage on Dornin Street.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
GreensburgC-9	Improve drainage pipe along Coal Tar Run.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
GreensburgC-10	Improve infrastructure at Northmont.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
GreensburgC-11	Improve stormwater drainage infrastructure in Saybrook Village.	+	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
GreensburgC-12	Install speed bump on Belmont Street by daycare.	+	N	+	+	+	N	N	+	N	N	4 (+) 5 (N) 0 (-)
HarrisonC-2	Install back-up generators at Penn-Trafford High School.	+	+	+	+	+	N	+	N	N	N	6 (+) 4 (N) 0 (-)
HarrisonC-3	Install back-up generators at Trafford Elementary School.	+	+	+	+	+	N	+	N	N	N	6 (+) 4 (N) 0 (-)
HarrisonC-4	Install back-up generators at Level Green Elementary School.	+	+	+	+	+	N	+	N	N	N	6 (+) 4 (N) 0 (-)
HarrisonC-5	Install back-up generators at Penn-Trafford Middle School.	+	+	+	+	+	N	+	N	N	N	6 (+) 4 (N) 0 (-)
HempfieldT-1	Work with UPitt Greensburg to ensure they know what hazard areas they arere in, and develop/update emergency plans.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)
HempfieldT-2	Assess and determine best action to prevent further erosion along Dunn Road.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
HempfieldT-3	Assess and determine best action to prevent further erosion at Little Sewickley Creek at Crib Station.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)

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Hempfield dT-4	Assess and determine best action to prevent further erosion in Fort Allen neighborhood.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
Hempfield dT-5	Assess and determine best action to prevent further erosion/habitat loss on Sells Lane.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
Hempfield dT-6	Improve drainage at West Hempfield residential area.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
Hempfield dT-7	Improve drainage infrastructure at Stamford Dr. to Green Valley in West Point.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
Hempfield dT-8	Improve drainage infrastructure on Holly Drive.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
Hempfield dT-9	Improve drainage on Carbon Road at Red Onion.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
Hempfield dT-10	Improve drainage on Hillis Street and Jacks Run.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
Hempfield dT-11	Improve drainage on Oakford Park route 130.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
Hempfield dT-12	Improve drainage within the 119 commercial area.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
Hempfield dT-13	Improve infrastructure on Brookside Dr.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
Hempfield dT-14	Protect Fire station 75 and USPS Hannastown 15635 facility to the 0.2% annual chance flood level.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)
Hempfield dT-15	Protect New Stanton STP to the 0.2% annual chance flood level.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)

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HempfieldT-16	Replace the bridge over Slate Creek with a larger opening.	N	+	+	+	+	N	+	N	N	N	5 (+) 4 (N) 0 (-)
HempfieldT-17	Work with First Student, Inc #25067 facility owner to protect it to the 0.2% annual chance flood level.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)
HempfieldT-18	Work with Seton Hill to ensure they know what hazard areas they are in, and develop/update emergency plans.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)
HempfieldT-19	Work with Westmoreland Community College to ensure they know what hazard areas they are in, and develop/update emergency plans.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)
HunkerB-1	Conduct demolition of abandoned home.	+	+	+	+	+	N	-	+	N	+	7 (+) 2 (N) 1 (-)
HunkerB-2	Implement the redirection of the stormwater catch basin at the intersection of Walnut and Bridge Street.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
HunkerB-3	Improve infrastructure on Alexander Avenue.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
HunkerB-4	Install sub-flooring to prevent roadway along Locust Street from sinking.	+	+	+	+	+	N	+	+	+	N	8 (+) 2 (N) 0 (-)
HunkerB-5	Pave Bellson Street and install proper drainage to prevent flooding.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
HunkerB-6	Procure and install a back-up generator into Hunker Borough EOC.	N	+	+	+	+	N	+	N	N	+	6 (+) 4 (N) 0 (-)
HunkerB-7	Procure and install air conditioning units into community building/community shelter.	N	N	+	+	+	N	+	+	N	+	6 (+) 4 (N) 0 (-)
HunkerB-8	Repair small sinkhole in front of fire department.	+	+	+	+	+	N	+	+	+	N	8 (+) 2 (N) 0 (-)

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HunkerB-9	Retrofit community building to prevent flooding in basement.	+	+	+	+	+	N	+	+	N	+	8 (+) 2 (N) 0 (-)
HunkerB-10	Retrofit Walnut Street Bridge to prevent erosion.	N	+	+	+	+	N	+	N	N	N	5 (+) 5 (N) 0 (-)
IrwinB-1	Improve drainage between Ash and Poplar Streets.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
IrwinB-2	Improve drainage between Cypress and Elm Streets.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
IrwinB-3	Improve drainage infrastructure along Conley Drive.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
IrwinB-4	Prevent further habitat loss along Route 30 from commercial development.	N	+	+	+	+	+	+	+	N	N	7 (+) 3 (N) 0 (-)
IrwinB-5	Protect AMD and Tinkers Run from pollution from Rt 30.	N	+	+	+	+	+	+	+	N	N	7 (+) 3 (N) 0 (-)
IrwinB-6	Protect Norwin Public Library to the 0.2% annual chance flood level.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)
Jeannette C-1	Assess and determine the best action to further prevent erosion on Bull Run.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
Jeannette C-2	Assess and determine the best action to prevent further erosion of 12th Street.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
Jeannette C-3	Improve drainage on 4th Street.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
Jeannette C-4	Improve drainage on Locust Street.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)

Initiative	Mitigation Action	Life Safety	Property Protection	Technical	Political	Legal	Environmental	Social	Administrative	Local Champion	Other Community Objectives	Total Score
Jeannette C-5	Improve stormwater drainage at Agnew Road at bottom of hill.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
Jeannette C-6	Improve the design of intersection on Route 130.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)
Jeannette C-7	Improve the design of merging lanes on Route 130 before Jeannette.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)
Jeannette C-8	Improve the design of Western Ave by adding guardrails along the creek.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)
Jeannette C-9	Prevent habitat loss along Brush Creek and Down Run.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
Jeannette C-10	Protect Jeannette WPCP to the 0.2% annual chance flood level.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)
Jeannette C-11	Remove high risk/deficient structurally unsound dam that pose a flooding threat to the community.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
LatrobeB-1	Assess and determine best action to prevent further habitat loss/pollution of the Loyalhanna channel.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
LatrobeB-2	Improve drainage at Sulfur Run and Raymond Avenue.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
LaurelMountainB-1	Replace bridge over Nature Run Road with a larger opening.	N	+	+	+	+	N	+	N	N	N	5 (+) 5 (N) 0 (-)
LigonierB-1	Improve drainage on Loyalhanna Street.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
LigonierB-2	Protect Ligonier Valley School District office to the 0.2% annual chance flood level.	N	+	+	+	+	N	+	+	N	+	7 (+) 3 (N) 0 (-)

Initiative	Mitigation Action	Life Safety	Property Protection	Technical	Political	Legal	Environmental	Social	Administrative	Local Champion	Other Community Objectives	Total Score
LigonierB-3	Remove debris from Loyalhanna Creek and Mill Creek to improve drainage.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
LigonierT-1	Assess and determine best action to prevent further erosion of Betz Road.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
LigonierT-2	Assess and determine best action to prevent further erosion of Peoples Road.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
LigonierT-3	Assess and determine best action to prevent further erosion of Tunnelton Road.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
LigonierT-4	Assess and determine best action to prevent further erosion of unnamed trib to Hannas Run.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
LigonierT-5	Conduct a detailed flood study of Loyalhanna Creek.	N	N	+	+	+	N	+	+	N	N	5 (+) 4 (N) 0 (-)
LigonierT-6	Improve drainage in Red Rock residential neighborhood.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
LigonierT-7	Improve drainage infrastructure on Rector Road.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
LigonierT-8	Improve drainage on Baltic Road.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
LigonierT-9	Improve infrastructure on Hidden Valley Road.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
LigonierT-10	Protect Ligonier WPCP to the 0.2% annual chance flood level.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)
LigonierT-11	Retrofit road across the street from 162 Nature Run, Laughlintown to prevent future erosion.	N	+	+	+	+	N	+	N	N	N	5 (+) 5 (N) 0 (-)

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LigonierT-12	Work with Ligonier Construction Company facility owner to protect it to the 0.2% annual chance flood level.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)
LowerBurrellC-1	Work with Braeburn Alloy Steel facility owner to protect it to the 0.2% annual chance flood level.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)
LowerBurrellC-2	Work with Hazmat facility owner to protect it to the 0.2% annual chance flood level.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)
LowerBurrellC-3	Assess and determine best action to prevent further erosion on Edge Cliff Road.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
LowerBurrellC-4	Assess and determine best action to prevent further erosion on Route 56, Little Pucketa Creek.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
LowerBurrellC-5	Assess and determine the best action to prevent further erosion of Pucketa Creek, Wildlife Lodge Road.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
LowerBurrellC-6	Assess and determine the best action to prevent sedimentation on Watters Road/Burrell Lake Park Entrance.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
LowerBurrellC-7	Improve drainage in Kinlock.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
LoyalhannaT-1	Assess and determine best action to mitigate further pollution on Getty Run.	N	+	+	+	+	+	+	+	N	N	7 (+) 3 (N) 0 (-)
LoyalhannaT-2	Assess and determine best solution to prevent further erosion on Route 981 Loyalhanna Tributary.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
ManorB-1	Assess and determine best action for Rowe Road to prevent further erosion.	N	+	+	+	+	N	+	N	N	N	5 (+) 5 (N) 0 (-)
ManorB-2	Assess and determine the best action to prevent further erosion from urban impacts along Bushy Run.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)

Initiative	Mitigation Action	Life Safety	Property Protection	Technical	Political	Legal	Environmental	Social	Administrative	Local Champion	Other Community Objectives	Total Score
ManorB-3	Improve drainage infrastructure to prevent flooding at Ranbar Electrical and Materials.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
ManorB-4	Protect Cameron Drive and Brandywine Residential area to the 0.2% annual chance flood level.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)
ManorB-5	Protect Police Station 121 Manor to the 0.2% annual chance flood level.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)
ManorB-6	Protect the Municipal Office to the 0.2% chance annual flood level.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)
Monessen C-1	Add storm drainage facilities to resolve flooding near the intersection of Grand Boulevard and State Road.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
Monessen C-2	Add storm drainage facilities to resolve flooding on Cemetery Street.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
Monessen C-3	Add storm drainage facilities to resolve flooding on Spring Drive.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
Monessen C-4	Add storm drainage facilities to resolve the icing condition on State Road near the pump station.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
Monessen C-5	Assess and determine best action for Parente Boulevard to prevent future erosion.	N	+	+	+	+	N	+	N	N	N	5 (+) 5 (N) 0 (-)
Monessen C-6	Assess and determine the best action for Tyrol Boulevard to prevent further erosion.	N	+	+	+	+	N	+	N	N	N	5 (+) 5 (N) 0 (-)
Monessen C-7	Improve storm drainage facilities to resolve icing condition on Grand Boulevard at Pleasant Drive.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
Monessen C-8	Mine subsidence on Coolidge Avenue.	N	N	+	+	+	N	+	N	N	N	4 (+) 6 (N) 0 (-)

Initiative	Mitigation Action	Life Safety	Property Protection	Technical	Political	Legal	Environmental	Social	Administrative	Local Champion	Other Community Objectives	Total Score
Monessen C-9	Open mine vents.	+	+	+	+	+	N	+	N	N	N	6 (+) 4 (N) 0 (-)
Monessen C-10	Protect city from future landslides.	+	+	+	+	+	N	+	N	N	N	6 (+) 4 (N) 0 (-)
Monessen C-11	Protect Monessen City Park, stream bank from future erosion and habitat loss.	N	N	+	+	+	+	+	N	N	N	5 (+) 5 (N) 0 (-)
Monessen C-12	Protect Monessen Public Library to the 0.2% annual chance flood level.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)
Monessen C-13	Protect Police Station 071 Monessen to the 0.2% annual chance flood level.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)
Monessen C-14	Protect SPHS Child Learning Center Monessen Site to the 0.2% annual chance flood level.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)
Monessen C-15	Protect the Municipal Office to the 0.2% chance annual flood level.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)
Monessen C-16	Rehabilitate 48" brick combination sewer interceptor in 12th Street from Reservoir Avenue to Schoonmaker Avenue.	+	+	+	+	+	N	+	N	N	N	6 (+) 4 (N) 0 (-)
Monessen C-17	Rehabilitate 48" brick combination sewer interceptor in 9th Street from Vine Street to Schoonmaker Avenue.	+	+	+	+	+	N	+	N	N	N	6 (+) 4 (N) 0 (-)
Monessen C-18	Rehabilitate 7'x5' brick combination sewer interceptor in the alley between Schoonmaker Avenue and Donner Avenue from 8th Street to 12th Street.	+	+	+	+	+	N	+	N	N	N	6 (+) 4 (N) 0 (-)
Monessen C-19	Rehabilitate 84" tin whistle storm sewer for entire length of Parente Boulevard.	+	+	+	+	+	N	+	N	N	N	6 (+) 4 (N) 0 (-)
Monessen C-20	Rehabilitate the 48" brick combination sewer interceptor for the entire length of 3rd Street.	+	+	+	+	+	N	+	N	N	N	6 (+) 4 (N) 0 (-)

Initiative	Mitigation Action	Life Safety	Property Protection	Technical	Political	Legal	Environmental	Social	Administrative	Local Champion	Other Community Objectives	Total Score
Monessen C-21	Replace 42" brick combination sewer interceptor on hillside from Shawnee Park to Parente Boulevard.	+	+	+	+	+	N	+	N	N	N	6 (+) 4 (N) 0 (-)
Monessen C-22	Replace undersized culvert on Grand Boulevard to eliminate flooding at the intersection of Parente Boulevard and Grand Boulevard.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
Monessen C-23	Replace washed out subbase and concrete pavement on 12th Street.	N	+	+	+	+	N	+	N	N	N	5 (+) 5 (N) 0 (-)
Monessen C-24	Replace washed out subbase and concrete pavement on Herron Street.	N	+	+	+	+	N	+	N	N	N	5 (+) 5 (N) 0 (-)
Monessen C-25	Replace washed out subbase and concrete pavement on Nash Avenue.	N	+	+	+	+	N	+	N	N	N	5 (+) 5 (N) 0 (-)
Monessen C-26	Restore UNT-1 to the Monongahela River and add retention pond on Grand Boulevard between Euclid Drive and the gas stations to eliminate flooding at the intersection of Parente Boulevard and Grand Boulevard.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
Monessen C-27	Work with ArcelorMittal Monessen Coke Plant facility owner to protect it to the 0.2% annual chance flood level.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)
Monessen C-28	Work with Steel Fusion Clinical Toxicology Laboratory facility owner to protect it to the 0.2% annual chance flood level.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)
MountPleasantT -1	Work with Laurelville Church Center facility owner to protect it to the 0.2% annual chance flood level.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)
MountPleasantT -2	Work with MAX Environmental Technologies, Inc./Yukon facility owner to protect it to the 0.2% annual chance flood level.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)
MountPleasantT -3	Work with Mount Pleasant Township facility owner to protect it to the 0.2% annual chance flood level.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)
MtPleasantB-1	Assess and determine best action to prevent further erosion at Jacobs Creek at Laurelville Mennonite Camp.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)

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MtPleasantB-2	Assess and determine best action to prevent further erosion of Shupe Run.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
MtPleasantB-3	Assess and determine best action to prevent further erosion of Welty Run.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
MtPleasantB-4	Assess and determine best action to prevent further sedimentation loss from Brush Run.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
MtPleasantB-5	Improve drainage on Eagle Street.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
MtPleasantB-6	Improve drainage on Warden Street.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
MtPleasantB-7	Improve drainage piping at Ramsey Terrace.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
MtPleasantB-8	Install additional stormwater runoff pipes and upgrade/replace existing deteriorated pipes.	N	+	+	+	+	N	N	+	N	+	6 (+) 4 (N) 0 (-)
MurrysvilleM-1	Assess and determine best action to prevent erosion of Sardis Road/Haymaker Run.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
MurrysvilleM-2	Assess and determine best action to prevent further erosion of Kistler Road bank.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
MurrysvilleM-3	Assess and determine best action to prevent further erosion on the streambanks along Turtle Creek.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)
MurrysvilleM-4	Assess and determine solutions to mitigate further pollution of Noca Road-AMD and Borland Farm Road-AMD.	+	+	+	+	+	+	+	+	N	N	8 (+) 2 (N) 0 (-)
MurrysvilleM-5	Assess and determine the best action to prevent further erosion at Bear Hollow Park.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)

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MurrysvilleM-6	Assess and determine the best action to prevent further erosion of Haymaker Run.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)
MurrysvilleM-7	Assess and determine the best action to prevent further erosion of Trout Haven Drive.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)
MurrysvilleM-8	Conduct a thorough flood study of Turtle Creek.	N	N	+	+	+	N	+	+	N	N	5 (+) 4 (N) 0 (-)
MurrysvilleM-9	Improve drainage along Forest Lane.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
MurrysvilleM-10	Improve drainage on Hill Church Road.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
MurrysvilleM-11	Protect Murrysville Community Library to the 0.2% annual chance flood level.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)
NewFlorenceB-1*	Improve drainage infrastructure on Vine, 9th Chestnut Streets, New Florence Manor, Beech, Penn, 10th Walnut, Cherry.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
NewFlorenceB-2*	Protect EMS 711 Laurel Valley station to the 0.2% annual chance flood level.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)
NewFlorenceB-3*	Protect Fire station 46 to the 0.2% annual chance flood level.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)
NewFlorenceB-4*	Protect New Florence Public Library to the 0.2% annual chance flood level.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)
NewFlorenceB-5*	Protect Police Station 048 New Florence to the 0.2% annual chance flood level.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)
NewKensingtonC-1	Assess and determine best action to prevent further erosion in Memorial Park.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)

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NewKensingtonC-2	Protect New Kensington-Arnold School District office to the 0.2% annual chance flood level.	N	+	+	+	+	N	+	+	N	+	7 (+) 3 (N) 0 (-)
NewKensingtonC-3	Protect Valley High School to the 0.2% annual chance flood level.	N	+	+	+	+	N	+	+	N	+	7 (+) 3 (N) 0 (-)
NewKensingtonC-4	Work with Cannon Boiler Works Inc facility owner to protect it to the 0.2% annual chance flood level.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)
NewStantonB-1*	Assess and determine best action for New Stanton Park to prevent further erosion.	N	+	+	+	+	N	+	N	N	N	5 (+) 5 (N) 0 (-)
NewStantonB-2*	Assess and determine best action to prevent further erosion from urban impacts along the PA Turnpike.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)
NewStantonB-3*	Protect Center Ave and Chanticleer Residential area to the 0.2% annual chance flood level.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)
NorthBelleVernonB-1*	Assess and determine best action for PennDOT I-70 to prevent further outfall erosion.	N	+	+	+	+	N	+	N	N	N	5 (+) 5 (N) 0 (-)
NorthBelleVernonB-2*	Protect the First Baptist Church to the 0.2% annual chance flood level.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)
NorthHuntingdonT-1	Assess and determine best action to prevent further erosion and habitat loss along Adams Dr., Harold Dr., and Roth Dr.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
NorthHuntingdonT-2	Assess and determine the best action to protect the township from landslides.	+	+	+	+	+	N	+	N	N	N	5 (+) 4 (N) 0 (-)
NorthHuntingdonT-3	Improve drainage along Barnes Lake Road at Clay Pike.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
NorthHuntingdonT-4	Improve drainage along McKee Road.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)

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NorthHuntingdonT-5	Improve drainage infrastructure along Colt Dr. culvert.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
NorthHuntingdonT-6	Improve drainage infrastructure at the Westmoreland City VFD.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
NorthHuntingdonT-7	Assess and determine best action to prevent further erosion along Long Run at Lincoln Highway.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
NorthHuntingdonT-8	Assess and determine best action to prevent further erosion at Brush Creek ballfields.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
NorthHuntingdonT-9	Assess and determine best action to prevent further erosion of channel near Mickanin Road.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
NorthHuntingdonT-10	Assess and determine best action to prevent further habitat loss along Tinkers Run at PA Turnpike.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
NorthHuntingdonT-11	Improve drainage along Frog Road.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
NorthHuntingdonT-12	Improve drainage along Park Hill Road.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
NorthHuntingdonT-13	Improve drainage at Turner Valley Soccer Fields along Crawford Run.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
NorthHuntingdonT-14	Improve drainage from PennDOT to Browntown Road.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
NorthHuntingdonT-15	Replace the 1st Street Bridge.	N	+	+	+	+	N	+	N	N	N	5 (+) 4 (N) 0 (-)
NorthHuntingdonT-16	Work with Cleveland/Price, Inc. facility owner to protect it to the 0.2% annual chance flood level.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)

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NorthHuntingdonT-17	Work with Hazmat facility owner to protect it to the 0.2% annual chance flood level.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)
NorthIrwinB-1*	Improve drainage infrastructure on 4th Street at the park.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
NorthIrwinB-2*	Improve stormwater drainage to mitigate alleyway runoff.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
NorthIrwinB-3*	Install drainage ditches along Coal Run to reduce runoff onto the roadway.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
NorthIrwinB-4*	Upgrade drainage piping in North Huntingdon Township.	N	+	+	+	+	N	N	+	N	+	6 (+) 4 (N) 0 (-)
PennT-1	Install a back-up generator at the Claridge Fire Department.	+	+	+	+	+	N	+	N	N	N	6 (+) 4 (N) 0 (-)
PennT-2	A plan needs to be created and funds allocated to address outdated stormwater infrastructure.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
PennT-3	Conduct a traffic light study in Harrison City for more efficient timing.	N	N	+	+	+	N	N	+	N	N	4 (+) 5 (N) 0 (-)
PennT-4	Fix existing catch basin at the corner of Rose and Pamela.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
PennT-5	Hire more public works employees.	N	N	+	+	+	N	N	+	N	+	5 (+) 5 (N) 0 (-)
PennT-6	Improve drainage infrastructure at Fawn Lawn and Pheasant Run Road.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
PennT-7	Improve drainage infrastructure in Claridge.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)

Initiative	Mitigation Action	Life Safety	Property Protection	Technical	Political	Legal	Environmental	Social	Administrative	Local Champion	Other Community Objectives	Total Score
PennT-8	Improve drainage on Concord Dr/4045.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
PennT-9	Improve drainage on Denmark/Manor Road to prevent flooding.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
PennT-10	Improve infrastructure in Level Green neighborhood.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
PennT-11	Improve major highways to accommodate amount of traffic: Route 130, Pleasant Valley, Hyland.	+	+	+	+	+	N	+	+	N	+	8 (+) 2 (N) 0 (-)
PennT-12	Improve most roads within the Township to make them safer.	+	+	+	+	+	N	+	+	N	+	8 (+) 2 (N) 0 (-)
PennT-13	Install a blinker light at Mullor Road and Claridy Export Road.	+	+	+	+	+	N	+	+	N	+	8 (+) 2 (N) 0 (-)
PennT-14	Install a turn restriction for tractor trailers at the traffic light at SR 993/Walnut and SR 130.	+	+	+	+	+	N	+	+	N	+	8 (+) 2 (N) 0 (-)
PennT-15	Install sidewalks in communities.	N	N	+	+	+	N	+	+	N	+	6 (+) 4 (N) 0 (-)
PennT-16	Intersections without designated left turn lane need to have "no left turn" sign posted.	+	+	+	+	+	N	+	+	N	+	8 (+) 2 (N) 0 (-)
PennT-17	Pave residential roads: Rose Acres, parts of Level Green Sunrise.	+	+	+	+	+	N	+	+	N	+	8 (+) 2 (N) 0 (-)
PennT-18	Prevent further pollution of AMD at Penny Lane.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)
PennT-19	Protect AMD at Boxcartown Road from further pollution.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)

Initiative	Mitigation Action	Life Safety	Property Protection	Technical	Political	Legal	Environmental	Social	Administrative	Local Champion	Other Community Objectives	Total Score
PennT-20	Repair sinkholes on Pleasant Valley Road.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)
PennT-21	Stormwater rehabilitation and upgrade at Rose Acres.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
PennT-22	Work with Triumvirate Environmental of Pittsburgh Inc facility owner to protect it to the 0.2% annual chance flood level.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)
PennT-23	Install back-up generators at Sunrise Elementary School.	+	+	+	+	+	N	+	N	N	N	6 (+) 4 (N) 0 (-)
PennT-24	Install back-up generators at McCullough Elementary School.	+	+	+	+	+	N	+	N	N	N	6 (+) 4 (N) 0 (-)
PennT-25	Install back-up generators at Penn Middle School.	+	+	+	+	+	N	+	N	N	N	6 (+) 4 (N) 0 (-)
PennT-26	Install back-up generators at Harrison Park Elementary School.	+	+	+	+	+	N	+	N	N	N	6 (+) 4 (N) 0 (-)
Rostraver T-1*	Assess and determine best action for Orr Road to prevent further erosion.	N	+	+	+	+	N	+	N	N	N	5 (+) 5 (N) 0 (-)
Rostraver T-2*	Assess and determine best action for Rankin Road to prevent further erosion.	N	+	+	+	+	N	+	N	N	N	5 (+) 5 (N) 0 (-)
Rostraver T-3*	Assess and determine best action for Webster Hollow to prevent further erosion.	N	+	+	+	+	N	+	N	N	N	5 (+) 5 (N) 0 (-)
Rostraver T-4*	Protect Elks Place to the 0.2% annual chance flood level.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)

Initiative	Mitigation Action	Life Safety	Property Protection	Technical	Political	Legal	Environmental	Social	Administrative	Local Champion	Other Community Objectives	Total Score
Rostraver T-5*	Work with facility owner to protect Farnham and Pfile Rental and Sales to the 0.2% chance annual flood level.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)
Rostraver T-6*	Protect Fire station 31 facility to the 0.2% annual chance flood level.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)
Rostraver T-7*	Protect Speers Run from urban impacts, habitat loss, and pollution.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)
Rostraver T-8*	Protect Trailer Court to the 0.2% annual chance flood level.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)
Rostraver T-9*	Work with the facility owner to repair sinkhole behind BF Foods Service station.	+	+	+	+	+	N	+	+	+	N	8 (+) 2 (N) 0 (-)
Rostraver T-10*	Work with the owner of Pricedale Shopping Center to protect the facility to the 0.2% annual chance flood level.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)
Rostraver T-11*	Work with the property owner to protect of the Rostraver Road shopping center to the 0.2% annual chance flood level.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)
StClairT-1*	Elevate structures on Robb Road that are at risk of flooding.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
StClairT-2*	Work with daycare owner to protect Lori Clark Family Child Care Home facility to the 0.2% annual chance flood level.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)
StClairT-3*	Protect the Municipal Office to the 0.2% chance annual flood level.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)
StClairT-4*	Reconstruct the River Hill Bridge.	N	+	+	+	+	N	+	N	N	N	5 (+) 5 (N) 0 (-)

Initiative	Mitigation Action	Life Safety	Property Protection	Technical	Political	Legal	Environmental	Social	Administrative	Local Champion	Other Community Objectives	Total Score
StClairT-5*	Reconstruct the bridge over Baldwin Creek on Sugar Run Road.	N	+	+	+	+	N	+	N	N	N	5 (+) 5 (N) 0 (-)
SalemT-1	Assess and determine best action to prevent further erosion and habitat loss along Cloverleaf Road/Route 22.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
SalemT-2	Assess and determine best action to prevent further erosion and pollution on Jobe Road/Beaver Run.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
SalemT-3	Flood proof sewage and AMD on Depot Street.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)
SalemT-4	General clearing and cleaning of streams.	N	+	+	+	+	+	+	N	N	N	6 (+) 4 (N) 0 (-)
SalemT-5	Improve drainage along Crabtree Creek and Hannastown.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
SalemT-6	Improve drainage on Rock Springs Road.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
SalemT-7	Improve drainage on Salem Drive bridge from Loyalhanna back-up.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
SalemT-8	Improve infrastructure on Garden Way.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
SalemT-9	Prevent further habitat loss in Shieldsburg.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
SalemT-10	Protect Salem Township EOC facility to the 0.2% annual chance flood level.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)

Initiative	Mitigation Action	Life Safety	Property Protection	Technical	Political	Legal	Environmental	Social	Administrative	Local Champion	Other Community Objectives	Total Score
SalemT-11	Protect Thorn Run from pollution.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
SalemT-12	Install a static generator at Slickville Fire Department.	+	+	+	+	+	N	+	N	N	N	6 (+) 4 (N) 0 (-)
SalemT-13	Install a static generator at the Salem Township Municipal Building.	+	+	+	+	+	N	+	N	N	N	6 (+) 4 (N) 0 (-)
SalemT-14	Install a static generator at the Congruity United Presbyterian Church (emergency shelter).	+	+	+	+	+	N	+	N	N	N	6 (+) 4 (N) 0 (-)
Scottdale B-1	Improve drainage in West Park Area (Anderson Run).	N	+	+	+	+	N	+	N	N	+	6 (+) 4 (N) 0 (-)
Scottdale B-2	Improve drainage on Little Sherrick Run Area.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
Scottdale B-3	Improve drainage on Stauffer Avenue.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
Scottdale B-4	Protect Police Station 065 Scottdale to the 0.2% annual chance flood level.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)
Scottdale B-5	Work with R E Uptegraff Manufacturing Co facility owner to protect it to the 0.2% annual chance flood level.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)
Scottdale B-6	Work with Summerill Tube Corp facility owner to protect it to the 0.2% annual chance flood level.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)
Scottdale B-7	Improve drainage in West Park.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
Scottdale B-8	Improve drainage on Garfield Avenue.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)

Initiative	Mitigation Action	Life Safety	Property Protection	Technical	Political	Legal	Environmental	Social	Administrative	Local Champion	Other Community Objectives	Total Score
Scottdale B-9	Improve drainage on Parker Avenue.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
Scottdale B-10	Improve drainage on Penn Line.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
Scottdale B-11	Protect Stauffer Run from future habitat loss due to flooding.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
SewardB-1*	Protect the Municipal Office to the 0.2% chance annual flood level.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)
Sewickley T-1	Assess and determine best action to prevent further erosion on Yukon Road, Sewickley Creek.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
Sewickley T-2	Install stormwater drainage system along Pinewood Road.	N	+	+	+	+	N	+	N	N	N	5 (+) 5 (N) 0 (-)
Sewickley T-3	Procure a skid loader/grab attachment for storm cleanup and culvert clean out.	N	+	+	+	+	+	+	N	N	N	6 (+) 4 (N) 0 (-)
Sewickley T-4	Procure and install a back-up generator into Hutchinson VFD Station 85.	+	+	+	+	+	N	+	N	N	+	7 (+) 3 (N) 0 (-)
Sewickley T-5	Procure and install a back-up generator into Lowber VFD Station 16.	+	+	+	+	+	N	+	N	N	+	7 (+) 3 (N) 0 (-)
Sewickley T-6	Procure and install back-up generator into Rillton VFD Station 14.	+	+	+	+	+	N	+	N	N	+	7 (+) 3 (N) 0 (-)
Sewickley T-7	Procure remote receive sites to enhance communications.	+	+	+	+	+	N	+	+	N	+	8 (+) 2 (N) 0 (-)
Sewickley T-8	Procure skid steer attachment to clear debris around culverts.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)

Initiative	Mitigation Action	Life Safety	Property Protection	Technical	Political	Legal	Environmental	Social	Administrative	Local Champion	Other Community Objectives	Total Score
Sewickley T-9	Procure sweeper truck for stormwater management.	+	+	+	+	+	N	+	N	N	N	6 (+) 4 (N) 0 (-)
Sewickley T-10	Protect Fire Station 16 to the 0.2% annual chance flood level.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)
Sewickley T-11	Improve drainage along Lowber Road.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
Sewickley T-12	Improve drainage infrastructure in Herminie.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
Sewickley T-13	Protect Rillton from future habitat loss due to pollution.	N	+	+	+	+	+	+	+	N	N	7 (+) 3 (N) 0 (-)
Smithton B-1	Assess and determine the best action for Dutch Hollow Road to prevent further erosion.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)
Smithton B-2	Install a flood wall or stream bank stabilization to prevent future erosion.	+	+	+	+	+	N	+	N	+	N	7 (+) 3 (N) 0 (-)
Smithton B-3	Install emergency generator for Borough building/EOC.	+	+	+	+	+	N	+	N	N	N	6 (+) 4 (N) 0 (-)
Smithton B-4	Install generator at Smithton VFD to serve as a warming center during extended winter power outages.	N	+	+	+	+	N	+	N	N	+	6 (+) 4 (N) 0 (-)
Smithton B-5	Install rip-rap gabions along Sulphur Creek.	+	+	+	+	+	N	+	N	+	N	7 (+) 3 (N) 0 (-)
Smithton B-6	Protect Fire Station 17 to the 0.2% chance annual flood level.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)
Smithton B-7	Protect Police Station 627 Smithton Boro to the 0.2% annual chance flood level.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)

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Smithton B-8	Protect Smithton Public Library to the 0.2% annual chance flood level.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)
Smithton B-9	Protect the Municipal Office to the 0.2% chance annual flood level.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)
Smithton B-10	Stabilize steep cliffside below Route 981 all the way down the stream bed.	+	+	+	+	+	N	+	N	+	N	7 (+) 3 (N) 0 (-)
SouthGreensburgB-1	Improve drainage along Slate Creek.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
SouthGreensburgB-2	Improve drainage along S. Main Street/Huff Avenue.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)
SouthHuntingdonT-1	Assess and determine best action to prevent from further erosion of Dutch Hollow Road.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
SouthHuntingdonT-2	Improve stormwater management within the I70 commercial area.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
Southwest GreensburgB-1	Work with Suburban Propane Heating Oil Partners facility owner to protect it to the 0.2% annual chance flood level.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)
SutersvilleB-1*	Improve drainage on 1st Street residential and commercial area.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)
SutersvilleB-2*	Work with the owner of the Nancy H Westerman Family Child Care Home to protect the facility to the 0.2% annual chance flood level.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)
SutersvilleB-3*	Protect the Municipal Office to the 0.2% chance annual flood level.	+	+	+	+	+	N	+	+	N	N	6 (+) 3 (N) 0 (-)

Initiative	Mitigation Action	Life Safety	Property Protection	Technical	Political	Legal	Environmental	Social	Administrative	Local Champion	Other Community Objectives	Total Score
TraffordB-1	Improve drainage along Mehaffey Hill in Trafford along Brush Creek to prevent flooding.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
TraffordB-2	Protect the Trafford Elementary School to the 0.2% annual chance flood level.	+	+	+	+	+	N	+	N	N	N	6 (+) 4 (N) 0 (-)
TraffordB-3	Protect the Westinghouse Dumpsite to the 0.2% annual chance flood level.	+	+	+	+	+	N	+	N	N	N	6 (+) 4 (N) 0 (-)
TraffordB-4	Protect townhomes on the west side of Trafford Borough to the 0.2% annual chance flood level.	+	+	+	+	+	N	+	N	N	N	6 (+) 4 (N) 0 (-)
TraffordB-5	Update inadequate infrastructure.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
TraffordB-6	Work with Multi-Flow Industries facility owner to protect it to the 0.2% annual chance flood level.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)
UnityT-1	Assess and determine best action to prevent further erosion at Sewickley Creek at Phillips Road.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
UnityT-2	Assess and determine the best action to prevent future erosion at Indian Camp Run along Bethel Church Road.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
UnityT-3	Construct and install a new culvert in Lloydsville to enhance hydraulic capacity.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
UnityT-4	Improve drainage at Nine Mile Run.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
UnityT-5	Improve drainage in Baggaley.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
UnityT-6	Improve drainage in Dorothy.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)

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UnityT-7	Improve drainage on Route 30, 982 Cloverleaf.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
UnityT-8	Improve stormwater infrastructure in Edgewater Terrace.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
UnityT-9	Install a back-up generator at the Harrison City Fire Department.	+	+	+	+	+	N	+	N	N	N	6 (+) 4 (N) 0 (-)
UnityT-10	Install a stormwater detention system in Lawson Heights.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)
UnityT-11	Work with the facility owner to protect the Growing Tree Child Development Center to the 0.2% annual chance flood level.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)
UnityT-12	Work with Leigh Specialty Melting Inc facility owner to protect it to the 0.2% annual chance flood level.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)
UnityT-13	Work with St. Vincent College to ensure they know what hazard areas they are in, and develop/update emergency plans.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)
UpperBurrellT-1*	Assess and determine best action to prevent further erosion on Turkey Ridge Road from Whitten Hollow Road to Barnview Lane.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
UpperBurrellT-2*	Improve drainage infrastructure at Lincoln Beach.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
UpperBurrellT-3*	Improve drainage infrastructure at Lower Drennen Road.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
UpperBurrellT-4*	Procure and install an emergency generator.	+	+	+	+	+	N	+	N	N	+	7 (+) 3 (N) 0 (-)
UpperBurrellT-5*	Work with PSU New Kensington to ensure they know what hazard areas they are in, and develop/update emergency plans.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)

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VandergriftB-1	Work with Ati FRPH, LLC-Vandergrift facility owner to protect it to the 0.2% annual chance flood level.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)
WashingtonT-1	Assess and determine the best action to prevent further erosion of Owens Road.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
WashingtonT-2	Assess and determine the best action to prevent further erosion of Paulton.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
WashingtonT-3	Improve drainage along Pine Run Creek/Meadows Mobile Home Park, replace undersized culverts.	N	+	+	+	+	N	+	+	+	N	7 (+) 3 (N) 0 (-)
WashingtonT-4	Improve drainage infrastructure on Jefferson Drive.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
WestLeechburgB-1	Assess and determine best action to prevent erosion on 1st Avenue.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
WestNewtonT-1	Add drainage piping to control and direct existing natural tributary that runs near residential homes and businesses.	N	+	+	+	+	N	+	+	+	N	7 (+) 3 (N) 0 (-)
WestNewtonT-2	Assess and determine best action to prevent further erosion along Vernon Drive.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
WestNewtonT-3	Develop a Flood Control Project to minimize damage from Stormwater Flash Flooding events that damage properties and homes along Vernon Run.	+	+	+	+	+	N	+	N	+	N	7 (+) 3 (N) 0 (-)
WestNewtonB-4	Improve drainage infrastructure on Atomic Way.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)
WestNewtonB-5	Install a Flood Stream Gage on the western side of the West Newton Bridge to monitor and provide flood prediction tools.	+	+	+	+	+	N	+	+	+	N	8 (+) 2 (N) 0 (-)
WestNewtonB-6	Install back-up generator at Lion's Club to serve as a shelter during emergencies.	N	+	+	+	+	N	+	N	N	+	6 (+) 4 (N) 0 (-)

Initiative	Mitigation Action	Life Safety	Property Protection	Technical	Political	Legal	Environmental	Social	Administrative	Local Champion	Other Community Objectives	Total Score
WestNewtonB-7	Install back-up generator at school to serve as a shelter during emergencies.	N	+	+	+	+	N	+	N	N	+	6 (+) 4 (N) 0 (-)
WestNewtonB-8	Install back-up generator at the gym to serve as a shelter during emergencies.	N	+	+	+	+	N	+	N	N	+	6 (+) 4 (N) 0 (-)
WestNewtonB-9	Protect West Newton Public Library to the 0.2% annual chance flood level.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)
WestNewtonB-10	Protect Fire Station 82 to the 0.2% annual chance flood level.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)
WestNewtonB-11	Protect Police Station 621 West Newton to the 0.2% annual chance flood level.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)
WestNewtonB-12	Protect the library to the 0.2% annual chance flood level.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)
WestNewtonB-13	Protect the Municipal Office to the 0.2% chance annual flood level.	+	+	+	+	+	N	+	+	N	N	6 (+) 3 (N) 0 (-)
WestNewtonB-14	Work with the nursing home/personal care center to protect the facility to the 0.2% annual chance flood level.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)
WestNewtonB-15	Protect the post office to the 0.2% annual chance flood level.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)
WestNewtonB-16	Protect the West Newton Borough Sewage Treatment Plant to the 0.2% annual chance flood level.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)
WestNewtonB-17	Repair Orr Rd, and hillside, which will restore road back to 2 lanes.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)

Initiative	Mitigation Action	Life Safety	Property Protection	Technical	Political	Legal	Environmental	Social	Administrative	Local Champion	Other Community Objectives	Total Score
WestNewtonB-18	Replace back-up generator for West Newton Volunteer Fire Company Station 82.	+	+	+	+	+	N	+	N	+	+	8 (+) 2 (N) 0 (-)
WestNewtonB-19	Replace back-up power generator for EMS station.	+	+	+	+	+	N	+	N	+	+	8 (+) 2 (N) 0 (-)
WestNewtonB-20	Replace collapsed road in the northern part of West Newton Borough.	N	+	+	+	+	N	+	N	N	N	5 (+) 5 (N) 0 (-)
WestNewtonB-21	Separate the combined storm water and sewage lines 2/3rd of the Borough.	+	+	+	+	+	N	+	N	+	N	7 (+) 3 (N) 0 (-)
WestNewtonB-22	Separate the combined storm water and sewage lines on the east side of town.	+	+	+	+	+	N	+	N	N	N	6 (+) 4 (N) 0 (-)
WestNewtonB-23	Work with Chemstation facility owner to protect it to the 0.2% annual chance flood level.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)
WestNewtonB-24	Work with Verizon West Newton Co (PA59172) Facility owner to protect it to the 0.2% annual chance flood level.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)
WestNewtonB-25	Work with West Newton Borough Hazmat facility owner to protect it to the 0.2% annual chance flood level.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)
YoungstownB-1*	Improve drainage on Sawmill Run, Route 982.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
YoungwoodB-1	Assess and determine best action to further prevent further erosion from driveway onto Silvis Farm Road.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
YoungwoodB-2	Assess and determine best action to prevent further erosion at Jacks Run streambank.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)

Initiative	Mitigation Action	Life Safety	Property Protection	Technical	Political	Legal	Environmental	Social	Administrative	Local Champion	Other Community Objectives	Total Score
YoungwodB-3	Assess and determine best action to prevent further erosion on Wineman Lane.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
YoungwodB-4	Demolition of dilapidated homes to prevent fires.	N	+	+	+	N	N	+	+	N	+	6 (+) 4 (N) 0 (-)
YoungwodB-5	Improve drainage along Depot St and Jacks Run.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
YoungwodB-6	Improve drainage along Route 119.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
YoungwodB-7	Improve infrastructure along S 5th Street.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
YoungwodB-8	Install additional stormwater runoff pipes and upgrade/replace deteriorated pipes.	N	+	+	+	+	N	N	+	N	+	6 (+) 4 (N) 0 (-)
YoungwodB-9	Install larger pipes along Clawson Avenue to improve drainage.	N	+	+	+	+	N	N	+	N	+	6 (+) 4 (N) 0 (-)
YoungwodB-10	Protect Youngwood Borough STP to the 0.2% annual chance flood level.	+	+	+	+	+	N	+	+	N	N	7 (+) 3 (N) 0 (-)
YoungwodB-11	Replace culvert on 5th and Hillis.	N	+	+	+	+	N	+	+	N	N	6 (+) 4 (N) 0 (-)
YoungwodB-12	Slow traffic through Borough-Route 119	+	+	+	+	+	N	+	+	N	+	8 (+) 2 (N) 0 (-)
YoungwodB-13	Upgrade/replace existing pipes installed by private property owners on Clawson Avenue.	N	+	+	+	+	N	N	+	N	+	6 (+) 4 (N) 0 (-)

* Project is currently not eligible for FEMA mitigation funding. The municipality did not participate in the planning process.

6.4.3 Prioritization of Mitigation Actions

Actions that are deemed feasible (i.e., receive a positive evaluation score) were then compared and prioritized using another set of criteria (PEMA 2013):

- Effectiveness (20% of score) – The extent to which an action reduces the vulnerability of people and property.
- Efficiency (30% of score) – The extent to which time, effort, and cost is well used as a means of reducing vulnerability. This criterion assesses the benefits of an action versus the cost of the action's implementation.
- Multi-Hazard Mitigation (20% of score) – The action reduces vulnerability for more than one hazard.
- Addresses High-Risk Hazard (15% of score) – The action reduces vulnerability for people and property from a hazard(s) identified as high-risk.
- Addresses Critical Communications/Critical Infrastructure (15% of score) – The action pertains to the maintenance of critical functions and structures such as transportation, supply chain management, data circuits, etc.

Scores in each criterion range from 0 to 3. The action's priority is determined by using a formula based on the criteria values and weights. Priority values range from 0 to 3 as well. An action's priority is then determined using the following scale (PEMA 2013):

- Low priority = 0 – 1.8
- Medium priority = 1.9 – 2.4
- High priority = 2.5 – 3

Table 6-6 shows the prioritization scores for the identified, feasible mitigation actions. Municipal officials reviewed and updated the prioritization values based on local needs.

Table 6-6. Prioritization Scoring of Mitigation Actions

Initiative	Mitigation Action	Effectiveness	Efficiency	Multi-Hazard Mitigation	Addresses High-Risk Hazard	Addresses Critical Communications/ Critical Infrastructure	Priority
WestmorelandC-1	Develop a task force with one individual from each municipality to work on the issues.	2	2	2	3	3	2.3
WestmorelandC-2	Acquire vacant, abandoned, or unsafe structures, especially those in hazard areas, and turn into open space.	2	3	1	3	0	2
WestmorelandC-3	Assess all roads and truck routes used by natural gas operators to prevent accidents and spills from hazardous waste trucks.	1	1	1	2	2	1.3
WestmorelandC-4	Work with hazmat facilities to inform them of the hazards they face and ensure emergency plans are current.	2	2	1	2	0	1.5
WestmorelandC-5	Work with police departments in each municipality to ensure their emergency plans are updated, and inform them of the hazard areas in which they are located.	2	2	1	2	0	1.5
WestmorelandC-6	Work with daycare owners/operators in each municipality to ensure their emergency plans are updated, and inform them of the hazard areas in which they are located.	2	2	1	2	0	1.5
WestmorelandC-7	Update County COOP/COG Plan.	2	2	1	2	0	1.5
WestmorelandC-8	Work with dam owners and operators to ensure EAPs are current for all -1 and -2 dams.	2	2	1	2	0	1.5
WestmorelandC-9	Work with schools and school districts to inform them of the hazards they face and ensure emergency plans are current.	2	2	1	2	0	1.5
WestmorelandC-10	Begin the process to adopt higher regulatory standards to manage flood risk and sinkhole risk.	1	1	2	3	3	1.8
WestmorelandC-11	Complete the ongoing updates of the Comprehensive Plans.	1	1	1	2	2	1.3
WestmorelandC-12	Create/enhance/maintain mutual aid agreements with neighboring counties/communities for continuity of operations.	1	1	1	1	1	1.0
WestmorelandC-13	Develop a hazard event GIS database to help county and local emergency managers with hazard mitigation and other planning initiatives.	1	1	1	1	1	1.0
WestmorelandC-14	Develop and distribute educational information on hazards, emergency preparedness, and fire prevention.	1	1	1	1	1	1.0
WestmorelandC-15	Develop and distribute public outreach materials on water conservation.	1	1	1	1	1	1.0
WestmorelandC-16	Develop and maintain an outreach program to provide information and guidance to municipalities on their role in floodplain management.	1	1	1	3	3	1.6
WestmorelandC-17	Develop geospatial and analytical tools to support community engagement, policy reform, and county and regional planning efforts.	1	1	1	1	1	1.0

Initiative	Mitigation Action	Effectiveness	Efficiency	Multi-Hazard Mitigation	Addresses High-Risk Hazard	Addresses Critical Communications/ Critical Infrastructure	Priority
WestmorelandC-18	Enhance the Westmoreland County Stormwater Management Plan by implementing Phase 2 of the plan.	1	1	1	2	2	1.3
WestmorelandC-19	Have designated NFIP Floodplain Administrator become a Certified Floodplain Manager through the ASFPM, and pursue relevant continuing education training such as FEMA Benefit-Cost Analysis.	1	1	1	2	2	1.3
WestmorelandC-20	Identify and develop agreements with entities that can provide support with FEMA/PEMA paperwork after disasters.	1	1	1	1	1	1.0
WestmorelandC-21	Implement seismic retrofits to vulnerable critical facilities.	1	1	1	1	1	1.0
WestmorelandC-22	Maintain and exercise continuity of government plan to enable the government to provide critical services during the interruption of business.	1	1	1	1	1	1.0
WestmorelandC-23	Maintain compliance with and be in good standing in the NFIP, including adoption and enforcement of floodplain management requirements, floodplain identification and mapping, and flood insurance outreach to the community.	1	1	1	2	2	1.3
WestmorelandC-24	Participate in the Community Rating System (CRS) to further manage flood risk and reduce flood insurance premiums for NFIP policyholders.	1	1	1	2	2	1.3
WestmorelandC-25	Partner with community groups and local organizations, including civic, business, town watch, faith-based, senior, special needs and tenant associations, to promote emergency preparedness and mitigation efforts.	1	1	1	1	1	1.0
WestmorelandC-26	Procure and maintain redundant power sources (portable generators).	2	2	1	3	3	2.1
WestmorelandC-27	Purchase or relocate structures located in hazard-prone areas to protect structures from future damage, with repetitive loss properties as a priority.	2	2	1	3	3	2.1
WestmorelandC-28	Regulate development to reduce flood losses in vulnerable fluvial areas.	1	1	1	3	3	1.6
WestmorelandC-29	Retrofit structures located in hazard-prone areas to protect structures from future damage, with repetitive loss and severe repetitive loss properties as priority.	2	2	1	3	3	2.1
WestmorelandC-30	Support and utilize an advanced warning system that provides emergency text and email alerts to the public.	1	1	1	1	1	1.0
WestmorelandC-31	Work with regional agencies to develop damage assessment capabilities at the local level through training programs and certification of qualified individuals.	1	1	1	1	1	1.0
WestmorelandC-32	Identify mitigation or structural projects to reduce vulnerability to stormwater flooding incidents from Crabtree Creek dividing Hempfield, Unity, and Salem Townships.	2	2	1	3	1	1.8
WestmorelandC-33	Work with dam operators to protect C-1 and C-2 dams to the 0.2% annual chance flood level.	3	2	1	3	3	2.3

Initiative	Mitigation Action	Effectiveness	Efficiency	Multi-Hazard Mitigation	Addresses High-Risk Hazard	Addresses Critical Communications/ Critical Infrastructure	Priority
WestmorelandC-34	Educate Mariner East Pipeline well operators, compressor station operators, truck drivers, and residents of hazardous materials, spills, well blowouts, exposure, etc.	0	0	1	3	1	0.8
WestmorelandC-35	Encourage homeowners to install appropriate devices to alleviate radon concentrations within homes.	0	2	3	1	2	1.8
WestmorelandC-36	Work with PennDOT to improve drainage on Route 993 between Trafford and Irwin to prevent flooding.	2	2	1	3	1	1.8
WestmorelandC-37	Conduct analysis of the high-hazard potential dams in Westmoreland County to meet the requirements of FEMA's HHPD Grant Program.	2	3	1	1	3	2.1
AliquippaC-1	Identify mitigation or structural projects to reduce vulnerability to stormwater flooding incidents in Aliquippa.	2	2	1	3	1	1.8
AlleghenyT-1*	Assess and determine best action to prevent further erosion along Pine Run.	2	2	1	3	1	1.8
AlleghenyT-2*	Improve drainage along Lower Tunnel Hill.	2	2	1	3	1	1.8
AlleghenyT-3*	Improve drainage in Brookview residential area.	2	2	1	3	1	1.8
AlleghenyT-4*	Improve stormwater runoff and sewage at High Meadows Mobile Home Park.	3	3	1	3	3	2.6
AlleghenyT-5*	Protect AMD and Pine Run from pollution.	2	2	1	3	1	1.8
AlleghenyT-6*	Remove stone from washout on Alter Road.	2	2	1	1	1	1.5
AlleghenyT-7*	Replace and enhance stormwater runoff pipes in Moreland Manor.	3	3	1	3	1	2.3
AlleghenyT-8*	Work with Kiski Valley Water Pollution Control Authority to protect its facility to the 0.2% annual chance flood level.	3	3	1	3	3	2.6
ArnoldC-1*	Improve infrastructure along Thomas Blvd, Woodmont Ave, Ivy-Pine-Cherry Alleys, and Norne Boulevard.	2	2	1	3	1	1.8
AronaB-1	Protect the post office to the 0.2% annual chance flood level.	3	3	1	3	3	2.6
AronaB-2	Protect the structures in Arona Park to the 0.2% annual chance flood level.	3	2	1	3	3	2.3
AvonmoreB-1*	Assess and determine best action to prevent erosion at Indiana Avenue Extension.	2	2	1	3	1	1.8
AvonmoreB-2*	Assess and determine best action to prevent further erosion at Westmoreland Avenue.	2	2	1	3	1	1.8
AvonmoreB-3*	Protect Avonmore Borough STP to the 0.2% annual chance flood level.	3	3	1	3	3	2.6
AvonmoreB-4*	Work with Avonmore Borough hazmat facility owner to protect it to the 0.2% chance flood level.	3	3	1	3	3	2.6
BellT-1*	Assess and determine best action to prevent further erosion in Salina.	2	2	1	3	1	1.8
BellT-2*	Protect AMD near Wolford Run from pollution.	2	2	1	3	1	1.8
BolivarB-1*	Improve drainage infrastructure in Bolivar Borough.	2	2	1	3	1	1.8
CookT-1	Assess and determine the best action to prevent further erosion on Weaver Mill Road.	2	2	1	3	1	1.8
CookT-2	Work with General Carbide Corp/Plant 1 facility owner to protect it to the 0.2% annual chance flood level.	3	3	1	3	3	2.6

Initiative	Mitigation Action	Effectiveness	Efficiency	Multi-Hazard Mitigation	Addresses High-Risk Hazard	Addresses Critical Communications/ Critical Infrastructure	Priority
CookT-3	Work with General Carbide Corp/Plant 3 facility owner to protect it to the 0.2% chance flood level.	3	3	1	3	3	2.6
DelmontB-1*	Assess and determine best action to prevent erosion on Christie Road.	2	2	1	3	1	1.8
DelmontB-2*	Improve drainage at Rose Court.	2	2	1	3	1	1.8
DelmontB-3*	Improve drainage infrastructure on Pittsburgh Street.	2	2	1	3	1	1.8
DerryB-1*	Improve drainage on 2nd Avenue.	2	2	1	3	1	1.8
DerryB-2*	Improve infrastructure on Shade Street.	2	2	1	3	1	1.8
DerryB-3*	Protect McGee Run from habitat loss and prevent further erosion.	2	2	1	3	1	1.8
DerryB-4*	Protect Police Station 420 Derry Borough to the 0.2% annual chance flood level.	3	3	1	3	3	2.6
DerryB-5*	Work with Verizon Derry Co facility owner to protect it to the 0.2% annual chance flood level.	3	3	1	3	3	2.6
DerryT-1	Protect Fire station 92-1 facility to the 0.2% annual chance flood level.	3	3	1	3	3	2.6
DerryT-2	Assess and determine best action to prevent further erosion on Millwood Road.	2	2	1	3	1	1.8
DerryT-3	Assess and determine the best action to prevent further sedimentation of Conemaugh dam upstream.	2	2	1	3	1	1.8
DerryT-4	Improve drainage infrastructure along Redcut Lodge Road.	2	2	1	3	1	1.8
DerryT-5	Improve drainage infrastructure in residential areas.	2	2	1	3	1	1.8
DerryT-6	Improve drainage on Green Thumb Road.	2	2	1	3	1	1.8
DerryT-7	Improve drainage on Saxman Run.	2	2	1	3	1	1.8
DerryT-8	Improve infrastructure on Brenizer.	2	2	1	3	1	1.8
DerryT-9	Protect Saxman Run and AMD from pollution.	2	2	1	3	1	1.8
DerryT-10	Work with Derry Township Hazmat facility owner to protect it to the 0.2% annual chance flood level.	3	3	1	3	3	2.6
DonegalT-1	Assess and determine best action to mitigate sedimentation of Donegal Lake.	2	2	1	3	1	1.8
DonegalT-2	Assess and determine best action to prevent further erosion of Rock Canyon Road.	2	2	1	3	1	1.8
DonegalT-3	Assess and determine best action to prevent further erosion of Skyview Road.	2	2	1	3	1	1.8
DonegalT-4	Improve drainage infrastructure on Route 381.	2	2	1	3	1	1.8
EastHuntingdonT-1*	Improve drainage on Central Street.	2	2	1	3	1	1.8
EastHuntingdonT-2*	Improve drainage on Ruffsdale.	2	2	1	3	1	1.8
EastHuntingdonT-3*	Improve drainage; larger piping on Route 119 Smouse Road.	2	2	1	3	1	1.8
EastHuntingdonT-4*	Protect Buffalo Run AMD from pollution.	2	2	1	3	1	1.8
EastHuntingdonT-5*	Protect Southmoreland High School from the 0.2% annual chance flood level.	3	3	1	3	3	2.6

Initiative	Mitigation Action	Effectiveness	Efficiency	Multi-Hazard Mitigation	Addresses High-Risk Hazard	Addresses Critical Communications/ Critical Infrastructure	Priority
EastHuntingdonT-6*	Upgrade the culvert along Preacher Street with one with higher capacity.	2	2	1	3	1	1.8
EastHuntingdonT-7*	Work with Suburban Propane LP facility owner to protect it to the 0.2% annual chance flood level.	3	3	1	3	3	2.6
EastHuntingdonT-8*	Work with Westmoreland / Fayette Municipal Sewage Authority facility owner to protect it to the 0.2% annual chance flood level.	3	3	1	3	3	2.6
ExportB-1	Assess and determine best action to prevent further erosion of Italy Road.	2	2	1	3	1	1.8
ExportB-2	Assess and determine best action to prevent further erosion on Puckety Drive.	2	2	1	3	1	1.8
ExportB-3	Protect the MDJ facility to the 0.2% annual chance flood level.	3	3	1	3	3	2.6
ExportB-4	Protect the Municipal Office to the 0.2% chance annual flood level.	3	3	1	3	3	2.6
ExportB-5	Protect Turtle Creek/Kennedy Avenue from urban impacts, pollution, habitat loss, and sedimentation.	2	2	1	3	1	1.8
FairfieldT-1*	Improve drainage along Love Hollow Road and Richmond Farm Lane.	2	2	1	3	1	1.8
FairfieldT-2*	Reconstruction of Patterson Bridge.	2	2	1	3	1	1.8
FairfieldT-3*	Assess and determine best action to prevent further erosion of Beaufords Road.	2	2	1	3	1	1.8
FairfieldT-4*	Assess and determine best action to prevent further erosion of Bridges Road.	2	2	1	3	1	1.8
FairfieldT-5*	Assess and determine the best action to prevent further erosions for Zufall Road.	2	2	1	3	1	1.8
FairfieldT-6*	Develop and implement an action plan to mitigate recurring flooding on Creek Road.	1	1	1	1	1	1
GreensburgC-1	Assess and determine best action to prevent further erosion and pollution of Zellers Run.	2	2	1	3	1	1.8
GreensburgC-2	Elevate road or install a culvert along Catherine Street near Spino's Tires.	2	2	1	3	1	1.8
GreensburgC-3	Enforce code ordinances to raise property values and prevent houses from falling into disrepair.	2	2	1	2	0	1.5
GreensburgC-4	Fix the sream walls along Jacks Run.	3	3	1	3	1	2.3
GreensburgC-5	Get a cab company for the city.	2	2	1	1	1	1.5
GreensburgC-6	Improve drainage on Highland Street; remove leaves from Church.	2	2	1	3	1	1.8
GreensburgC-7	Improve drainage in Lynch Field.	2	2	1	3	1	1.8
GreensburgC-8	Improve drainage on Dornin Street.	2	2	1	3	1	1.8
GreensburgC-9	Improve drainage pipe along Coal Tar Run.	2	2	1	3	1	1.8
GreensburgC-10	Improve infrastructure at Northmont.	2	2	1	3	1	1.8
GreensburgC-11	Improve stormwater drainage infrastructure in Saybrook Village.	3	3	1	3	3	2.6
GreensburgC-12	Install speed bump on Belmont Street by daycare.	2	2	1	1	1	1.5
HarrisonC-2	Install back-up generators at Penn-Trafford High School.	2	2	1	3	3	2.1
HarrisonC-3	Install back-up generators at Trafford Elementary School.	2	2	1	3	3	2.1
HarrisonC-4	Install back-up generators at Level Green Elementary School.	2	2	1	3	3	2.1
HarrisonC-5	Install back-up generators at Penn-Trafford Middle School.	2	2	1	3	3	2.1

Initiative	Mitigation Action	Effectiveness	Efficiency	Multi-Hazard Mitigation	Addresses High-Risk Hazard	Addresses Critical Communications/ Critical Infrastructure	Priority
HempfieldT-1	Work with UPitt Greensburg to ensure they know what hazard areas they arere in, and develop/update emergency plans.	2	2	1	2	0	1.5
HempfieldT-2	Assess and determine best action to prevent further erosion along Dunn Road.	2	2	1	3	1	1.8
HempfieldT-3	Assess and determine best action to prevent further erosion at Little Sewickley Creek at Crib Station.	2	2	1	3	1	1.8
HempfieldT-4	Assess and determine best action to prevent further erosion in Fort Allen neighborhood.	2	2	1	3	1	1.8
HempfieldT-5	Assess and determine best action to prevent further erosion/habitat loss on Sells Lane.	2	2	1	3	1	1.8
HempfieldT-6	Improve drainage at West Hempfield residential area.	2	2	1	3	1	1.8
HempfieldT-7	Improve drainage infrastructure at Stamford Drive to Green Valley in West Point.	2	2	1	3	1	1.8
HempfieldT-8	Improve drainage infrastructure on Holly Drive.	2	2	1	3	1	1.8
HempfieldT-9	Improve drainage on Carbon Road at Red Onion.	2	2	1	3	1	1.8
HempfieldT-10	Improve drainage on Hillis Street and Jacks Run.	2	2	1	3	1	1.8
HempfieldT-11	Improve drainage on Oakford Park route 130.	2	2	1	3	1	1.8
HempfieldT-12	Improve drainage within the 119 commercial area.	2	2	1	3	1	1.8
HempfieldT-13	Improve infrastructure on Brookside Drive.	2	2	1	3	1	1.8
HempfieldT-14	Protect Fire station 75 and USPS Hannastown 15635 facility to the 0.2% annual chance flood level.	3	3	1	3	3	2.6
HempfieldT-15	Protect New Stanton STP to the 0.2% annual chance flood level.	3	3	1	3	3	2.6
HempfieldT-16	Replace the bridge over Slate Creek with a larger opening.	2	2	1	3	1	1.8
HempfieldT-17	Work with First Student, Inc #25067 facility owner to protect it to the 0.2% annual chance flood level.	3	3	1	3	3	2.6
HempfieldT-18	Work with Seton Hill to ensure they know what hazard areas they are in, and develop/update emergency plans.	2	2	1	2	0	1.5
HempfieldT-19	Work with Westmoreland Community College to ensure they know what hazard areas they are in, and develop/update emergency plans.	2	2	1	2	0	1.5
HunkerB-1	Conduct demolition of abandoned home.	2	2	1	2	2	1.8
HunkerB-2	Implement the redirection of the stormwater catch basin at the intersection of Walnut and Bridge Street.	2	2	1	3	1	1.8
HunkerB-3	Improve infrastructure on Alexander Avenue.	2	2	1	3	1	1.8
HunkerB-4	Install sub-flooring to prevent roadway along Locust Street from sinking.	2	2	1	2	1	1.7
HunkerB-5	Pave Bellson Street and install proper drainage to prevent flooding.	2	2	1	3	1	1.8
HunkerB-6	Procure and install a back-up generator into Hunker Borough EOC.	2	2	1	3	3	2.1
HunkerB-7	Procure and install air conditioning units into community building/community shelter.	1	1	1	1	1	1
HunkerB-8	Repair small sinkhole in front of fire department.	2	2	1	0	1	1.4
HunkerB-9	Retrofit community building to prevent flooding in basement.	2	2	1	2	2	1.8
HunkerB-10	Retrofit Walnut Street Bridge to prevent erosion.	2	2	1	3	1	1.8
IrwinB-1	Improve drainage between Ash and Poplar Streets.	2	2	1	3	1	1.8

Initiative	Mitigation Action	Effectiveness	Efficiency	Multi-Hazard Mitigation	Addresses High-Risk Hazard	Addresses Critical Communications/ Critical Infrastructure	Priority
IrwinB-2	Improve drainage between Cypress and Elm Streets.	2	2	1	3	1	1.8
IrwinB-3	Improve drainage infrastructure along Conley Drive.	2	2	1	3	1	1.8
IrwinB-4	Prevent further habitat loss along Route 30 from commercial development.	2	2	1	3	1	1.8
IrwinB-5	Protect AMD and Tinkers Run from pollution from Rt 30.	2	2	1	3	1	1.8
IrwinB-6	Protect Norwin Public Library to the 0.2% annual chance flood level.	3	3	1	3	3	2.6
JeannetteC-1	Assess and determine the best action to further prevent erosion on Bull Run.	2	2	1	3	1	1.8
JeannetteC-2	Assess and determine the best action to prevent further erosion of 12th Street.	2	2	1	3	1	1.8
JeannetteC-3	Improve drainage on 4th Street.	2	2	1	3	1	1.8
JeannetteC-4	Improve drainage on Locust Street.	2	2	1	3	1	1.8
JeannetteC-5	Improve stormwater drainage at Agnew Road at bottom of hill.	2	2	1	3	1	1.8
JeannetteC-6	Improve the design of intersection on Route 130.	2	2	1	2	1	1.7
JeannetteC-7	Improve the design of merging lanes on Route 130 before Jeannette.	2	2	1	2	1	1.7
JeannetteC-8	Improve the design of Western Ave by adding guardrails along the creek.	2	2	1	2	1	1.7
JeannetteC-9	Prevent habitat loss along Brush Creek and Down Run.	2	2	1	3	1	1.8
JeannetteC-10	Protect Jeannette WPCP to the 0.2% annual chance flood level.	3	3	1	3	3	2.6
JeannetteC-11	Remove high risk/deficient structurally unsound dam that pose a flooding threat to the community.	2	1	1	1	1	1.2
LatrobeB-1	Assess and determine best action to prevent further habitat loss/pollution of the Loyalhanna channel.	2	2	1	3	1	1.8
LatrobeB-2	Improve drainage at Sulfur Run and Raymond Avenue.	2	2	1	3	1	1.8
LaurelMountainB-1	Replace bridge over Nature Run Road with a larger opening.	2	2	1	3	1	1.8
LigonierB-1	Improve drainage on Loyalhanna Street.	2	2	1	3	1	1.8
LigonierB-2	Protect Ligonier Valley School District office to the 0.2% annual chance flood level.	3	3	1	3	3	2.6
LigonierB-3	Remove debris from Loyalhanna Creek and Mill Creek to improve drainage.	2	2	1	3	1	1.8
LigonierT-1	Assess and determine best action to prevent further erosion of Betz Road.	2	2	1	3	1	1.8
LigonierT-2	Assess and determine best action to prevent further erosion of Peoples Road.	2	2	1	3	1	1.8
LigonierT-3	Assess and determine best action to prevent further erosion of Tunnelton Road.	2	2	1	3	1	1.8
LigonierT-4	Assess and determine best action to prevent further erosion of unnamed trib to Hannas Run.	2	2	1	3	1	1.8
LigonierT-5	Conduct a detailed flood study of Loyalhanna Creek.	2	3	1	3	0	2.0
LigonierT-6	Improve drainage in Red Rock residential neighborhood.	2	2	1	3	1	1.8
LigonierT-7	Improve drainage infrastructure on Rector Road.	2	2	1	3	1	1.8
LigonierT-8	Improve drainage on Baltic Road.	2	2	1	3	1	1.8
LigonierT-9	Improve infrastructure on Hidden Valley Road.	2	2	1	3	1	1.8
LigonierT-10	Protect Ligonier WPCP to the 0.2% annual chance flood level.	3	3	1	3	3	2.6

Initiative	Mitigation Action	Effectiveness	Efficiency	Multi-Hazard Mitigation	Addresses High-Risk Hazard	Addresses Critical Communications/ Critical Infrastructure	Priority
LigonierT-11	Retrofit road across the street from 162 Nature Run, Laughlintown to prevent future erosion.	2	2	1	3	1	1.8
LigonierT-12	Work with Ligonier Construction Company facility owner to protect it to the 0.2% annual chance flood level.	3	3	1	3	3	2.6
LowerBurrellC-1	Work with Braeburn Alloy Steel facility owner to protect it to the 0.2% annual chance flood level.	3	3	1	3	3	2.6
LowerBurrellC-2	Work with Hazmat facility owner to protect it to the 0.2% annual chance flood level.	3	3	1	3	3	2.6
LowerBurrellC-3	Assess and determine best action to prevent further erosion on Edge Cliff Road.	2	2	1	3	1	1.8
LowerBurrellC-4	Assess and determine best action to prevent further erosion on Route 56, Little Pucketa Creek.	2	2	1	3	1	1.8
LowerBurrellC-5	Assess and determine the best action to prevent further erosion of Pucketa Creek, Wildlife Lodge Road.	2	2	1	3	1	1.8
LowerBurrellC-6	Assess and determine the best action to prevent sedimentation on Watters Road/Burrell Lake Park Entrance.	2	2	1	3	1	1.8
LowerBurrellC-7	Improve drainage in Kinlock.	2	2	1	3	1	1.8
LoyalhannaT-1	Assess and determine best action to mitigate further pollution on Getty Run.	2	2	1	3	1	1.8
LoyalhannaT-2	Assess and determine best solution to prevent further erosion on Route 981 Loyalhanna Tributary.	2	2	1	3	1	1.8
ManorB-1	Assess and determine best action for Rowe Road to prevent further erosion.	2	2	1	3	1	1.8
ManorB-2	Assess and determine the best action to prevent further erosion from urban impacts along Bushy Run.	2	2	1	3	1	1.8
ManorB-3	Improve drainage infrastructure to prevent flooding at Ranbar Electrical and Materials.	2	2	1	3	1	1.8
ManorB-4	Protect Cameron Drive and Brandywine Residential area to the 0.2% annual chance flood level.	3	3	1	3	3	2.6
ManorB-5	Protect Police Station 121 Manor to the 0.2% annual chance flood level.	3	3	1	3	3	2.6
ManorB-6	Protect the Municipal Office to the 0.2% chance annual flood level.	3	3	1	3	3	2.6
MonessenC-1	Add storm drainage facilities to resolve flooding near the intersection of Grand Boulevard and State Road.	2	2	1	3	1	1.8
MonessenC-2	Add storm drainage facilities to resolve flooding on Cemetery Street.	2	2	1	3	1	1.8
MonessenC-3	Add storm drainage facilities to resolve flooding on Spring Drive.	2	2	1	3	1	1.8
MonessenC-4	Add storm drainage facilities to resolve the icing condition on State Road near the pump station.	2	2	1	3	1	1.8
MonessenC-5	Assess and determine best action for Parente Boulevard to prevent future erosion.	2	2	1	3	1	1.8
MonessenC-6	Assess and determine the best action for Tyrol Boulevard to prevent further erosion.	2	2	1	3	1	1.8
MonessenC-7	Improve storm drainage facilities to resolve icing condition on Grand Boulevard at Pleasant Drive.	2	2	1	3	1	1.8
MonessenC-8	Mine subsidence on Coolidge Avenue.	1	2	1	2	1	1.5
MonessenC-9	Open mine vents.	1	1	1	1	1	1.0
MonessenC-10	Protect city from future landslides.	1	2	1	2	1	1.5
MonessenC-11	Protect Monessen City Park, stream bank from future erosion and habitat loss.	1	1	1	1	1	1.0
MonessenC-12	Protect Monessen Public Library to the 0.2% annual chance flood level.	3	3	1	3	3	2.6
MonessenC-13	Protect Police Station 071 Monessen to the 0.2% annual chance flood level.	3	3	1	3	3	2.6

Initiative	Mitigation Action	Effectiveness	Efficiency	Multi-Hazard Mitigation	Addresses High-Risk Hazard	Addresses Critical Communications/ Critical Infrastructure	Priority
MonessenC-14	Protect SPHS Child Learning Center Monessen Site to the 0.2% annual chance flood level.	3	3	1	3	3	2.6
MonessenC-15	Protect the Municipal Office to the 0.2% chance annual flood level.	3	3	1	3	3	2.6
MonessenC-16	Rehabilitate 48" brick combination sewer interceptor in 12th Street from Reservoir Avenue to Schoonmaker Avenue.	2	2	2	3	1	2.0
MonessenC-17	Rehabilitate 48" brick combination sewer interceptor in 9th Street from Vine Street to Schoonmaker Avenue.	2	2	2	3	1	2.0
MonessenC-18	Rehabilitate 7'x5' brick combination sewer interceptor in the alley between Schoonmaker Avenue and Donner Avenue from 8th Street to 12th Street.	2	2	2	3	1	2.0
MonessenC-19	Rehabilitate 84" tin whistle storm sewer for entire length of Parente Boulevard.	2	2	2	3	1	2.0
MonessenC-20	Rehabilitate the 48" brick combination sewer interceptor for the entire length of 3rd Street.	2	2	2	3	1	2.0
MonessenC-21	Replace 42" brick combination sewer interceptor on hillside from Shawnee Park to Parente Boulevard.	2	2	2	3	1	2.0
MonessenC-22	Replace undersized culvert on Grand Boulevard to eliminate flooding at the intersection of Parente Boulevard and Grand Boulevard.	2	2	1	3	1	1.8
MonessenC-23	Replace washed out subbase and concrete pavement on 12th Street.	2	2	1	2	1	1.7
MonessenC-24	Replace washed out subbase and concrete pavement on Herron Street.	2	2	1	2	1	1.7
MonessenC-25	Replace washed out subbase and concrete pavement on Nash Avenue.	2	2	1	2	1	1.7
MonessenC-26	Restore UNT-1 to the Monongahela River and add retention pond on Grand Boulevard between Euclid Drive and the gas stations to eliminate flooding at the intersection of Parente Boulevard and Grand Boulevard.	2	1	1	3	0	1.4
MonessenC-27	Work with ArcelorMittal Monessen Coke Plant facility owner to protect it to the 0.2% annual chance flood level.	3	3	1	3	3	2.6
MonessenC-28	Work with Steel Fusion Clinical Toxicology Laboratory facility owner to protect it to the 0.2% annual chance flood level.	3	3	1	3	3	2.6
MountPleasantT -1	Work with Laurelville Church Center facility owner to protect it to the 0.2% annual chance flood level.	3	3	1	3	3	2.6
MountPleasantT -2	Work with MAX Environmental Technologies, Inc./Yukon facility owner to protect it to the 0.2% annual chance flood level.	3	3	1	3	3	2.6
MountPleasantT -3	Work with Mount Pleasant Township facility owner to protect it to the 0.2% annual chance flood level.	3	3	1	3	3	2.6
MtPleasantB-1	Assess and determine best action to prevent further erosion at Jacobs Creek at Laurelville Mennonite Camp.	2	2	1	3	1	1.8
MtPleasantB-2	Assess and determine best action to prevent further erosion of Shupe Run.	2	2	1	3	1	1.8
MtPleasantB-3	Assess and determine best action to prevent further erosion of Welty Run.	2	2	1	3	1	1.8
MtPleasantB-4	Assess and determine best action to prevent further sedimentation loss from Brush Run.	2	2	1	3	1	1.8
MtPleasantB-5	Improve drainage on Eagle Street.	2	2	1	3	1	1.8

Initiative	Mitigation Action	Effectiveness	Efficiency	Multi-Hazard Mitigation	Addresses High-Risk Hazard	Addresses Critical Communications/ Critical Infrastructure	Priority
MtPleasantB-6	Improve drainage on Warden Street.	2	2	1	3	1	1.8
MtPleasantB-7	Improve drainage piping at Ramsey Terrace.	2	2	1	3	1	1.8
MtPleasantB-8	Install additional stormwater runoff pipes and upgrade/replace existing deteriorated pipes.	2	2	1	3	1	1.8
MurrysvilleM-1	Assess and determine best action to prevent erosion of Sardis Road/Haymaker Run.	2	2	1	3	1	1.8
MurrysvilleM-2	Assess and determine best action to prevent further erosion of Kistler Road bank.	2	2	1	3	1	1.8
MurrysvilleM-3	Assess and determine best action to prevent further erosion on the streambanks along Turtle Creek.	3	3	1	3	3	2.6
MurrysvilleM-4	Assess and determine solutions to mitigate further pollution of Noca Road-AMD and Borland Farm Road-AMD.	3	3	1	3	3	2.6
MurrysvilleM-5	Assess and determine the best action to prevent further erosion at Bear Hollow Park.	2	2	1	3	1	1.8
MurrysvilleM-6	Assess and determine the best action to prevent further erosion of Haymaker Run.	3	3	1	3	3	2.6
MurrysvilleM-7	Assess and determine the best action to prevent further erosion of Trout Haven Drive.	3	3	1	3	3	2.6
MurrysvilleM-8	Conduct a thorough flood study of Turtle Creek.	2	3	1	3	0	2.0
MurrysvilleM-9	Improve drainage along Forest Lane.	2	2	1	3	1	1.8
MurrysvilleM-10	Improve drainage on Hill Church Road.	2	2	1	3	1	1.8
MurrysvilleM-11	Protect Murrysville Community Library to the 0.2% annual chance flood level.	3	3	1	3	3	2.6
NewFlorenceB-1*	Improve drainage infrastructure on Vine, 9th Chestnut Streets, New Florence Manor, Beech, Penn, 10th Walnut, Cherry.	2	2	1	3	1	1.8
NewFlorenceB-2*	Protect EMS 711 Laurel Valley station to the 0.2% annual chance flood level.	3	3	1	3	3	2.6
NewFlorenceB-3*	Protect Fire station 46 to the 0.2% annual chance flood level.	3	3	1	3	3	2.6
NewFlorenceB-4*	Protect New Florence Public Library to the 0.2% annual chance flood level.	3	3	1	3	3	2.6
NewFlorenceB-5*	Protect Police Station 048 New Florence to the 0.2% annual chance flood level.	3	3	1	3	3	2.6
NewKensingtonC-1	Assess and determine best action to prevent further erosion in Memorial Park.	2	2	1	3	1	1.8
NewKensingtonC-2	Protect New Kensington-Arnold School District office to the 0.2% annual chance flood level.	3	3	1	3	3	2.6
NewKensingtonC-3	Protect Valley High School to the 0.2% annual chance flood level.	3	3	1	3	3	2.6
NewKensingtonC-4	Work with Cannon Boiler Works Inc facility owner to protect it to the 0.2% annual chance flood level.	3	3	1	3	3	2.6
NewStantonB-1*	Assess and determine best action for New Stanton Park to prevent further erosion.	2	2	1	3	1	1.8
NewStantonB-2*	Assess and determine best action to prevent further erosion from urban impacts along the PA Turnpike.	3	3	1	3	3	2.6
NewStantonB-3*	Protect Center Ave and Chanticleer Residential area to the 0.2% annual chance flood level.	3	3	1	3	3	2.6

Initiative	Mitigation Action	Effectiveness	Efficiency	Multi-Hazard Mitigation	Addresses High-Risk Hazard	Addresses Critical Communications/ Critical Infrastructure	Priority
NorthBelleVernon B-1*	Assess and determine best action for PennDOT I-70 to prevent further outfall erosion.	2	2	1	3	1	1.8
NorthBelleVernon B-2*	Protect the First Baptist Church to the 0.2% annual chance flood level.	3	3	1	3	3	2.6
NorthHuntingdonT-1	Assess and determine best action to prevent further erosion and habitat loss along Adams Drive, Harold Drive, and Roth Drive.	2	2	1	3	1	1.8
NorthHuntingdonT-2	Assess and determine the best action to protect the township from landslides.	2	2	1	3	1	1.8
NorthHuntingdonT-3	Improve drainage along Barnes Lake Road at Clay Pike.	2	2	1	3	1	1.8
NorthHuntingdonT-4	Improve drainage along McKee Road.	2	2	1	3	1	1.8
NorthHuntingdonT-5	Improve drainage infrastructure along Colt Drive culvert.	2	2	1	3	1	1.8
NorthHuntingdonT-6	Improve drainage infrastructure at the Westmoreland City VFD.	2	2	1	3	1	1.8
NorthHuntingdonT-7	Assess and determine best action to prevent further erosion along Long Run at Lincoln Highway.	2	2	1	3	1	1.8
NorthHuntingdonT-8	Assess and determine best action to prevent further erosion at Brush Creek ballfields.	2	2	1	3	1	1.8
NorthHuntingdonT-9	Assess and determine best action to prevent further erosion of channel near Mickanin Road.	2	2	1	3	1	1.8
NorthHuntingdonT-10	Assess and determine best action to prevent further habitat loss along Tinkers Run at PA Turnpike.	2	2	1	3	1	1.8
NorthHuntingdonT-11	Improve drainage along Frog Road.	2	2	1	3	1	1.8
NorthHuntingdonT-12	Improve drainage along Park Hill Road.	2	2	1	3	1	1.8
NorthHuntingdonT-13	Improve drainage at Turner Valley Soccer Fields along Crawford Run.	2	2	1	3	1	1.8
NorthHuntingdonT-14	Improve drainage from PennDOT to Browntown Road.	2	2	1	3	1	1.8
NorthHuntingdonT-15	Replace the 1st Street Bridge.	2	2	1	3	1	1.8

Initiative	Mitigation Action	Effectiveness	Efficiency	Multi-Hazard Mitigation	Addresses High-Risk Hazard	Addresses Critical Communications/ Critical Infrastructure	Priority
NorthHuntingdonT-16	Work with Cleveland/Price, Inc. facility owner to protect it to the 0.2% annual chance flood level.	3	3	1	3	3	2.6
NorthHuntingdonT-17	Work with Hazmat facility owner to protect it to the 0.2% annual chance flood level.	3	3	1	3	3	2.6
NorthIrwinB-1*	Improve drainage infrastructure on 4th Street at the park.	2	2	1	3	1	1.8
NorthIrwinB-2*	Improve stormwater drainage to mitigate alleyway runoff.	2	3	1	3	1	2.1
NorthIrwinB-3*	Install drainage ditches along Coal Run to reduce runoff onto the roadway.	2	2	1	3	1	1.8
NorthIrwinB-4*	Upgrade drainage piping in North Huntingdon Township.	2	2	1	3	1	1.8
PennT-1	Install a back-up generator at the Claridge Fire Department.	2	2	1	3	3	2.1
PennT-2	A plan needs to be created and funds allocated to address outdated stormwater infrastructure.	2	2	1	3	1	1.8
PennT-3	Conduct a traffic light study in Harrison City for more efficient timing.	2	2	1	1	1	1.5
PennT-4	Fix existing catch basin at the corner of Rose and Pamela.	2	2	1	3	1	1.8
PennT-5	Hire more public works employees.	2	2	1	1	1	1.5
PennT-6	Improve drainage infrastructure at Fawn Lawn and Pheasant Run Road.	2	2	1	3	1	1.8
PennT-7	Improve drainage infrastructure in Claridge.	2	2	1	3	1	1.8
PennT-8	Improve drainage on Concord Dr/4045.	2	2	1	3	1	1.8
PennT-9	Improve drainage on Denmark/Manor Road to prevent flooding.	2	2	1	3	1	1.8
PennT-10	Improve infrastructure in Level Green neighborhood.	2	2	1	3	1	1.8
PennT-11	Improve major highways to accommodate amount of traffic: Route 130, Pleasant Valley, Hyland.	3	3	1	2	3	2.5
PennT-12	Improve most roads within the Township to make them safer.	3	3	1	2	3	2.5
PennT-13	Install a blinker light at Mullor Road and Claridy Export Road.	3	3	1	2	3	2.5
PennT-14	Install a turn restriction for tractor trailers at the traffic light at SR 993/Walnut and SR 130.	3	3	1	2	3	2.5
PennT-15	Install sidewalks in communities.	1	1	1	1	1	1.0
PennT-16	Intersections without designated left turn lane need to have "no left turn" sign posted.	3	3	1	2	3	2.5
PennT-17	Pave residential roads: Rose Acres, parts of Level Green Sunrise.	3	3	1	2	3	2.5
PennT-18	Prevent further pollution of AMD at Penny Lane.	3	3	1	3	3	2.6
PennT-19	Protect AMD at Boxcartown Road from further pollution.	3	3	1	3	3	2.6
PennT-20	Repair sinkholes on Pleasant Valley Road.	2	2	1	3	1	1.8
PennT-21	Stormwater rehabilitation and upgrade at Rose Acres.	2	2	1	3	1	1.8
PennT-22	Work with Triumvirate Environmental of Pittsburgh Inc facility owner to protect it to the 0.2% annual chance flood level.	3	3	1	3	3	2.6
PennT-23	Install back-up generators at Sunrise Elementary School.	2	2	1	3	3	2.1
PennT-24	Install back-up generators at McCullough Elementary School.	2	2	1	3	3	2.1

Initiative	Mitigation Action	Effectiveness	Efficiency	Multi-Hazard Mitigation	Addresses High-Risk Hazard	Addresses Critical Communications/ Critical Infrastructure	Priority
PennT-25	Install back-up generators at Penn Middle School.	2	2	1	3	3	2.1
PennT-26	Install back-up generators at Harrison Park Elementary School.	2	2	1	3	3	2.1
RostraverT-1*	Assess and determine best action for Orr Road to prevent further erosion.	2	2	1	3	1	1.8
RostraverT-2*	Assess and determine best action for Rankin Road to prevent further erosion.	2	2	1	3	1	1.8
RostraverT-3*	Assess and determine best action for Webster Hollow to prevent further erosion.	2	2	1	3	1	1.8
RostraverT-4*	Protect Elks Place to the 0.2% annual chance flood level.	3	3	1	3	3	2.6
RostraverT-5*	Work with facility owner to protect Farnham and Pfile Rental and Sales to the 0.2% chance annual flood level.	3	3	1	3	3	2.6
RostraverT-6*	Protect Fire station 31 facility to the 0.2% annual chance flood level.	3	3	1	3	3	2.6
RostraverT-7*	Protect Speers Run from urban impacts, habitat loss, and pollution.	3	3	1	3	3	2.6
RostraverT-8*	Protect Trailer Court to the 0.2% annual chance flood level.	3	3	1	3	3	2.6
RostraverT-9*	Work with the facility owner to repair sinkhole behind BF Foods Service station.	2	2	1	0	1	1.4
RostraverT-10*	Work with the owner of Pricedale Shopping Center to protect the facility to the 0.2% annual chance flood level.	3	3	1	3	3	2.6
RostraverT-11*	Work with the property owner to protect of the Rostraver Road shopping center to the 0.2% annual chance flood level.	3	3	1	3	3	2.6
StClairT-1*	Elevate structures on Robb Road that are at risk of flooding.	2	2	1	3	1	1.8
StClairT-2*	Work with daycare owner to protect Lori Clark Family Child Care Home facility to the 0.2% annual chance flood level.	3	3	1	3	3	2.6
StClairT-3*	Protect the Municipal Office to the 0.2% chance annual flood level.	3	3	1	3	3	2.6
StClairT-4*	Reconstruct the River Hill Bridge.	2	2	1	3	1	1.8
StClairT-5*	Reconstruct the bridge over Baldwin Creek on Sugar Run Road.	2	2	1	3	1	1.8
SalemT-1	Assess and determine best action to prevent further erosion and habitat loss along Cloverleaf Road/Route 22.	2	2	1	3	1	1.8
SalemT-2	Assess and determine best action to prevent further erosion and pollution on Jobe Road/Beaver Run.	2	2	1	3	1	1.8
SalemT-3	Flood proof sewage and AMD on Depot Street.	3	3	1	3	3	2.6
SalemT-4	General clearing and cleaning of streams.	2	2	1	3	1	1.8
SalemT-5	Improve drainage along Crabtree Creek and Hannastown.	2	2	1	3	1	1.8
SalemT-6	Improve drainage on Rock Springs Road.	2	2	1	3	1	1.8
SalemT-7	Improve drainage on Salem Drive bridge from Loyalhanna back-up.	2	2	1	3	1	1.8
SalemT-8	Improve infrastructure on Garden Way.	2	2	1	3	1	1.8
SalemT-9	Prevent further habitat loss in Shieldsburg.	2	2	1	3	1	1.8
SalemT-10	Protect Salem Township EOC facility to the 0.2% annual chance flood level.	3	3	1	3	3	2.6

Initiative	Mitigation Action	Effectiveness	Efficiency	Multi-Hazard Mitigation	Addresses High-Risk Hazard	Addresses Critical Communications/ Critical Infrastructure	Priority
SalemT-11	Protect Thorn Run from pollution.	2	2	1	3	1	1.8
SalemT-12	Install a static generator at Slickville Fire Department.	2	2	1	3	3	2.1
SalemT-13	Install a static generator at the Salem Township Municipal Building.	2	2	1	3	3	2.1
SalemT-14	Install a static generator at the Congruity United Presbyterian Church (emergency shelter).	2	2	1	3	3	2.1
ScottdaleB-1	Improve drainage in West Park Area (Anderson Run).	2	1	1	3	1	1.5
ScottdaleB-2	Improve drainage on Little Sherrick Run Area.	2	2	1	3	1	1.8
ScottdaleB-3	Improve drainage on Stauffer Avenue.	2	2	1	3	1	1.8
ScottdaleB-4	Protect Police Station 065 Scottdale to the 0.2% annual chance flood level.	3	3	1	3	3	2.6
ScottdaleB-5	Work with R E Uptegraff Manufacturing Co facility owner to protect it to the 0.2% annual chance flood level.	3	3	1	3	3	2.6
ScottdaleB-6	Work with Summerill Tube Corp facility owner to protect it to the 0.2% annual chance flood level.	3	3	1	3	3	2.6
ScottdaleB-7	Improve drainage in West Park.	2	2	1	3	1	1.8
ScottdaleB-8	Improve drainage on Garfield Avenue.	2	2	1	3	1	1.8
ScottdaleB-9	Improve drainage on Parker Avenue.	2	2	1	3	1	1.8
ScottdaleB-10	Improve drainage on Penn Line.	2	2	1	3	1	1.8
ScottdaleB-11	Protect Stauffer Run from future habitat loss due to flooding.	2	2	1	3	1	1.8
SewardB-1*	Protect the Municipal Office to the 0.2% chance annual flood level.	3	3	1	3	3	2.6
SewickleyT-1	Assess and determine best action to prevent further erosion on Yukon Road, Sewickley Creek.	2	2	1	3	1	1.8
SewickleyT-2	Install stormwater drainage system along Pinewood Road.	2	2	1	3	1	1.8
SewickleyT-3	Procure a skid loader/grab attachment for storm cleanup and culvert clean out.	2	2	1	3	1	1.8
SewickleyT-4	Procure and install a back-up generator into Hutchinson VFD Station 85.	2	2	1	3	3	2.1
SewickleyT-5	Procure and install a back-up generator into Lowber VFD Station 16.	2	2	1	3	3	2.1
SewickleyT-6	Procure and install back-up generator into Rillton VFD Station 14.	2	2	1	3	3	2.1
SewickleyT-7	Procure remote receive sites to enhance communications.	2	2	1	2	1	1.7
SewickleyT-8	Procure skid steer attachment to clear debris around culverts.	2	2	1	3	1	1.8
SewickleyT-9	Procure sweeper truck for stormwater management.	2	2	1	3	1	1.8
SewickleyT-10	Protect Fire Station 16 to the 0.2% annual chance flood level.	3	3	1	3	3	2.6
SewickleyT-11	Improve drainage along Lowber Road.	2	2	1	3	1	1.8
SewickleyT-12	Improve drainage infrastructure in Herminie.	2	2	1	3	1	1.8
SewickleyT-13	Protect Rillton from future habitat loss due to pollution.	2	2	1	3	1	1.8
SmithtonB-1	Assess and determine the best action for Dutch Hollow Road to prevent further erosion.	3	3	1	3	3	2.6
SmithtonB-2	Install a flood wall or stream bank stabilization to prevent future erosion.	2	2	1	2	0	1.5
SmithtonB-3	Install emergency generator for Borough building/EOC.	2	2	1	3	3	2.1

Initiative	Mitigation Action	Effectiveness	Efficiency	Multi-Hazard Mitigation	Addresses High-Risk Hazard	Addresses Critical Communications/ Critical Infrastructure	Priority
SmithtonB-4	Install generator at Smithton VFD to serve as a warming center during extended winter power outages.	2	2	1	3	3	2.1
SmithtonB-5	Install rip-rap gabions along Sulphur Creek.	2	2	1	2	0	1.5
SmithtonB-6	Protect Fire Station 17 to the 0.2% chance annual flood level.	3	3	1	3	3	2.6
SmithtonB-7	Protect Police Station 627 Smithton Boro to the 0.2% annual chance flood level.	3	3	1	3	3	2.6
SmithtonB-8	Protect Smithton Public Library to the 0.2% annual chance flood level.	3	3	1	3	3	2.6
SmithtonB-9	Protect the Municipal Office to the 0.2% chance annual flood level.	3	3	1	3	3	2.6
SmithtonB-10	Stabilize steep cliffside below Route 981 all the way down the stream bed.	2	2	1	2	0	1.5
SouthGreensburgB-1	Improve drainage along Slate Creek.	2	2	1	3	1	1.8
SouthGreensburgB-2	Improve drainage along S. Main Street/Huff Avenue.	3	3	1	3	3	2.6
SouthHuntingdonT-1	Assess and determine best action to prevent from further erosion of Dutch Hollow Road.	2	2	1	3	1	1.8
SouthHuntingdonT-2	Improve stormwater management within the I70 commercial area.	2	2	1	3	1	1.8
SouthwestGreensburgB-1	Work with Suburban Propane Heating Oil Partners facility owner to protect it to the 0.2% annual chance flood level.	3	3	1	3	3	2.6
SutersvilleB-1*	Improve drainage on 1st Street residential and commercial area.	3	3	1	3	3	2.6
SutersvilleB-2*	Work with the owner of the Nancy H Westerman Family Child Care Home to protect the facility to the 0.2% annual chance flood level.	3	3	1	3	3	2.6
SutersvilleB-3*	Protect the Municipal Office to the 0.2% chance annual flood level.	3	3	1	3	3	2.6
TraffordB-1	Improve drainage along Mehaffey Hill in Trafford along Brush Creek to prevent flooding.	2	2	1	3	1	1.8
TraffordB-2	Protect the Trafford Elementary School to the 0.2% annual chance flood level.	2	3	1	3	3	2.4
TraffordB-3	Protect the Westinghouse Dumpsite to the 0.2% annual chance flood level.	2	3	1	3	3	2.4
TraffordB-4	Protect townhomes on the west side of Trafford Borough to the 0.2% annual chance flood level.	2	3	1	3	3	2.4
TraffordB-5	Update inadequate infrastructure.	2	2	1	3	1	1.8
TraffordB-6	Work with Multi-Flow Industries facility owner to protect it to the 0.2% annual chance flood level.	3	3	1	3	3	2.6
UnityT-1	Assess and determine best action to prevent further erosion at Sewickley Creek at Phillips Road.	2	2	1	3	1	1.8
UnityT-2	Assess and determine the best action to prevent future erosion at Indian Camp Run along Bethel Church Road.	2	2	1	3	1	1.8
UnityT-3	Construct and install a new culvert in Lloydsville to enhance hydraulic capacity.	2	2	1	3	1	1.8
UnityT-4	Improve drainage at Nine Mile Run.	2	2	1	3	1	1.8
UnityT-5	Improve drainage in Baggaley.	2	2	1	3	1	1.8

Initiative	Mitigation Action	Effectiveness	Efficiency	Multi-Hazard Mitigation	Addresses High-Risk Hazard	Addresses Critical Communications/ Critical Infrastructure	Priority
UnityT-6	Improve drainage in Dorothy.	2	2	1	3	1	1.8
UnityT-7	Improve drainage on Route 30, 982 Cloverleaf.	2	2	1	3	1	1.8
UnityT-8	Improve stormwater infrastructure in Edgewater Terrace.	2	2	1	3	1	1.8
UnityT-9	Install a back-up generator at the Harrison City Fire Department.	2	2	1	3	3	2.1
UnityT-10	Install a stormwater detention system in Lawson Heights.	3	3	1	3	1	2.3
UnityT-11	Work with the facility owner to protect the Growing Tree Child Development Center to the 0.2% annual chance flood level.	3	3	1	3	3	2.6
UnityT-12	Work with Leigh Specialty Melting Inc facility owner to protect it to the 0.2% annual chance flood level.	3	3	1	3	3	2.6
UnityT-13	Work with St. Vincent College to ensure they know what hazard areas they are in, and develop/update emergency plans.	2	2	1	2	0	1.5
UpperBurrellT-1*	Assess and determine best action to prevent further erosion on Turkey Ridge Road from Whitten Hollow Road to Barnview Lane.	2	2	1	3	1	1.8
UpperBurrellT-2*	Improve drainage infrastructure at Lincoln Beach.	2	2	1	3	1	1.8
UpperBurrellT-3*	Improve drainage infrastructure at Lower Drennen Road.	2	2	1	3	1	1.8
UpperBurrellT-4*	Procure and install an emergency generator.	2	2	1	3	3	2.1
UpperBurrellT-5*	Work with PSU New Kensington to ensure they know what hazard areas they are in, and develop/update emergency plans.	2	2	1	2	0	1.5
VandergriftB-1	Work with Ati FRPH, LLC-Vandergrift facility owner to protect it to the 0.2% annual chance flood level.	3	3	1	3	3	2.6
WashingtonT-1	Assess and determine the best action to prevent further erosion of Owens Road.	2	2	1	3	1	1.8
WashingtonT-2	Assess and determine the best action to prevent further erosion of Paulton.	2	2	1	3	1	1.8
WashingtonT-3	Improve drainage along Pine Run Creek/Meadows Mobile Home Park, replace undersized culverts.	2	2	1	3	1	1.8
WashingtonT-4	Improve drainage infrastructure on Jefferson Drive.	2	2	1	3	1	1.8
WestLeechburgB-1	Assess and determine best action to prevent erosion on 1st Avenue.	2	2	1	3	1	1.8
WestNewtonT-1	Add drainage piping to control and direct existing natural tributary that runs near residential homes and businesses.	2	2	1	3	1	1.8
WestNewtonT-2	Assess and determine best action to prevent further erosion along Vernon Drive.	2	2	1	3	1	1.8
WestNewtonT-3	Develop a Flood Control Project to minimize damage from Stormwater Flash Flooding events that damage properties and homes along Vernon Run.	1	1	1	3	1	1.3
WestNewtonB-4	Improve drainage infrastructure on Atomic Way.	3	3	1	3	3	2.6
WestNewtonB-5	Install a Flood Stream Gage on the western side of the West Newton Bridge to monitor and provide flood prediction tools.	2	2	1	2	1	1.7
WestNewtonB-6	Install back-up generator at Lion's Club to serve as a shelter during emergencies.	2	2	1	3	3	2.1

Initiative	Mitigation Action	Effectiveness	Efficiency	Multi-Hazard Mitigation	Addresses High-Risk Hazard	Addresses Critical Communications/ Critical Infrastructure	Priority
WestNewtonB-7	Install back-up generator at school to serve as a shelter during emergencies.	2	2	1	3	3	2.1
WestNewtonB-8	Install back-up generator at the gym to serve as a shelter during emergencies.	2	2	1	3	3	2.1
WestNewtonB-9	Protect West Newton Public Library to the 0.2% annual chance flood level.	3	3	1	3	3	2.6
WestNewtonB-10	Protect Fire Station 82 to the 0.2% annual chance flood level.	3	3	1	3	3	2.6
WestNewtonB-11	Protect Police Station 621 West Newton to the 0.2% annual chance flood level.	3	3	1	3	3	2.6
WestNewtonB-12	Protect the library to the 0.2% annual chance flood level.	3	3	1	3	3	2.6
WestNewtonB-13	Protect the Municipal Office to the 0.2% chance annual flood level.	3	3	1	3	3	2.6
WestNewtonB-14	Work with the nursing home/personal care center to protect the facility to the 0.2% annual chance flood level.	3	3	1	3	3	2.6
WestNewtonB-15	Protect the post office to the 0.2% annual chance flood level.	3	3	1	3	3	2.6
WestNewtonB-16	Protect the West Newton Borough Sewage Treatment Plant to the 0.2% annual chance flood level.	3	3	1	3	3	2.6
WestNewtonB-17	Repair Orr Rd, and hillside, which will restore road back to 2 lanes.	2	2	1	2	1	1.7
WestNewtonB-18	Replace back-up generator for West Newton Volunteer Fire Company Station 82.	2	2	1	2	3	2.0
WestNewtonB-19	Replace back-up power generator for EMS station.	2	2	1	3	3	2.1
WestNewtonB-20	Replace collapsed road in the northern part of West Newton Borough.	2	2	1	2	1	1.7
WestNewtonB-21	Separate the combined storm water and sewage lines 2/3rd of the Borough.	2	2	2	3	1	2.0
WestNewtonB-22	Separate the combined storm water and sewage lines on the east side of town.	2	2	2	3	1	2.0
WestNewtonB-23	Work with Chemstation facility owner to protect it to the 0.2% annual chance flood level.	3	3	1	3	3	2.6
WestNewtonB-24	Work with Verizon West Newton Co (PA59172) Facility owner to protect it to the 0.2% annual chance flood level.	3	3	1	3	3	2.6
WestNewtonB-25	Work with West Newton Borough Hazmat facility owner to protect it to the 0.2% annual chance flood level.	3	3	1	3	3	2.6
YoungstownB-1*	Improve drainage on Sawmill Run, Route 982.	2	2	1	3	1	1.8
YoungwoodB-1	Assess and determine best action to further prevent further erosion from driveway onto Silvis Farm Road.	2	2	1	3	1	1.8
YoungwoodB-2	Assess and determine best action to prevent further erosion at Jacks Run streambank.	2	2	1	3	1	1.8
YoungwoodB-3	Assess and determine best action to prevent further erosion on Wineman Lane.	2	2	1	3	1	1.8
YoungwoodB-4	Demolition of dilapidated homes to prevent fires.	2	3	1	3	0	2.0
YoungwoodB-5	Improve drainage along Depot St and Jacks Run.	2	2	1	3	1	1.8
YoungwoodB-6	Improve drainage along Route 119.	2	2	1	3	1	1.8
YoungwoodB-7	Improve infrastructure along S 5th Street.	2	2	1	3	1	1.8
YoungwoodB-8	Install additional stormwater runoff pipes and upgrade/replace deteriorated pipes.	2	2	1	3	1	1.8
YoungwoodB-9	Install larger pipes along Clawson Avenue to improve drainage.	2	2	1	3	1	1.8
YoungwoodB-10	Protect Youngwood Borough STP to the 0.2% annual chance flood level.	3	3	1	3	3	2.6

Initiative	Mitigation Action	Effectiveness	Efficiency	Multi-Hazard Mitigation	Addresses High-Risk Hazard	Addresses Critical Communications/ Critical Infrastructure	Priority
YoungwoodB-11	Replace culvert on 5th and Hillis.	2	2	1	3	1	1.8
YoungwoodB-12	Slow traffic through Borough-Route 119	3	3	1	2	3	2.5
YoungwoodB-13	Upgrade/replace existing pipes installed by private property owners on Clawson Avenue.	2	2	1	3	1	1.8

* Project is currently not eligible for FEMA mitigation funding. The municipality did not participate in the planning process.

The actions in Table 6-7 are listed in order of priority, with the high priority actions first. This list of actions is the result of the planning effort led by the Planning Team and represents what the county and municipalities consider most important. Any actions, including projects, to be implemented will have benefits outweighing their associated costs (i.e., the benefit-cost ratio would be greater than 1).

A blank Mitigation Action Worksheet template is included in Appendix G. The set of completed action worksheets and a table summarizing the worksheets by jurisdiction are presented in Appendix H.

Table 6-7. Prioritized Mitigation Actions

Mitigation Action		Score
High Priority		
AlleghenyT-4*	Improve stormwater runoff and sewage at High Meadows Mobile Home Park.	2.6
AlleghenyT-8*	Work with Kiski Valley Water Pollution Control Authority to protect its facility to the 0.2% annual chance flood level.	2.6
AronaB-1	Protect the post office to the 0.2% annual chance flood level.	2.6
AvonmoreB-3*	Protect Avonmore Borough STP to the 0.2% annual chance flood level.	2.6
AvonmoreB-4*	Work with Avonmore Borough hazmat facility owner to protect it to the 0.2% chance flood level.	2.6
CookT-2	Work with General Carbide Corp/Plant 1 facility owner to protect it to the 0.2% annual chance flood level.	2.6
CookT-3	Work with General Carbide Corp/Plant 3 facility owner to protect it to the 0.2% chance flood level.	2.6
DerryB-4*	Protect Police Station 420 Derry Borough to the 0.2% annual chance flood level.	2.6
DerryB-5*	Work with Verizon Derry Co facility owner to protect it to the 0.2% annual chance flood level.	2.6
DerryT-1	Protect Fire station 92-1 facility to the 0.2% annual chance flood level.	2.6
DerryT-10	Work with Derry Township Hazmat facility owner to protect it to the 0.2% annual chance flood level.	2.6
EastHuntingdonT-5*	Protect Southmoreland High School from the 0.2% annual chance flood level.	2.6
EastHuntingdonT-7*	Work with Suburban Propane LP facility owner to protect it to the 0.2% annual chance flood level.	2.6
EastHuntingdonT-8*	Work with Westmoreland / Fayette Municipal Sewage Authority facility owner to protect it to the 0.2% annual chance flood level.	2.6
ExportB-3	Protect the MDJ facility to the 0.2% annual chance flood level.	2.6
ExportB-4	Protect the Municipal Office to the 0.2% chance annual flood level.	2.6
GreensburgC-10	Improve stormwater drainage infrastructure in Saybrook Village.	2.6
HempfieldT-15	Protect New Stanton STP to the 0.2% annual chance flood level.	2.6
HempfieldT-17	Work with First Student, Inc #25067 facility owner to protect it to the 0.2% annual chance flood level.	2.6
IrwinB-6	Protect Norwin Public Library to the 0.2% annual chance flood level.	2.6
JeannetteC-10	Protect Jeannette WPCP to the 0.2% annual chance flood level.	2.6
LigonierB-2	Protect Ligonier Valley School District office to the 0.2% annual chance flood level.	2.6
LigonierT-10	Protect Ligonier WPCP to the 0.2% annual chance flood level.	2.6
LigonierT-12	Work with Ligonier Construction Company facility owner to protect it to the 0.2% annual chance flood level.	2.6
LowerBurrellC-1	Work with Braeburn Alloy Steel facility owner to protect it to the 0.2% annual chance flood level.	2.6
LowerBurrellC-2	Work with Hazmat facility owner to protect it to the 0.2% annual chance flood level.	2.6
ManorB-4	Protect Cameron Drive and Brandywine Residential area to the 0.2% annual chance flood level.	2.6
ManorB-5	Protect Police Station 121 Manor to the 0.2% annual chance flood level.	2.6
ManorB-6	Protect the Municipal Office to the 0.2% chance annual flood level.	2.6

Mitigation Action		Score
MonessenC-12	Protect Monessen Public Library to the 0.2% annual chance flood level.	2.6
MonessenC-13	Protect Police Station 071 Monessen to the 0.2% annual chance flood level.	2.6
MonessenC-14	Protect SPHS Child Learning Center Monessen Site to the 0.2% annual chance flood level.	2.6
MonessenC-15	Protect the Municipal Office to the 0.2% chance annual flood level.	2.6
MonessenC-27	Work with ArcelorMittal Monessen Coke Plant facility owner to protect it to the 0.2% annual chance flood level.	2.6
MonessenC-28	Work with Steel Fusion Clinical Toxicology Laboratory facility owner to protect it to the 0.2% annual chance flood level.	2.6
MountPleasantT -1	Work with Laurelville Church Center facility owner to protect it to the 0.2% annual chance flood level.	2.6
MountPleasantT -2	Work with MAX Environmental Technologies, Inc./Yukon facility owner to protect it to the 0.2% annual chance flood level.	2.6
MountPleasantT -3	Work with Mount Pleasant Township facility owner to protect it to the 0.2% annual chance flood level.	2.6
MurrysvilleM-3	Assess and determine best action to prevent further erosion on the streambanks along Turtle Creek.	2.6
MurrysvilleM-4	Assess and determine solutions to mitigate further pollution of Noca Road-AMD and Borland Farm Road-AMD.	2.6
MurrysvilleM-6	Assess and determine the best action to prevent further erosion of Haymaker Run.	2.6
MurrysvilleM-7	Assess and determine the best action to prevent further erosion of Trout Haven Drive.	2.6
MurrysvilleM-11	Protect Murrysville Community Library to the 0.2% annual chance flood level.	2.6
NewFlorenceB-2*	Protect EMS 711 Laurel Valley station to the 0.2% annual chance flood level.	2.6
NewFlorenceB-3*	Protect Fire station 46 to the 0.2% annual chance flood level.	2.6
NewFlorenceB-4*	Protect New Florence Public Library to the 0.2% annual chance flood level.	2.6
NewFlorenceB-5*	Protect Police Station 048 New Florence to the 0.2% annual chance flood level.	2.6
NewKensingtonC-2	Protect New Kensington-Arnold School District office to the 0.2% annual chance flood level.	2.6
NewKensingtonC-3	Protect Valley High School to the 0.2% annual chance flood level.	2.6
NewKensingtonC-4	Work with Cannon Boiler Works Inc facility owner to protect it to the 0.2% annual chance flood level.	2.6
NewStantonB-2*	Assess and determine best action to prevent further erosion from urban impacts along the PA Turnpike.	2.6
NewStantonB-3*	Protect Center Ave and Chanticleer Residential area to the 0.2% annual chance flood level.	2.6
NorthBelleVernonB-2*	Protect the First Baptist Church to the 0.2% annual chance flood level.	2.6
NorthHuntingdonT-16	Work with Cleveland/Price, Inc. facility owner to protect it to the 0.2% annual chance flood level.	2.6
NorthHuntingdonT-17	Work with Hazmat facility owner to protect it to the 0.2% annual chance flood level.	2.6
PennT-18	Prevent further pollution of AMD at Penny Lane.	2.6
PennT-19	Protect AMD at Boxcartown Road from further pollution.	2.6
PennT-22	Work with Triumvirate Environmental of Pittsburgh Inc facility owner to protect it to the 0.2% annual chance flood level.	2.6
RostraverT-4*	Protect Elks Place to the 0.2% annual chance flood level.	2.6
RostraverT-5*	Work with facility owner to protect Farnham and Pfile Rental and Sales to the 0.2% chance annual flood level.	2.6
RostraverT-6*	Protect Fire station 31 facility to the 0.2% annual chance flood level.	2.6
RostraverT-7*	Protect Speers Run from urban impacts, habitat loss, and pollution.	2.6
RostraverT-8*	Protect Trailer Court to the 0.2% annual chance flood level.	2.6
RostraverT-10*	Work with the owner of Pricedale Shopping Center to protect the facility to the 0.2% annual chance flood level.	2.6

Mitigation Action		Score
RostraverT-11*	Work with the property owner to protect of the Rostraver Road shopping center to the 0.2% annual chance flood level.	2.6
StClairT-2*	Work with daycare owner to protect Lori Clark Family Child Care Home facility to the 0.2% annual chance flood level.	2.6
StClairT-3*	Protect the Municipal Office to the 0.2% chance annual flood level.	2.6
SalemT-3	Flood proof sewage and AMD on Depot Street.	2.6
SalemT-10	Protect Salem Township EOC facility to the 0.2% annual chance flood level.	2.6
ScottdaleB-4	Protect Police Station 065 Scottdale to the 0.2% annual chance flood level.	2.6
ScottdaleB-5	Work with R E Uptegraff Manufacturing Co facility owner to protect it to the 0.2% annual chance flood level.	2.6
ScottdaleB-6	Work with Summerill Tube Corp facility owner to protect it to the 0.2% annual chance flood level.	2.6
SewardB-1*	Protect the Municipal Office to the 0.2% chance annual flood level.	2.6
SewickleyT-10	Protect Fire Station 16 to the 0.2% annual chance flood level.	2.6
SmithtonB-1	Assess and determine the best action for Dutch Hollow Road to prevent further erosion.	2.6
SmithtonB-6	Protect Fire Station 17 to the 0.2% chance annual flood level.	2.6
SmithtonB-7	Protect Police Station 627 Smithton Boro to the 0.2% annual chance flood level.	2.6
SmithtonB-8	Protect Smithton Public Library to the 0.2% annual chance flood level.	2.6
SmithtonB-9	Protect the Municipal Office to the 0.2% chance annual flood level.	2.6
SouthGreensburgB-2	Improve drainage along S. Main Street/Huff Avenue.	2.6
SouthwestGreensburgB-1	Work with Suburban Propane Heating Oil Partners facility owner to protect it to the 0.2% annual chance flood level.	2.6
SutersvilleB-1*	Improve drainage on 1st Street residential and commercial area.	2.6
SutersvilleB-2*	Work with the owner of the Nancy H Westerman Family Child Care Home to protect the facility to the 0.2% annual chance flood level.	2.6
SutersvilleB-3*	Protect the Municipal Office to the 0.2% chance annual flood level.	2.6
TraffordB-6	Work with Multi-Flow Industries facility owner to protect it to the 0.2% annual chance flood level.	2.6
UnityT-11	Work with the facility owner to protect the Growing Tree Child Development Center to the 0.2% annual chance flood level.	2.6
UnityT-12	Work with Leigh Specialty Melting Inc facility owner to protect it to the 0.2% annual chance flood level.	2.6
VandergriftB-1	Work with Ati FRPH, LLC-Vandergrift facility owner to protect it to the 0.2% annual chance flood level.	2.6
WestNewtonB-4	Improve drainage infrastructure on Atomic Way.	2.6
WestNewtonB-9	Protect West Newton Public Library to the 0.2% annual chance flood level.	2.6
WestNewtonB-10	Protect Fire Station 82 to the 0.2% annual chance flood level.	2.6
WestNewtonB-11	Protect Police Station 621 West Newton to the 0.2% annual chance flood level.	2.6
WestNewtonB-12	Protect the library to the 0.2% annual chance flood level.	2.6
WestNewtonB-13	Protect the Municipal Office to the 0.2% chance annual flood level.	2.6
WestNewtonB-14	Work with the nursing home/personal care center to protect the facility to the 0.2% annual chance flood level.	2.6
WestNewtonB-15	Protect the post office to the 0.2% annual chance flood level.	2.6
WestNewtonB-16	Protect the West Newton Borough Sewage Treatment Plant to the 0.2% annual chance flood level.	2.6
WestNewtonB-23	Work with Chemstation facility owner to protect it to the 0.2% annual chance flood level.	2.6
WestNewtonB-24	Work with Verizon West Newton Co (PA59172) Facility owner to protect it to the 0.2% annual chance flood level.	2.6
WestNewtonB-25	Work with West Newton Borough Hazmat facility owner to protect it to the 0.2% annual chance flood level.	2.6

Mitigation Action		Score
YoungwoodB-10	Protect Youngwood Borough STP to the 0.2% annual chance flood level.	2.6
Medium Priority		
PennT-11	Improve major highways to accommodate amount of traffic: Route 130, Pleasant Valley, Hyland.	2.5
PennT-12	Improve most roads within the Township to make them safer.	2.5
PennT-13	Install a blinker light at Mullor Road and Claridy Export Road.	2.5
PennT-14	Install a turn restriction for tractor trailers at the traffic light at SR 993/Walnut and SR 130.	2.5
PennT-16	Intersections without designated left turn lane need to have "no left turn" sign posted.	2.4
PennT-17	Pave residential roads: Rose Acres, parts of Level Green Sunrise.	2.4
YoungwoodB-12	Slow traffic through Borough-Route 119.	2.3
TraffordB-2	Protect the Trafford Elementary School to the 0.2% annual chance flood level.	2.4
TraffordB-3	Protect the Westinghouse Dumpsite to the 0.2% annual chance flood level.	2.4
TraffordB-4	Protect townhomes on the west side of Trafford Borough to the 0.2% annual chance flood level.	2.4
WestmorelandC-1	Develop a task force with one individual from each municipality to work on the issues.	2.3
WestmorelandC-33	Work with dam operators to protect C-1 and C-2 dams to the 0.2% annual chance flood level.	2.3
AlleghenyT-7*	Replace and enhance stormwater runoff pipes in Moreland Manor.	2.3
GreensburgC-4	Assess and determine the best action to fix the stream walls along Jacks Run.	2.3
UnityT-10	Install a stormwater detention system in Lawson Heights.	2.3
WestmorelandC-26	Procure and maintain redundant power sources (portable generators).	2.1
WestmorelandC-27	Purchase or relocate structures located in hazard-prone areas to protect structures from future damage, with repetitive loss properties as a priority.	2.1
WestmorelandC-29	Retrofit structures located in hazard-prone areas to protect structures from future damage, with repetitive loss and severe repetitive loss properties as priority.	2.1
WestmorelandC-37	Conduct analysis of the high-hazard potential dams in Westmoreland County to meet the requirements of FEMA's HHPD Grant Program.	2.1
HarrisonC-2	Install back-up generators at Penn-Trafford High School.	2.1
HarrisonC-3	Install back-up generators at Trafford Elementary School.	2.1
HarrisonC-4	Install back-up generators at Level Green Elementary School.	2.1
HarrisonC-5	Install back-up generators at Penn-Trafford Middle School.	2.1
HunkerB-6	Procure and install a back-up generator into Hunker Borough EOC.	2.1
NorthIrwinB-2*	Improve stormwater drainage to mitigate alleyway runoff.	2.1
PennT-1	Install a back-up generator at the Claridge Fire Department.	2.1
PennT-23	Install back-up generators at Sunrise Elementary School.	2.1
PennT-24	Install back-up generators at McCullough Elementary School.	2.1
PennT-25	Install back-up generators at Penn Middle School.	2.1
PennT-26	Install back-up generators at Harrison Park Elementary School.	2.1
SalemT-12	Install a static generator at Slickville Fire Department.	2.1
SalemT-13	Install a static generator at the Salem Township Municipal Building.	2.1
SalemT-14	Install a static generator at the Congruity United Presbyterian Church (emergency shelter).	2.1
SewickleyT-4	Procure and install a back-up generator into Hutchinson VFD Station 85.	2.1
SewickleyT-5	Procure and install a back-up generator into Lowber VFD Station 16.	2.1
SewickleyT-6	Procure and install back-up generator into Rillton VFD Station 14.	2.1
SmithtonB-3	Install emergency generator for Borough building/EOC.	2.1

Mitigation Action		Score
SmithtonB-4	Install generator at Smithton VFD to serve as a warming center during extended winter power outages.	2.1
UnityT-9	Install a back-up generator at the Harrison City Fire Department.	2.1
UpperBurrellT-4*	Procure and install an emergency generator.	2.1
WestNewtonB-6	Install back-up generator at Lion's Club to serve as a shelter during emergencies.	2.1
WestNewtonB-7	Install back-up generator at school to serve as a shelter during emergencies.	2.1
WestNewtonB-8	Install back-up generator at the gym to serve as a shelter during emergencies.	2.1
WestNewtonB-19	Replace back-up power generator for EMS station.	2.1
WestmorelandC-2	Acquire vacant, abandoned, or unsafe structures, especially those in hazard areas, and turn into open space.	2.0
LigonierT-5	Conduct a detailed flood study of Loyalhanna Creek.	2.0
MurrysvilleM-8	Conduct a thorough flood study of Turtle Creek.	2.0
WestNewtonB-18	Replace back-up generator for West Newton Volunteer Fire Company Station 82.	2.0
YoungwoodB-4	Demolition of dilapidated homes to prevent fires.	2.0
MonessenC-16	Rehabilitate 48" brick combination sewer interceptor in 12th Street from Reservoir Avenue to Schoonmaker Avenue.	2.0
MonessenC-17	Rehabilitate 48" brick combination sewer interceptor in 9th Street from Vine Street to Schoonmaker Avenue.	2.0
MonessenC-18	Rehabilitate 7'x5' brick combination sewer interceptor in the alley between Schoonmaker Avenue and Donner Avenue from 8th Street to 12th Street.	2.0
MonessenC-19	Rehabilitate 84" tin whistle storm sewer for entire length of Parente Boulevard.	2.0
MonessenC-20	Rehabilitate the 48" brick combination sewer interceptor for the entire length of 3rd Street.	2.0
MonessenC-21	Replace 42" brick combination sewer interceptor on hillside from Shawnee Park to Parente Boulevard.	2.0
WestNewtonB-21	Separate the combined storm water and sewage lines 2/3rd of the Borough.	2.0
WestNewtonB-22	Separate the combined storm water and sewage lines on the east side of town.	2.0
Low Priority		
WestmorelandC-10	Begin the process to adopt higher regulatory standards to manage flood risk and sinkhole risk.	1.8
WestmorelandC-35	Encourage homeowners to install appropriate devices to alleviate radon concentrations within homes.	1.8
HunkerB-1	Conduct demolition of abandoned home.	1.8
HunkerB-9	Retrofit community building to prevent flooding in basement.	1.8
WestmorelandC-32	Identify mitigation or structural projects to reduce vulnerability to stormwater flooding incidents from Crabtree Creek dividing Hempfield, Unity, and Salem Townships.	1.8
WestmorelandC-36	Work with PennDOT to improve drainage on Route 993 between Trafford and Irwin to prevent flooding.	1.8
AliquippaC-1	Identify mitigation or structural projects to reduce vulnerability to stormwater flooding incidents in Aliquippa.	1.8
AlleghenyT-1*	Assess and determine best action to prevent further erosion along Pine Run.	1.8
AlleghenyT-2*	Improve drainage along Lower Tunnel Hill.	1.8
AlleghenyT-3*	Improve drainage in Brookview residential area.	1.8
AlleghenyT-5*	Protect AMD and Pine Run from pollution.	1.8
ArnoldC-1*	Improve infrastructure along Thomas Blvd, Woodmont Ave, Ivy-Pine-Cherry Alleys, and Norne Boulevard.	1.8
AvonmoreB-1*	Assess and determine best action to prevent erosion at Indiana Avenue Extension.	1.8
AvonmoreB-2*	Assess and determine best action to prevent further erosion at Westmoreland Avenue.	1.8
BellT-1*	Assess and determine best action to prevent further erosion in Salina.	1.8
BellT-2*	Protect AMD near Wolford Run from pollution.	1.8
BolivarB-1*	Improve drainage infrastructure in Bolivar Borough.	1.8
CookT-1	Assess and determine the best action to prevent further erosion on Weaver Mill Road.	1.8
DelmontB-1*	Assess and determine best action to prevent erosion on Christie Road.	1.8

Mitigation Action		Score
DelmontB-2*	Improve drainage at Rose Court.	1.8
DelmontB-3*	Improve drainage infrastructure on Pittsburgh Street.	1.8
DerryB-1*	Improve drainage on 2nd Avenue.	1.8
DerryB-2*	Improve infrastructure on Shade Street.	1.8
DerryB-3*	Protect McGee Run from habitat loss and prevent further erosion.	1.8
DerryT-2	Assess and determine best action to prevent further erosion on Millwood Road.	1.8
DerryT-3	Assess and determine the best action to prevent further sedimentation of Conemaugh dam upstream.	1.8
DerryT-4	Improve drainage infrastructure along Redcut Lodge Road.	1.8
DerryT-5	Improve drainage infrastructure in residential areas.	1.8
DerryT-6	Improve drainage on Green Thumb Road.	1.8
DerryT-7	Improve drainage on Saxman Run.	1.8
DerryT-8	Improve infrastructure on Brenizer.	1.8
DerryT-9	Protect Saxman Run and AMD from pollution.	1.8
DonegalT-1	Assess and determine best action to mitigate sedimentation of Donegal Lake.	1.8
DonegalT-2	Assess and determine best action to prevent further erosion of Rock Canyon Road.	1.8
DonegalT-3	Assess and determine best action to prevent further erosion of Skyview Road.	1.8
DonegalT-4	Improve drainage infrastructure on Route 381.	1.8
EastHuntingdonT-1*	Improve drainage on Central Street.	1.8
EastHuntingdonT-2*	Improve drainage on Ruffsdale.	1.8
EastHuntingdonT-3*	Improve drainage; larger piping on Route 119 Smouse Road.	1.8
EastHuntingdonT-4*	Protect Buffalo Run AMD from pollution.	1.8
EastHuntingdonT-6*	Upgrade the culvert along Preacher Street with one with higher capacity.	1.8
ExportB-1	Assess and determine best action to prevent further erosion of Italy Road.	1.8
ExportB-2	Assess and determine best action to prevent further erosion on Puckety Drive.	1.8
ExportB-5	Protect Turtle Creek/Kennedy Avenue from urban impacts, pollution, habitat loss, and sedimentation.	1.8
FairfieldT-1*	Improve drainage along Love Hollow Road and Richmond Farm Lane.	1.8
FairfieldT-2*	Reconstruction of Patterson Bridge.	1.8
FairfieldT-3*	Assess and determine best action to prevent further erosion of Beaufords Road.	1.8
FairfieldT-4*	Assess and determine best action to prevent further erosion of Bridges Road.	1.8
FairfieldT-5*	Assess and determine the best action to prevent further erosions for Zufall Road.	1.8
GreensburgC-1	Assess and determine best action to prevent further erosion and pollution of Zellers Run.	1.8
GreensburgC-2	Elevate road or install a culvert along Catherine Street near Spino's Tires.	1.8
GreensburgC-5	Improve drainage on Highland Street; remove leaves from Church.	1.8
GreensburgC-6	Improve drainage in Lynch Field.	1.8
GreensburgC-7	Improve drainage on Dornin Street.	1.8
GreensburgC-8	Improve drainage pipe along Coal Tar Run.	1.8
GreensburgC-9	Improve infrastructure at Northmont.	1.8
HarrisonC-1	Improve drainage on Route 130 between Harrison City and Trafford to prevent flooding.	1.8
HempfieldT-2	Assess and determine best action to prevent further erosion along Dunn Road.	1.8
HempfieldT-3	Assess and determine best action to prevent further erosion at Little Sewickley Creek at Crib Station.	1.8

Mitigation Action		Score
HempfieldT-4	Assess and determine best action to prevent further erosion in Fort Allen neighborhood.	1.8
HempfieldT-5	Assess and determine best action to prevent further erosion/habitat loss on Sells Lane.	1.8
HempfieldT-6	Improve drainage at West Hempfield residential area.	1.8
HempfieldT-7	Improve drainage infrastructure at Stamford Drive to Green Valley in West Point.	1.8
HempfieldT-8	Improve drainage infrastructure on Holly Drive.	1.8
HempfieldT-9	Improve drainage on Carbon Road at Red Onion.	1.8
HempfieldT-10	Improve drainage on Hillis Street and Jacks Run.	1.8
HempfieldT-11	Improve drainage on Oakford Park route 130.	1.8
HempfieldT-12	Improve drainage within the 119 commercial area.	1.8
HempfieldT-13	Improve infrastructure on Brookside Drive.	1.8
HempfieldT-16	Replace the bridge over Slate Creek with a larger opening.	1.8
HunkerB-2	Implement the redirection of the stormwater catch basin at the intersection of Walnut and Bridge Street.	1.8
HunkerB-3	Improve infrastructure on Alexander Avenue.	1.8
HunkerB-5	Pave Bellson Street and install proper drainage to prevent flooding.	1.8
HunkerB-10	Retrofit Walnut Street Bridge to prevent erosion.	1.8
IrwinB-1	Improve drainage between Ash and Poplar Streets.	1.8
IrwinB-2	Improve drainage between Cypress and Elm Streets.	1.8
IrwinB-3	Improve drainage infrastructure along Conley Drive.	1.8
IrwinB-4	Prevent further habitat loss along Route 30 from commercial development.	1.8
IrwinB-5	Protect AMD and Tinkers Run from pollution from Rt 30.	1.8
JeannetteC-1	Assess and determine the best action to further prevent erosion on Bull Run.	1.8
JeannetteC-2	Assess and determine the best action to prevent further erosion of 12th Street.	1.8
JeannetteC-3	Improve drainage on 4th Street.	1.8
JeannetteC-4	Improve drainage on Locust Street.	1.8
JeannetteC-5	Improve stormwater drainage at Agnew Road at bottom of hill.	1.8
JeannetteC-9	Prevent habitat loss along Brush Creek and Down Run.	1.8
LatrobeB-1	Assess and determine best action to prevent further habitat loss/pollution of the Loyalhanna channel.	1.8
LatrobeB-2	Improve drainage at Sulfur Run and Raymond Avenue.	1.8
LaurelMountainB-1	Replace bridge over Nature Run Road with a larger opening.	1.8
LigonierB-1	Improve drainage on Loyalhanna Street.	1.8
LigonierB-3	Remove debris from Loyalhanna Creek and Mill Creek to improve drainage.	1.8
LigonierT-1	Assess and determine best action to prevent further erosion of Betz Road.	1.8
LigonierT-2	Assess and determine best action to prevent further erosion of Peoples Road.	1.8
LigonierT-3	Assess and determine best action to prevent further erosion of Tunnelton Road.	1.8
LigonierT-4	Assess and determine best action to prevent further erosion of unnamed trib to Hannas Run.	1.8
LigonierT-6	Improve drainage in Red Rock residential neighborhood.	1.8
LigonierT-7	Improve drainage infrastructure on Rector Road.	1.8
LigonierT-8	Improve drainage on Baltic Road.	1.8
LigonierT-9	Improve infrastructure on Hidden Valley Road.	1.8
LigonierT-11	Retrofit road across the street from 162 Nature Run, Laughlintown to prevent future erosion.	1.8
LowerBurrellC-3	Assess and determine best action to prevent further erosion on Edge Cliff Road.	1.8

Mitigation Action		Score
LowerBurrellC-4	Assess and determine best action to prevent further erosion on Route 56, Little Pucketa Creek.	1.8
LowerBurrellC-5	Assess and determine the best action to prevent further erosion of Pucketa Creek, Wildlife Lodge Road.	1.8
LowerBurrellC-6	Assess and determine the best action to prevent sedimentation on Watters Road/Burrell Lake Park Entrance.	1.8
LowerBurrellC-7	Improve drainage in Kinlock.	1.8
LoyalhannaT-1	Assess and determine best action to mitigate further pollution on Getty Run.	1.8
LoyalhannaT-2	Assess and determine best solution to prevent further erosion on Route 981 Loyalhanna Tributary.	1.8
ManorB-1	Assess and determine best action for Rowe Road to prevent further erosion.	1.8
ManorB-2	Assess and determine the best action to prevent further erosion from urban impacts along Bushy Run.	1.8
ManorB-3	Improve drainage infrastructure to prevent flooding at Ranbar Electrical and Materials.	1.8
MonessenC-1	Add storm drainage facilities to resolve flooding near the intersection of Grand Boulevard and State Road.	1.8
MonessenC-2	Add storm drainage facilities to resolve flooding on Cemetery Street.	1.8
MonessenC-3	Add storm drainage facilities to resolve flooding on Spring Drive.	1.8
MonessenC-4	Add storm drainage facilities to resolve the icing condition on State Road near the pump station.	1.8
MonessenC-5	Assess and determine best action for Parente Boulevard to prevent future erosion.	1.8
MonessenC-6	Assess and determine the best action for Tyrol Boulevard to prevent further erosion.	1.8
MonessenC-7	Improve storm drainage facilities to resolve icing condition on Grand Boulevard at Pleasant Drive.	1.8
MonessenC-22	Replace undersized culvert on Grand Boulevard to eliminate flooding at the intersection of Parente Boulevard and Grand Boulevard.	1.8
MtPleasantB-1	Assess and determine best action to prevent further erosion at Jacobs Creek at Laurelville Mennonite Camp.	1.8
MtPleasantB-2	Assess and determine best action to prevent further erosion of Shupe Run.	1.8
MtPleasantB-3	Assess and determine best action to prevent further erosion of Welty Run.	1.8
MtPleasantB-4	Assess and determine best action to prevent further sedimentation loss from Brush Run.	1.8
MtPleasantB-5	Improve drainage on Eagle Street.	1.8
MtPleasantB-6	Improve drainage on Warden Street.	1.8
MtPleasantB-7	Improve drainage piping at Ramsey Terrace.	1.8
MtPleasantB-8	Install additional stormwater runoff pipes and upgrade/replace existing deteriorated pipes.	1.8
MurrysvilleM-1	Assess and determine best action to prevent erosion of Sardis Road/Haymaker Run.	1.8
MurrysvilleM-2	Assess and determine best action to prevent further erosion of Kistler Road bank.	1.8
MurrysvilleM-5	Assess and determine the best action to prevent further erosion at Bear Hollow Park.	1.8
MurrysvilleM-9	Improve drainage along Forest Lane.	1.8
MurrysvilleM-10	Improve drainage on Hill Church Road.	1.8
NewFlorenceB-1*	Improve drainage infrastructure on Vine, 9th Chestnut Streets, New Florence Manor, Beech, Penn, 10th Walnut, Cherry.	1.8
NewKensingtonC-1	Assess and determine best action to prevent further erosion in Memorial Park.	1.8
NewStantonB-1*	Assess and determine best action for New Stanton Park to prevent further erosion.	1.8
NorthBelleVernonB-1*	Assess and determine best action for PennDOT I-70 to prevent further outfall erosion.	1.8
NorthHuntingdonT-1	Assess and determine best action to prevent further erosion and habitat loss along Adams Drive, Harold Drive, and Roth Drive.	1.8
NorthHuntingdonT-2	Assess and determine the best action to protect the township from landslides.	1.8
NorthHuntingdonT-3	Improve drainage along Barnes Lake Road at Clay Pike.	1.8

Mitigation Action		Score
NorthHuntingdonT-4	Improve drainage along McKee Road.	1.8
NorthHuntingdonT-5	Improve drainage infrastructure along Colt Drive culvert.	1.8
NorthHuntingdonT-6	Improve drainage infrastructure at the Westmoreland City VFD.	1.8
NorthHuntingdonT-7	Assess and determine best action to prevent further erosion along Long Run at Lincoln Highway.	1.8
NorthHuntingdonT-8	Assess and determine best action to prevent further erosion at Brush Creek ballfields.	1.8
NorthHuntingdonT-9	Assess and determine best action to prevent further erosion of channel near Mickanin Road.	1.8
NorthHuntingdonT-10	Assess and determine best action to prevent further habitat loss along Tinkers Run at PA Turnpike.	1.8
NorthHuntingdonT-11	Improve drainage along Frog Road.	1.8
NorthHuntingdonT-12	Improve drainage along Park Hill Road.	1.8
NorthHuntingdonT-13	Improve drainage at Turner Valley Soccer Fields along Crawford Run.	1.8
NorthHuntingdonT-14	Improve drainage from PennDOT to Browntown Road.	1.8
NorthHuntingdonT-15	Replace the 1st Street Bridge.	1.8
NorthIrwinB-1*	Improve drainage infrastructure on 4th Street at the park.	1.8
NorthIrwinB-3*	Install drainage ditches along Coal Run to reduce runoff onto the roadway.	1.8
NorthIrwinB-4*	Upgrade drainage piping in North Huntingdon Township.	1.8
PennT-2	A plan needs to be created and funds allocated to address outdated stormwater infrastructure.	1.8
PennT-4	Fix existing catch basin at the corner of Rose and Pamela.	1.8
PennT-6	Improve drainage infrastructure at Fawn Lawn and Pheasant Run Road.	1.8
PennT-7	Improve drainage infrastructure in Claridge.	1.8
PennT-8	Improve drainage on Concord Dr/4045.	1.8
PennT-9	Improve drainage on Denmark/Manor Road to prevent flooding.	1.8
PennT-10	Improve infrastructure in Level Green neighborhood.	1.8
PennT-20	Repair sinkholes on Pleasant Valley Road.	1.8
PennT-21	Stormwater rehabilitation and upgrade at Rose Acres.	1.8
RostraverT-1*	Assess and determine best action for Orr Road to prevent further erosion.	1.8
RostraverT-2*	Assess and determine best action for Rankin Road to prevent further erosion.	1.8
RostraverT-3*	Assess and determine best action for Webster Hollow to prevent further erosion.	1.8
StClairT-1*	Elevate structures on Robb Road that are at risk of flooding.	1.8
StClairT-4*	Reconstruct the River Hill Bridge.	1.8
StClairT-5*	Reconstruct the bridge over Baldwin Creek on Sugar Run Road.	1.8
SalemT-1	Assess and determine best action to prevent further erosion and habitat loss along Cloverleaf Road/Route 22.	1.8
SalemT-2	Assess and determine best action to prevent further erosion and pollution on Jobe Road/Beaver Run.	1.8
SalemT-4	General clearing and cleaning of streams.	1.8
SalemT-5	Improve drainage along Crabtree Creek and Hannastown.	1.8
SalemT-6	Improve drainage on Rock Springs Road.	1.8
SalemT-7	Improve drainage on Salem Drive bridge from Loyalhanna back-up.	1.8
SalemT-8	Improve infrastructure on Garden Way.	1.8
SalemT-9	Prevent further habitat loss in Shieldsburg.	1.8
SalemT-11	Protect Thorn Run from pollution.	1.8
ScottdaleB-2	Improve drainage on Little Sherrick Run Area.	1.8

Mitigation Action		Score
ScottdaleB-3	Improve drainage on Stauffer Avenue.	1.8
ScottdaleB-7	Improve drainage in West Park.	1.8
ScottdaleB-8	Improve drainage on Garfield Avenue.	1.8
ScottdaleB-9	Improve drainage on Parker Avenue.	1.8
ScottdaleB-10	Improve drainage on Penn Line.	1.8
ScottdaleB-11	Protect Stauffer Run from future habitat loss due to flooding.	1.8
SewickleyT-1	Assess and determine best action to prevent further erosion on Yukon Road, Sewickley Creek.	1.8
SewickleyT-2	Install stormwater drainage system along Pinewood Road.	1.8
SewickleyT-3	Procure a skid loader/grab attachment for storm cleanup and culvert clean out.	1.8
SewickleyT-8	Procure skid steer attachment to clear debris around culverts.	1.8
SewickleyT-9	Procure sweeper truck for stormwater management.	1.8
SewickleyT-11	Improve drainage along Lowber Road.	1.8
SewickleyT-12	Improve drainage infrastructure in Herminie.	1.8
SewickleyT-13	Protect Rillton from future habitat loss due to pollution.	1.8
SouthGreensburgB-1	Improve drainage along Slate Creek.	1.8
SouthHuntingdonT-1	Assess and determine best action to prevent from further erosion of Dutch Hollow Road.	1.8
SouthHuntingdonT-2	Improve stormwater management within the I70 commercial area.	1.8
TraffordB-1	Improve drainage along Mehaffey Hill in Trafford along Brush Creek to prevent flooding.	1.8
TraffordB-5	Update inadequate infrastructure.	1.8
UnityT-1	Assess and determine best action to prevent further erosion at Sewickley Creek at Phillips Road.	1.8
UnityT-2	Assess and determine the best action to prevent future erosion at Indian Camp Run along Bethel Church Road.	1.8
UnityT-3	Construct and install a new culvert in Lloydsville to enhance hydraulic capacity.	1.8
UnityT-4	Improve drainage at Nine Mile Run.	1.8
UnityT-5	Improve drainage in Baggaley.	1.8
UnityT-6	Improve drainage in Dorothy.	1.8
UnityT-7	Improve drainage on Route 30, 982 Cloverleaf.	1.8
UnityT-8	Improve stormwater infrastructure in Edgewater Terrace.	1.8
UpperBurrellT-1*	Assess and determine best action to prevent further erosion on Turkey Ridge Road from Whitten Hollow Road to Barnview Lane.	1.8
UpperBurrellT-2*	Improve drainage infrastructure at Lincoln Beach.	1.8
UpperBurrellT-3*	Improve drainage infrastructure at Lower Drennen Road.	1.8
WashingtonT-1	Assess and determine the best action to prevent further erosion of Owens Road.	1.8
WashingtonT-2	Assess and determine the best action to prevent further erosion of Paulton.	1.8
WashingtonT-3	Improve drainage along Pine Run Creek/Meadows Mobile Home Park, replace undersized culverts.	1.8
WashingtonT-4	Improve drainage infrastructure on Jefferson Drive.	1.8
WestLeechburgB-1	Assess and determine best action to prevent erosion on 1st Avenue.	1.8
WestNewtonT-1	Add drainage piping to control and direct existing natural tributary that runs near residential homes and businesses.	1.8
WestNewtonT-2	Assess and determine best action to prevent further erosion along Vernon Drive.	1.8
YoungstownB-1*	Improve drainage on Sawmill Run, Route 982.	1.8

Mitigation Action		Score
YoungwoodB-1	Assess and determine best action to further prevent further erosion from driveway onto Silvis Farm Road.	1.8
YoungwoodB-2	Assess and determine best action to prevent further erosion at Jacks Run streambank.	1.8
YoungwoodB-3	Assess and determine best action to prevent further erosion on Wineman Lane.	1.8
YoungwoodB-5	Improve drainage along Depot St and Jacks Run.	1.8
YoungwoodB-6	Improve drainage along Route 119.	1.8
YoungwoodB-7	Improve infrastructure along S 5th Street.	1.8
YoungwoodB-8	Install additional stormwater runoff pipes and upgrade/replace deteriorated pipes.	1.8
YoungwoodB-9	Install larger pipes along Clawson Avenue to improve drainage.	1.8
YoungwoodB-11	Replace culvert on 5th and Hillis.	1.8
YoungwoodB-13	Upgrade/replace existing pipes installed by private property owners on Clawson Avenue.	1.8
HunkerB-4	Install sub-flooring to prevent roadway along Locust Street from sinking.	1.7
JeannetteC-6	Improve the design of intersection on Route 130.	1.7
JeannetteC-7	Improve the design of merging lanes on Route 130 before Jeannette.	1.7
JeannetteC-8	Improve the design of Western Ave by adding guardrails along the creek.	1.7
MonessenC-23	Replace washed out subbase and concrete pavement on 12th Street.	1.7
MonessenC-24	Replace washed out subbase and concrete pavement on Herron Street.	1.7
MonessenC-25	Replace washed out subbase and concrete pavement on Nash Avenue.	1.7
SewickleyT-7	Procure remote receive sites to enhance communications.	1.7
WestNewtonB-5	Install a Flood Stream Gage on the western side of the West Newton Bridge to monitor and provide flood prediction tools.	1.7
WestNewtonB-17	Repair Orr Rd, and hillside, which will restore road back to 2 lanes.	1.7
WestNewtonB-20	Replace collapsed road in the northern part of West Newton Borough.	1.7
WestmorelandC-16	Develop and maintain an outreach program to provide information and guidance to municipalities on their role in floodplain management.	1.6
WestmorelandC-28	Regulate development to reduce flood losses in vulnerable fluvial areas.	1.6
WestmorelandC-4	Work with hazmat facilities to inform them of the hazards they face and ensure emergency plans are current.	1.5
WestmorelandC-5	Work with police departments in each municipality to ensure their emergency plans are updated and inform them of the hazard areas in which they are located.	1.5
WestmorelandC-6	Work with daycare owners/operators in each municipality to ensure their emergency plans are updated and inform them of the hazard areas in which they are located.	1.5
WestmorelandC-7	Update County COOP/COG Plan.	1.5
WestmorelandC-8	Work with dam owners and operators to ensure EAPs are current for all -1 and -2 dams.	1.5
WestmorelandC-9	Work with schools and school districts to inform them of the hazards they face and ensure emergency plans are current.	1.5
GreensburgC-3	Enforce code ordinances to raise property values and prevent houses from falling into disrepair.	1.5
HempfieldT-1	Work with UPitt Greensburg to ensure they know what hazard areas they are in and develop/update emergency plans.	1.5
HempfieldT-18	Work with Seton Hill to ensure they know what hazard areas they are in and develop/update emergency plans.	1.5
HempfieldT-19	Work with Westmoreland Community College to ensure they know what hazard areas they are in and develop/update emergency plans.	1.5
MonessenC-8	Mine subsidence on Coolidge Avenue.	1.5
MonessenC-10	Protect city from future landslides.	1.5
SmithtonB-2	Install a flood wall or stream bank stabilization to prevent future erosion.	1.5
SmithtonB-5	Install rip-rap gabions along Sulphur Creek.	1.5

Mitigation Action		Score
SmithtonB-10	Stabilize steep cliffside below Route 981 all the way down the stream bed.	1.5
UnityT-13	Work with St. Vincent College to ensure they know what hazard areas they are in and develop/update emergency plans.	1.5
UpperBurrellT-5*	Work with PSU New Kensington to ensure they know what hazard areas they are in and develop/update emergency plans.	1.5
AlleghenyT-6*	Remove stone from washout on Alter Road.	1.5
GreensburgC-4	Get a cab company for the city.	1.5
GreensburgC-11	Install speed bump on Belmont Street by daycare.	1.5
PennT-3	Conduct a traffic light study in Harrison City for more efficient timing.	1.5
PennT-5	Hire more public works employees.	1.5
ScottdaleB-1	Improve drainage in West Park Area (Anderson Run).	1.5
HunkerB-8	Repair small sinkhole in front of fire department.	1.4
MonessenC-26	Restore UNT-1 to the Monongahela River and add retention pond on Grand Boulevard between Euclid Drive and the gas stations to eliminate flooding at the intersection of Parente Boulevard and Grand Boulevard.	1.4
RostraverT-9*	Work with the facility owner to repair sinkhole behind BF Foods Service station.	1.4
WestmorelandC-3	Assess all roads and truck routes used by natural gas operators to prevent accidents and spills from hazardous waste trucks.	1.3
WestmorelandC-11	Complete the ongoing updates of the Comprehensive Plans.	1.3
WestmorelandC-18	Enhance the Westmoreland County Stormwater Management Plan by implementing Phase 2 of the plan.	1.3
WestmorelandC-19	Have designated NFIP Floodplain Administrator become a Certified Floodplain Manager through the ASFPM and pursue relevant continuing education training such as FEMA Benefit-Cost Analysis.	1.3
WestmorelandC-23	Maintain compliance with and be in good standing in the NFIP, including adoption and enforcement of floodplain management requirements, floodplain identification and mapping, and flood insurance outreach to the community.	1.3
WestmorelandC-24	Participate in the Community Rating System (CRS) to further manage flood risk and reduce flood insurance premiums for NFIP policyholders.	1.3
WestNewtonT-3	Develop a Flood Control Project to minimize damage from Stormwater Flash Flooding events that damage properties and homes along Vernon Run.	1.3
JeannetteC-11	Remove high risk/deficient structurally unsound dam that pose a flooding threat to the community.	1.2
WestmorelandC-12	Create/enhance/maintain mutual aid agreements with neighboring counties/communities for continuity of operations.	1
WestmorelandC-13	Develop a hazard event GIS database to help county and local emergency managers with hazard mitigation and other planning initiatives.	1
WestmorelandC-14	Develop and distribute educational information on hazards, emergency preparedness, and fire prevention.	1
WestmorelandC-15	Develop and distribute public outreach materials on water conservation.	1
WestmorelandC-17	Develop geospatial and analytical tools to support community engagement, policy reform, and county and regional planning efforts.	1
WestmorelandC-20	Identify and develop agreements with entities that can provide support with FEMA/PEMA paperwork after disasters.	1
WestmorelandC-21	Implement seismic retrofits to vulnerable critical facilities.	1
WestmorelandC-22	Maintain and exercise continuity of government plan to enable the government to provide critical services during the interruption of business.	1
WestmorelandC-25	Partner with community groups and local organizations, including civic, business, town watch, faith-based, senior, special needs and tenant associations, to promote emergency preparedness and mitigation efforts.	1
WestmorelandC-30	Support and utilize an advanced warning system that provides emergency text and email alerts to the public.	1
WestmorelandC-31	Work with regional agencies to develop damage assessment capabilities at the local level through training programs and certification of qualified individuals.	1

Mitigation Action		Score
FairfieldT-6*	Develop and implement an action plan to mitigate recurring flooding on Creek Road.	1
HunkerB-7	Procure and install air conditioning units into community building/community shelter.	1
MonessenC-9	Open mine vents.	1
MonessenC-11	Protect Monessen City Park, stream bank from future erosion and habitat loss.	1
PennT-15	Install sidewalks in communities.	1
WestmorelandC-34	Educate Mariner East Pipeline well operators, compressor station operators, truck drivers and residents of hazardous materials, spills, well blowouts, exposure, etc.	0.8

Notes: ** Project is currently not eligible for FEMA mitigation funding. The municipality did not participate in the planning process.*

SECTION 7 PLAN MAINTENANCE PROCEDURES

This section describes updates made to the plan since 2015 (Section 7.1); the system to monitor, evaluate, and update the HMP established by Westmoreland County and all participating jurisdictions (Section 7.2); and the strategy to continue public involvement for plan maintenance (Section 7.3).

7.1 Update Process Summary

Monitoring, evaluating, and updating the HMP is critical to maintaining relevance and supporting the success of Westmoreland County's hazard mitigation efforts. Ensuring effective implementation of mitigation activities paves the way for continued momentum in the planning process and supports future resiliency.

The Hazard Mitigation Working Group (HMWG) reviewed the 2015 plan maintenance procedures at its March 2019 meeting and carried those procedures forward to the current HMP update, as described in the sections below. Going forward, the plan will continue to be available on the Westmoreland County Department of Public Safety (WC DPS) HMP website. The 2019 plan maintenance procedures describe the ways in which this plan can be integrated into other planning mechanisms in the county.

7.2 Monitoring, Evaluating, and Updating the Plan

The HMWG intends to remain intact as the organization responsible for monitoring, evaluating, and updating this plan. The WC DPS Deputy Emergency Management Coordinator will continue to serve as HMP Coordinator for the HMWG and Planning Team. Each participating jurisdiction is expected to retain a municipal hazard mitigation representative to support the jurisdiction's input to the monitoring, evaluating, and updating responsibilities identified in this section. Members of the HMWG are listed in Section 3.

Understanding that individual commitments change over time, each jurisdiction and its representatives are responsible for informing the Westmoreland County HMP Coordinator of any changes in representation by formal letter. The HMP Coordinator will strive to keep the HMWG makeup as a representation of planning partners and stakeholders within the county. The HMP Coordinator shall maintain the current membership of the HMWG on the Westmoreland County HMP website (https://www.co.westmoreland.pa.us/1853/Hazard-Mitigation-Plan) or in publicly-accessible county records.

Several municipalities in Westmoreland County did not participate in the 2017-2020 HMP update process and are therefore currently not eligible for federal mitigation funding to implement their projects. Each of these municipalities can elect to join the 2020 HMP by working with the Westmoreland County HMP Coordinator to complete the following steps:

1. Review and complete the information packet provided by the Westmoreland County HMP Coordinator which includes:
    a. A link to the County's HMP.
    b. Mitigation Plan Worksheets:
        i. Hazard Identification and Risk Evaluation Worksheet.
        ii. Capability Assessment Survey.
        iii. Mitigation Strategy 5-Year Mitigation Plan Review.
        iv. National Flood Insurance Program (NFIP) Survey.
    c. Catalog of Hazard Mitigation Alternatives.
    d. Copy of Section 201.6 of Chapter 44, the Code of Federal Regulations (44 CFR), which defines the federal requirements for a Local HMP.
2. Provide information on the hazards and risks that can affect its operations, residents, businesses, property, and environment.
3. Provide information on its capabilities.
4. Provide an update on the status of its mitigation actions from the 2015 version of the HMP.

5. Identify mitigation actions to include in the current HMP.
6. Adopt the current HMP by resolution (see Section 8).

The new jurisdiction will be required to review the HMP, including the following key components:

- Risk Assessment.
- Goals and Objectives.
- Mitigation Actions.
- Plan Maintenance Procedures.

Information in steps 2-4 above can be accomplished by completing the information gathering worksheets that were used during the planning process. Municipalities that already adopted the 2020 HMP will not have to re-adopt the 2020 HMP after another municipality's information is added to the document.

The new jurisdiction will be required to develop a public involvement strategy including activities to engage the public to participate in the plan development process. At a minimum, at the onset of this linkage process and prior to adoption by the governing body, the new jurisdiction must solicit public opinion on hazard mitigation and hold a minimum of one public meeting to present their draft jurisdiction-specific content for comment. The Planning Team will have available resources to aid in the public involvement strategy, such as the HMP website; however, the new jurisdiction will be responsible for implementing and documenting their own strategy.

Once their public involvement strategy is completed, the new jurisdiction will submit the completed set of information to the Westmoreland County HMP Coordinator for a pre-adoption review to ensure conformance with the county's plan. The Westmoreland County HMP Coordinator will review the information provided for the following:

- Documentation of public involvement strategy.
- Conformance of information with the guidelines outlined by the HMP Coordinator.
- Documentation of vulnerability of the new jurisdiction to the hazards of concern.
- Rank of each hazard in accordance with Section 4.4.
- Consistency of chosen actions with HMP's goals and objectives.
- Completion of mitigation action worksheets for each project included in the HMP.
- Verification that the updated information does not change the HMP in any way for any municipalities that had participated in the 5-year HMP update.

The Westmoreland County HMP Coordinator can ask members of the HMWG to complete this review. All new information will be submitted to the HMWG for members' review and comment prior to the information being submitted to PEMA.

After the HMWG accepts the additional information from the new municipalities, the HMP Coordinator will update the HMP with the new information. The HMP Coordinator will submit the updated version of the HMP to PEMA for review, along with a cover letter detailing the information that was added to the approved HMP to include the new municipality.

PEMA will review the updated version of the HMP for compliance with the DMA 2000 and PEMA's Standard Operating Guide (SOG). If the updated version of the HMP meets PEMA's requirements, PEMA will forward the updated HMP to FEMA Region III for review. FEMA Region III will review the updated HMP and provide feedback on areas that do not meet federal requirements. The HMP Coordinator will work with the HMWG and the new municipality to correct any deficiencies and resubmit the updated HMP to FEMA Region III until the updated HMP receives "approvable pending adoption" status for the new municipality.

The new municipality will then adopt the updated HMP by resolution (see Section 8) and forward the adoption resolution to the HMP Coordinator. The HMP Coordinator will forward the resolution to PEMA, and PEMA will forward it to FEMA Region III. FEMA Region III then will approve the updated HMP for the new municipality and will document that approval in a letter to the municipality. Regardless of how long has passed

since the HMP was approved for the county, the HMP will expire for the new municipality on the original expiration date for the County HMP(i.e., 5 years after the County adopted the HMP).

The following sections describe the monitoring, evaluating, and updating processes and protocols for the Westmoreland County HMP.

7.2.1 Monitoring

The HMWG will be responsible for monitoring implementation, evaluating the effectiveness of the HMP, documenting this information in a progress report, and conducting an annual progress meeting of the Planning Team (described in Section 7.2.2 below). Prior to the Planning Team progress meetings, HMWG representatives might collect information from departments, agencies, and organizations involved with the mitigation activities identified in Section 6 (Mitigation Strategy). The HMWG representatives will make phone calls, conduct meetings with persons responsible for initiating or overseeing the mitigation projects to obtain progress information, and collect copies of any grant applications filed on behalf of any of the participating jurisdictions. The Westmoreland County HMP Coordinator will work with municipal representatives to provide additional opportunities for members of the public to learn about the hazards they face and information to be incorporated into the HMP. FEMA's National Flood Hazard Layer tools can be used as an interactive tool to facilitate this process. Further, municipal representatives will obtain from their municipal supervisor, mayor, or councilperson any public comments made on the plan and provide them to the HMWG for inclusion in the progress report.

The HMWG will be expected to document the following, as needed and as appropriate:

- Additional stakeholders (such as planning agencies and business representatives) who should be invited to participate in the planning process.
- Additional local assets (such as major employers, local points of interest, residential areas) to consider in the risk assessment and mitigation strategy for more detail of what each municipality considers vital.
- Hazard events and losses occurring in the jurisdiction, including their nature and extent, as well as the effects that hazard mitigation actions have had on those impacts and losses.
- Progress on the implementation of mitigation actions, including efforts to obtain outside funding for mitigation actions.
- Any obstacles or impediments to the implementation of actions.
- Additional mitigation actions believed to be appropriate and feasible.
- Floodplain management actions in accordance with the National Flood Insurance Program (NFIP) occurring in the municipality (through completion of the NFIP Survey worksheet).
- Public and stakeholder input and comments on the plan.

The HMWG may use the progress reporting forms (Worksheets #1 and #3 in the FEMA 386-4 guidance document) to facilitate collection of progress data and information on specific mitigation actions.

In addition to the ongoing HMWG meetings that will occur after the 2019 HMP is approved, WC DPS conducts quarterly training sessions for Westmoreland County's municipal emergency management coordinators (EMC). At each of these EMC training sessions, the Westmoreland County HMP Coordinator will solicit information about the hazards that affect each municipality, changes in capabilities, and updates to the mitigation strategy.

7.2.2 Evaluating

The evaluation of the HMP is an assessment of whether (1) the planning process and actions have been effective, (2) the plan's goals are being reached, and (3) changes are needed. The plan will be evaluated on an annual basis to determine the effectiveness of the programs and to reflect changes that may affect mitigation priorities or available funding.

The status of the HMP will be discussed and documented at a plan review meeting of the entire Hazard Mitigation Planning Team. At least one month before the progress plan review meeting, the Westmoreland County HMP Coordinator will advise Planning Team members of the meeting date, agenda, and expectations of the members. The Westmoreland County HMP Coordinator might distribute additional flood mitigation survey and mitigation project opportunity forms for jurisdictions that could have new information or did not participate in the update process.

The Westmoreland County HMP Coordinator will be responsible for calling and coordinating the progress plan review meeting and assessing progress toward achieving plan goals and objectives. The evaluations will assess the following:

- Goals and objectives address current and expected conditions.
- The nature or magnitude of the risks has changed.
- The HMP was incorporated into land-use processes on the county and municipal levels.
- Current resources are appropriate for implementing the HMP or that different or additional resources are now applicable.
- Actions are cost effective.
- Schedules and budgets are feasible.
- Implementation problems exist—such as technical, political, legal, or coordination issues with other agencies.
- Outcomes occurred as expected.
- Changes in county or municipal resources, such as funding, personnel, or equipment, impacted plan implementation.
- New agencies, departments, or staff that should be included, such as other local governments as defined under 44 *Code of Federal Regulations* (CFR), Section 201.6.
- Documentation was completed for any hazards that occurred during the last year.

Specifically, the HMWG and Planning Team will review the mitigation goals, objectives, activities, and projects using the following performance-based indicators:

- New agencies or departments created that have authority to implement mitigation actions or are required to meet goals, objectives, and actions.
- Project evaluation based on current needs of the mitigation plan.
- Project completion regarding progress of proposed or ongoing actions.
- Under or over spending regarding proposed mitigation action budgets.
- Achievement of the goals and objectives.
- Resource allocation noting whether resources are required to implement mitigation activities.
- Timeframe comments on whether proposed schedules can sufficiently address actions.
- Budget discussion noting whether proposed funding can sufficiently cover costs.
- Lead or support agency commitment notes and if there is a lack of commitment on the part of lead or support agencies.
- Resource comments regarding whether resources are available to implement actions.
- Feasibility comments regarding whether certain goals, objectives, or actions prove to be unfeasible.

The Planning Team will evaluate the ways other programs and policies conflicted or augmented planned or implemented measures. The team will identify policies, programs, practices, and procedures that could be modified to accommodate hazard mitigation actions, as described in Section 5.2.6 (Plan Integration). These other programs and policies can include those that address the following:

- Economic development
- Environmental preservation and permitting
- Historic preservation
- Redevelopment
- Health and safety
- Recreation
- Land use and zoning
- Public education and outreach
- Transportation

The Planning Team can refer to the evaluation forms (Worksheets #2 and #4 in the FEMA 386-4 guidance document) to assist in the evaluation process.

Following each year's Planning Team meeting, the HMWG will establish a schedule for the draft development, review, comment, amendment, and submission of the HMP progress report to the State Hazard Mitigation Officer. The Westmoreland County HMP Coordinator will be responsible for preparing the HMP progress report based on the local progress reports provided by each jurisdiction, information presented at the Planning Team meeting, and other information as appropriate and relevant. These reports will provide data for the 5-year update of this HMP and assist in pinpointing implementation challenges. By monitoring the implementation of the plan, the HMWG can assess projects that are completed, no longer feasible, or might require additional funding.

The HMP progress report will apply to all planning partners who provided input and be developed according to an agreed-upon format and with adequate allowance for input and comment of each planning partner prior to completion and submission to the State Hazard Mitigation Officer. Each planning partner will be responsible for providing this report to its governing body for their review.

In addition, the plan will be evaluated and revised by the HMWG following any major disasters to determine whether the recommended actions remain relevant and appropriate. The risk assessment will be revisited to see if any changes are necessary based on the pattern of disaster damages or if data listed in the Section 4.3 (Hazard Profiles) was collected to facilitate the risk assessment. Revisiting the risk assessment is an opportunity to increase the community's disaster resistance and build a better and stronger community.

7.2.3 Updating

Section 44 CFR 201.6.d.3 requires that local hazard mitigation plans be reviewed, revised (as appropriate), and resubmitted for approval to remain eligible for benefits awarded under the Disaster Mitigation Act of 2000 (DMA 2000). The Westmoreland County HMWG updates this plan on a 5-year cycle from the date of plan adoption.

To facilitate the update process, the Westmoreland County HMP Coordinator (with support from the HMWG) will hold a meeting 3 years from the date of plan approval to develop and commence with the implementation of a detailed plan update program. The Westmoreland County HMP Coordinator will invite representatives from PEMA to this meeting to provide guidance on plan update procedures. This program shall, at a minimum, establish (1) the parties responsible for managing and completing the plan update effort, (2) features needed to be included in the updated plan, and (3) a detailed timeline with milestones to ensure that the update is completed according to regulatory requirements.

At this meeting, the HMWG will determine the resources needed to complete the update. The Westmoreland County HMP Coordinator will be responsible for ensuring that needed resources are secured.

The Westmoreland County HMP Coordinator is responsible for coordinating the plan evaluation portion of the meeting, soliciting feedback, collecting and reviewing the comments, and ensuring their incorporation in the 5-

year plan update, as appropriate. The HMWG can deem additional meetings necessary to provide an opportunity for the public to express concerns, opinions, and ideas about the HMP.

7.3 Continued Public Involvement

Westmoreland County and participating jurisdictions are committed to the continued involvement of the public in the hazard mitigation process. The plan will be posted on the WC DPS HMP website (https://www.co.westmoreland.pa.us/1853/Hazard-Mitigation-Plan), and copies of the plan will be made available for review during normal business hours at the WC DPS main office. Westmoreland County will make electronic copies of the plan available for local municipalies to provide public access.

Following each 5-year update of the HMP, the updated plan will be distributed for public comment. After all comments are addressed, the HMP will be revised and distributed to all Planning Team members and the Pennsylvania State Hazard Mitigation Officer.

The Westmoreland County HMP Coordinator will be responsible for receiving, tracking, and filing public comments regarding this HMP. The public will have an opportunity to comment on the plan at the review meeting for the HMP. Westmoreland County will maintain an active link on the WC DPS HMP website to collect public comments.

The Planning Team representatives are responsible for ensuring the following:

- Public comment and input on the HMP (and hazard mitigation in general) are recorded and addressed, as appropriate.
- The WC DPS HMP website provides a direct opportunity to comment on the plan. A draft copy of the plan is posted for public comment on the website. Upon conclusion of the update, appropriate links to the updated county HMP are maintained on the website. The website is monitored throughout the course of the HMP update process. (https://www.co.westmoreland.pa.us/1853/Hazard-Mitigation-Plan)
- Public comments can be submitted in writing to the following address:

  Christopher Tantlinger, Deputy Emergency Management Coordinator
  Westmoreland County Department of Public Safety
  911 Public Safety Road
  Greensburg, PA 15601
- Copies of the latest approved version of the plan are available for review at the municipal buildings, along with instructions to facilitate public input and comment on the plan.
- Public notices are made, as appropriate, to inform the public of the availability of the plan, particularly during plan update cycles.

The Westmoreland County HMP Coordinator shall ensure the following:

- Public comment and input on the HMP (and hazard mitigation in general) is recorded and addressed, as appropriate.
- The WC DPS HMP website is maintained and updated, as appropriate.
- Copies of the latest approved plan are available for review at WC DPS, along with instructions to facilitate public input and comment on the plan.
- Public notices, including media releases, are made to inform the public of the availability of the plan, particularly during plan update cycles.

SECTION 8 PLAN ADOPTION

By adopting the Westmoreland County Hazard Mitigation Plan (HMP), local governing bodies demonstrate their commitment to fulfill the mitigation goals and objectives outlined in the plan. Adoption of the HMP by Westmoreland County and each participating jurisdiction legitimizes the HMP and authorizes responsible agencies to execute their responsibilities.

Each participating jurisdiction in Westmoreland County will continue with formal adoption proceedings upon conditional approval of this HMP from the Federal Emergency Management Agency (FEMA), known as "Approval Pending Adoption (APA)". Each participating jurisdiction understands that conditional approval of the HMP will be provided for those municipalities that meet the planning requirements with the exception of the adoption requirement, as stated above.

Following adoption or formal action on the HMP, each participating jurisdiction must submit a copy of the resolution or other legal instrument showing formal adoption (acceptance) of the HMP to the Westmoreland County Hazard Mitigation Coordinator. Westmoreland County will forward the executed resolutions to the Pennsylvania Emergency Management Agency (PEMA), who will subsequently forward the resolutions to FEMA. Each participating jurisdiction understands that FEMA will transmit acknowledgement of verification of formal HMP adoption and the official approval of the HMP to the Hazard Mitigation Coordinator. Resolutions reflecting the formal adoption of this HMP by the County and participating jurisdictions are included in Appendix F of this HMP. A sample resolution to be used by the County and its jurisdictions is provided on the following pages in Section 8.

Westmoreland County Hazard Mitigation Plan

County Adoption Resolution

Resolution No. _____

Westmoreland County, Pennsylvania

WHEREAS, the municipalities of Westmoreland County, Pennsylvania, are most vulnerable to natural and human-made hazards, which may result in loss of life and property, economic hardship, and threats to public health and safety, and

WHEREAS, Section 322 of the Disaster Mitigation Act of 2000 (DMA 2000) requires state and local governments to develop and submit for approval to the President a mitigation plan that outlines processes for identifying their respective natural hazards, risks, and vulnerabilities, and

WHEREAS, Westmoreland County acknowledges the requirement of Section 322 of DMA 2000 to have an approved Hazard Mitigation Plan as a prerequisite to receiving post-disaster Hazard Mitigation Grant Program funds, and

WHEREAS, the Westmoreland County Hazard Mitigation Plan has been developed by Westmoreland County Emergency Management Agency in cooperation with other County departments, local municipal officials, and the citizens of Westmoreland County, and

WHEREAS, a public involvement process consistent with the requirements of DMA 2000 was conducted to develop the Westmoreland County Hazard Mitigation Plan, and

WHEREAS, the Westmoreland County Hazard Mitigation Plan recommends mitigation activities that will reduce losses to life and property affected by both natural and human-made hazards that face the County and its municipal governments,

NOW THEREFORE BE IT RESOLVED by the governing body for the County of Westmoreland that:

- The 2020 Westmoreland County Hazard Mitigation Plan is hereby adopted as the official Hazard Mitigation Plan of the County, and
- The respective officials and agencies of Westmoreland County identified in the implementation strategy of the 2020 Westmoreland County Hazard Mitigation Plan are hereby directed to execute the recommended activities assigned to them.

ADOPTED, this _____ day of _____, 2020

ATTEST:

_____

WESTMORELAND COUNTY COMMISSIONERS

By _____

By _____

By _____

Westmoreland County Hazard Mitigation Plan

Municipal Adoption Resolution

Resolution No. _____

< *Municipality Name*>, Westmoreland County, Pennsylvania

WHEREAS, the <*Municipality Name*>, Westmoreland County, Pennsylvania, is most vulnerable to natural and human-made hazards, which may result in loss of life and property, economic hardship, and threats to public health and safety, and

WHEREAS, Section 322 of the Disaster Mitigation Act of 2000 (DMA 2000) requires state and local governments to develop and submit for approval to the President a mitigation plan that outlines processes for identifying their respective natural hazards, risks, and vulnerabilities, and

WHEREAS, the <*Municipality Name*> acknowledges the requirement of Section 322 of DMA 2000 to have an approved Hazard Mitigation Plan as a prerequisite to receiving post-disaster Hazard Mitigation Grant Program funds, and

WHEREAS, the Westmoreland County Hazard Mitigation Plan has been developed by Westmoreland County Emergency Management Agency in cooperation with other County departments, and officials and citizens of <*Municipality Name*>, and

WHEREAS, a public involvement process consistent with the requirements of DMA 2000 was conducted to develop the Westmoreland County Hazard Mitigation Plan, and

WHEREAS, the Westmoreland County Hazard Mitigation Plan recommends mitigation activities that will reduce losses to life and property affected by both natural and human-made hazards that face the County and its municipal governments,

NOW THEREFORE BE IT RESOLVED by the governing body for the <*Municipality Name*>:

- The 2020 Westmoreland County Hazard Mitigation Plan is hereby adopted as the official Hazard Mitigation Plan of the <*Municipality Name*>, and
- The respective officials and agencies identified in the implementation strategy of the 2020 Westmoreland County Hazard Mitigation Plan are hereby directed to execute the recommended activities assigned to them.

ADOPTED, this _____ day of _____, 2020

ATTEST:

_____

< *MUNICIPALITY NAME*> REPRESENTATIVES

By _____

By _____

By _____

Acronyms and Abbreviations

This resource identifies acronyms and abbreviations used in or supporting the Westmoreland County Hazard Mitigation Plan (HMP). The acronyms and abbreviations listed below are based on documents included in the reference section, with modifications as appropriate to address the Westmoreland County-specific identifications and requirements.

%	Percent
%g	Percent acceleration force of gravity
°F	Degrees Fahrenheit
65 PA C.S.A	Pennsylvania Sunshine Act
AASHTO	American Association of State Highway and Transportation Officials
ADA	Americans with Disabilities Act
APA	Approval Pending Adoption
APPA	American Public Power Association
ARC	American Red Cross
BFE	Base flood elevation
BOCA	Building Officials Code Administration
BRFPW	Pennsylvania Bureau of Rail Freight, Ports, and Waterways
B-Scale	Beaufort Wind Scales
CDBG	Community Development Block Grant
CDC	Centers for Disease Control and Prevention
CERT	Community Emergency Response Team
cfs	Cubic feet per second
CFR	*Code of Federal Regulations*
COG	Continuity of government
COOP	Continuity of operations
CPC	Climate Prediction Center
CPR	Cardiopulmonary Resuscitation
CRREL	Cold Regions Research and Engineering Laboratory
CRS	Community Rating System
CSB	Chemical Safety Board
CSXT	CSX Transportation
DART	Demand and Response Transit
DCED	Pennsylvania Department of Community and Economic Development
DCNR	Pennsylvania Department of Conservation and Natural Resources
DEM	Digital Elevation Model

DFIRM	Digital Flood Insurance Rate Map
DHHS	U.S. Department of Health and Human Services
DHS	U.S. Department of Homeland Security
DI	Damage Indicators
DMA 2000	Disaster Mitigation Act of 2000
DOD	Degrees of Damage
DOE	U.S. Department of Energy
DOF	Dependent on funding
DOT	U.S. Department of Transportation
DPS	Department of Public Safety
DR	Disaster Declarations
EAL	Emergency Action Levels
EAP	Education and Awareness Program
EAP	Emergency action plan
EDA	U.S. Economic Development Administration
EF Scale	Enhanced Fujita Scale
EM	Emergency management
EMA	Emergency Management Agency
EMC	Emergency Management Coordinator
EMS	Emergency Medical Services
EOC	Emergency Operations Center
EOP	Emergency Operations Plan
EPA	U.S. Environmental Protection Agency
EPCRA	Emergency Planning and Community Right to Know Act
EPZ	Emergency planning zone
ESF	Emergency Support Function
FAA	Federal Aviation Administration
FARS	Fatality Analysis Reporting System
FEMA	Federal Emergency Management Agency
FERC	Federal Energy Regulatory Commission
FIA	Flood Insurance Administration
FIRM	Flood Insurance Rate Map
FIS	Flood Insurance Study
Flu	Influenza
FMA	Flood Mitigation Assistance
F-Scale	Fujita Scale

g	Gravity
GBS	General building stock
GIS	Geographic Information System
HazMat	Hazardous materials
HAZUS	Hazards U.S.
HAZUS-MH	Hazards U.S. – Multi-Hazard
HMA	Hazard Mitigation Assistance
HMGP	Hazard Mitigation Grant Program
HMP	Hazard Mitigation Plan
HUD	U.S. Department of Housing and Urban Development
HVAC	Heating, ventilation, and air conditioning
IA	Individual Assistance
I-	Interstate
ILI	Influenza-like illnesses
ISO	Insurance Services Office, Inc.
K	Thousand ($)
Km	Kilometer
Kts	Knots
LCSN	Lamont-Doherty Cooperative Seismographic Network
LEPC	Local Emergency Planning Committee
LPR	Local Plans and Regulations
M	Million ($)
MESO	Multi-Community Environmental Storm Observatory
mi	Mile
MMI	Modified Mercalli Intensity
MPC	Municipal Planning Code
mph	Miles per hour
MPO	Metropolitan Planning Organization
MRP	Mean return period
mw	Megawatts
N/A	Not applicable
NA	Not available
NASA	National Aeronautics and Space Administration
NCDC	National Climatic Data Center
NCEI	National Centers for Environmental Information
NDMC	National Drought Mitigation Center

NDSP	National Dam Safety Program
NEHRP	National Earthquake Hazard Reduction Program
NEPA	National Environmental Policy Act
NESEC	Northeast States Emergency Consortium
NFIA	National Flood Insurance Act
NFIP	National Flood Insurance Program
NFPA	National Fire Protection Association
NGO	Nongovernmental organization
NHTSA	National Highway Traffic Safety Administration
NID	National Inventory of Dams
NIH	National Institute of Health
NIMS	National Incident Management System
NLCD	National Land Cover Data
NLD	National Levee Database
NOAA	National Oceanic and Atmospheric Administration
NRC	Nuclear Regulatory Commission
NRF	National Response Framework
NRCC	Northeast Regional Climate Center
NRCS	Natural Resource Conservation Service
NS	Norfolk-Southern Corporation
NSP	Natural Systems Protection
NSSL	National Severe Storms Library
NTAS	National Terrorism Advisory System
NTSB	National Transit Safety Board
NWI	National Wind Institute
NWS	National Weather Service
PA	Pennsylvania
PA DCED	Pennsylvania Department of Community and Economic Development
PA DCNR	Pennsylvania Department of Conservation and Natural Resources
PA HMP	Commonwealth of Pennsylvania All-Hazard Mitigation Plan
PA-	Pennsylvania State Route ##
PADEP	Pennsylvania Department of Environmental Protection
PAG	Protective Action Guide
PaGWIS	Pennsylvania Groundwater Information System
PaSTAR	Pennsylvania Statewide Telecommunication Alerting and Reporting [Network]

pCi/L	picoCuries per liter
PDM	Pre-disaster Mitigation Grant Program
PDSI	Palmer Drought Severity Index
PEMA	Pennsylvania Emergency Management Agency
PennDOT	Pennsylvania Department of Transportation
PGA	Peak ground acceleration
PHMSA	Pipeline and Hazardous Materials Safety Administration
PIO	Public Information Officer
ppm	Parts per million
PRA	Probabilistic risk assessment
PSAP	Public Safety Answering Point
PSP	Pennsylvania State Police
PSU	Pennsylvania State University/Penn State University
PUC	Public Utilities Commission
Ra-226	Radium-226
RACES	Radio Amateur Civil Emergency Services
RCV	Replacement cost value
RF	Risk factor
RFC	Repetitive flood claims
RLP	Repetitive loss property
Rn-222	Radon-222
RSI	Regional Snowfall Index
S-waves	Shear waves
SA	Spectral Association
SARA	Superfund Amendments and Reauthorization Act
SBA	Small Business Administration
SEVAN	Satellite Emergency Voice Alerting Network
SF	Summary file
SFHA	Special Flood Hazard Area
SHSP	State Homeland Security Program
SIP	Structure and Infrastructure Project
SOG	Pennsylvania All-Hazard Mitigation Planning Standard Operating Guide
SPC	Storm Prediction Center
SPI	Standardized Precipitation Index
Sq. Mi.	Square mile
SRL	Severe repetitive loss

TBD	To be determined
TDD	Telecommunications device for the deaf
Tetra Tech	Tetra Tech, Inc.
TOD	Transit-oriented development
TRI	Toxic Release Inventory
US-	U.S. Route ##
USACE	U.S. Army Corps of Engineers
USAR	Urban Search and Rescue
USC	*U.S. Code*
USD	U.S. dollar
USDA	U.S. Department of Agriculture
USDOT	U.S. Department of Transportation
USGS	U.S. Geological Survey
VIP	Very important person
WCDPS	Westmoreland County Department of Public Safety
WCPD	Westmoreland County Planning Department
WHO	World Health Organization
WMD	Weapons of mass destruction
WUI	Wildland urban interface

AUTHORITIES AND REFERENCES

This section lists references used to prepare the Westmoreland County HMP. Existing plans and studies were reviewed and integrated into the HMP. Each reference is cited where its information or data was used in developing the HMP. Technical data and information, such as the locations of critical facilities and geographic information systems (GIS) data on hazard areas, was incorporated into the vulnerability assessment in each of the hazard profiles in Section 4.3. Section 4.4 details how GIS analysis, including HAZUS-MH, was performed and incorporated.

44 CFR Part 201 – Mitigation Planning. Accessed 2019. https://www.law.cornell.edu/cfr/text/44/part-201.

44 CFR Part 206 – Federal Disaster Assistance. Accessed 2019. https://www.law.cornell.edu/cfr/text/44/part-206.

American Public Power Association (APPA). 2012. Preventing Copper Thievery. November-December 2012 issue (Vol. 70, No. 8) of Public Power. Accessed 2019. http://www.publicpower.org/Media/magazine/ArticleDetail.cfm?ItemNumber=36171

Association of State Dam Safety Officials. Dam Safety 101. 2013. http://www.damsafety.org/.

Aviation Law News. Date Unknown. Aviation Accidents. http://www.aviation-law-news.com/html/accidents.html

Brown, W. et al. 2001. U.S. Geological Survey (USGS) Hazard Maps Help Save Lives and Property. Accessed 2019 <http://pubs.usgs.gov/fs/1996/fs183-96/fs183-96.pdf>.

Centers for Disease Control and Prevention (CDC). June 2015. "Homeowner's and Renter's Guide to Mold Cleanup After Disasters". Accessed 2017. https://www.cdc.gov/mold/pdfs/homeowners_and_renters_guide.pdf.

Centers for Disease Control and Prevention "Drug Overdose Deaths". 2018. https://www.cdc.gov/drugoverdose/data/statedeaths.html. Accessed April 2019

Climate Impacts Group. 2015. State of Knowledge: Climate Change in Puget Sound. Accessed 2019. https://cig.uw.edu/resources/special-reports/ps-sok/

Cova, T.J. and Conger S. Handbook of Transportation Engineering. "Transportation Hazards." M. Kutz (ed.), McGraw Hill, New York, pp. 17.1-17.24. 2004.

Crabtree Creek Issues Stakeholder Program meeting minutes. March 21, 2019.

Delano & Wilshusen. 2001. "Landslides in Pennsylvania. 2nd ed." On-line address: https://archive.org/details/landslidesinpenn00dela/page/n5

Department of Homeland Security. "Critical Infrastructure Sectors" https://www.cisa.gov/critical-infrastructure-sectors Accessed April 2019. 2018.

Department of Homeland Security. "Hazardous Materials Release" https://www.dhs.gov/hazardous-materials-release. Accessed April 2019

Department of Homeland Security. "National Terrorism Advisory System" https://www.dhs.gov/topic/ntas. 2018.

DMA 2000 (Public Law 106-390), October 30, 2000 https://www.congress.gov/106/plaws/publ390/PLAW-106publ390.pdf

EPA. 2013. "Basic Radon Facts". EPA 402/F-12/005. https://www.epa.gov/sites/production/files/2016-08/documents/july_2016_radon_factsheet.pdf

Federal Alliance for Safe Homes, Inc (FAST). Hail. 2013. Accessed 2017 <http://www.blueprintforsafety.org/doc.php?d=Hail_Introduction>.

Federal Emergency Management Agency (FEMA). 2019. "FEMA Policy Standards for Flood Risk Analysis and Mapping. Accessed 2019. https://www.fema.gov/media-library-data/1576509999757-7576129fd53db4ad2b37f395ff98cbaa/FEMAPolicyStandardsforFloodRiskAnalysisandMappingNov2019.pdf.

FEMA. Flood Zones. Last Modified 13 December 2017. Accessed 2019 <https://www.fema.gov/flood-zones>.

FEMA "Plan Integration: Linking Local Planning Efforts," July 2015 https://www.fema.gov/media-library-data/1440522008134-ddb097cc285bf741986b48fdcef31c6e/R3_Plan_Integration_0812_508.pdf

FEMA. 2015a. Using Hazus-MH for Risk Assessment (FEMA 433). http://www.fema.gov/fema-433-using-hazus-mh-risk-assessment

FEMA. 2015b. Why Dams Fail. https://www.fema.gov/why-dams-fail.

FEMA "Integrating Hazard Mitigation into Local Planning," March 1, 2013 https://www.fema.gov/media-library-data/20130726-1908-25045-0016/integrating_hazmit.pdf

FEMA. March 2013. Local Mitigation Planning. https://www.fema.gov/media-library/assets/documents/31598.

FEMA "Mitigation Ideas: A Resource for Reducing Risk to Natural Hazards," January 2013 https://www.fema.gov/media-library/assets/documents/30627

Federal Emergency Management Agency (FEMA). Disaster Information: Why Dams Fail. Last Modified 11 Aug. 2010. Accessed 2012 <http://www.fema.gov/hazard/damfailure/why.shtm>.

Federal Emergency Management Agency "NFIP Guidebook" https://www.fema.gov/media-library-data/20130726-1647-20490-1041/nfipguidebook_5edition_web.pdf FEMA, 2009 Accessed March 2019

Federal Emergency Management Agency (FEMA). Floodplain Management – Principles and Current Practices. 2008. Accessed 2012 <http://training.fema.gov/EMIWeb/edu/fmpcp.asp>.

FEMA. 2007. Using Benefit-Cost Review in Mitigation Planning - FEMA 386-5. May 2007. https://www.fema.gov/media-library-data/20130726-1606-20490-3557/how_to__5___final_may_2007.pdf

Federal Emergency Management Agency (FEMA). National Flood Insurance Program (NFIP). Floodplain Management Requirements: A Study Guide and Desk Reference for Local Officials. FEMA 480. Feb. 2005. Accessed 2019<http://www.floods.org/index.asp?menuid=388&firstlevelmenuid=180&siteid=1>.

FEMA "How-To Guide for Using Hazards U.S.-Multi-Hazards (HAZUS-MH) for Risk Assessment" (Document No. 433), February 2004 https://www.fema.gov/pdf/plan/prevent/hazus/fema433.pdf

Federal Emergency Management Agency (FEMA). How to Read a Flood Insurance Rate Map Tutorial. 2003.

Federal Emergency Management Agency FEMA Flood Insurance Study Tutorial. 2003. https://www.fema.gov/media-library-data/20130726-1550-20490-1795/ot_fis.pdf.

FEMA Mitigation Planning How-To Series (FEMA 386-1 through 4), 2002 https://www.fema.gov/media-library/assets/documents/4195

FirstEnergy. "Beaver Valley". February 2, 2012. Accessed 2013. <https://www.firstenergycorp.com/about/generation_system/FENOC/beaver_valley.html>.

FirstEnergy. "FirstEnergy Nuclear Operating Company (FENOC)". December 16, 2011. Accessed 2013. <https://www.firstenergycorp.com/content/fecorp/about/generation_system/FENOC.html>.

Freeman et al. 2004. "Using the Earthquake Engineering Intensity Scale to Improve Urban Area Earthquake Emergency Response." On-Line Address: ftp://ftp.ecn.purdue.edu/ayhan/Aditya/Papers/2006%208NCEE%20radA48B5_Using%20the%20EEIS%20to%20improve%20urban%20area%20earthquake%20emergency%20response_resubmitted%20on%2001012006.pdf

Harris, T. 2008. How Floods Work. <http://science.howstuffworks.com/flood.htm>.

Homeland Security Digital Library "Agriterrorism" https://www.hsdl.org/?abstract&did=447043 2007. Accessed April 2019

Hopey, D. "Radioactive soil train derails; no spillage." Pittsburgh Post-Gazette. November 16, 2000. Accessed 2014 <http://old.post-gazette.com/neigh_westmoreland/20001116train6.asp>

Hopey, D. New Stanton reactor partly melted in '60. Pittsburgh Post-Gazette. September 5, 1993. Accessed 2014 <http://news.google.com/newspapers?nid=1129&dat=19930905&id=fYRIAAAAIBAJ&sjid=0W4DAAAAIBAJ&pg=6843,1729740>

Illinois Association for Floodplain and Stormwater Management. Natural Aspects of Flooding: Part 1 Flooding and Floodplain Management. Section 1. March 2006. Accessed 2016 http://www.illinoisfloods.org/documents/home_study_course/1%20Natural%20Aspects%20of%20Flooding.pdf.

Illinois Emergency Management Agency (IEMA). 2012. Hazardous Materials. 2017. http://www.illinois.gov/ready/hazards/Pages/HazardousMaterials.aspx

International Civil Aviation Organization (ICAO). 2015. International Standards and Recommended Practices Aircraft Accident and Incident Investigation Annex 13 to the Convention on International Civil Aviation (Annex 13). http://www.iprr.org/manuals/Annex13.html.

Kocin, P. J., and Uccellini, L. W. Last Modified 9 March 2013. The Northeast Snowfall Impact Scale (NESIS). National Oceanic and Atmospheric Administration (NOAA). National Climate Date Center (NCDC). Accessed 2017. http://www.ncdc.noaa.gov/snow-and-ice/rsi/nesis

Krasner, H. The Causes of Aircraft Accidents: Why do Planes Crash; What are the Common Reasons? 2009. Accessed 2017. http://www.suite101.com/content/the-causes-of-aircraftaccidents-a96858#ixzz17K9dhvFt.

Lamont-Doherty Cooperative Seismographic Network. 2014. Lamont-Doherty Cooperative Seismographic Network. January. Accessed 2019. On-line address: http://www.ldeo.columbia.edu/LCSN/Station/station.php

McNoldy, B. Date Unknown. Multi-Community Environmental Storm Observatory, Inc (MESO) 1998-2007. Accessed 2017 http://www.mcwar.org/

Midwestern Regional Climate Center Climate Database. 2019. https://mrcc.illinois.edu/CLIMATE/restricted.jsp;jsessionid=2E7E0E63808F546EC1E88ADB00B78B72?accessdenied=%2FCLIMATE%2FMaps%2Fmap_ltm2.jsp Accessed April 2019

National Aeronautics and Space Administration (NASA). 2004. *NASA News: Retreating Glaciers Spur Alaskan Earthquakes.* Accessed 2017. http://www.nasa.gov/home/hqnews/2004/jul/HQ_04252_glaciers.html

National Atlas of the United States. Geology WMS Layer. Accessed March 2018 <http://webservices.nationalatlas.gov/wms/geology?SERVICE=WMS&REQUEST=GetCapabilities&>.

National Climatic Data Center (NCDC). 2016. Regional Snowfall Index (RSI). Accessed 2017. http://www.ncdc.noaa.gov/snow-and-ice/rsi/

National Drought Mitigation Center (NDMC). 2017. "Drought Basics". Accessed 2017. <http://drought.unl.edu/DroughtBasics.aspx>.

National Fire Protection Association “Home Structure Fires” https://www.nfpa.org/-/media/Files/News-and-Research/Fire-statistics-and-reports/Building-and-life-safety/oshomes.pdf NFPA 2018 Accessed September 2019

National Geographic “Climate Change May Spark More Lightning Strikes, Igniting Wildfires”. 2014. https://www.nationalgeographic.com/news/2014/11/141113-climate-change-lightning-atmosphere-science/.

National Hurricane Center [NHC] Tropical Cyclone Climatology 2019). https://www.nhc.noaa.gov/climo/ Accessed April 2019

National Institute of Justice [NIJ] "Research on Domestic Radicalization and Terrorism. 2019. https://nij.ojp.gov/topics/articles/research-domestic-radicalization-and-terrorism.

National Transportation Safety Board (NTSB). 2019. "Aviation Accident Database & Synopses". Online address: https://www.ntsb.gov/_layouts/ntsb.aviation/index.aspx

National Weather Service [NWS] Hurricane and Tropical Storm Watches, Warnings, Advisories and Outlooks. 2019. https://www.weather.gov/safety/hurricane-ww Accessed April 2019

National Weather Service "Forecast Terms" https://www.weather.gov/bgm/forecast_terms. 2019

NWS. 2019. "Tornado Safety". Accessed 2019. https://www.weather.gov/safety/tornado.

National Weather Service (NWS) Weather Related Fatality and Injury Statistics. 2018. https://www.weather.gov/hazstat/ Accessed September 2019

National Weather Service [NWS] Remnants of Hurricanes and Tropical Storms that have brought Rainfall to the Region https://www.weather.gov/media/pbz/records/hurricanes.pdf National Weather Service Hurricanes Affecting the Upper Ohio Valley https://www.weather.gov/pbz/hurricane. 2018.

NWS. 2011. Flood Safety. Last Modified July 5, 2011. Accessed 2017. http://www.nws.noaa.gov/floodsafety/.

NWS. 2009. National Weather Service Glossary. NOAA. Accessed 2017. http://www.weather.gov/glossary/

National Weather Service "Hail Size Comparison Chart" https://www.weather.gov/media/pbz/skywarn/Hail_Chart.pdf NWS, n.d. Accessed July 2019

New York City Area Consortium For Earthquake Loss Mitigation (NYCEM). 2003. Earthquake Risks and Mitigation in the New York, New Jersey, Connecticut Region. https://mceer.buffalo.edu/infoservice/disasters/earthquake-risks-new-york.pdf

New York City Office of Emergency Management (NYCOEM). NYC Hazards: Coastal Storm Basics. Date Unknown. Accessed 2017. http://www.nyc.gov/html/oem/html/hazards/storms_terms.shtml.

New York State Disaster Preparedness Commission (NYSDPC). "Draft 2011 New York State Standard Multi-Hazard Mitigation Plan." New York State Emergency Management Office (NYSEMO). 2011.

NOAA National Severe Storms Laboratory "What is the total annual threat of severe thunderstorms in the United States?" https://www.nssl.noaa.gov/projects/hazard/totalthreat.html NSSL 2003

Northeast States Emergency Consortium (NESEC). Date Unknown. Floods. Accessed 2017 http://www.nesec.org/hazards/floods.cfm

National Severe Storm Laboratory (NSSL). 2015c. Severe Weather 101 - Winter Weather Basics. Accessed 2017. https://www.nssl.noaa.gov/education/svrwx101/winter/

Nuclear Regulatory Commission (NRC). 2008. Emergency Classification. Accessed 2017 http://www.nrc.gov/about-nrc/emerg-preparedness/about-emerg-preparedness/emerg-classification.html

Pennsylvania Department of Conservation and Natural Resources (PA DCNR). Interactive Map. 2019. http://www.gis.dcnr.state.pa.us/maps/index.html?geology=true. Accessed August 2019

Pennsylvania Department of Conservation and Natural Resources (PA DCNR). 2017. "Priority Landscapes". Accessed 2017. http://www.apps.dcnr.state.pa.us/forestry/farmbill/prioritylandscapes.html.

PA DCNR. 2001. “Landslides in Pennsylvania”. Accessed 2019. Online Address: http://www.docs.dcnr.pa.gov/cs/groups/public/documents/document/dcnr_014592.pdf

PA DCNR. Date Unknown. “Slide Costs”. Accessed 2019. Online address: http://www.docs.dcnr.pa.gov/topogeo/hazards/landslides/slidecost/index.htm

Pennsylvania Department of Environmental Protection (PA DEP). 2019. "RadonZip - Report Viewer". http://www.depreportingservices.state.pa.us/ReportServer/Pages/ReportViewer.aspx?/Radon/RadonZip.

PADEP. 2017. "Drought Information". Accessed 2019. <http://www.dep.pa.gov/Business/Water/PlanningConservation/Drought/Pages/default.aspx>.

PADEP. 2009. Pennsylvania State Water Plan. http://www.pawaterplan.dep.state.pa.us/statewaterplan/docroot/default.aspx

Pennsylvania Department of Health. 2019 Database queried for “Drug-induced deaths” from Westmoreland County, 1990-2016. Accessed at https://www.phaim1.health.pa.gov/EDD/ on April 2019.

Pennsylvania Department of Transportation (PennDOT). 2019. Bridge Information. http://www.dot.state.pa.us/internet/web.nsf/secondary?openframeset&frame=main&src=infobridge?openform

PennDOT. 2018. "Pennsylvania Highway Statistics 2017 Highway Data". https://www.penndot.gov/ProjectAndPrograms/Planning/TrafficInformation/Pages/2017-Highway-Statistics.aspx

PennDOT. 2017. “2017 Pennsylvania Crash Facts and Statistics.” On-Line address: https://www.penndot.gov/TravelInPA/Safety/Documents/2017_CFB_linked.pdf

Pennsylvania Emergency Management Agency (PEMA). 2018. Pennsylvania 2018 Standard State All-Hazard Mitigation Plan. https://pahmp.com/wp-content/uploads/2020/01/PA-2019-SHMP-Update-October-2019-Update.pdf

PEMA. 2013. Commonwealth of Pennsylvania’s All-Hazard Mitigation Planning Standard Operating Guide, October 18, 2013 https://www.pema.pa.gov/Mitigation/Planning/Documents/All-Hazard-Mitigation-Planning-Standard-Operating-Guide.pdf

Pennsylvania Drug Enforcement Administration "The Opioid Threat in Pennsylvania" https://www.dea.gov/sites/default/files/2018-10/PA%20Opioid%20Report%20Final%20FINAL.pdf [DEA] 2018

Pittsburgh Action News "Giant sinkhole opens along Route 30 in Hempfield Township" https://www.wtae.com/article/huge-sinkhole-near-route-30-greensburg-hempfield-township/28414834# WTAE 2019

Radbruch-Hall. 1982. "Landslide Overview Map of the Conterminous United States". Online Address: https://pubs.usgs.gov/pp/p1183/pp1183.html#abstract

RESOLUTION #R- -2018 Resolution Regarding Declaration of Disaster Emergency https://www.co.westmoreland.pa.us/DocumentCenter/View/14113/Declaration-of-Emergency-Disaster Accessed September 2019

Rubin, K. 2013. "Environmental Effects of Floods." On-Line Access: http://www.soest.hawaii.edu/GG/ASK/floods.html

Shedlock, K. M., and Pakiser L. C. U.S. Geological Survey (USGS). Earthquakes. 23 October 1997.. Accessed 2017. http://pubs.usgs.gov/gip/earthq1/.

Shortle, J. et al. 2009. Environment and Natural Resources Institute The Pennsylvania State University. "Pennsylvania Climate Impact Assessment Report to the Department of Environmental Protection." 2009.

Sciencing.com "Positive & Negative Effects of and Avalanche" https://sciencing.com/positive-negative-effects-avalanche-8527959.html. 2017. Accessed April 2019

Sinkhole Maps "Rostraver Township – Westmoreland County Sinkhole in Pennsylvania" https://sinkholemaps.com/blog/rostraver-township-westmoreland-county-sinkhole-in-pennsylvania/ Sinkhole Maps 2019 Accessed August 2019

Small Business Administration (SBA). 2019. "Disaster Loan Assistance". Accessed 2019. https://disasterloan.sba.gov/ela/Declarations.

Stanford, S. 2003. Predicting Earthquake Damage in New Jersey. New Jersey Geological Survey Information Circular.

Stewart S. et al. 2015. The 2010 wildland-urban interface of the conterminous United States. Accessed 2017. http://www.nrs.fs.fed.us/pubs/48642

Stewart, S. et al. 2005. The Wildland Urban Interface in the United States. Accessed 2017. http://www.nrs.fs.fed.us/pubs/gtr/gtr_nrs1/stewart_1_197.pdf

Storm Prediction Center (SPC). "2014 SPC Watch Frequency Maps". 2019. https://www.spc.noaa.gov/wcm/#data. Accessed April 2019

Tobin, Graham A. and Burrell E. Montz. 1997. Natural Hazards: Explanation and Integration. *The Guilford Press*.

U.S. Army Corps of Engineers (USACE). 2019. Ice Jam Database, Bulletins and Surveys. Cold Regions Research and Engineering Laboratory (CRREL). Accessed 2017. <http://icejams.crrel.usace.army.mil/>.

USACE. 2019. "Water Resources Development Act (WRDA) 2018". Accessed 2019. https://www.usace.army.mil/Missions/Civil-Works/Project-Planning/Legislative-Links/wrda_2018/.

USACE. 30 Oct. 2002. Manual No. 1110-2-1612: Engineering and Design Ice Engineering. Accessed 2017. http://www.mvp-wc.usace.army.mil/ice/docs/EM-1110-2-1612.pdf

U.S. Census Bureau 2018. Accessed 2019. https://factfinder.census.gov/faces/nav/jsf/pages/community_facts.xhtml#.

U.S. Census Bureau. 2000. 2000 Census.

U.S. Census Bureau. 2010. 2010 Census.

U.S. Climate Data Greensburg Pennsylvania. 2019. https://www.usclimatedata.com/climate/greensburg/pennsylvania/united-states/uspa2167 Accessed April 2019.

U.S. Department of Agriculture Natural Resources Conservation Service (NRCS). 2011. "Emergency Watershed Protection Program". Accessed 2019. https://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/landscape/ewpp/.

U.S. Department of Energy. 2011. "Weatherization Assistance Program". Accessed 2019. https://www.energy.gov/eere/wap/weatherization-assistance-program.

U.S. Department of Housing and Urban Development (HUD). 2011. "Section 108 Loan Guarantee Program. Accessed 2019. https://www.hudexchange.info/programs/section-108/.

U.S. Environmental Protection Agency (US EPA). 2019. Toxics Release Inventory (TRI) Program. "TRI Data and Tools" https://www.epa.gov/toxics-release-inventory-tri-program/tri-data-and-tools.

U.S. Forest Service (USFS). Wildland Fire Assessment System (WFAS). 2012. Fire Danger Rating. Accessed 2017 http://www.wfas.net/index.php/fire-danger-rating-fire-potential--danger-32.

U.S. Geological Survey (USGS). 2019. "Did You Feel It?". On-Line Address: https://earthquake.usgs.gov/data/dyfi/

U.S. Geological Survey. 2019. "Water Science School Land Subsidence" https://www.usgs.gov/special-topic/water-science-school/science/land-subsidence?qt-science_center_objects=0#qt-science_center_objects. Accessed August 2019

US Geological Survey USGS 2018 "USGS Groundwater Data for Pennsylvania" https://waterdata.usgs.gov/pa/nwis/gw

U.S. Geological Survey. 2017. "Land Subsidence". https://water.usgs.gov/ogw/subsidence.html. Accessed August 2019.

U.S. Geological Survey (USGS). 2012. "Earthquake Glossary- seiche." July 18. On-Line Address: http://earthquake.usgs.gov/learn/glossary/?term=seiche

U.S. Geological Survey. December 2005. " Landslide Hazards-A National Threat". Online address: https://pubs.usgs.gov/fs/2005/3156/2005-3156.pdf

U.S. Geological Survey "What is a Sinkhole?" https://www.usgs.gov/faqs/what-a-sinkhole?qt-news_science_products=0#qt-news_science_products. Accessed August 2019

University Corporation for Atmospheric Research 2018 Annual Report "North American storm Clusters Could Produce 80 Percent More Rain" https://nar.ucar.edu/2018/ncar/north-american-storm-clusters-could-produce-80-percent-more-rain. Accessed August 2019

USFS. Wildland Fire Assessment System (WFAS). Adjective Class Rating. Date Unknown. Accessed 2017 <http://www.wfas.net/index.php/fire-danger-rating-fire-potential--danger-32/class-rating-fire-potential--danger-51>.

USGS. 2016. Global Seismographic Network. October. Accessed 2016 https://earthquake.usgs.gov/monitoring/gsn/

West Moreland County "Reimagining our Westmoreland". 2018. https://www.co.westmoreland.pa.us/DocumentCenter/View/15778/FINAL-ADOPTED-Reimagining-Our-Westmoreland-with-Resolution_20181220-compressed

Westmoreland County Office of the Coroner. 2019. "2018 Annual Report" https://www.co.westmoreland.pa.us/ArchiveCenter/ViewFile/Item/2716. Accessed August 2019

Westmoreland County Planning Division. 2019. "What is Planning" https://www.co.westmoreland.pa.us/681/Planning-Division.

LOCAL MITIGATION PLAN REVIEW TOOL 2019

The *Local Mitigation Plan Review Tool* demonstrates how the Local Mitigation Plan meets the regulation in 44 CFR §201.6 and offers States and FEMA Mitigation Planners an opportunity to provide feedback to the community.

- The Regulation Checklist provides a summary of FEMA's evaluation of whether the Plan has addressed all requirements.
- The Plan Assessment identifies the plan's strengths as well as documents areas for future improvement.
- The Multi-jurisdiction Summary Sheet is an optional worksheet that can be used to document how each jurisdiction met the requirements of the each Element of the Plan (Planning Process; Hazard Identification and Risk Assessment; Mitigation Strategy; Plan Review, Evaluation, and Implementation; and Plan Adoption).

The FEMA Mitigation Planner must reference this *Local Mitigation Plan Review Guide* when completing the *Local Mitigation Plan Review Tool*.

Jurisdiction: Westmoreland County	**Title of Plan:** Westmoreland County HMP	**Date of Plan:** June 2020 **September 8, 2020 Revisions**
Local Point of Contact: Christopher Tantlinger		**Address:** 911 Public Safety Road Greensburg, PA 15601
Title: Deputy Emergency Management Coordinator		
Agency: Westmoreland County Department of Public Safety		
Phone Number: (724) 600-7349		**E-Mail:** ctantlin@co.westmoreland.pa.us

State Reviewer:	**Title:**	**Date:**
Ernest Szabo	State HM Planner	6/14/20

FEMA Reviewer: Joseph A. Bucovetsky	**Title:** Community Planner	**Date:** August 7, 2020
Date Received in FEMA Region *(insert #)*	June 25, 2020	
Plan Not Approved	Revisions required	
Plan Approvable Pending Adoption		
Plan Approved		

SECTION 1:
REGULATION CHECKLIST

INSTRUCTIONS: The Regulation Checklist must be completed by FEMA. The purpose of the Checklist is to identify the location of relevant or applicable content in the Plan by Element/sub-element and to determine if each requirement has been 'Met' or 'Not Met.' The 'Required Revisions' summary at the bottom of each Element must be completed by FEMA to provide a clear explanation of the revisions that are required for plan approval. Required revisions must be explained for each plan sub-element that is 'Not Met.' Sub-elements should be referenced in each summary by using the appropriate numbers (A1, B3, etc.), where applicable. Requirements for each Element and sub-element are described in detail in this *Plan Review Guide* in Section 4, Regulation Checklist.

1. REGULATION CHECKLIST **Regulation** (44 CFR 201.6 Local Mitigation Plans)	**Location in Plan (section and/or page number)**	**Met**	**Not Met**
ELEMENT A. PLANNING PROCESS			
A1. Does the Plan document the planning process, including how it was prepared and who was involved in the process for each jurisdiction? (Requirement §201.6(c)(1))	Section 1.1; Sections 3.1 to 3.5; Appendix C; Appendix D; Appendix E	X	
A2. Does the Plan document an opportunity for neighboring communities, local and regional agencies involved in hazard mitigation activities, agencies that have the authority to regulate development as well as other interests to be involved in the planning process? (Requirement §201.6(b)(2))	Sections 3.1, 3.2, 3.3, 3.4, 3.5; Appendix C; Appendix D; Appendix E	X	
A3. Does the Plan document how the public was involved in the planning process during the drafting stage? (Requirement §201.6(b)(1))	Sections 3.1, 3.3, and 3.4; Appendix E	X	
A4. Does the Plan describe the review and incorporation of existing plans, studies, reports, and technical information? (Requirement §201.6(b)(3))	Section 5.2 (specifically Section 5.2.5); Appendix A Section 2.4, p. 2-16	X	
A5. Is there discussion of how the community(ies) will continue public participation in the plan maintenance process? (Requirement §201.6(c)(4)(iii))	Sections 7.2.3, 7.3	X	
A6. Is there a description of the method and schedule for keeping the plan current (monitoring, evaluating and updating the mitigation plan within a 5-year cycle)? (Requirement §201.6(c)(4)(i))	Section 7.2	X	

ELEMENT A: REQUIRED REVISIONS

REQUIRED REVISION:

Table 3-1 notes the invitee list for the Planning Team, but there appears to have been no or limited participation by the private (business) sector. Section 3.2 states that the HMWG includes representatives of "major industries" but none of these companies are named. Please include the names of private business sector entities that participated in the Plan Update and whether these functioned as part of the HMWG.

County Response: The names of private business sector entities that participated in the plan update are listed in Section 3.4. We added asterisks to each organization that was represented on the HMWG.

Recommended Revision: A major shortcoming of the Plan is the failure of the planning process to sufficiently engage 25 municipalities (almost 40% of the total) so that they would be able to adopt the Plan and then be eligible for FEMA funding of mitigation projects. The County is to be commended for having a detailed procedure in Section 7, Plan Maintenance Procedures, whereby individual non-participating municipalities can retroactively join the group of 39 municipalities that are eligible to adopt the Plan and thereby be able to apply for FEMA funding of mitigation projects. However, an ideal planning process would get the engagement all through the Plan preparation and not require retroactive actions by individual municipalities after the Plan approval and adoption.

The County should review its methods of engagement and start laying the groundwork now for a robust outreach for the next Plan update. Among the methods to consider are using social media to engage residents and business operators. Techniques can include surveys (including games and incentives/awards) focused on which threats are regarded as most significant by respondents and ideas for mitigation strategies and actions. In addition, some of the tools already in use in hazard mitigation planning in the county, such as HAZUS, can be harnessed to produce additional outputs, such as visual products that can model outcomes and help engage people as they consider alternative strategies and make decisions about their communities' future.

County Response: We agree that it was unfortunate that so many municipalities chose not to participate. They were given ample opportunity, including trying to garner participation at resident planning workshops, elected official seminars, EMC training, and stakeholder meetings, in addition to the regular planning meetings held throughout the process. Individual outreach was also conducted with each municipality.

Recommended Revision: Section2, County Profile, could be stronger. There is currently some demographic information, but missing are comparison of local figures, such as on age of residents or percent below the poverty level, to comparable statewide or national numbers. (Inclusion of these statistics would help a lot toward understanding what the local numbers really mean.)
County Response: Commonwealth- and national-level statistics were added for comparison.

Housing unit information is lacking, such as the distribution by structural type.
County Response: We added statistics on housing for each municipality in Table 2-6.

There are no statistics on major employers.
County Response: This can be added in the next plan update.

Missing too are data and maps showing recent land use and development, pending and proposed development, and public and important facilities. The inclusion of this information is recommended for the next Plan Update to help the reader understand the nature of the county and its developed and rural areas.
County Response: Land use and land cover are shown in Figure 2-7. Data on pending and proposed development is not maintained together. The recent County Comprehensive Plan update shows development-ready areas, which are targets for future development. They are shown in Figure 2-6 . There are so many critical facilities (public and important facilities) in the County that showing them

1. REGULATION CHECKLIST **Regulation** (44 CFR 201.6 Local Mitigation Plans)	Location in Plan (section and/or page number)	Met	Not Met
together on a map would make the map unreadable. Each municipal flood map in Section 4.3.5 shows these facilities in the respective municipalities. PEMA Comments: - Kudos for Exec summary - Kudos for conducting and documenting annual reviews. Who participated in review? If full public outreach is not practicable, could a more limited outreach be conducted, ie: HMMWG, just municipalities, or county agencies? Question: The changes section does not mention the Ligonier Township Amendment from January 2019. A.1. Good broad list of invited organizations by type. A.4. Comment: The integration comments focused more on what the other plans are but needs more discussion of how the information in those other plans was incorporated into the HMP. For example, Section 2.4, p. 2-16 has a good discussion of *how* the comprehensive plan is impacting the HMP			
ELEMENT B. HAZARD IDENTIFICATION AND RISK ASSESSMENT			
B1. Does the Plan include a description of the type, location, and extent of all natural hazards that can affect each jurisdiction(s)? (Requirement §201.6(c)(2)(i))	Sections 4.2 and 4.3 (Section 4.3 consists of individual hazard profiles, including human-caused)	X	
B2. Does the Plan include information on previous occurrences of hazard events and on the probability of future hazard events for each jurisdiction? (Requirement §201.6(c)(2)(i))	Section 4.3	X	
B3. Is there a description of each identified hazard's impact on the community as well as an overall summary of the community's vulnerability for each jurisdiction? (Requirement §201.6(c)(2)(ii))	Section 4.3.X.5 (hazard vulnerability and impact for individual hazards in each hazard profile under Section 4.3), Section 4.4, Table 4.4-2 (Risk Ranking for Westmoreland County) and Table 4.4-3 (Jurisdictional Risk by Municipality)	X	
B4. Does the Plan address NFIP insured structures within the jurisdiction that have been repetitively damaged by floods? (Requirement §201.6(c)(2)(ii))	Section 4.3.5.5 (Specifically in the Vulnerability Assessment beginning on p. 4.3.5-47)	X	

ELEMENT B: REQUIRED REVISIONS

REQUIRED REVISION:
Figure 4.3.11-4, Sinkholes and Surface Depressions in Westmoreland County, appears to be mislabeled. Shown is the State of Pennsylvania and the map does not appear to have any content for Westmoreland County. Please make corrections to the title and/or content of this map.

County Response: The title of Figure 4.3.11-4 was updated to "Sinkholes and Surface Depressions in Pennsylvania." We also add a red oval to indicate the position of Westmoreland County.

REQUIRED REVISION:
The County is to be commended for ensuring that the location of Westmoreland County is clearly delineated on most statewide and similar large-coverage maps within the Hazard Mitigation Plan. There are, however, some instances where this delineation did not occur. Please add it to figures where it is missing, such as Figures 4.3.12-5, 4.3.12-6, and 4.3.12-7.

County Response: We checked all figures in the HMP and added ovals to indicate the location of Westmoreland County in Figures 4.3.9-1, 4.3.11-4, 4.3.12-5, 4.3.12-6, and 4.3.12-7.

REQUIRED REVISION:
A recurring county-map labeling problem exists throughout the Plan, where the shields for all US Routes are missing (US22, US30, US119). There are some instances where these routes are labeled conventionally (*ie*: non-US Routes shields), but in most cases they have no labels at all. Please add the US Routes labels to all maps where these roads have no identification at present.

County Response: Maps in Sections 2, 4.3.3, 4.3.4, 4.3.5, 4.3.7, 4.3.8, 4.3.11, 4.3.12, 4.3.13, 4.3.14, 4.3.15, 4.3.16, 4.3.18, and 4.3.21 were updated to show the US Routes.

REQUIRED REVISION:
Please add a label for *Interstates* in the legend for Figure 4.3.16-1.

County Response: The label was added.

Recommended Revision: Section 4.3.5, Risk Assessment – Flood, Flash Flood, Ice Jam, lists "specific problem areas in the county that were identified through the 2011 FIS or identified by municipal emergency management coordinators" on page 10. Included are flooding problems experienced in Allegheny Township, Derry Borough, East Huntington Township, Rostraver Township, St. Clair Township, and Vandergrift Township – all municipalities that are non-participating for the 2020 Hazard Mitigation Plan. Similarly, page 36 of Section 4.3.5 notes that "Sutersville Borough has the largest portion of its population within the 1-percent annual chance event floodplain" and that "New Florence Borough has the largest population within the 0.2-percent annual chance event; 45.7 percent of its population is exposed." Neither of these 2 municipalities qualified as participating for the 2020 Hazard Mitigation Plan. Table 4.3.5-13, NFIP Policies, Claims, and Repetitive Loss Statistics, lists numerous claims and repetitive loss properties in municipalities that are non-participating for the 2020 Hazard Mitigation Plan. These examples illustrate the disconnect between municipalities' non-participating status and the risk circumstances they find themselves in. This dissonance in the Plan is a serious deficiency that needs to be overcome.

County Response: We agree that it was disappointing that these municipalities chose not to participate.

Recommended Revision: The municipal flood maps included in Section 4.3.5, Risk Assessment – Flood, Flash Flood, Ice Jam, on page 4.3.5-5 and following would be more useful for mitigation planning purposes if they included building footprints and property lines.

County Response: No change was made. Adding the building footprints and property lines would clutter the maps too much.

Recommended Revision: Recognizing that COVID-19 arrived after the draft HMP was well along in preparation, the Plan would certainly be more relevant if it contained some discussion of this pandemic.

1. REGULATION CHECKLIST **Regulation** (44 CFR 201.6 Local Mitigation Plans)	Location in Plan (section and/or page number)	Met	Not Met
Assuming that this is not something the County chooses to tackle now, then Pandemic Human Disease should definitely be on the agenda for a discussion of threats as part of any Plan Update. **County Response: No change was made. COVID-19 can be added by amendment later or addressed in the next update of the HMP.**			
ELEMENT C. MITIGATION STRATEGY			
C1. Does the plan document each jurisdiction's existing authorities, policies, programs and resources and its ability to expand on and improve these existing policies and programs? (Requirement §201.6(c)(3))	Section 5, specifically subsections 5.2.1 to 5.2.5	X	
C2. Does the Plan address each jurisdiction's participation in the NFIP and continued compliance with NFIP requirements, as appropriate? (Requirement §201.6(c)(3)(ii))	Section 5.2.1, pages 5-11 to 5-13, and Table 5-1	X	
C3. Does the Plan include goals to reduce/avoid long-term vulnerabilities to the identified hazards? (Requirement §201.6(c)(3)(i))	Section 6.2	X	
C4. Does the Plan identify and analyze a comprehensive range of specific mitigation actions and projects for each jurisdiction being considered to reduce the effects of hazards, with emphasis on new and existing buildings and infrastructure? (Requirement §201.6(c)(3)(ii))	Section 6.3, 6.4 Appendix H	X	
C5. Does the Plan contain an action plan that describes how the actions identified will be prioritized (including cost benefit review), implemented, and administered by each jurisdiction? (Requirement §201.6(c)(3)(iv)); (Requirement §201.6(c)(3)(iii))	Sections 6.4.1, 6.4.2, and 6.4.3	X	
C6. Does the Plan describe a process by which local governments will integrate the requirements of the mitigation plan into other planning mechanisms, such as comprehensive or capital improvement plans, when appropriate? (Requirement §201.6(c)(4)(ii))	Section 5.2.5	X	
ELEMENT C: REQUIRED REVISIONS **Recommended Revision**: Appendix H contains 453 Mitigation Action Worksheets, potentially a significant tool toward implementing the county's Hazard Mitigation Plan. But it is a disappointment to see fewer than 20 of these worksheets (4.4% of the total) with the Points of Contact information filled out. Plan implementation will require champions and county/municipal/agency staff that can be depended upon to help advance actions. The annual review for the Hazard Mitigation Plan should include a determined effort to get the Points of Contact information for each of the 453 Mitigation Actions completed. **County Response: No change was made. The Hazard Mitigation Working Group (HMWG) will add these details over the next year.**			
ELEMENT D. PLAN REVIEW, EVALUATION, AND IMPLEMENTATION (applicable to plan updates only)			
D1. Was the plan revised to reflect changes in development? (Requirement §201.6(d)(3))	Sections 2.2, 2.3, 2.4; Section 4.4.4	X	

1. REGULATION CHECKLIST **Regulation** (44 CFR 201.6 Local Mitigation Plans)	Location in Plan (section and/or page number)	Met	Not Met
D2. Was the plan revised to reflect progress in local mitigation efforts? (Requirement §201.6(d)(3))	Sections 6.1.1, 6.1.2, 6.1.3 (Additional Past Mitigation Accomplishments not identified in previous update), Section 6.4.1	X	
D3. Was the plan revised to reflect changes in priorities? (Requirement §201.6(d)(3))	Sections 6.1.1, 6.1.2, 6.2.1, 6.2.2, 6.4.1, 6.4.2	X	
ELEMENT D: REQUIRED REVISIONS			
ELEMENT E. PLAN ADOPTION			
E1. Does the Plan include documentation that the plan has been formally adopted by the governing body of the jurisdiction requesting approval? (Requirement §201.6(c)(5))	Section 8, Appendix F (to include formal adoption resolutions upon receipt of APA designation)		X
E2. For multi-jurisdictional plans, has each jurisdiction requesting approval of the plan documented formal plan adoption? (Requirement §201.6(c)(5))	Section 3.5 (Table 3-2 to be completed upon receipt of APA designation), Section 8, Appendix F (to include formal adoption resolutions upon receipt of APA designation)		X
ELEMENT E: REQUIRED REVISIONS			
OPTIONAL: HIGH HAZARD POTENTIAL DAM RISKS			
HHPD1. Did Element A4 (planning process) describe the incorporation of existing plans, studies, reports, and technical information for high hazard potential dams?	Section 4.3.15; Appendix A		X
HHPD2. Did Element B3 (risk assessment) address HHPDs?	Section 4.3.15		X

1. REGULATION CHECKLIST **Regulation** (44 CFR 201.6 Local Mitigation Plans)	Location in Plan (section and/or page number)	Met	Not Met
HHPD3. Did Element C3 (mitigation goals) include mitigation goals to reduce long-term vulnerabilities from high hazard potential dams that pose an unacceptable risk to the public?	Section 6.2.1; Section 6.2.2, specifically Objective 2.1	X	
HHPD4. Did Element C4-C5 (mitigation actions) address HHPDs prioritize mitigation actions to reduce vulnerabilities from high hazard potential dams that pose an unacceptable risk to the public?	Section 6.4.1, specifically Table 6-4		X

REQUIRED REVISIONS TO MEET THE OPTIONAL HIGH HAZARD POTENTIAL DAMS REQUIREMENTS

FEMA has a grant program to implement the rehabilitation of HHPDs. To be eligible for funding under this program, a jurisdiction's Hazard Mitigation Plan must have a certain level of detail on all dam risks. Should Westmoreland County or any of its local jurisdictions be interested in applying for a HHPD grant in the future, the Hazard Mitigation Plan would first need to contain the required level of detail on all dam risks. This detail should include the following elements in the Risk Assessment:

- A summary description of the risk-based priority system;
- A list or inventory of HHPDs, with detailed information (such as identification number and location by jurisdiction);
- A map identifying the location of the HHPDs within the planning area;
- A description of the method used to assess the risk to the HHPDs;
- A summary of jurisdiction-specific vulnerabilities that includes:
    - Information regarding cascading impacts of seismic events, landslides, wildfires, and other hazards on dams that might affect up and downstream flooding potential (breach, non-breach, and residual risk);
    - Significant economic, environmental, or social impacts as well as multi-jurisdictional impacts from a dam incident;
    - Location and size of populations at risk (PAR) from HHPDs;
    - Potential dam failure impacts to institutions and critical infrastructure;
    - The risk identification methodology and/or assumptions for risk data and inundations;
    - The documentation of limitations and the approach to address deficiencies.

County Response: Westmoreland County is not pursuing approval of the HHPD aspects of the HMP at this time. Action WestmorelandC-37 was added to the mitigation strategy to conduct the analysis to meet the HHPD requirements.

ELEMENT F. ADDITIONAL STATE REQUIREMENTS (OPTIONAL FOR STATE REVIEWERS ONLY; NOT TO BE COMPLETED BY FEMA)			
F1.			
F2.			

ELEMENT F: REQUIRED REVISIONS

SECTION 2:
PLAN ASSESSMENT

INSTRUCTIONS: The purpose of the Plan Assessment is to offer the local community more comprehensive feedback to the community on the quality and utility of the plan in a narrative format. The audience for the Plan Assessment is not only the plan developer/local community planner, but also elected officials, local departments and agencies, and others involved in implementing the Local Mitigation Plan. The Plan Assessment must be completed by FEMA. The Assessment is an opportunity for FEMA to provide feedback and information to the community on: 1) suggested improvements to the Plan; 2) specific sections in the Plan where the community has gone above and beyond minimum requirements; 3) recommendations for plan implementation; and 4) ongoing partnership(s) and information on other FEMA programs, specifically RiskMAP and Hazard Mitigation Assistance programs. The Plan Assessment is divided into two sections:

1. Plan Strengths and Opportunities for Improvement
2. Resources for Implementing Your Approved Plan

Plan Strengths and Opportunities for Improvement is organized according to the plan Elements listed in the Regulation Checklist. Each Element includes a series of italicized bulleted items that are suggested topics for consideration while evaluating plans, but it is not intended to be a comprehensive list. FEMA Mitigation Planners are not required to answer each bullet item and should use them as a guide to paraphrase their own written assessment (2-3 sentences) of each Element.

The Plan Assessment must not reiterate the required revisions from the Regulation Checklist or be regulatory in nature and should be open-ended and to provide the community with suggestions for improvements or recommended revisions. The recommended revisions are suggestions for improvement and are not required to be made for the Plan to meet Federal regulatory requirements. The italicized text should be deleted once FEMA has added comments regarding strengths of the plan and potential improvements for future plan revisions. It is recommended that the Plan Assessment be a short synopsis of the overall strengths and weaknesses of the Plan (no longer than two pages), rather than a complete recap section by section.

Resources for Implementing Your Approved Plan provides a place for FEMA to offer information, data sources and general suggestions on the plan implementation and maintenance process. Information on other possible sources of assistance including, but not limited to, existing publications, grant funding or training opportunities, can be provided. States may add state and local resources, if available.

A. Plan Strengths and Opportunities for Improvement

This section provides a discussion of the strengths of the plan document and identifies areas where these could be improved beyond minimum requirements.

Element A: Planning Process

How does the Plan go above and beyond minimum requirements to document the planning process with respect to:

- *Involvement of stakeholders (elected officials/decision makers, plan implementers, business owners, academic institutions, utility companies, water/sanitation districts, etc.);*
- *Involvement of Planning, Emergency Management, Public Works Departments or other planning agencies (i.e., regional planning councils);*
- *Diverse methods of participation (meetings, surveys, online, etc.); and*
- *Reflective of an open and inclusive public involvement process.*

Element B: Hazard Identification and Risk Assessment

In addition to the requirements listed in the Regulation Checklist, 44 CFR 201.6 Local Mitigation Plans identifies additional elements that should be included as part of a plan's risk assessment. The plan should describe vulnerability in terms of:

1) *A general description of land uses and future development trends within the community so that mitigation options can be considered in future land use decisions;*
2) *The types and numbers of existing and future buildings, infrastructure, and critical facilities located in the identified hazard areas; and*
3) *A description of potential dollar losses to vulnerable structures, and a description of the methodology used to prepare the estimate.*

How does the Plan go above and beyond minimum requirements to document the Hazard Identification and Risk Assessment with respect to:

- *Use of best available data (flood maps, HAZUS, flood studies) to describe significant hazards;*
- *Communication of risk on people, property, and infrastructure to the public (through tables, charts, maps, photos, etc.);*
- *Incorporation of techniques and methodologies to estimate dollar losses to vulnerable structures;*
- *Incorporation of Risk MAP products (i.e., depth grids, Flood Risk Report, Changes Since Last FIRM, Areas of Mitigation Interest, etc.); and*
- *Identification of any data gaps that can be filled as new data became available.*

Element C: Mitigation Strategy

How does the Plan go above and beyond minimum requirements to document the Mitigation Strategy with respect to:

- *Key problems identified in, and linkages to, the vulnerability assessment;*
- *Serving as a blueprint for reducing potential losses identified in the Hazard Identification and Risk Assessment;*
- *Plan content flow from the risk assessment (problem identification) to goal setting to mitigation action development;*
- *An understanding of mitigation principles (diversity of actions that include structural projects, preventative measures, outreach activities, property protection measures, post-disaster actions, etc);*
- *Specific mitigation actions for each participating jurisdiction that reflects their unique risks and capabilities;*
- *Integration of mitigation actions with existing local authorities, policies, programs, and resources; and*
- *Discussion of existing programs (including the NFIP), plans, and policies that could be used to implement mitigation, as well as document past projects.*

Element D: Plan Update, Evaluation, and Implementation (*Plan Updates Only*)

How does the Plan go above and beyond minimum requirements to document the 5-year Evaluation and Implementation measures with respect to:

- *Status of previously recommended mitigation actions;*
- *Identification of barriers or obstacles to successful implementation or completion of mitigation actions, along with possible solutions for overcoming risk;*
- *Documentation of annual reviews and committee involvement;*
- *Identification of a lead person to take ownership of, and champion the Plan;*
- *Reducing risks from natural hazards and serving as a guide for decisions makers as they commit resources to reducing the effects of natural hazards;*
- *An approach to evaluating future conditions (i.e. socio-economic, environmental, demographic, change in built environment etc.);*
- *Discussion of how changing conditions and opportunities could impact community resilience in the long term; and*
- *Discussion of how the mitigation goals and actions support the long-term community vision for increased resilience.*

B. Resources for Implementing Your Approved Plan

Ideas may be offered on moving the mitigation plan forward and continuing the relationship with key mitigation stakeholders such as the following:

- *What FEMA assistance (funding) programs are available (for example, Hazard Mitigation Assistance (HMA)) to the jurisdiction(s) to assist with implementing the mitigation actions?*
- *What other Federal programs (National Flood Insurance Program (NFIP), Community Rating System (CRS), Risk MAP, etc.) may provide assistance for mitigation activities?*
- *What publications, technical guidance or other resources are available to the jurisdiction(s) relevant to the identified mitigation actions?*
- *Are there upcoming trainings/workshops (Benefit-Cost Analysis (BCA), HMA, etc.) to assist the jurisdictions(s)?*
- *What mitigation actions can be funded by other Federal agencies (for example, U.S. Forest Service, National Oceanic and Atmospheric Administration (NOAA), Environmental Protection Agency (EPA) Smart Growth, Housing and Urban Development (HUD) Sustainable Communities, etc.) and/or state and local agencies?*

SECTION 3:
MULTI-JURISDICTION SUMMARY SHEET (OPTIONAL)

INSTRUCTIONS: For multi-jurisdictional plans, a Multi-jurisdiction Summary Spreadsheet may be completed by listing each participating jurisdiction, which required Elements for each jurisdiction were 'Met' or 'Not Met,' and when the adoption resolutions were received. This Summary Sheet does not imply that a mini-plan be developed for each jurisdiction; it should be used as an optional worksheet to ensure that each jurisdiction participating in the Plan has been documented and has met the requirements for those Elements (A through E).

MULTI-JURISDICTION SUMMARY SHEET												
							Requirements Met (Y/N)					
#	Jurisdiction Name	Jurisdiction Type (city/ borough/ township/ village/ etc.)	Plan POC	Mailing Address	Email	Phone	A. Planning Process	B. Hazard Identification & Risk Assessment	C. Mitigation Strategy	D. Plan Review, Evaluation & Implementation	E. Plan Adoption	F. State Require-ments
1	Westmoreland County	County	Christopher Tantlinger	911 Public Safety Road, Greensburg, PA 15601	ctantlin@co.westmoreland.pa.us	724-600-7349	Y	Y	Y	Y	N	Y
2	Adamsburg Borough	Borough	Jessica Richardson	PO Box 16, Adamsburg, PA 15611	adamsburgsec@gmail.com	724-309-3270	N	N	N	N	N	N
3	Allegheny Township	Township	Gregory A. Primm	136 Community Building Road, Leechburg, PA 15656	admin@alleghenytownship.net	724-842-4641	N	N	N	N	N	N
4	Arnold, City of	City	Mario Bellavia	1829 Fifth Ave., Arnold, PA 15068	mario.bellavia@cityofarnoldpa.org	724-337-4441, ext 1-2	N	N	N	N	N	N
5	Arona Borough	Borough	Joseph Dulkis	PO Box 200, Arona, PA 15617	N/A	724-423-6368	Y	N	Y	Y	N	Y
6	Avonmore Borough	Borough	Rebecca Steele	619 Allegheny Ave., Avonmore, PA 15618	avonmoreboro@yahoo.com	724-697-4415	N	N	N	N	N	N
7	Bell Township	Township	Angela Duffner	Box D, Salina, PA 15680	belltwpsup@yahoo.com	724-697-4121	N	N	N	N	N	N
8	Bolivar Borough	Borough	Kelly Lupacchini	PO Box C, Bolivar, PA 15923	N/A	724-676-9950	N	N	N	N	N	N
9	Cook Township	Township	Debbie Rhodes	PO Box 221, Stahlstown, PA 15687	cooktwp@lhtot.com	724-593-7471	Y	N	Y	Y	N	Y
10	Delmont Borough	Borough	Karen Ross Shola	77 Greensburg St., Delmont, PA 15626	delmontborough@comcast.net	724-468-4422	N	N	N	N	N	N
11	Derry Borough	Borough	Lori L. Latta	114 East Second Ave., Derry, PA 15627	derry.boro@comcast.net	724-694-2030	N	N	N	N	N	N
12	Derry Township	Township	David Slifka	5321 Route 982, Derry, PA 15627	derrytownship@comcast.net	724-539-2961	Y	Y	Y	Y	N	Y

MULTI-JURISDICTION SUMMARY SHEET												
							Requirements Met (Y/N)					
#	Jurisdiction Name	Jurisdiction Type (city/ borough/ township/ village/ etc.)	Plan POC	Mailing Address	Email	Phone	A. Planning Process	B. Hazard Identification & Risk Assessment	C. Mitigation Strategy	D. Plan Review, Evaluation & Implementation	E. Plan Adoption	F. State Require-ments
13	Donegal Borough	Borough	Stephanie Shandel	340 Church St., PO Box 200, Donegal, PA 15628	donboro@gmail.com	724-593-6222	N	N	N	N	N	N
14	Donegal Township	Township	Trudy Harkcom	137 Hoffer Lane, Jones Mills, PA 15646	dontwp@lhtot.com	724-593-6309	Y	Y	Y	Y	N	Y
15	East Huntingdon Township	Township	Cindy Walthour	PO Box 9, Alverton, PA 15612	eht@zoominternet.net	724-887-7480	N	N	N	N	N	N
16	East Vandergrift Borough	Borough	Mary Kardos	254 Kennedy Ave., PO Box 460, East Vandergrift, PA 15629	evboro@comcast.net	724-567-7213	Y	Y	N	Y	N	Y
17	Export Borough	Borough	Tonia Waryas	5950 Johnson Ave., Export, PA 15632	adamsburgsec@gmail.com	724-327-6311	Y	Y	Y	Y	N	Y
18	Fairfield Township	Township	Emma Brendlinger	159 Midget Camp Road, Bolivar, Pa 15923	fairfield1773@verizon.net	724-235-2140	N	N	N	N	N	N
19	Greensburg, City of	City	Kelsye A. Milliron	416 S Main Street, Greensburg, PA 15601	administration@greensburgpa.org	724-838-4324	Y	Y	Y	Y	N	Y
20	Hempfield Township	Township	Andrew Walz	1132 Woodward Drive, Suite A, Greensburg, PA 15601	info@hempfieldtwp.com	724-834-7232	Y	Y	Y	Y	N	Y
21	Hunker Borough	Borough	Susan Shaler	Box 350, Hunker, PA 15639	hunkerborough@verizon.net	724-925-6535	Y	Y	N	Y	N	Y
22	Hyde Park Borough	Borough	Tifanie Gagen	PO Box 222, Hyde Park, PA 15641	hpboro@comcast.net	724-845-4931	N	N	N	N	N	N
23	Irwin Borough	Borough	Mary Benko	424 Main Street, Irwin, Pa 15642	N/A	724-864-3100	Y	Y	Y	Y	N	Y
24	Jeannette, City of	City	Michael J. Minyon	110 South Second Street, Jeannette, PA 15644	cityclerk@cityofjnt.com	724-527-4006	Y	Y	Y	Y	N	Y
25	Latrobe, City of	City	Wayne Jones	PO Box 829, Latrobe, PA 15650	wjones@cityoflatrobe.com	724-539-8548	Y	Y	Y	Y	N	Y
26	Laurel Mountain Borough	Borough	Taryn Ankney	PO Box 266, Laughlintown, PA 15655	N/A	724-238-2923	Y	Y	Y	Y	N	Y
27	Ligonier Borough	Borough	Paul Fry	120 East Main Street, Ligonier, Pa 15658	ligonierboro@comcast.net	724-238-9852	Y	Y	Y	Y	N	Y
28	Ligonier Township	Township	Keith A. Whipkey	One Municipal Park Drive, Ligonier, PA 15658	kwhipkey@ligoniertownship.com	724-238-2725	Y	Y	Y	Y	N	Y

MULTI-JURISDICTION SUMMARY SHEET												
							Requirements Met (Y/N)					
#	Jurisdiction Name	Jurisdiction Type (city/ borough/ township/ village/ etc.)	Plan POC	Mailing Address	Email	Phone	A. Planning Process	B. Hazard Identification & Risk Assessment	C. Mitigation Strategy	D. Plan Review, Evaluation & Implementation	E. Plan Adoption	F. State Require-ments
29	Lower Burrell, City of	City	Kelly Cook	115 Schreiber Street, Lower Burrell, PA 15068-3229	kelly@cityoflowerburrell.com	724-335-9875	Y	Y	Y	Y	N	Y
30	Loyalhanna Township	Township	Mary L. Trunzo	220 Fifth Street, Saltsburg, PA 15681	twpsec@comcast.net	724-639-3417	Y	N	N	Y	N	Y
31	Madison Borough	Borough	Patricia Walt	21 Fire Hall Lane, PO Box 338, Madison, PA 15663	madboro@comcast.net	724-446-3550	N	N	N	N	N	N
32	Manor Borough	Borough	Joe Lapia	47 Race Street, Manor, PA 15665	boroughmanager@manorborough.com	724-864-2422	Y	Y	Y	Y	N	Y
33	Monessen, City of	City	Holly Minno	100 Third Street, Monessen, PA 15062	holly@cityofmonessen.com	724-684-9712	Y	Y	Y	Y	N	Y
34	Mount Pleasant Borough	Borough	Jeffy Landy	1 Etze Avenue, Mt Pleasant, PA 15666	bfedorchak@gmail.com	724-547-6745	Y	Y	Y	Y	N	Y
35	Mount Pleasant Township	Township	Caprice Mills	Box 158, Mammoth, PA 15664	contact@mtpleasanttwp.com	724-423-5653	Y	Y	Y	Y	N	Y
36	Murrysville, Municipality of	Municipality	James Morrison	4100 Sardis Road, Murrysville, PA 15668	jmorrison@murrysvillegov.org	724-327-2100	Y	Y	Y	Y	N	Y
37	New Alexandria Borough	Borough	Adam Shaffer	1624 Keystone Park Rd, New Alexandria, PA 15670-9219	newalexboro@yahoo.com	724-668-7671	N	N	N	N	N	N
38	New Florence Borough	Borough	Mary Strucaly	PO Box 272, New Florence, PA 15944	nfboro@windbeam.com	724-235-2000	N	N	N	N	N	N
39	New Kensington, City of	City	Dennis F. Scarapiniti	301 Eleventh Street, New Kensington, PA 15068	cityclerk@newkensingtons.org	724-3337-4523	Y	Y	Y	Y	N	Y
40	New Stanton Borough	Borough	Mary Ann Roll	P.O. Box 375, New Stanton, PA 15672	borooffice@newstanton.org	724-925-9700, ext 2	N	N	N	N	N	N
41	North Belle Vernon Borough	Borough	Lisa Pollock	503 Speer Street, North Belle Vernon, PA 15012	N/A	724-929-6930	N	N	N	N	N	N
42	North Huntingdon Township	Township	John Shepherd	11279 Center Highway, North Huntingdon, PA 15642	jshepherd@nhtpa.us	724-863-3806	Y	Y	Y	Y	N	Y
43	North Irwin Borough	Borough	Adele Nehas	21 Second Street, North Irwin, Pa 15642	niboro1@verizon.net	724-864-5057	N	N	N	N	N	N
44	Oklahoma Borough	Borough	Alecia Sherbondy	170 Thorn Street, Apollo, PA 15613	oklaboro@verizon.net	724-567-5727	Y	Y	N	Y	N	Y

MULTI-JURISDICTION SUMMARY SHEET													
							Requirements Met (Y/N)						
#	Jurisdiction Name	Jurisdiction Type (city/ borough/ township/ village/ etc.)	Plan POC	Mailing Address	Email	Phone	A. Planning Process	B. Hazard Identification & Risk Assessment	C. Mitigation Strategy	D. Plan Review, Evaluation & Implementation	E. Plan Adoption	F. State Require-ments
45	Penn Borough	Borough	Lynn Cain	130 Fredrick Drive, Manor, PA 15665	N/A	724-864-2810	Y	Y	Y	Y	N	Y
46	Penn Township	Township	Bruce Light	PO Box 452, Harrison City, PA 15636	brucelight@penntwp.org	724-744-2171	Y	Y	Y	Y	N	Y
47	Rostraver Township	Township	Pamela Beard	201 Port Royal Road, Rostraver, Pa 15012	commissioners@rostraver.us	724-929-8877	N	N	N	N	N	N
48	St. Clair Township	Township	Paul Marabito	PO Box 506, Seward, PA 15954	stclair522@comcast.net	814-446-5211	N	N	N	N	N	N
49	Salem Township	Township	Lynn Cain	244 Congruity Road, Greensburg, Pa 15601	salemtwp@comcast.net	724-668-7500	Y	Y	Y	Y	N	Y
50	Scottdale Borough	Borough	Angelo Pallone	10 Mt Pleasant Rd, Scottdale, PA 15683	scottdale.boro@zoominternet.net	724-887-8220	Y	Y	Y	Y	N	Y
51	Seward Borough	Borough	Darci Ash	PO Box 466, Seward, PA 15954-0456	sewardborough@aol.com	814-446-6164	N	N	N	N	N	N
52	Sewickley Township	Township	Susan Leukhardt	PO Box 28, Herminie, PA 15637-0028	secretary@sewickleytownship.org	724-446-7202	Y	Y	Y	Y	N	Y
53	Smithton Borough	Borough	MeLinda Radziwon	Box 374, Smithton, PA 15479	smithtonboro@hotmail.com	724-872-6406	Y	Y	Y	Y	N	Y
54	South Greensburg Borough	Borough	Lee Kunkle	1515 Poplar Street, Greensburg, PA 15601	N/A	724-837-8858	Y	Y	Y	Y	N	Y
55	South Huntingdon Township	Township	Cindy Thorne	75 Supervisor Drive, West Newton, PA 15089	southhuntingdontwp@comcast.net	724-872-8474	Y	Y	Y	Y	N	Y
56	Southwest Greensburg Borough	Borough	Correy H. Sheffler	564 Stanton Street, Greensburg, PA 15601	swgboro@wvdsl.net	724-834-0360	Y	Y	Y	Y	N	Y
57	Sutersville Borough	Borough	Valerie Converso	320 Municipal Avenue, Sutersville, PA 15083	sutersvilleborough@comcast.net	724-872-7988	N	N	N	N	N	N
58	Trafford Borough	Borough	Lisa Mallik	PO Box 196, Trafford, PA 15085	traffordborough@comcast.net	412-372-7652	Y	Y	Y	Y	N	Y
59	Unity Township	Township	Anita Ulishney	1104 Beatty County Road, Latrobe, PA 15650-9346	info@unitytownship.org	724-539-2546	Y	N	Y	Y	N	Y
60	Upper Burrell Township	Township	Amy Rockwell	3735 Seventh Street, New Kensington, PA 15068	ubtwp@upperburrelltwp.com	724-335-3517	N	N	N	N	N	N

MULTI-JURISDICTION SUMMARY SHEET												
							Requirements Met (Y/N)					
#	Jurisdiction Name	Jurisdiction Type (city/ borough/ township/ village/ etc.)	Plan POC	Mailing Address	Email	Phone	A. Planning Process	B. Hazard Identification & Risk Assessment	C. Mitigation Strategy	D. Plan Review, Evaluation & Implementation	E. Plan Adoption	F. State Require-ments
61	Vandergrift Borough	Borough	Stephen J. Delle Donne	109 Grant Ave, Vandergrift, PA 15690	vgborosec@comcast.net	724-567-7818	N	N	N	N	N	N
62	Washington Township	Township	Lynn Stascak	285 Pine Run Church Road, Apollo, PA 15613	washtwp@washingtontownship.com	724-727-3515	Y	Y	Y	Y	N	Y
63	West Leechburg Borough	Borough	Patricia Grantz	1015 Plazak Street, West Leechburg, PA 15656	N/A	724-842-2653	N	N	N	N	N	N
64	West Newton Borough	Borough	Pamela Huminek	112 South Water Street, West Newton, PA 15089	wnboro@hotmail.com	724-872-6860	Y	Y	Y	Y	N	Y
65	Youngstown Borough	Borough	Tami Roach	PO Box 56, Youngstown, PA 15696-0056	N/A	724-539-8854	N	N	N	N	N	N
66	Youngwood Borough	Borough	Diane Derco	17 South Sixth Street, Youngwood, Pa 15697	youngwoodborough@comcast.net	724-925-3660	Y	Y	Y	Y	N	Y

AGENDA notes

HAZARD MITIGATION WORKING GROUP

January 8, 2014 *0900-1000*

Introductions: Bova, Laffey, Pologruto, Tantlinger; Excused: Bracken, Jones, Snyder, Subbio

Conference Call participants: Kelly, Knox

Review:

Status update from Tetra Tech Inc.: *Caitlin provided update that hazard profiles are complete with the exception of transportation. Looking at mid February for Risk Assessment Workshop. Working on hazard rankings. She stated that she would like to use SharePoint site to review the information and drafts. End of February for public meeting would be appropriate. Dates were tentatively set for the evening of Feb 26th and daytime of Feb 27th. There has been little or no information from municipalities since and before the holiday. Continued efforts to notify the municipalities by both TetraTech and public safety will continue. 420 persons have completed the survey to date, however there have not been any additional projects submitted. Facebook post seemed to provide the best uptick for additional surveys being completed was noted by Caitlin.*

- Capability Assessment – *Looking at March to finalize*
- Risk Assessment Workshop – *February*
- New and Current Hazard Review - *February*
- Vulnerability Assessment – *Anthony has provided all information and other information on topo was found online.*
- Public Risk Assessment meeting – *End of February*
- Quarterly report – Payment *Report submitted, waiting on Sandy to determine status of payment.*
- Project opportunities - *No additional projects have been submitted to date from the previous 9.*
- Follow up on non-participants – *Continued action by Tetra Tech & WCDPS*
- Action Items –
    - *Set date and location for next public meeting, Caitlin to send details of meeting tasks.*
    - *Municipal participation enhanced by email, phone call, and face to face contact.*
    - *Distribution list sent to Caitlin of Municipal contacts.*
    - *Files of Original HMP placed on SharePoint*
    - *Follow up on payment not received*
    - *Transportation profile*
    - *Forward emails related to SharePoint access difficulties*

Hazard Mapping:

GIS Layers - *Anthony has been compiling from spreadsheet provided but a mistake of listing Delmont twice will require an hour to correct and provide an update once ocompleted. Pictometry has begun and first flight to take place shortly, he stated that he is trying to secure 25 places for Public Safety. He will not be able to attend the HAZUS training in Emmitsburg MD due to it not being budgeted ($458.40).*

Best Practices in Mitigation:

Radon- *EPA notice provided to TetraTech for inclusion in hazard information.*

NOTE: *Tantlinger left meeting for emergency, information and meeting was completed by Chris Bova.*

Hazards & Mitigations:

Generators / 4025-4030 / declaration update- *no report*

Next Meeting & Location:

February 12, 2014

AGENDA notes

HAZARD MITIGATION WORKING GROUP

February 12, 2014

Introductions: Bova, Cramer, Pologruto, Snyder, Tantlinger, Excused: Pilsbury, Smythe, Stevens, Jones

Conference Call participants: Kelly, Knox

Link: **Meeting access number: 866-692-5721**
Participant code: 7237813
(This will be the access for all future meetings)

Review:

Status update from Tetra Tech Inc. *–Caitlin stated that she feels that we are on schedule for FEMA-PEMA review and that we continue progressing forward. Sections 4.3 and 4.4 of the HMP update have been provided on the SharePoint site. Section 3 Planning assessment and capability assessment will be forthcoming.*

- Hazard Profiles- *Reviewed Flood profile 4.3 draft and went through outline and tables. Some minor corrections and concerns were illustrated and noted.*
- Risk Factor Values- *Reviewed RF formula and color coded table.*
- Participation update- *26 municipalities have not responded to date. Clyde will be reaching out to municipalities that have not participated on list generated by TetraTech. Discussion on level of participation required for FEMA-PEMA. LEMC have been notified of participation status at bimonthly meeting.*
- Upcoming workshop meetings Feb 26th & 27th. *–Venue and times have been confirmed by Sandy Smythe and will continue as planned.*
- *Bova stated that he has been informed that 500-1000 homes may be subject to the Biggart-Waters Act and flood insurance premiums may skyrocket and cause difficulties for homeowners under the flood mapped areas moving from subsidized to unsubsidized status.*
- *Community Rating System CRS program discussed and Caitlin offered to have someone from their office provide information on the program. John Mizerak (sp). May be able to describe implementation of the system and grant funding available, and it may also help reduce insurance premiums for those affected.*
- *Climate change directive as related to Hazard Mitigation has been directed by recent EPA planning initiatives and should be included in the HMP, Caitlin will provide information.*
- *Action Items-*
    - *Review Hazard Profiles*
    - *Anthony to email info on county base map to Caitlin.*
    - *Clyde making phone calls to municipalities.*

- *SharePoint access re-sent to members of Working Group along with notification of February 21st meeting to review profiles.*
- *Safety Bulletin information sent to Caitlin and placed on SharePoint. Categories to be listed in CIKR narrative.*
- *Caitlin confirm with Chicago on payment status.*
- *Advertisement of public meetings*
- *Press release of Hazard Profile review to be provided by Caitlin.*
- *Publicize Hazard Profiles (excluding dam failures)on website and County Home page.*

Hazard Mapping:

Profile mapping-*Maps reviewed in profiles on SharePoint site and it was suggested by Anthony that roads be delineated on base map being used to illustrate throughout the plan to help public understand where they may be located.*

Best Practices in Mitigation:

Safety Bulletin to Chemical Facilities- *Safety Bulletin 015 recently delivered to chemical facilities to provide mitigation ideas and awareness to prevent catastrophic releases at these critical infrastructure facilities.*

Hazards & Mitigations:

Project submissions, various municipalities. – *There has been no change in the number of survey responses received. Some project submissions have been received and placed on SharePoint Municipal folders when received.*

Notes: *Dave Knox asked that he be notified of information regarding Lower Burrell, and may be able to help with some information distribution to some neighboring municipalities as well. He will email Caitlin.*

SharePoint:

Contact Caitlin Kelly, Caitlin.Kelly@tetratech.com

Next Meeting(s)& Location(s):

March 12, 2014 Emergency Operations Center (monthly meeting)

NOTE: A meeting has been scheduled for February 21, 2014 at 0900 to review profiles. Two Risk Assessment workshop public meetings have been scheduled at the Intermediate Unit on February 26th, 2014 at 1900, and February 27th at 0900.

AGENDA notes

HAZARD MITIGATION WORKING GROUP
Special Meeting
February 21, 2014

Introductions: Cramer, Pillsbury, Pologruto, Smythe, Snyder, Stevens, Tantlinger, Krivokucha, Excused-Bova

Conference Call participants: Kelly, Ashton, Knox

Link: **Meeting access number: 866-692-5721**
Participant code: 7237813

Review:

- Hazard Profiles
    - Avalanche-Municipal information clarified
    - Drought-Mitigation strategies by MAWC, USGA losses information
    - Earthquake-Virginia Epicenter event
    - Extreme Temp-Graph months of year highlighted
    - Flood-Tom Hughes data for applying loss information/Previous meeting info
    - Hailstorm-Reconfigure Table
    - Hurricane-Precipitation data reconfigured
    - Landslide-Jim P, combine tables
    - Lightening-Death and injury Fairfield Twp not Ligonier
    - Radon-Comprehensive good
    - Subsidence/Sinkhole-Wholesale exchange for Mine subsidence using DEP info
    - Wildfires-DCNR to provide incident damage, injuries etc.
    - Tornado-Windstrom highlighted, hook echo info, changes in summary
    - Winter Storm-Labelle & Irvin, Stevens
    - Environmental Hazard-Ok
    - Structural Fires-Ok
    - Nuclear Incidents-Waltz Mill incident add
    - Transportation-Hazard Train cargo repeated from Environmental Hazard section
    - Utility Interruption-Ok

Next Meeting & Location:

March 12, 2014 Emergency Operations Center (monthly meeting)

Two Risk Assessment workshop public meetings have been scheduled at the Intermediate Unit on February 26th, 2014 at 1900, and February 27th at 0900.

AGENDA notes

HAZARD MITIGATION WORKING GROUP

March 12, 2014 0906-0935

Introductions: Pologruto, Stevens, Tantlinger

Conference Call participants: Kelly, Ashton, Knox

Link: **Meeting access number: 866-692-5721**
Participant code: 7237813

Review:

Status update from Tetra Tech Inc.

- Risk Assessment meeting review -*Finalizing the new updates, and rerunning the HAZUS models based on the information and new facilities provided by Anthony. Preparing to upload the hazard profiles to the HMP website with the exception of Environmental, Transportation, Dams, and Terrorism.*
- Mitigation Strategy Development Workshop –*the strategy will be from the information gathered from the Capability Assessment Surveys, of which only two have been received. Chris stated that there are many CAS and contact information in the uploaded single municipal files on SharePoint and could be used to direct contact the municipality to ask for their surveys to be updated because nearly all of them were post-approval of the last plan iteration.*
- Mitigation Action Plan – *This will be a result of the strategy development workshop.*
- Public Strategy Meeting review - *Should plan to have this meeting the last week of April perhaps 28, 29, 30 or May 1, 2? A single meeting due to the lack of attendance should be considered.*
- Next meeting – *Caitlin stated that 2 1/2 hours should be allotted for the next HMWG meeting for Capability Assessments and Mitigation Strategies in depth review.*
- Entire Draft – *Caitlin said it should be ready by late May or early June.*

Hazard Mapping:

WUI map – *Anthony would like to expand on the map more specifically and was given the contact information for the DCNR contact Brian Vinski 724-238-1200 to get actual coordinates to define the map more appropriately.*
Hazmat map – *A map of HAZMAT responses on BING Maps has these responses from 2009-2014, an attempt to extract that information will be shared with Anthony from Chris.*

Interactive municipal map- *A listing of municipal websites was provided to Anthony for review and a discussion about creating a summary information box when you hover over a municipal area on the map will provide the local website and other hazard information and potentially their hazard mitigation projects and survey information.*

Best Practices in Mitigation:

Safety Bulletin to Chemical Facilities – *Carried over from previous month. Additionally a concern about rail traffic has been heightened lately and recent press release stated that CSX would be sharing location and product contained on their rail lines with Pennsylvania Emergency Management Agency PEMA. This would be a good mitigation tool to consider protective and planning areas. It was asked that Caitlin add to the Transportation profile the new information about 48 of 65 municipalities in the County have rail line traffic running through them as a result of Dan's recent investigations of rail safety.*

Hazards & Mitigations:

Project submissions list to date- *Caitlin will provide these on the SharePoint site as received*

Survey results to date – *Caitlin said that additional surveys have been received and it was believed that it was related to the work Dave Knox has conducted to gain further interest in his local area and municipality.*

Additional information provided by Chris Bova:
3/11/2014 email

I will not be able to attend the meeting tomorrow, but I wanted to mention that I didn't really notice stormwater management being incorporated in the Hazard Mitigation Plan. I may be missing it somewhere, but if not, I think that is something that needs to have some attention. It's a priority for the county to obtain funding to complete a Phase II Stormwater Management Plan and I believe that is an allowable hazard mitigation expense. A Phase II Stormwater Management Plan would conduct stormwater runoff modeling for each of the eleven watersheds in Westmoreland County and would lead to ways to address the runoff in those watersheds. In turn, it would hopefully reduce the effects of flooding in certain areas of the county.

Next Meeting & Location:

April 9, 2014

AGENDA notes

HAZARD MITIGATION WORKING GROUP

April 15, 2014-*April 9, 2014 cancelled due to incident.*

Introductions: *Chris Bova, Darlene Bracken, Ron Cramer, Anthony Pologruto, Sandy Smythe, Daniel Stevens, Christopher Tantlinger*

Conference Call participants: *Caitlin Kelly, Dave Knox*

Link: **Meeting access number: 866-692-5721**
Participant code: 7237813

Review:

Status update from Tetra Tech Inc.-*It was reported that we are on schedule and on track for late June early July plan draft review, the capability assessments have been finalized to date and reviewed. Caitlin provided the work and updates on the Section 5, Capability Assessment Draft and Section 6, Mitigation Strategy for the plan update and reviewed with group in it's entirety. Multiple suggestions were made by group members and noted by Caitlin to be included in the draft.*

- Quarterly Report-FEMA DHS – *Reported complete and submitted by Caitlin on behalf of Westmoreland county.*
- Mitigation Strategy Development Workshop- *Has been scheduled at a new venue and the details will be forthcoming for the public press release.*
- Mitigation Action Plan-*Reviewed above during update by Caitlin.*
- Public Strategy Meeting - *reviewed*
- Plan Maintenance Update Meeting-Working Group- *asked members to prepare for this next step in completing the process of the update for the plan draft.*
- Consultant payment-*the first quarter payment has been received, the second quarter was submitted in February and has not been paid to date, and the third quarter payment is currently in process in the Chicago office.*

Hazard Mapping:

Transportation Map-*The transportation map is complete per Anthony and the input of crash data from PennDOT can be released at this time and be included in the hazard profile at the discretion of TetraTech, there is a static and interactive map available.*
WIU map-update-*Anthony reported that a much better map will be available now that he has more locale data from the DCNR Forestry agency.*
Hazmat map-update-*A map is available and will be provided by link.*
Interactive municipal map-update- *The interactive municipal map that links to municipal websites is now available and can be provided as a link including the availability to list the reported hazards if desired, this was made possible by the work of Anthony and the GIS department.*

Additionally a discussion was made on the glide path of the airports and the development related to those known areas.
Pictometry Update- Anthony stated that they are currently flying Westmoreland County and that 2 training sessions will be coming up and he hopes to have one for the Coroner's office and Public Safety.

Best Practices in Mitigation:

Act 9 Funds directed to waterway, drainage improvements
Discussion on the availability of funds to be used from unconventional well drilling impact fees to complete some hazard mitigation projects are occurring and that if any projects are known to let the group know so we can capture them and relate them to the hazard profile and eventually any mitigation actions or strategies in the future. Chris Bova corrected the reference to Act 9 and stated that it is Act 13 Impact fees. He also stated that he can provide information on the Act 13 in a summary to be included in the language of the profile.

Hazards & Mitigations:

Evaluation of Identified Hazards and Risks submittals list to date-*Caitlin stated that a master spreadsheet continues to be updated and has the information related to the municipal responses.*
Project submissions list to date-*These are provided on the mitigation action table and can be reviewed as received and on the SharePoint site.*
Survey results to date- *These are provided on the mitigation action table and can be reviewed as received and on the SharePoint site.*

Next Meeting & Location:

April 30, 2014 0900-1200 Mitigation Strategy Public Meeting –*Senior Judges Court Room, Fourth Floor Westmoreland County Court House Annex. Caitlin will not be able to attend the meeting in person, it will be conducted by Clyde Snyder and Jim Laffey if available. It is unknown if conference calling is available in the meeting room, but a phone is available.* Parking: http://www.co.westmoreland.pa.us/index.aspx?NID=317

May 14, 2014 Regular meeting, Westmoreland EOC

AGENDA notes

HAZARD MITIGATION WORKING GROUP

May 21, 2014.

Introductions: Anthony Pologruto, Sandy Smythe, Chris Tantlinger

Conference Call participants: Caitlin Kelly, Dave Knox

Link: **Meeting access number: 866-692-5721**
Participant code: 7237813

Review:

Status update from Tetra Tech Inc-*We are on schedule and the draft plan sections are completed, after review by editors it should be ready to be reviewed on the SharePoint site the first week of June. She asks that the Working Group review it comprehensively and have any edits or concerns ready for presentment at the June 10, meeting. The meeting may be long (3 hours) and require an additional meeting to get through all of the sections. After that is completed and meets the group's approval then it will be available for the public on the website. Also please inform Tetra Tech if any of the information may need to be redacted prior to that determination.*

- Mitigation Strategy Development Workshop conducted-*Attendance was poor and not attended by the public despite the wide spread dissemination through media, website, and other social media provided by the County.*
- Mitigation Action Plan prioritized-*Prioritization was received and confirmed by TetraTech including the previous plan projects.*
- Public Strategy Meeting Conducted- *Referenced above in workshop attendance.*
- Municipal website requests and LEPC assistance for outreach-*Some municipalities have acknowledged and agreed to link HMP site to their sites, forwarded to TetraTech. [LEPC Request made on 5/22/14 and PEMA representative said that LEPC Act 165 funds cannot be used for advertisement wholely and that only a detailed percentage breakdown of how much hazardous materials is referenced in the plan could be allowed and the remainder of costs would have to be provided as the match. Eg. If 20% of plan can be shown to involve HAZMAT then only 20% of the cost could be borne by the LEPC. This would not be plausible determination use of time and resource given the limited funds that are available.]*
- Plan Maintenance Update -Working Group-*This is the next scheduled item on the calendar for review and will be in the section referenced in the upcoming review.*
- Complete Plan Maintenance Section-*To be included in the upcoming review.*

- Complete Draft HMP-*First week of June to be available on SharePoint and will be provided in a directive email by TetraTech on how to access the draft.*
- Hold Public Draft Plan Review meeting-PUBLIC- *To be determined and will be provided on website first.*
- Consultant payment-*3rd payment request to be provided directly to Sandy in the near term and the next quarterly report will be scheduled for July 5th by TetraTech.*

Hazard Mapping:

Anthony stated that he is awaiting the pictometry data and access along with the training program and dates to be provided.

Best Practices in Mitigation:

HAZUS was discussed for utilization in the future plan more and can be a valuable tool especially with the pictometry overlay. He will provide for money in his training budget, and Sandy related that perhaps some of the costs could be a shared venture between GIS and Public Safety. A new addressing coordinator has been hired at Public Safety and will start next Tuesday.

Hazards & Mitigations:

Evaluation of Identified Hazards and Risks submittals list to date-*Confirmed by TetraTech*
Project submissions list to date- *Confirmed by TetraTech*
Survey results to date- *Confirmed by TetraTech*

Next Meeting & Location:

June 10, 2014 0900-1200 Westmoreland County Department of Public Safety Conference Room

AGENDA notes

HAZARD MITIGATION WORKING GROUP

July 9, 2014.

Introductions: Bova, Bracken, Caesar, Laffey, Mertz, Smythe, Snyder, Stevens, Tantlinger

Conference Call participants:

Link: **Meeting access number: 866-692-5721**
Participant code: 7237813

Review:

Draft Plan noted additions, corrections, deletions. *All hazard profile sections reviewed with the following notations from TetraTech representative Jim Laffey.*

1. *Section 4.3.1.3 Avalanche the number 7,400 is used and in 4.3.1.5.4 the number 7,500 is used. The second reference is redundant we should either change the number of eliminate the second sentence all together.*
2. *Sandy has information on mine subsidence that occurred in Allegheny Township 2 or 3 years ago. She will get the details so it can be included .*
3. *Section 4.3.14 Winter Storms. Lehigh Valley appears.*
4. *Section 4.3.15-3. Remove references to Penn Forest Dam, Boydstown and Ashland as they are not in Westmoreland County.*
5. *Section 4.3.16-1 Change US Highway 116 to 119.*
6. *Section 4.3.17-3 Delete the second to last entry.*
7. *Section 4.3.2-3 Reservoir Storage Levels are not for Westmoreland. Are there Reservoirs in this vicinity that should be quoted? What about the Ohio River Basin Commission. Also did you use the information Chris Tantlinger sent on R.A.I.N?*
8. *Table 4.3.2-5 Are these figures correct?*
9. *Section 4.3.2.5-3 the reference (NYSDPC 2011) is used and not defined.*
10. *Table 4.3.20-3 and 20-4 Typo needs fixed.*
11. *Section before 4.3.20-3 is still highlighted.*
12. *Table 4.3.20-6 Mt. Vie should be Mt. View.*
13. *Table 4.3.3-2 the word Western is misspelled.*
14. *Table 4.3.5-1 in the Topic Row, change County Designated? To County Declaration*
15. *Check each table that has all of the municipalities listed. Add T, B, C, (Township, Borough, City) to make consistent.*
16. *Use the same font throughout the documents.*
17. *Table 4.3.5-10, delete Indiana County Saltsburg, Armstrong County Apollo, Armstrong County West Leechburg,*

18. *Table 4.3.6-2 Risk Assessment - Hailstorm, the table is difficult to read. Can the columns be separated with a space for easier reading?*
19. *Table 4.3.6-2 Newtonsburg should be Newlonsburg.*
20. *Table 4.3.7-3, change County Designated? To County Declaration*
21. *Section 4.3.7.4, Error Message*
22. *Section 4.3.7.5-2, Error Message*
23. *Table 4.3.7-5, Donegal Borough and Township are transposed, switch the data around to match.*
24. *Table 4.3.7-6, Donegal Borough and Township are transposed, switch the data around to match*
25. *Section 4.3.17 Fire (Urban/Structural Fire), Chris Tantlinger questioned as to why there is nothing in the plan on Fire Prevention. Would like this to focus to engage Municipalities to challenge Fire Depts. To perform more Fire Prevention activities. Clyde can draft something if you feel that this should be included.*
26. *Table 4.3.20-7 Highway deaths, source is PennDot we are checking with the County Coroner to see if he can verify this information. PennDot information does not seem to be accurate.*
27. *Chris Tantlinger wants to know what will happen with the Web Site on the conclusion the of project. Will the county still be able to access it or will Tetra Tech transfer the data to the County?*

- Project captures and website continuance www.westmorelandhmp.com *Website domain name is available and County has ability to replicate and create forms to maintain information consistency and the information can be received from the current website in an archive.*
- Public review timeline for draft and submission (August deadline) *July 9 to August 8 will be the public review timeline period.*
- FEMA/PEMA review *August 16th is the targeted date.*

Hazard Mapping:

- Draft Plan map changes on highway color and other contrast issues.*Issue resolved*
- Pictometry Update *Anthony had previous engagement and had to depart before report.*

Best Practices in Mitigation:

- Derry Township Stormwater concern. *Information from news source placed in municipal folder.*

Hazards & Mitigations:

- West Leechburg request for generator *Their Emergency Management Coordinator was directed to the HMP website and an orientation package was sent to them to review and place their request in a project capture form.*

Next Meeting & Location:

August 13, 2014 0900-1200 Westmoreland County Department of Public Safety Conference Room

AGENDA notes

HAZARD MITIGATION WORKING GROUP

August 13, 2014.

Introductions: *Chris Bova, Clyde Snyder, Chris Tantlinger;* ***Excused:*** *Jack Ashton, Darlene Bracken, Caitlin Kelly;* ***Conference Call:*** *Dave Knox, Jim Laffey*

Conference Call participants:

Link: **Meeting access number: 866-692-5721**
Participant code: 7237813

Review:

- FEMA/PEMA review-*Clyde stated that Caitlin would have the final draft ready for review as early as next week and to have any changes submitted ASAP. The final plan review meeting will be held at 9:00am on September 10, 2014 tentatively at the Conservation District office if available. The final plan review meeting was scheduled to be conducted in August per the plan update timeline.*
- *Public feedback-Chris Tantlinger stated that only one phone call was received and it was regarding the wells drilled at the Beaver Run reservoir near drinking water. Chris Bova provided some information on the operation. Despite press releases and a newspaper article about the plan update no further interest or consideration of the plan was made know to the Public Safety Office. Chris Bova stated that some municipalities such as Derry Borough and Unity Township discussed it with him and that the information was distributed to the Township Association in a blast email. Clyde also stated that a contact sheet of all the municipal outreach is available and was directed to Caitlin for inclusion as outreach documentation.*

Hazard Mapping:

- Pictometry Connect-*Pictometry training has been completed by three DPS personnel and it is noted that a flyover can be conducted over a disaster area that receives a Presidential declaration could be very helpful in mitigating future disasters in that area. It was discussed that it would be appropriate to include that in the language narrative of mitigation strategies with a sentence or paragraph regarding this capability. Chris Tantlinger will contact Anthony to get this ASAP.*

Best Practices in Mitigation:

- Beaver run report on drilling operations-*Discussion on the anonymous caller that said 38 wells were drilled on the Beaver Run Reservoir property in relation to a water quality study done by Indiana University of Pennsylvania was presented. Dave Knox and Chris Bova responded that these studies are a comprehensive and also a good indicator of the impacts to the reservoir. (Dave Knox provided links to the reports in an email http://www.iup.edu/page.aspx?id=135967 &* http://triblive.com/news/westmoreland/6540290-74/reservoir-iup-beaver#axzz3AHUDJMmL *). It was also discussed that the seasonal changes had impacted the water at the reservoir in a measurable amount and it was noted that this is revelation on how natural impacts can create more substantial man made activities.*

Hazards & Mitigations:

- Generator affidavit-*It is required that the generator not be placed or used in a flood plain and that no ground would be disturbed. To date, only an affidavit from Ligonier Borough has been received. Dave Knox added that Upper Burrell had presented a mitigation project for an emergency generator. Chris Tantlinger discussed the conditions and priorities of the generators use and that strategic placement will be considered with care and use instructions being given to whomever the care is determined. The County Logistics officer could check for condition and accessibility on a semiannual basis.*
- *HHW Household Hazardous Waste collection was discussed and a partnership or sponsorship of the LEPC Local Emergency Planning Commission is being discussed. Mitigation of these wastes would be a direct impact reduction on the hazards to the environment and should be encouraged in future mitigation concerns. (Notes: $100,000 expended for the one day event at WCCC with DEP picking up half the tab and the cost is about $35,000-$50,000 and about 500 individuals showed up last time.*
- *CRS Community Rating System information was relayed on new information and 2 new videos available under the training and videos tab and a Pocket Guide to the CRS etc.There are currently no communities involved but the information is available through www.CRSresources.org and Chris Bova stated that a reduction in flood insurance costs can be realized through this program and he will check into having staff within planning to relay this information where appropriate.*

Next Meeting & Location:

September 10, 2014 0900-1000 *Location TBD*

AGENDA notes

HAZARD MITIGATION WORKING GROUP

September 10, 2014.

Introductions: *Chris Bova, Darlene Bracken, Dave Knox, Jim Pillsbury, Anthony Pologruto, Clyde Snyder, Chris Tantlinger, Jonathon Takac-Pittsburgh EMA*

***Excused**: John Ashton* ***Conference Call**: Jim Laffey*

Conference Call participants:

Link: **Meeting access number: 866-692-5721**
Participant code: 7237813

Review:

- Public Presentment-*presented plan as on www.westmorelandhmp.com draft document 1030 pages.*

Hazard Mapping:

- Updates-*Pictometry developed, and working with Adam Varrato on the merge with CAD at 911 to get the latest photos to the dispatchers, and the next step is to provide the building outlines.*

Best Practices in Mitigation:

- Updates-*Discussion on reorganization of Emergency Management to include perhaps developing a Type IV IMT team to assist in disasters. No new mitigation information to present at this time.*

Hazards & Mitigations:

- Generator affidavit-pending Sutersville, Ligonier Twp

Next Meeting & Location:

October 8, 2014 0900-1000 Westmoreland County Department of Public Safety Conference Room

AGENDA notes

HAZARD MITIGATION WORKING GROUP

October 8, 2014.

Introductions: Clyde Snyder, Jim Laffey, Chris Tantlinger, Excused- Darlene Bracken

Conference Call participants:

Link: **Meeting access number: 866-692-5721**
Participant code: 7237813

Review:

- Quarterly report-Report submitted as per PEMA Guidelines
- Tetratech Inc. update-The Plan is at FEMA after PEMA review had received no comments. Jim Laffey stated that this is believed to be a good sign that PEMA had no comments from the review and it only was at PEMA for 5 days before being forwarded. Tantlinger stated that there are only two Commissioner meetings before the deadline date of November 19, 2014 and a meeting on November 20, 2014. As long as the plan is through the PEMA and FEMA review process and approved pending adoption by the deadline it is believed to have met the requirement.

Hazard Mapping:

- Updates-no report

Best Practices in Mitigation:

- Updates-no report

Hazards & Mitigations:

- A question of a Trafford borough request for an emergency evacuation plan for South Trafford has been received from a Representative George Dunbar's office and has been reviewed by the State Hazard Mitigation Officer and related as an ineligible project, but sent to other agencies for review if there is an element that may be able to assist in their request. It was also relayed to TetraTech Inc.

representative Jim Laffey to investigate how new projects that come to public safety now that the HMP is in review process for adoption can be handled. Jim will see what the practice is and provide information as soon as possible.

- Generator affidavit-pending Sutersville, Ligonier Twp

Next Meeting & Location:

November 12, 2014 0900-1000 Westmoreland County Department of Public Safety Conference Room

AGENDA notes

HAZARD MITIGATION WORKING GROUP

December 8, 2014.

Introductions: Bova, Snyder, Tantlinger, Bracken, Excused: Downs, Pologruto

Conference Call participants: Knox, Laffey

Link: **Meeting access number: 866-692-5721**
Participant code: 7237813

Review:

- FEMA/PEMA letter of adoption-*Letter has been received and read by PEMA, TetraTech, and WCDPS regarding satisfactory completion of the requirements and is Approved pending Adoption.*
- Tetratech Inc. update-*The website will be brought down shortly that has been supported by TetraTech. A question on what date is it targeted for removal was asked by Tantlinger. Westmoreland would like to have 65 CD's, one for each municipality, if possible, for distribution. Also, a press release regarding the plan status is requested to be used immediately to coincide with the next Board of Commissioner's meeting for a resolution adoption. PEMA representative also requested a CD for the Western Area Office by Darlene Bracken.*
- Commissioner's Adoption-*A Resolution from 2006 and 2009 and the sample resolution will be provided to Chris Bova to pass to the County solicitor to be brought before the next Commissioners meeting. Chris B. will also deliver the bound plan to the GIS office and solicitor for review. Mark Gesalman will be retiring December 31st so all efforts will be made to have this ready for the December 18th meeting.*
- Public Outreach-*A press release will be put forth and also the Storm Water initiatives regarding flooding being undertaken by the Conservation District and recent conversations regarding the plan have been discussed with Ron Rohall. Chris Bova stated that an integrated water resources plan, a recent litigation involving storm water and the Tanaska Power South Huntingdon project, and the York County Quantity and Quality water plans have brought storm water management to the forefront and the HMP could be used as a parallel document to support those initiatives.*
- Municipal Adoptions-*A 12 month goal and a 6 month request will be made to all municipalities to adopt the County plan as their hazard mitigation plan and*

meetings will continue monthly to follow this progress moving forward after the Commissioner's adopt the updated plan. Sample resolution is available in Appendix Fof the plan.

Hazard Mapping:

- Updates- *Chris Bova stated that Anthony Pologruto is currently a part of a Conservation District Roundtable and that a Municipal GIS users group has been discussed and access to pictometry for their use is being considered that could be offered to all municipalities based on a sliding scale fee, yet to be determined. This initiative could allow for specific map designations of hazard areas. This could possibly be a hazard mitigation project avenue for grants as well.*
-

Best Practices in Mitigation:

- Updates-*A vulnerability analysis on Bakken Crude has been prepared for senior leadership in the county and is being reviewed by the Director. This information is restricted railroad information. The Region 13 has done a critical infrastructure map analysis and the information has been provided to LE, Fire Departments and Local Emergency Management Coordinators for review. At this time it is encouraged that local municipalities look to creating exercises in their area related to the rail traffic as whole to be prepared for any instances.*

Hazards & Mitigations:

- Generator affidavit-pending Sutersville, Ligonier Twp-*Vandergrift and Ligonier borough have provided their affidavits. Attempts to have the two outstanding municipalities provide their affidavits have failed. Chris Bova will reach out to Ligonier Township, as they have a new municipal manager and could possibly close the loop.*

Next Meeting & Location:

January 14, 2015 0900-1000 Westmoreland County Department of Public Safety Conference Room

AGENDA notes

HAZARD MITIGATION WORKING GROUP

January 14, 2015.

Introductions: Gene Good, Jim Pilsbury, Anthony Pologruto, Clyde Snyder; Excused: Ron Cramer, Jeff Downs, Tony Subbio

Conference Call participants: Chris Bova, Darlene Bracken, Caitlin Kelly, Jim Laffey

Link: **Meeting access number: 866-692-5721**
Participant code: 7237813

Review:

- Startegic Planning/Grants Coordinator WCDPS introduction-*Gene Good was introduced to the working group and is excited to move forward helping anyway he can.*
- Tetratech Inc. update – *Quarterly report was completed by Caitlin. Caitlin said whe would like to see if TetraTech can help in the stormwater phase with potential grants and she would like to coordinate a meeting with John Mizerak of TetraTech Inc. and the planning department to talk about some grants that may be available through the Appalachian Region Commission, The Marcellus Shale Coalition, and Casino funding grants. There are currently 50 projects in the HMP and Chris Bova would like to be actively seeking potential actions relevant to these projects.*
- Commissioner's Adoption – *Commissioners adopted on December 17 as Resolution 27 of 2014.*
- Public Outreach - . *Currently distributed and being reviewed by local coordinators and municipal managers and secretaries.* The www.westmorelandhmp.com *website is still active. The website will be looked at to ensure all information is moved over as necessary and will then be requested to be removed by Chris Tantlinger.*
- Municipal Adoptions
    - *East Huntingdon, New Stanton, Ligonier Borough, Cook Township*
    - *A 12 month goal and a 6 month request will be made to all municipalities to adopt the County plan as their hazard mitigation plan and meetings will continue monthly to follow this progress. Sample resolution is available in Appendix F of the plan.*

- Webinar review-Pologruto- *reviewed information and it was distributed by Anthony in a summary report available upon request.*

Hazard Mapping:

- MERO pipeline review-*New maps currently provided by Anthony and also a registration by Anthony on the NPMS National Pipeline Mapping System can provide more and additional information that he will forward. These maps will be revealed at the next Local Coordinators Meeting and a meeting has been scheduled with the Westmoreland County Gas Exploration Working Group to have a presentation by Sunoco Logistics on the pipeline.*

Best Practices in Mitigation:

- Previstar Dam plans- *Darlene stated that the Dam plans are starting to be placed on the system and also other plans will be placed on there, including school plans. This will provide a central location and allow for better planning.*

Hazards & Mitigations:

- Generator affidavit-pending Sutersville-*discussed current status*
- *Chris Bova would like to be actively seeking potential actions relevant to these projects.*

Next Meeting & Location:

February 11, 2015 0900-1000 Westmoreland County Department of Public Safety Conference Room

AGENDA notes

HAZARD MITIGATION WORKING GROUP

February 11, 2015.

Introductions: Good, Pilsbury, Pologruto, Snyder, Tantlinger

Conference Call participants: Bova, Bracken, Kelly, Laffey, Kearns, Mizerak

Link: **Meeting access number: 866-692-5721**
Participant code: 7237813

Review:

- Tetratech Inc. update-*Caitlin reported that there have not been any developments since the FEMA review and introduced John Mizerak to discuss funding sources and eligible activities associated with the County Storm Water Plan and infrastructure projects. He related the possibility to tie back to the comprehensive plan and the Municipal Planning Code. Local level funds are available with the state as more further and fewer between. There maybe opportunities in the Applachian Regional Commission, or the South West PA Commission as well. Discussion among the group about the several areas to look into and also the FEMA related programs of which a draft is currently mentioning some possibilities that may be available from Alison Kearns, she will send an excerpt of the draft related to that information. Act 13 funds were discussed specifically and the distribution information about where the funds are currently going was discussed.*
- Public Outreach-*Continue to inform local emergency coordinators and municipal secretaries and managers about the HMP update and request for resolution.*
- Municipal Adoptions
    - East Huntingdon Township
    - Ligonier Borough
    - New Stanton
    - Cook
    - Greensburg
    - Latrobe
    - Murrysville
    - Mt Pleasant Township
    - Delmont
- Webinar review-Good – *Relayed the presidential executive order about projects that may not even be in the 100yr flood zone but are within a maybe a 1, 2, or 3*

foot freeboard zone of that flood plain and could affect federal projects. Discussion on that information as perhaps a guide for our locals to consider as projects are planned in those nearby areas.

Hazard Mapping:

- Resolution Map-Pologruto-*Discussed the resolution interactive map on the website that is now available and updated by him. There is the possibility that a module will be available through aerial pictometry that could show the impervious surfaces and be useful for planning related to the subject of storm water management. Jim Pilsbury concurred that the information would be very good to have.*

Best Practices in Mitigation:

- West Newton August 2014 Deluge-Kretchun letter $174,532 estimated damages.
    - Vernon Drive, Orr Road, Roblan Drive, Kensington Ct, *Discussed this event and how it has been requested to be put into the hazard mitigation projects. The survey information is believed to be all insured losses at this time. This is best practice that the local municipality called a meeting of their engineer and adjacent municipalities public works department and local elected and state officials to discuss this at a public meeting and recognize this as a very important hazard mitigation project.*

Hazards & Mitigations:

- Generator affidavit-pending Sutersville-*Still waiting on the generator information to send to PEMA*
- *FEMA requested from the group if anyone had any suggestions or information regarding technical assistance or training that could help local HMP planners. Discussion asked for additional training and awareness to the local elected officials and also from PEMA that a coordinated multiple county program and training be provided if possible.*

Next Meeting & Location:

March 11, 2015 0900-1000 Westmoreland County Department of Public Safety Conference Room

AGENDA

HAZARD MITIGATION WORKING GROUP

March 11, 2015.

Introductions: *Pologruto, Bova, Pilsbury, Good, Tantlinger*

Conference Call participants: *Laffey, Bracken*

Link: **Meeting access number: 866-692-5721**
Participant code: 7237813

Review:

- Tetratech Inc. update-*Jim Laffey had nothing to report from TetraTech.*
- Public Outreach- *Continued outreach on website and local coordinator meetings as well as distributing discs provided by TetraTech Inc.*
- Municipal Adoptions – *Have been coming in about 1 per week and are on many municipal schedules for adoption.*
    - East Huntingdon Township
    - Ligonier Borough
    - New Stanton
    - Cook
    - Greensburg
    - Latrobe
    - Murrysville
    - Mt Pleasant Township
    - Delmont
    - Youngwood
    - Hempfield

Hazard Mapping:

- Law Enforcement map project-*State Police had asked for an electronic map reference for each school building and soft targets throughout the County. The region 3D camera was discussed.*
- Resolution Map-Pologruto-*Enhancements of the map with websites and other information that may be available from the hazard mitigation plan could be placed into the data boxes. Anthony also related that the Next Gen 9-1-1 mapping concerns are leading many discussions and the County GIS map will be including some top down views along with USGS Topo maps will be forthcoming.*

Best Practices in Mitigation:

- Recommendations for 2020 plan – *Read items from recommendations by FEMA for future improvements that were recently sent to all members of the working group.*
- Trafford evacuation plan- *Information from various emails from the State hazard mitigation office were relayed and the alternatives for emergency access were presented to the group for review and consideration of amendment of the HMP to include the project.*

Hazards & Mitigations:

- Generator affidavit-pending Sutersville-*Still waiting for council to provide information.*
- *Discussion on the West Newton area Vernon Drive concerns and the actions taken by the conservation service and the DEP to date.*
- *Discussion about the recent salt delivery issue and the consideration that in the future plan under the winter weather and ice hazard actions that municipalities consider that commodity continuity for salt and anti skid be considered a vulnerability.*

Next Meeting & Location:

April 15, 2015 0900-1000 Westmoreland County Department of Public Safety Conference Room
NOTE: Monthly meetings will continue through June and then will be quarterly.

AGENDA

HAZARD MITIGATION WORKING GROUP

April 8, 2015*.0906-0936*

Introductions: *Good, Pologruto, Snyder, Tantlinger*

Conference Call participants: *Laffey, Bova*

Link: **Meeting access number: 866-692-5721**
Participant code: 7237813

Review:

- Tetratech Inc. update- *TetraTech provided quarterly report to PEMA, They have been paid in full and reimbursement paper work for the County to receive reimbursement is required for closeout of the Grant.*
- Public Outreach-*Continued LEMC outreach and will be conducting additional outreach to Library Association.*
- Municipal Adoptions
    - *East Huntingdon Township*
    - *Ligonier Borough*
    - *New Stanton*
    - *Cook*
    - *Greensburg*
    - *Latrobe*
    - *Murrysville*
    - *Mt Pleasant Township*
    - *Delmont*
    - *Youngwood*
    - *Hempfield*
    - Donegal Twp
    - Fairfield Twp
    - Upper Burrell Twp
- FEMA approval letters-*Have been requested by PEMA and are being provided, they will also be provided to Anthony to put as documents for mapping review.*
- Allegheny County HMP update attendance-*Requests to participate have been made and will be forwarded to the group as they are presented.*
- Library Association presentation-*Provide discs to Libraries in County of HMP and ask that they provide areas for emergency management information such as the HMP programs.*

Hazard Mapping:

- Law Enforcement map project-*5 of 16 districts have been completed to match floor plans and oblique NEWS direction maps for thumb drives to be used by State Police, additional discussion on providing this information to Fire and EMS as well as the IU to be considered.*
- Resolution Map-Pologruto-*Map is up to date and will include the FEMA letter information as documents to Vicki Ali to include in map.*

Best Practices in Mitigation:

- Recommendations for 2020 plan – *Consider providing a flow chart for grant eligibility in reference to the various grants and make it easier for them to be recognized as applicable, and also look at social media as being a bigger part along with the county website to capture all the projects to ensure they are action items for the future.*
- Trafford evacuation plan

Hazards & Mitigations:

- Generator affidavit-pending Sutersville-*Local Coordinator is still trying to get information from local officials, still pending.*
- Upper Burrell LOI for generator on latest DR- *Information has been provided to the entities needed to complete e-grant process and is being worked on by the municipality and their agent.*

Next Meeting & Location:

May 6, 2015 0900-1000 Westmoreland County Department of Public Safety Conference Room (This is correction from the agenda provided at the meeting.)

AGENDA notes

HAZARD MITIGATION WORKING GROUP

June 10, 2015.

Introductions: *Chris Bova, Gene Good, Jim Laffey, Anthony Pologruto, Chris Tantlinger. Conference Call: Dave Knox, Clyde Snyder. Intern: Janaye Albright. Excused: Darlene Bracken, Caitlin Kelly, Bud Mertz*

Conference Call participants:

Link: **Meeting access number: 866-692-5721**
Participant code: 7237813

Review:

- Tetratech Closeout-*Jim Laffey stated that they have been paid and are officially closed form the contract. It was asked that they still be available to answer questions and keep us updated for future possible grants and or update information. Tetratech has asked that they remain on the email distribution list. They will remain and are asked to not use or disseminate the information for any use other than intended for business with Westmoreland County as would be an accepted normal business practice.*
- Public Outreach-*Continues through our local emergency management coordinators at bi-monthly meetings and continue to provide information through the County website as well as promote the various grants that are available. Gene Good identified three systems that need to be activated to move through the egrants system and will send the links to the LEMC's to promote grant requests for not only hazard mitigation put for grants as a whole.*
- Municipal Adoptions
    - *East Huntingdon Township*
    - *Ligonier Borough*
    - *New Stanton*
    - *Cook*
    - *Greensburg*
    - *Latrobe*
    - *Murrysville*
    - *Mt Pleasant Township*
    - *Delmont*
    - *Youngwood*
    - *Hempfield*
    - *Donegal Twp*

- *Fairfield Twp*
- *Upper Burrell Twp*
- Export Borough

- FEMA approval letters-*reviewed Cook Twp and Latrobe FEMA letters on county interactive map and discussed the process of asking the municipalities to forward their letters to the County when received.*

Hazard Mapping:

- Law Enforcement map project-*currently about half way through the school districts and targeting September as the completion date for the PSP.*
- EAP mapping incidents and events-*promoting grid maps to assist in location identification of various unidentifiable venues streets or buildings in a large scale area to be able to direct emergency services or use a protective area maps for scene preservation.*
- Resolution Map-Pologruto-*Anthony guided us through the current adopted resolution map of municipalities for the updated mitigation plan and discussed other properties that are available to input through the map. ArcGIS online is another tool that can be used to identify hazard maps and can be updated for municipalities within 30 minutes and would be good use for disaster identification. Also a stream map is being developed and will be available with password to access for hazardous materials incidents along with possible watershed identification and flow tributary concerns.*

Best Practices in Mitigation:

- Recent articles and actions in municipalities.- *Articles presented that total nearly $178,000 in grants that were used to mitigate flooding and erosion and were not captured by municipalities, public safety, or the planning department and could potentially have been used a match for much larger projects. We need to identify the mechanism in which this funding and grants are being applied for and where they are promoted are presented so as to continue to have a coordinated effort in all mitigations that may be going on. Chris Bova stated that the County comprehensive plan will be forthcoming in development and specifically New Stanton Borough's plan will all identify Hazard Mitigation as a component in the plan. SPC region has also ben working on a Freight Mobility Plan that will cover rail, highway, truck, etc as well as pipeline commodities are currently in the works and could have a mitigation component as well. On the grant side Dave Know understands that if you are completing some grants if you do not indicate that you have adopted a hazard mitigation plan on the application it will kick you out and not allow you to complete the grant. This would be very important for the municipalities to know and should be made known. The County hazard mitigation website should identify a category for hazard mitigation best practices. The recent articles will be sent to Vicki Ali to create a "Best Practices in Hazard Mitigation" and can be used as projects for future updates to the current hazard mitigation plan. Also the PEMA Circular C2015-02 was reviewed and can be provided to the website.*

Hazards & Mitigations:

- Generator affidavit-pending Sutersville-*Still waiting for LEMC to have elected officials provide the affidavit. There has been face to face conversations with the LEMC and he is waiting on the information from his elected officials.*
- Upper Burrell LOI for generator on latest DR-*Manor borough has also presented a project for a generator as well.*

Next Meeting & Location:

September 9, 2015 0900-1000 Westmoreland County Department of Public Safety Conference Room

Please note that monthly meetings have been suspended and quarterly meetings will continue until November of 2017 in preparation of the next update due November of 2019.

WESTMORELAND COUNTY DEPARTMENT OF PUBLIC SAFETY

LOCAL EMERGENCY COORDINATORS BI-MONTHLY MEETING

Westmoreland County Regional Special Operations Center

Wednesday, January 20 - 7:00 P.M.

AGENDA & CHECKLIST

1. **PUBLIC SAFETY UPDATES**
   - **A. Director – Bud Mertz**
     - **CAD & Radio Upgrades**
   - **B. Strategic Planning/Grants Coordinator – Gene Good**
     - **Security Grant**
     - **Strategic Plan overview,**
     - **ICS Training 300**
2. **EMERGENCY MANAGEMENT**
   - **A. COUT-Crude Oil Unit Train Planning**
   - **B. Topics**
     - **Damage Assessment Annual review**
     - **Avian Flu First Case**
     - **Pipeline update**
     - **PODS update**
   - **C. Hazard Mitigation**
     - **Resolutions**
     - **Generators**
     - **HAZMIT Letters**
   - **D. Coordinators**
     - **Elected Official Seminar Scheduled-Agenda review**
   - **E. Exercises**
     - **St. Vincent – review**
     - **WCHCEMTF – Table Top – February 10, 2016 1000-1200**
     - **Spring Weather Exercise – March 30, 2016 0900-1400**
3. **Weather**
   - **A. Pending Storm Operations review**

NEXT MEETING: WEDNESDAY, March 16, 2016 7:00 P.M.

WESTMORELAND COUNTY LOCAL EMERGENCY MANAGER'S PR0GRAM CHECKLIST

EMERGENCY MANAGEMENT PROGRAM OVERVIEW

- ☐ Pennsylvania Emergency Management Agency
- ☐ Response Procedures

INFLUENCES ON EMERGENCY PLANNING

- ☐ National Incident Management System.
- ☐ National Response Framework
- ☐ National Preparedness Goal
- ☐ Integrated Planning System
- ☐ Overview of the National Planning Frameworks,
- ☐ Emergency Management Accreditation Program
- ☐ National Fire Protection Agency, Standard 1600

EMERGENCY MANAGEMENT COMPONENTS

- ☐ Local Planning Team
- ☐ Strategic Planning
- ☐ Training
- ☐ Exercising
- ☐ Community Education
- ☐ Hazard Mitigation
- ☐ Operational/Response Planning
- ☐ Mutual Aid and Assistance Agreements
- ☐ Resource Management
- ☐ Communications
- ☐ Emergency Operations Center Management

BASIC PLAN – PLANNING PROCESS

- ☐ Form a Planning Team
- ☐ Identify Hazards and Risks (Hazard Analysis)
- ☐ Community Profile
- ☐ Hazard Identification
- ☐ Risk Assessment
- ☐ Vulnerability Determination
- ☐ Define Goals and Objectives
- ☐ Identify Actions & Assess Capabilities
- ☐ Evaluate and Select Feasible Actions
- ☐ Plan Development, Review and Approval
- ☐ Plan Implementation & Update

WESTMORELAND COUNTY DEPARTMENT OF PUBLIC SAFETY

LOCAL EMERGENCY COORDINATORS BI-MONTHLY MEETING

Westmoreland County Regional Special Operations Center

Wednesday, March 16 - 7:00 P.M.

AGENDA & CHECKLIST

1. **PUBLIC SAFETY UPDATES**
   - A. **Director – Bud Mertz**
     - **Zone Meetings**
     - **Presentation of Certifications**
   - B. **Strategic Planning/Grants Coordinator – Gene Good**
     - **Training request requirements**
     - **Storm reporting**
2. **EMERGENCY MANAGEMENT**
   - A. **Topics**
     - **Local Elected Officials Seminar**
     - **Chemical SARA Summit**
     - **Personal Care Homes, Day Care Centers**
     - **Radios**
     - **EAP's**
   - B. **Hazard Mitigation**
     - **Resolutions**
     - **Generators**
     - **HAZMIT Letters**
   - C. **Coordinators**
     - **Elected Official Seminar Scheduled-Agenda review**
   - D. **Exercises**
     - **First Contagion – AAR review**
3. **WEATHER**
   - A. **Dam Planning**
   - B. **Spring Exercise**

NEXT MEETING: RSOC - WEDNESDAY, May 18th, 2016 7:00 P.M.

WESTMORELAND COUNTY LOCAL EMERGENCY MANAGER'S PR0GRAM CHECKLIST

EMERGENCY MANAGEMENT PROGRAM OVERVIEW

- ☐ Pennsylvania Emergency Management Agency
- ☐ Response Procedures

INFLUENCES ON EMERGENCY PLANNING

- ☐ National Incident Management System.
- ☐ National Response Framework
- ☐ National Preparedness Goal
- ☐ Integrated Planning System
- ☐ Overview of the National Planning Frameworks,
- ☐ Emergency Management Accreditation Program
- ☐ National Fire Protection Agency, Standard 1600

EMERGENCY MANAGEMENT COMPONENTS

- ☐ Local Planning Team
- ☐ Strategic Planning
- ☐ Training
- ☐ Exercising
- ☐ Community Education
- ☐ Hazard Mitigation
- ☐ Operational/Response Planning
- ☐ Mutual Aid and Assistance Agreements
- ☐ Resource Management
- ☐ Communications
- ☐ Emergency Operations Center Management

BASIC PLAN – PLANNING PROCESS

- ☐ Form a Planning Team
- ☐ Identify Hazards and Risks (Hazard Analysis)
- ☐ Community Profile
- ☐ Hazard Identification
- ☐ Risk Assessment
- ☐ Vulnerability Determination
- ☐ Define Goals and Objectives
- ☐ Identify Actions & Assess Capabilities
- ☐ Evaluate and Select Feasible Actions
- ☐ Plan Development, Review and Approval
- ☐ Plan Implementation & Update

WESTMORELAND COUNTY DEPARTMENT OF PUBLIC SAFETY

LOCAL EMERGENCY COORDINATORS BI-MONTHLY MEETING

Westmoreland County Regional Special Operations Center

Wednesday, May 18 - 7:00 P.M.

AGENDA & CHECKLIST

1. **PUBLIC SAFETY UPDATES**
   - **A. Director – Bud Mertz**
     - **Zone Meetings & Projects Status**
   - **B. Strategic Planning/Grants Coordinator – Gene Good**
     - **CBR Training & Handouts**
     - **LE Grant**
     - **All Hazards IMT**
     - **Winter Storm Jonas Update**
2. **EMERGENCY MANAGEMENT**
   - **A. Topics**
     - **EAP's & Pipeline Rupture Salem Township, HCAs awareness**
     - **PIO Outreach, Pipeline Incident & Activities held**
   - **B. Hazard Mitigation**
     - **Countywide Water Integrated Resources Plan**
     - **Resolutions**
     - **Generators**
     - **HAZMIT Letters**
   - **C. Coordinators**
     - **EOP Planning for Special Care Facilities initiative**
     - **Forest Fires Response Staging, Deployment and Communications**
     - **First Responder Safety Training for Natural Gas Vehicles and Fueling Stations (NGVF)**
     - **Airshow MACC**
   - **D. Exercises**
     - **Crown Equipment Corporation**
     - **FBI Pipeline Paradigm HSEEP exercise**
3. **WEATHER**
   - **A. Dam Planning – Director's Test**
   - **B. Spring Exercise-cancelled**

NEXT MEETING: RSOC - WEDNESDAY, July 20th, 2016 7:00 P.M.

WESTMORELAND COUNTY LOCAL EMERGENCY MANAGER'S PR0GRAM CHECKLIST

EMERGENCY MANAGEMENT PROGRAM OVERVIEW

- ☐ Pennsylvania Emergency Management Agency
- ☐ Response Procedures

INFLUENCES ON EMERGENCY PLANNING

- ☐ National Incident Management System.
- ☐ National Response Framework
- ☐ National Preparedness Goal
- ☐ Integrated Planning System
- ☐ Overview of the National Planning Frameworks,
- ☐ Emergency Management Accreditation Program
- ☐ National Fire Protection Agency, Standard 1600

EMERGENCY MANAGEMENT COMPONENTS

- ☐ Local Planning Team
- ☐ Strategic Planning
- ☐ Training
- ☐ Exercising
- ☐ Community Education
- ☐ Hazard Mitigation
- ☐ Operational/Response Planning
- ☐ Mutual Aid and Assistance Agreements
- ☐ Resource Management
- ☐ Communications
- ☐ Emergency Operations Center Management

BASIC PLAN – PLANNING PROCESS

- ☐ Form a Planning Team
- ☐ Identify Hazards and Risks (Hazard Analysis)
- ☐ Community Profile
- ☐ Hazard Identification
- ☐ Risk Assessment
- ☐ Vulnerability Determination
- ☐ Define Goals and Objectives
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WESTMORELAND COUNTY DEPARTMENT OF PUBLIC SAFETY

LOCAL EMERGENCY COORDINATORS BI-MONTHLY MEETING

Westmoreland County Regional Special Operations Center

Wednesday, July 20 - 7:00 P.M.

AGENDA & CHECKLIST

1. **PUBLIC SAFETY UPDATES**
   - **A. Director – Bud Mertz**
     - **Priority Dispatch**
     - **Communications**
   - **B. Strategic Planning/Grants Coordinator – Gene Good**
     - **Training - Alternative Fuels: NGV, Crude Rail, Pipeline**
     - **Recovery Annex County EOP**
     - **Crude Oil Annex County EOP**
     - **Strategic Plan Update**
   - **C. Public Information Officer/Community Outreach Coordinator**
     - **Wills for Heroes**
     - **Preparedness for Community & School Presentations**
     - **National Preparedness Month**
2. **EMERGENCY MANAGEMENT**
   - **A. Topics**
     - **Functional Needs Assessment**
     - **Mobile App and Public Warning Survey**
   - **B. Hazard Mitigation**
     - **Generators**
     - **Projects & Project Form**
   - **C. Coordinators**
     - **Declarations, Damage Assessment, NIMS Report**
     - **Certification presentations**
     - **ERG's**
   - **D. Exercises**
     - **Cyber Simmer**
     - **WPP/First Energy EOC Ops**
3. **WEATHER**
   - **A. Dam Planning – Director's Test**
   - **B. Spring Exercise-cancelled**

NEXT MEETING: RSOC - WEDNESDAY, September 21, 2016 7:00 P.M.

WESTMORELAND COUNTY LOCAL EMERGENCY MANAGER'S PR0GRAM CHECKLIST
EMERGENCY MANAGEMENT PROGRAM OVERVIEW

- ☐ Pennsylvania Emergency Management Agency
- ☐ Response Procedures
- ☐ Preparedness

INFLUENCES ON EMERGENCY PLANNING

- ☐ National Incident Management System.
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EMERGENCY MANAGEMENT COMPONENTS

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- ☐ Resource Management
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WESTMORELAND COUNTY DEPARTMENT OF PUBLIC SAFETY

LOCAL EMERGENCY COORDINATORS BI-MONTHLY MEETING

Westmoreland County Regional Special Operations Center

Wednesday, September 21, 2016 - 7:00 P.M.

AGENDA & CHECKLIST

1. **PUBLIC SAFETY UPDATES**
   - **A. PEMA new designations and changes (handout)**
     - **CRCC, CWCC, PEMA Operations, Resource Coordination Branch**
   - **B. Strategic Planning/Grants Coordinator – Gene Good**
     - **Red Cross Presentation http://www.redcross.org/local/pennsylvania/western-pennsylvania/locations/chestnut-ridge**
     - **EOP – NARM http://www.pema.pa.gov/planningandpreparedness/communityandstateplanning/Documents/Local%20Emergency%20Management%20Plan%20Toolkit/Model%20EOP.pdf**
     - **NIMSCAST DUE September 30, 2016 http://www.pema.pa.gov/planningandpreparedness/trainingandexcersises/Documents/PA%20NIMS%20Implementation%20Strategy%20-%20FINAL%20DRAFT%20Approved-merged%20with%20signature-1-7-2015.pdf**
   - **C. Public Information Officer/Community Outreach Coordinator**
     - **News Clips – Pilot Program (handout)**
     - **Functional Needs Workshop**
2. **EMERGENCY MANAGEMENT**
   - **A. Topics**
     - **Provide a planning/preparedness roadmap for elected officials (CAS checklist), KC HVA awareness**
     - **EPCRA 30th Anniversary / Toxic Release Inventory (presentation) https://www3.epa.gov/enviro/**
   - **B. Hazard Mitigation**
     - **Best Practices – Awarded grants (handout review)**
   - **C. Coordinators**
     - **Certifications**
   - **D. Exercises**
     - **How to do a Table Top/Workshop/Seminar**
     - **Great Shake Out-Register http://shakeout.org/northeast/register/**
3. **WEATHER**
   - **A. Outlook-NWS (handout)**

NEXT MEETING: RSOC - WEDNESDAY, November 9, 2016 7:00 P.M.

*This meeting will be one week earlier due to PEMA Training on the 3rd Wednesday.

WESTMORELAND COUNTY LOCAL EMERGENCY MANAGER'S PR0GRAM CHECKLIST
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WESTMORELAND COUNTY DEPARTMENT OF PUBLIC SAFETY

LOCAL EMERGENCY COORDINATORS BI-MONTHLY MEETING

Westmoreland County Regional Special Operations Center

Wednesday, November 16, 2016 - 7:00 P.M.

AGENDA & CHECKLIST

1. **PUBLIC SAFETY UPDATES**
   - A. **Continued upgrades of the 9-1-1 system**
     - **Radio, phones, priority dispatch, redundant power and backups**
   - B. **Strategic Planning/Grants Coordinator – Gene Good**
     - **EOP and NARM for your municipality**
     - **Combining forces -**
   - C. **Public Information Officer/Community Outreach Coordinator**
     - **VOAD – Fayette County response, Habitat for Humanity**
     - **List of activities completed, ideas for preparedness from LEMC**
2. **EMERGENCY MANAGEMENT**
   - A. **Topics**
     - **When to stand up your EOC. Incident Command for an expanding incident. MARC**
     - **Schools training to be offered**
     - **Title 35 Review**
   - B. **Hazard Mitigation**
     - **Consider having a Public Safety Meeting to address HVA, KC HVA Demonstration**
   - C. **Coordinators**
     - **Website-Contact information control –Emergency Services Officers list**
     - **Fire ZONE meetings**
   - D. **Exercises**
     - **Great Shakeout AAR/IP**
     - **Operation Quick Freeze**
     - **TEPW – PEMA/Region**
     - **St. Vincent College TTX**
3. **WEATHER**
   - A. **Outlook-NWS (handout)**
   - B. **Warming shelter designations**
   - C. **Snow/Salt Resources list**
   - D. **Fuel/Generator/Supplies list**
   - E. **Fire victims assistance response/freezing weather response**
   - F. **Poster Contest**

NEXT MEETING: RSOC - WEDNESDAY, January 18, 2016 7:00 P.M.

WESTMORELAND COUNTY LOCAL EMERGENCY MANAGER'S PR0GRAM CHECKLIST
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AGENDA notes

HAZARD MITIGATION WORKING GROUP

October 11, 2017

Introductions: *Clyde Snyder, Bud Mertz, Gene Komondor, Mary Beth Eslary, Tim Hallam, Chris Tantlinger; Excused: D Bracken, E Keefe, J Pilsbury*

Conference Call participants:

NO conference bridge provided for this meeting-*Next meeting there will be a planned conference link.*

Review:

- Scope of Work / *Reviewed SOW see handouts including schedule template.*
- Previous plan / Recommendations - *Reviewed recommendations mailed to local municipalities, see handout. Discussed generators acquired through HMP grants and the Bull Run project that used HMP information acquired by the American Waterways Association.*
- Project submission form / Latrobe City example *Provided website and reviewed submission form on line http://www.co.westmoreland.pa.us/FormCenter/Public-Safety-24/Project-Submission-Form-72*
- Unity Township / mitigation project - *Discussed project for SRL property to be pursued by Unity Township under e-grants.*

Hazard Mapping:

- GIS availability – *Discussed that the GIS department does not have the leadership in place that existed during last plan. It may be difficult to have the level of work done previously by that department, perhaps explore the use of a private source or the plan consultant. Assure that the information is in the RFP.*

Best Practices in Mitigation:

- FEMA bulletin sign up: https://service.govdelivery.com/accounts/USDHSFEMA/subscriber/new?topic_id=USDHSFEMA_116

Hazards & Mitigations:

- New hazards for 2020, Opiod crisis, technology “cyber” *discussed that new hazards will need to be identified in this review update.*
- *Discussed the PDM and FMA grants and provided fact sheet handouts*

Next Meeting & Location:

November 8, 2017 0900-1000 Westmoreland County Department of Public Safety Conference Room

AGENDA
HAZARD MITIGATION WORKING GROUP

December 12, 2017

Introductions: Eugene Good, Clyde Snyder, Chris Tantlinger, Tim Hallam

Conference Call participants:

NO conference bridge provided for this meeting

Review:

- York and Pima County HMP's
- Review Schedule
- FEMA Risk Guidance Updates handout
- Storm Water draft ordinance recommendations
- EPZ inclusion for Beaver Valley Power Plant integration and map
- Alignment of local disaster costs with Federal and State declarations for per capita and non-per capita events
- Publicity for plan renewal for news agencies should be developed
- Local municipal coordinator and elected official meetings to be scheduled in the new year

Hazard Mapping:

- GIS mapping and information sharing with the Westmoreland County Conservation District to be promoted with visit to 9-1-1

Best Practices in Mitigation:

- Storm water Integrated Water Resource Plan brochure http://wcdpa.com/wp-content/uploads/IWRP-brochure.pdf
- IWRP Flowchart Tool http://www.paiwrp.com/

Hazards & Mitigations:

- No information on recent hazards or mitigations

Next Meeting & Location:

January 9, 2018 0900-1000 Westmoreland County Department of Public Safety Conference Room

AGENDA notes
HAZARD MITIGATION WORKING GROUP

January 9, 2018@0900

Introductions: Matt Zambelli, Jim Pilsbury, Clyde Snyder, Gene, Good, Chris Tantlinger

Conference Call participants: Darlene Bracken
412-244-3700 5013# Please identify yourself and place your phone on mute.

Review:

- Status of Application for consultant *Gene Good reported that E Szabo said it was to be ready around Christmas time and still has not heard any information as of yet. Darlene confirmed that she has not heard anything different at PEMA WAO*
- Review Schedule *The schedule provided by the State Hazard Mitigation Plan Guidance was reviewed with the members present including handout.*
- *Discussion of Overland and Non Traditional flooding and the need to identify the trending of these areas that may cause injury or death due to their non-engineered and non-historic relevance due to new building development. Discussion on mapping and identifying this information to be plotted for "ground truthing"of this hazard and possible vulnerabilities. Regulatory efforts are being made to address storm water broadly across the county and will be identified in the new plan. A request for 9-1-1 records to delineate Flooded roadways, Commercial Flooding, and Residential flooding will be requested from the 9-1-1 coordinator to be used to develop information for emergency planning and mitigation.*

Hazard Mapping:

- Radon *Discussion on the level of Radon and the need to expand on this information on the update of the plan and to include the new interactive map showing the Radon zone and level of concern and condition that Westmoreland County is in.*
- Cyber *PACiC Cyber report was reviewed as a new hazard for inclusion into the 2020 plan due to the broad implications it has on every aspect that could the affect the recovery or response to a disaster because technological information may be corrupt. Specific attention was given to the online consideration of the Integrated Water Resources Plan IWRP tool that provided necessary information*

for water resource projects that may occur. The implications are unknown at best.

Best Practices in Mitigation:

- LEMC meetings scheduled *a handout reviewing the collaboration of emergency management coordinators, elected officials and other stakeholders is being deployed this month and hazard mitigation and hazard vulnerabilities will be discussed along with the roles and responsibilities of the local elected official on items such as presented in the HMP.*
- CI/KR Fusion Center info *was presented to the group specifically on Agricultural and water sector concerns and the analysts comments to provide information to working group members to gain information on issues that may be occurring but not immediately known in our region or jurisdiction. A discussion of the significant activity matrix and how manmade and technological disasters that are in our current HMP can be monitored regularly and with permission from the Director of Public Safety access and training may be prudent to be available to Conservation District hydrologists and GIS personnel.*

Hazards & Mitigations:

- Activity matrix on recent hazards or mitigations *covered above in best practices*

Next Meeting & Location:

Tuesday, February 6, 2018 0900-1000 Westmoreland County Department of Public Safety Conference Room

AGENDA notes
HAZARD MITIGATION WORKING GROUP

February 6, 2018@0900-0933

Introductions: *Mary Beth Eslary (added), Gene Good, Chris Tantlinger, Clyde Snyder*

Conference Call participants: *No one on the call*

412-244-3700 5013# Please identify yourself and place your phone on mute.

Review: *MAWC leaks and projects map reviewed on website and discussed the information available under of the customer service. We now have information on West Penn Power outages also, so all we need is gas company information to have an ESF 12 real time outage for mitigation information. County incident ROAD CLOSURES DUE TO BOULDERS with vehicle accident and injuries, Murrysville reviewed and to consider these incidents for each of our hazard areas on our current plan. Reviewed "Natural Hazard Mitigation Saves: 2017 Interim Report from National Institute of Building Sciences http://www.nibs.org handout. Reviewed HMA on grants awarded map throughout the US.*

Hazard Mapping: *Reviewed on internet the MAWC service area.*

Best Practices in Mitigation: *Reviewed nibs information above*

Hazards & Mitigations: *Landslides, Mine subsidence discussed in North Belle Vernon, Latrobe areas.*

Next Meeting & Location:

March 6, 2018 0900-1000 Westmoreland County Department of Public Safety Conference Room

AGENDA
HAZARD MITIGATION WORKING GROUP

May 8, 2018@0900

Introductions: Stepanovich, Good, Mertz, Eslary, Tantlinger,

Conference Call participants:

412-244-3700 5013# Please identify yourself and place your phone on mute. No callers participated.

Review:

Turtle Creek watershed may be eligible for funds from the Mariner East settlement that would allow some hazard mitigation type projects to be underway, one in which the Harrison City FD was requested to provide information on a pavilion near a stream and also on the location of some other mitigations that could include stream improvements. Handoust were provided for Commonwealth Financing Authority CFA applications which were forwarded to stakeholders and local coordinators, the flood mitigation act FMA applications status report was provided from Julie Yu PEMA, Acronyms and abbreviations update, Westmoreland county coroner Report and reference to adding Opiod deaths in the hazard details and provide the table of deaths related over the last five years. Five Steps Toward Enhancing Climate Resilience by Emily Wasley 4/4/18, Article on ASFPM News & Views, and New Large Scale Modeling gives worsening picture of the Nations's Flood Risk by Jim McKay 3/16/18

Hazard Mapping:

Introduction of the hydrant mapping program and the access to all hydrants within the MAWC system

Best Practices in Mitigation:

No new reported actions.

Hazards & Mitigations:

Research to be reported on the Turtle Creek Watershed actions.

Next Meeting & Location:

June 11, 2018 0900-1000 Westmoreland County Department of Public Safety Conference Room

AGENDA
HAZARD MITIGATION WORKING GROUP

October 15, 2018@0900

Introductions: Andrew Rzodkiewicz, Chris Tantlinger, Lou Pochet, Cynthia Walter

Conference Call participants:

412-244-3700 5013# Please identify yourself and place your phone on mute.
None

Review:

RFP to be released today, Unity Twp Buyout discussed, Pilot project agenda discussed for a Hazard Mitigation Hazard Mapping Workshop. Cynthia will draft an agenda and logistics to include a venue to create an outreach activity through local GIS students and then eventually to the public.

Hazard Mapping: NPMS, MAWC, County GIS

Best Practices in Mitigation: Hazard Mitigation Minute, Discussion

Hazards & Mitigations: Unity township buyout environmental review considerations report reviewed.

Next Meeting & Location:

November 19, 2018 0900-1000 Westmoreland County Department of Public Safety Conference Room

AGENDA
HAZARD MITIGATION WORKING GROUP

November 19, 2018@0900

Introductions: Lou Pochet, Cynthia Walter, Clyde Snyder, Mary Beth Eslary, Michael Bertolino, Chris Tantlinger, Excused: Gene Komondor, Chris Bova

Conference Call participants:

412-244-3700 5013# Please identify yourself and place your phone on mute.
None

Review: Reviewed first quarterly report due to PEMA for grant. Reviewed RFP schedule, and RFP questions submitted by contract consultants, read aloud, Kline & Subbio. Reviewed proposed "Citizens Hazard Workshop" pilot drafted by Cynthia Walter. (Details can be received from Cynthia by request) Discussion on venue, test program, technology "work the bugs out" session. Discussion on the audience to include civilians, elected officials and other stakeholders as a focus group. Additionally consider a "Flooding" education session considering the general public may not understand the nomenclature of "Hazard Mitigation" Discussed planning a citizens hazard workshop scheduled with one additional date to provide attendees moving forward. Discussion on the Rostraver Township "Elks Place" and possible buy out program. Information provided to township and planning department of the County. There may be another pursuit at this time.

Hazard Mapping: Discussion on the Fire and Ice Exercise and the possibility of gaining the map layer of the health care facilities that participated in the exercise.

Best Practices in Mitigation: Continue to provide "Mitigation Minute" from FEMA

Hazards & Mitigations: Reviewed the wild land evacuation planning that occurred in Paradise California recently and discussed wild land fire interface death that occurred in our county included in the last HMP.

Next Meeting & Location:

December 17, 2018 0900-1000 Westmoreland County Department of Public Safety Conference Room

AGENDA
HAZARD MITIGATION WORKING GROUP

December 17, 2018@0900

Introductions: *Christopher Tantlinger, Andrew Rzodkiewicz, Michael Bertolino, Clyde Snyder, Cynthia Walter, Lou Pochet*

Conference Call participants: *Christopher Bova LMA*

412-244-3700 5013# Please identify yourself and place your phone on mute.

None

Review:

Christopher Bova provided a summary of the Latrobe Municipal Water and Sewer customer base and geographical area served. Tantlinger provided details of the RFP proposals received from 10 contract consultants. Summarized the critical requirements and scoring conducted by the planning staff and DPS leadership to be placed before the Commissioners, controller, and solicitor that will be recommended tomorrow to accept the consultant. Reviewed timesheet requirement and soft match of time and venue to be recorded at all meetings and events. Reviewed the logistics of the Hazard Mitigation Hazard Workshop pilot that will occur at University of Pittsburgh at Greensburg. Cynthia has had discussions with professors and others to begin planning for a late February event using 24 computers with the aid of staff and students. Cynthia and Lou would like to review the websites and software for the mapping that will be used before hand with Andrew. Also the technology will need to be tested prior to the event to see if any firewalls exist and to ensure that color printing will be a viable process. Discussion on the scheduled public meetings to be conducted during the planning process and the integration of those meetings with the pilot program to provide more public awareness. Hazards discussed involving the opioid epidemic and well drilling concerns and how they will be inserted in the narratives with reference to open source documents of county specific information. Information on the website locations will be provided by Andrew to Include flood maping, pipeline mapping, DEP, county tax map, Toxic Release Inventory TRI andother possible hazard maps will be part of the considered hazard mapping pilot. A FEMA trifold regarding the hazard mitigation process will be considered to be given as a handout along with a description of the mapping websites and information as a packet to attendees.Discussion on who would be invited to the pilot and what outreach would be conducted to gain participation.

January 14, 2019 0900-1000 Westmoreland County Department of Public Safety Conference Room

AGENDA notes
HAZARD MITIGATION WORKING GROUP

January 14, 2019@0900

Introductions: Lou Pochet, Mike Bertolino, Andrew Rzodkiewicz, Mary Beth Eslary, Clyde Snyder, Chris Tantlinger

Conference Call participants:

412-244-3700 5013# Please identify yourself and place your phone on mute.
None

Review:

Discussion on aligning with the seven comprehensive plan planning districts based on the language that it is difficult for local municipalities to stand alone and need the integration of their neighboring communities. It was decided to include the language in the upcoming update and to at a maximum identify the emergency response agencies in each of the districts via a map prepared by our GIS tech unit. Discussion on the professional services agreement and the execution of the agreement by the Commissioners, The agreement has been provided to Tetra Tech as a courtesy for their review and Mr. Snyder will check with their office to see the status. Discussion on venues for the kick off meeting to be explored will be the Rogers Center at SVC and the Intermediate unit where it was conducted for the last plan update.

Hazard Mapping:

Lou Pochet presented for review the outline for the Citizen Workshop for Hazard Mitigation Planning on February 19 and March 19, 2019. After discussion it was decided to provide a press release by the end of the week to request participation and have Andrew receive the RSVP for up to 30 attendees, and also address the recent flood declarations and the kick off of planning for the upcoming update. Lou stated that refreshments will need to be purchased for the events through the school culinary department will be required.

Best Practices in Mitigation:

Nothing to report at this time

Hazards & Mitigations:

Discussion on the Integrated Water Resources planning being conducted by the Conservation District and general awareness of the overland flooding that is more evident in development and other poor drainage areas.

Next Meeting & Location:

February 11, 2019 0900-1000 Westmoreland County Department of Public Safety Conference Room

MEETING NOTES

Meeting	Westmoreland County Hazard Mitigation Working Group (HMWG) Kickoff Meeting		
Date	February 11, 2019	Time	9:00 – 10:15 a.m.
Location	Westmoreland County Department of Public Safety (WCDPS), 911 Public Safety Road, Greensburg, PA		
Attendees	Michael Bertolino, Chief of Finance and Administration, WCDPS		
	Mary Beth Eslary, Public Information Officer, WCDPS		
	Jim Pillsbury, Westmoreland Conservation District		
	Louis Pochet, HMWG Member		
	Kim Shuster, Geographic Information Systems (GIS)/Computer Aided Dispatching (CAD) Supervisor, WCDPS		
	Clyde Snyder, Tetra Tech, Inc. (Tetra Tech)		
	Tony Subbio, Tetra Tech		

Purpose

The purpose of the kickoff meeting was to initiate the project to update Westmoreland County's (the County) Hazard Mitigation Plan (HMP). The meeting was conducted to provide an opportunity for Westmoreland County's primary points of contact to discuss and learn about the project from Tetra Tech. The County staff noted that Mr. Christopher Tantlinger will be the primary point of contact for the planning process, but he is currently on vacation.

Discussion Points

This section summarizes each discussion point addressed during the kickoff meeting.

Expectations and Areas of Focus

Flooding: Mr. Pillsbury noted that flooding is the County's primary hazard. The County received 6 feet of rain in the past year, and he was concerned that that amount of rain could become normal. His focus for the plan is on flooding, landslides, and utility interruptions. The County is developing a stormwater management plan. Many municipalities do not have stormwater management ordinances. There was significant flooding in the County in June in Ligonier. The Valley School of Ligonier was flooded. PA-381 and PA-982 flood and close repeatedly.

Hazardous Materials (Environmental Hazards): Mr. Pochet would like the plan to address the risks from gas pipelines, wells, and compressor stations. There have been leaks of methyl mercaptan in Derry Township, and a gas leak at the Hempfield Township building. He would like the plan to include an action to provide information to the public of the potential for gas explosions and accidents as the area industrializes. WCDPS staff have developed training on pipeline and well incidents. Mr. Pillsbury stated that previously empty land has been developed without the new property owners knowing about the pipelines that run under the property. There was an incident involving gas well overpressure two weeks ago.

There is a rail line that runs within 1,000 feet of the WCDPS facility, and are other lines that run within 500 feet of the Westmoreland Hospital and through urban areas throughout the County. The trains on those lines carry hazardous materials, and the County does not know what is in the rail cars.

Trucks traveling on the Pennsylvania Turnpike, I-70, and other highways also carry empty propane cylinders. Though considered empty, these cylinders may contain a small amount of propane in them.

The County last conducted a commodity flow study in the 1980s or 1990s.

Public Involvement: Ms. Eslary stated that the County uses Facebook, Twitter, Flickr, Snapchat, and Instagram. Knowledge Center would include records of incidents if people called 911 for help, but many people do not call, so Knowledge Center records will be incomplete. She thinks there needs to be substantial public outreach to gather information from the public.

Municipal Involvement: There are 65 municipalities in the County. During regular training for the municipal emergency management coordinators, the County may have 15-25 attendees. Municipal officials may or may not be at the municipal office at any given time. Ms. Eslary reported that she and Mr. Tantlinger met with emergency management coordinators and elected officials for approximately 15 municipalities.

Opioid Epidemic: Attendees stated that the opioid epidemic has become a large problem in the County, and would like to see this hazard examined in the HMP.

Planning Process and Timeline

Mr. Subbio stated that the HMP planning process would follow the Pennsylvania Emergency Management Agency's (PEMA) standardized mitigation planning process, as detailed in Tetra Tech's contract with the County. Mr. Subbio provided an overview of the planning process, along with the timeframe for completion of each step in the process. The draft of the HMP must be complete by the end of August to allow for the formal reviews and adoption before the HMP expires in early January 2020. Meeting this deadline depends on municipal officials participating in the planning process.

Planning Team Organization

Mr. Subbio informed the group that he had been working with Mr. Tantlinger to identify stakeholders to involve in the planning process (i.e., to serve on the Planning Team).

Planning Team Kickoff Meeting

The Initial Planning Team Meeting will be held from 2:00-4:00 p.m. at WCDPS building on Thursday, February 28, 2019. Mr. Subbio worked with Mr. Tantlinger to invite over 100 stakeholders to that meeting.

Data Requests

Mr. Subbio requested a copy of the current County Emergency Operations Plan (EOP), incident and exercise after-action reports (AAR), and other documents. Mr. Pillsbury will send the draft of the County's stormwater management plan to Mr. Subbio.

Knowledge Center contains information about road closures due to flooding, storms, and other events. In addition, any information reported through calling 911 is documented in the County's CAD system. Ms. Shuster stated that it would be easy to export incident information from CAD and print information from Knowledge Center.

Next Steps

The following next steps were discussed at the meeting:

- Mr. Subbio will send a document request to Mr. Tantlinger.
- Mr. Subbio will send Tetra Tech's GIS data "wish list" to the County to begin compiling the GIS data needed for the planning process.
- Tetra Tech will develop the project website.
- The Initial Planning Team Meeting will be held on February 28, 2019.

AGENDA

WESTMORELAND COUNTY HAZARD MITIGATION PLAN UPDATE PROJECT

Hazard Mitigation Working Group Kickoff Meeting Agenda

Monday, February 11, 2019 | 9:00 – 11:00 a.m.

1. Introductions
2. Expectations and Areas of Focus
3. Planning Process and Timeline
4. Planning Team Organization
5. Planning Team Kickoff Meeting
6. Data Requests
    a. Documents
    b. Geographic Information Systems (GIS)
    c. Incident records
    d. Updates to the 2014 HMP
7. Next Steps
    a. Develop website
    b. Organize the Planning Team
    c. Conduct the Planning Team Kickoff Meeting
8. Questions

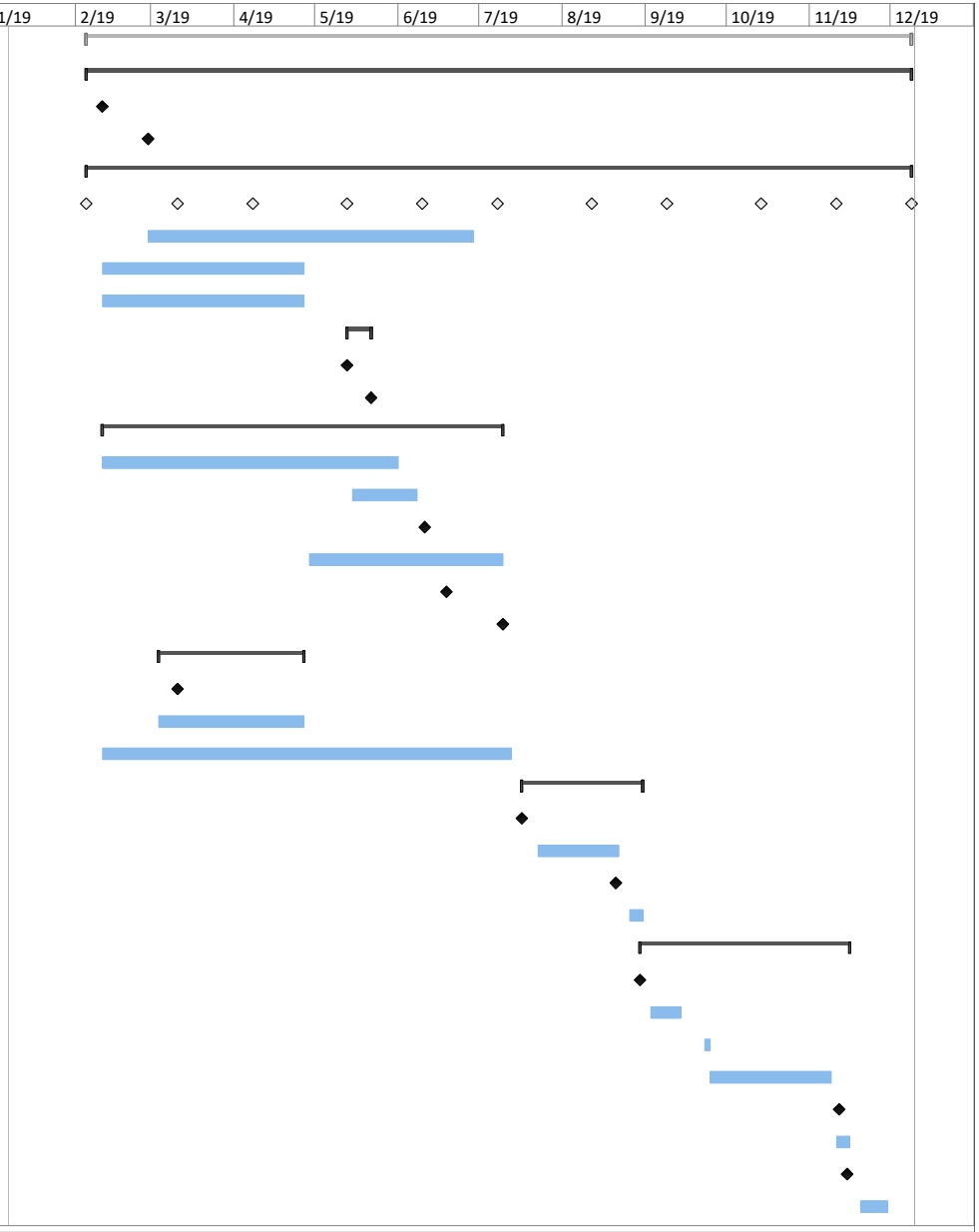
Updated Project Timeline and Schedule

Task	Deliverables / Timeline
Task 1 – Organize the Resources	► In-person attendance at monthly HMWG meetings. o HMWG Kickoff Meeting conducted on February 11. o August, September, and October HMWG meetings will be used to discuss applying for FEMA mitigation funding. Grants will likely open in October, and applications will be due in December. o Other topics for discussion at HMWG meetings are included in subsequent tasks. ► Initial Planning Team Meeting conducted on February 28. ► Additional stakeholder and public outreach conducted throughout the planning process.
Task 2 – Assess Capabilities	► Capabilities assessed throughout the planning process as documents are reviewed and Capability Assessment Worksheets are received. ► Capabilities discussed at the April HMWG meeting.
Task 3 – Update the Risk Assessment	► Hazards profiled completed in draft format by the end of April.
Task 4 – Review the Risk Assessment and Capability Assessment	► Risk assessment and capability assessment discussed with the HMWG at the May meeting. ► Public Planning Team Meeting conducted in mid-to-late May.
Task 5 – Develop the Updated Mitigation Strategy	► Existing mitigation strategy analyzed by the end of May. ► Draft goals and objectives developed by early June. ► Draft goals and objectives reviewed and discussed at the June HMWG meeting. ► Mitigation Strategy Workshop conducted in mid-June. ► Mitigation actions identified by early July. ► Mitigation Strategy Review Meeting conducted virtually in mid-July.
Task 6 – Update Plan Maintenance Procedures	► Existing HMP plan maintenance procedures discussed at the March HMWG meeting. ► New plan maintenance procedures developed by the end of April.
Task 7 – Develop the Draft Plan	► Draft plan developed by mid-July.
Task 8 – Review and Finalize the Draft Plan	► Draft reviewed with the HMWG at the July meeting. ► Public comment period from late July to late August. ► Public meeting of the Planning Team to review the draft and receive comments conducted in late August. ► Draft finalized for formal review by the end of August.
Task 9 – Submit the Draft Plan for Review	► Draft HMP submitted to PEMA for review by the end of August. ► PEMA reviews the draft HMP by mid-September. ► Draft plan updated based on PEMA review and submitted to FEMA Region III by late September. ► FEMA Region III reviews the draft HMP by early November. ► FEMA Region III comments on the draft HMP reviewed with the HMWG at the November meeting, if needed.

Task	Deliverables / Timeline
	► Draft HMP updated and resubmitted to FEMA Region III by mid-November, if needed. ► APA status obtained by mid-to-late November.
Task 10 – Facilitate Adoption	► APA-designated HMP presented to the Westmoreland County Commissioners for adoption in late November. ► Adoption resolution submitted to FEMA by the end of November. ► FEMA approval of the HMP immediately following receipt of the adoption resolution. Approval of the HMP will be as of the date of adoption.
Project Management	► Status reports provided at the end of each month, beginning in February. ► Quarterly reports drafted and provided to the County one week prior to the reporting due dates (as stated in the response to questions). ► Invoices provided at the beginning of each month, beginning in March.

HMWG = Hazard Mitigation Working Group

ID	Task Name	Start	Finish
0	**Westmoreland County PA HMP Update 2019**	**Tue 2/5/19**	**Mon 12/9/19**
1	**Task 1 - Organize the Resources**	**Tue 2/5/19**	**Mon 12/9/19**
2	HMWG Kickoff Meeting	Mon 2/11/19	Mon 2/11/19
3	Initial Planning Team Meeting	Thu 2/28/19	Thu 2/28/19
4	Public and Stakeholder Outreach	Tue 2/5/19	Mon 12/9/19
5	HMWG Meetings	Tue 2/5/19	Mon 12/9/19
17	Other Outreach	Thu 2/28/19	Fri 6/28/19
18	**Task 2 - Assess Capabilities**	**Mon 2/11/19**	**Fri 4/26/19**
19	**Task 3 - Update the Risk Assessment**	**Mon 2/11/19**	**Fri 4/26/19**
20	**Task 4 - Review the Risk Assessment and Capability Assessment**	**Mon 5/13/19**	**Wed 5/22/19**
21	HMWG Meeting to Review Risk Assessment and Capabilities Assessment	Mon 5/13/19	Mon 5/13/19
22	Public Planning Team Meeting to Review Risk Assessment and Capabilities	Wed 5/22/19	Wed 5/22/19
23	**Task 5 – Develop the Updated Mitigation Strategy**	**Mon 2/11/19**	**Wed 7/10/19**
24	Analyze the Existing Mitigation Strategy	Mon 2/11/19	Fri 5/31/19
25	Develop Goals and Objectives	Wed 5/15/19	Fri 6/7/19
26	HMWG Meeting to Set Goals and Objectives	Tue 6/11/19	Tue 6/11/19
27	Identify Mitigation Actions	Mon 4/29/19	Tue 7/9/19
28	Mitigation Strategy Development Workshop	Wed 6/19/19	Wed 6/19/19
29	Mitigation Strategy Review Meeting	Wed 7/10/19	Wed 7/10/19
30	**Task 6 – Update Plan Maintenance Procedures**	**Mon 3/4/19**	**Fri 4/26/19**
31	HMWG Meeting to Review Plan Maintenance Section	Mon 3/11/19	Mon 3/11/19
32	Update Plan Maintenance Section	Mon 3/4/19	Fri 4/26/19
33	**Task 7 – Develop the Draft Plan**	**Mon 2/11/19**	**Fri 7/12/19**
34	**Task 8 – Review and Finalize the Draft Plan**	**Wed 7/17/19**	**Fri 8/30/19**
35	HMWG Draft Review Meeting	Wed 7/17/19	Wed 7/17/19
36	Public Comment Period	Tue 7/23/19	Wed 8/21/19
37	Public Draft Review Meeting	Wed 8/21/19	Wed 8/21/19
38	Finalize the Draft	Mon 8/26/19	Fri 8/30/19
39	**Task 9 – Submit the Draft Plan for Review**	**Fri 8/30/19**	**Fri 11/15/19**
40	Submit the Draft to PEMA	Fri 8/30/19	Fri 8/30/19
41	PEMA Review Period	Tue 9/3/19	Fri 9/13/19
42	Update and Submit to FEMA	Mon 9/23/19	Tue 9/24/19
43	FEMA Review Period	Wed 9/25/19	Fri 11/8/19
44	HMWG Meeting to Review FEMA Comments	Tue 11/12/19	Tue 11/12/19
45	Finalize the Draft and Resubmit to FEMA	Mon 11/11/19	Fri 11/15/19
46	Receive APA Designation	Fri 11/15/19	Fri 11/15/19
47	**Task 10 – Facilitate Adoption**	**Wed 11/20/19**	**Fri 11/29/19**



Project: Westmoreland County PA
Date: Fri 2/8/19

Task	External Tasks	Manual Task	Finish-only		
Split	External Milestone	Duration-only	Deadline		
Milestone	Inactive Task	Manual Summary Rollup	Progress		
Summary	Inactive Milestone	Manual Summary	Manual Progress		
Project Summary	Inactive Summary	Start-only			

2/11/2019

HAZARD MITIGATION PLANNING

Last Name	First Name	Title	Representing	E-Mail	Signature
Pochet	Louis	MR	Citizens of Cowa	LFPochet@hotMail.com	
PILLSBURY	JIM	PC	WESTMORELAND CONSERVATION	JIM@WCDPA.COM	
Shuster	Kim		WCDPS/GIS	Kshuster@co.westmoreland.pa.us	
Subbio	Tony	PM	Tetra Tech	tony.subbio@tetratech.com	
Snyder	Clyde		" "	Clyde.Snyder@tetratech.com	
Eslary	MayBeth		WCDPS	MBEslary@co.	
BENEDETTINO	MICHAEL	FINANCE ADMIN	WCDPS	MBenedetti@co.westmoreland.pa.us	

As of 2/11/2019

2019 Hazard Mitigation Workshop Hazard Mapping Guide

PA Oil and Gas Mapping-DEP

http://www.depgis.state.pa.us/PaOilAndGasMapping/

1. Open web page
2. Read the disclaimer and click the blue "continue" button
3. On the left menu, select the type of wells you would like displayed as well as the status
4. Click the red "Submit Request"
5. Click the gray tab at the top that states "Tasks"
6. Click the gray tab under "what do you want to do" that shows "locate on map"
7. Click the blue tab that states "address"
8. Enter address information in the pop out box that appeared on the right top
9. Click the blue button "locate"
10. Select address in bottom pop out box that shows your entered address.
11. View map

PA DEP Mine Subsidence Mapping

http://www.depgis.state.pa.us/msiRisk/

1. Open web page
2. Click the gray tab "locate an address"
3. Enter address information in box
4. Click the blue box "locate"
5. Select address below
6. View map

FEMA Flood Mapping

https://msc.fema.gov/portal/home

1. Open web page
2. Enter address in provided space
3. Click search
4. View map

National Pipeline Mapping System

https://www.npms.phmsa.dot.gov/default.aspx

1. Open webpage
2. Select "use public map viewer" under the "public map viewer" section on right
3. Enter State (Pennyslvania) and County (Westmoreland)
4. View map

Westmoreland County Tax Mapping

https://www.co.westmoreland.pa.us/1980/Tax-Mapping-Site-Disclaimer

1. Open web page
2. Read Tax Mapping Site Disclaimer
3. Click green "accept" button
4. Click gray "proceed to site"
5. Click binoculars to open "Search Parcels"
6. Enter your street address (ex: 123 main st) in address box
7. Select your municipality below—who you pay taxes to, not your mailing address
8. Select address in box below
9. Minimize the "Search Parcels" box
10. Open identify "blue I icon"
11. Click on your land to see your information.

Westmoreland County Hazard Mitigation Plan

https://www.co.westmoreland.pa.us/

1. Open web page
2. Select "Government" tab at top of page
3. Select green "911/Public Safety"
4. Select "Hazard Mitigation Plan" on left side of screen
5. Select "Current Plan" on bottom of screen.

Westmoreland County Multi-Jurisdictional Multi-Hazard Mitigation Plan Workshop
2/19/2019
UPG- Cassell Hall Computer Lab

#	Last Name	First Name	E-Mail	Phone #	Signature
1	Kiefer	Jan	gospillthebeans@gmail.com	724-448-7599	
2	Gray	Leah	lgray@disabilityoptionsnetwork.org	724-698-1865	
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5	Cook	Danielle	daniellecook1990@gmail.com	724-261-1792	
5	Inks	Becky	inksb1@gmail.com	412-327-3504	
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8	Andrews	Jon	johnnya925@gmail.com		
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15	Love	Richard	rlovejr4@yahoo.com	724-422-9637	
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19	Stauffer	Craig	craigstauffer47@hotmail.com	724-309-5062	
20	Leeman	Kevin	kkncjb@comcast.net	724-832-3020	
21	Leeman	Kathleen	kkncjb@comcast.net	724-832-3020	
22	Mayo	Jeff	torgav@yahoo.com	412-558-0456	

Westmoreland County Multi-Jurisdictional Multi-Hazard Mitigation Plan Workshop
2/19/2019
UPG- Cassell Hall Computer Lab

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26					
27					
28					
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35					

Westmoreland County Multi-Jurisdictional Multi-Hazard Mitigation Plan Workshop
3/19/2019
UPG- Cassell Hall Computer Lab

#	Last Name	First Name	E-Mail	Phone #	Signature
1	Helkowski	Gregory	koby@zoominternet.net	412-582-1408	
2	Cunningham	Tricia	coachtricia@gmail.com	724-974-0572	
3	Johnson	Margaret	mgtjhsn@aol.com	724-834-8128	
4	Murtland	Jane	janem9@msn.com	412-610-0779	
5	Stahl	Bryon	lutheranchick@rocketmail.com	724-561-7601	
6	Stahl	Christine	lutheranchick@rocketmail.com	724-651-7601	
7	Sedlacko	Marion	msedlacko@comcast.net	724-837-0691	
8	Markle	Paul	pcmthree06@gmail.com	724-516-4226	
9	Edson	Stephen	sredson3@gmail.com	757-642-4350	
10	LeCuyer	Ann	Ann@protectpt.com	724-392-7023	
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

Westmoreland County

Pennsylvania

DEPARTMENT OF PUBLIC SAFETY
724-600-7300
Roland "Bud" Mertz
Director
724-600-7301

911
DISPATCH CENTER
724-600-7300
Scott Stepanovich
Deputy Director
724-600-7302

February 4, 2019

RE: Westmoreland County Hazard Mitigation Plan 2019 Update

Dear Borough Council/City Council/Township Supervisors,

The Westmoreland County Hazard Mitigation Plan (HMP) was prepared in 2014 and adopted by the County Commissioners on January 12, 2015. The HMP is going to expire in early 2020, so we have begun our 5-year update of the HMP. Participation in the planning process is required for your municipality to remain eligible for state and federal mitigation funding.

We will be conducting a kickoff meeting for the HMP Planning Team on February 28, 2019. The meeting will be held at the Westmoreland County Department of Public Safety, 911 Public Safety Road, Greensburg, PA from 2:00-4:00 p.m. At this meeting, we will be discussing the planning process, timeline, municipal participation requirements, and stakeholder outreach and participation. I would appreciate it if someone from your organization would attend the meeting and participate in the planning process.

Thank you for your support, and we look forward to seeing you at the Planning Team Kickoff Meeting. Please contact me if you have any questions.

Sincerely,

Christopher Tantlinger
Hazard Mitigation Officer

Cc: R. Mertz

Westmoreland County
Pennsylvania

DEPARTMENT OF PUBLIC SAFETY
724-600-7300
Roland "Bud" Mertz
Director
724-600-7301

911
DISPATCH CENTER
724-600-7300
Scott Stepanovich
Deputy Director
724-600-7302

February 4, 2019

RE: Westmoreland County Hazard Mitigation Plan 2019 Update

Dear Westmoreland County Planning Stakeholders,

The Westmoreland County Hazard Mitigation Plan (HMP) examines the hazards that could impact Westmoreland County; describes the capabilities that we have to reduce our vulnerability to those hazards; and includes a set of goals, objectives, and actions that can be implemented to reduce the likelihood and/or severity of hazard impacts. Our current HMP was prepared in 2014 and adopted by the County Commissioners on January 12, 2015. The HMP is going to expire in early 2020, so we have begun our 5-year update of the HMP.

We will be conducting a kickoff meeting for the HMP Planning Team on February 28, 2019. The meeting will be held at the Westmoreland County Department of Public Safety, 911 Public Safety Road, Greensburg, PA from 2:00-4:00 p.m. At this meeting, we will be discussing the planning process, timeline, municipal participation requirements, and stakeholder outreach and participation. I would appreciate it if someone from your organization would attend the meeting and participate in the planning process.

Thank you for your support, and we look forward to seeing you at the Planning Team Kickoff Meeting. Please contact me if you have any questions.

Sincerely,

Christopher Tantlinger
Hazard Mitigation Officer

Cc: R. Mertz

MEETING NOTES

Meeting	Westmoreland County Hazard Mitigation Plan (HMP) Planning Team Kickoff Meeting		
Date	February 28, 2019	Time	2:00 – 4:00 p.m.
Location	Westmoreland Intermediate Unit, 102 Equity Drive, Greensburg, PA		
Attendees	Roland "Bud" Mertz, Director, WCDPS		
	Michael Bertolino, Chief of Finance and Administration, WCDPS		
	Mary Beth Eslary, Public Information Officer, WCDPS		
	Andrew Rzodkiewicz, All Hazards Planner, WCDPS		
	Christopher Tantlinger, Hazard Mitigation Officer, WCDPS		
	Curt Fontaine, Operations Manager, Municipal Authority of Westmoreland County		
	Jim Pillsbury, Westmoreland Conservation District		
	Jeff Kite, Westmoreland County Animal Response Team, Pennsylvania State Animal Response Team		
	George Lowther, Deputy of Security, Westmoreland County Prison		
	Floyd Murphy, Training Lieutenant, Westmoreland County Prison		
	Vaughn Neill, County Engineer, Westmoreland County Public Works		
	Patti Williams, Westmoreland Sanitary Landfill		
	Lieutenant Jesse Salandro, Westmoreland County Sheriff's Office		
	Alan Blahovec, Executive Director, Westmoreland Transit		
	Fred Cecchini, Westmoreland County Trench/Collapse		
	Carol R. Bollinger, EMA Director, City of Latrobe		
	Jim Nieusma, Zoning/Community Development, Ligonier Township		
	Joe Lapia, Manager, Manor Borough		
	Jerry Lucia, Emergency Management Coordinator, Mount Pleasant Borough; Member, Mount Pleasant Fire Department		
	Chuck Tappe, EMC, Municipality of Murrysville		
	Andrew Blenko, Planning Director/Engineer, North Huntingdon Township		
	Alexander J. Graziani, Secretary/Manager, Penn Township		
	Angelo Pallone, Borough Manager, Scottdale Borough		
	Andy Pinskey, Council President, Scottdale Borough		
	Michael P. Siwula, Councilman, Scottdale Borough		
	Tom Haynes, Local Coordinator, Smithton		
	Ralph Furin, Emergency Management Coordinator, South Greensburg Borough		
	Mike Rosensteel, Councilman, South Greensburg Borough; Security/EM Manager, Excela Health		
	Sandy Smythe, Washington Township		
	Richard Capraun, Principal, Central Westmoreland Career & Technology Center		

MEETING NOTES

Chris Campbell, Principal, Eastern Westmoreland Carere & Technology Center
Dr. Chris Suppo, Coordinator of Technology, Greensburg Salem School District
Brandon Rapp, School Safety, Norwin School District
Joseph Shigle, School Safety, Norwin School District
Dan Lynch, Police Chief, University of Pittsburgh Greensburg
Jason Brown, Deputy Director, Emergency Preparedness, Hospital and Healthsystem Association of Pennsylvania (HAP)
Erin Kepple Adams, Water Resource Manager, Southwestern Pennsylvania Commission
Perry Fox, Public Health Preparedness Coordinator-Southwest, Pennsylvania Department of Health
William Kelly, P.C.O., Pennsylvania State Police Greensburg
Sergeant Jarred Slatter, Pennsylvania State Police Greensburg
Matt Brown, Chief, Allegheny County Emergency Services
Robert Gerlach, Training and Exercise Coordinator, Allegheny County Department of Emergency Services
Steve Wilharm, Operations Manager, Allegheny County Emergency Services
Joel D. Landis, Director, Somerset County Department of Emergency Services
Donielle Skolnekovich, Chemical Engineer, Arcelor Mittal Monessen
Jonathan Cunkelmen, Chestnut Ridge Foam
Kevin Zenk, EHS Coordinator, Cleaveland/Price, Inc.
Melissa Fitch, EHS Supervisor, DNP Imagingcomm America Corporation
Dania Rountree, Dominion Energy
Jon Kammerer, District Manager, Ferrell Gas
Jeff Landry, Operations Manager, Enterprise Products
Tim Pellegrino, Firestone Building Products
Erin Schmitz, EHS Manager, Gabriel Performance Products
Brian Linderman, Plant Manager, General Carbide
Cory Ritter, General Carbide
Jennifer Hood, Penn West
Elle Speicher, Penn West
Thomas Stephanic, Penn West
Evan Murphy, EHS Specialist, Quadrant EPP USA, Inc.
William Harily, Westinghouse Waltz Mill
Clyde Snyder, Tetra Tech, Inc. (Tetra Tech)
Tony Subbio, Tetra Tech

MEETING NOTES

Discussion Points

This section summarizes each discussion point addressed during the Planning Team Kickoff Meeting.

Introductions

Mr. Mertz welcomed attendees to the meeting and the planning process. Due to the excellent turnout to the meeting and large number of people present, attendees only indicated whether they represented the County, a municipality, educational institution, or other stakeholder group.

Planning Process

Mr. Subbio discussed the planning process to be used to update the HMP. He explained that the process begins with examining the following hazards of concern for the County, as identified in the 2015 HMP:

Natural Hazards		Human-made Hazards
Avalanche	Landslide	Dam Failure
Drought	Lightning	Environmental Hazards
Earthquake	Radon Exposure	Nuclear Incident
Extreme Temperature	Subsidence and Sinkholes	Structural Fire
Flood, Flash Flood, Ice Jam	Tornadoes and Windstorms	Terrorism
Hailstorm	Wildfire	Transportation Accident
Hurricane	Winter Storm	Utility Interruption

Attendees identified (1) flood, flash flood, and ice jams; (2) power outages (utility interruption); and (3) transportation accidents (due to release of hazardous materials) as their primary concerns. Attendees then discussed the following problems and problem areas related to the hazards listed above. The following list summarizes that discussion:

- City of Latrobe
    - Excela Health's Latrobe Hospital is next to the Loyalhanna Creek. Facility management is worried about future erosion affecting the hospital.
- Ligonier Township
    - There is a sinkhole near the Township Building.
    - The University of Pittsburgh Greensburg campus is in a valley along Slate Run Creek. The repaving of Mount Pleasant Road has caused drainage issues for the campus. The stormwater management infrastructure is not adequate.
- Manor Borough

  - Culverts on Main Street are frequently a problem. The road is lower than the culverts. Brush Creek spills onto the roadway. Borough officials are investigating where the water is coming from. The Borough Building floods.
  - Gabriel Performance Products flooded in September 2018.
- Scottdale Borough
  - The borough is in a valley and is flooding from runoff from its neighboring municipalities.
- Smithton Borough
  - Sulfur Creek backs up. There is a great deal of runoff on PA-891. The storm that affected the County in August 2018 was worse than Hurricane Ivan in 2004.
- South Huntingdon Township
  - Streambanks need to be maintained.
- Chestnut Ridge Phone's facilities lost power three times in 2018 due to bad infrastructure.

Mr. Subbio described the Evaluation of Identified Hazards and Risk Worksheet that was distributed to the attendees. This worksheet captures information from each municipality regarding changes in each municipality's vulnerability to the hazards of concern and additional hazards of concern to be considered. Mr. Subbio asked each attendee to complete the worksheet before the end of the meeting.

Mr. Subbio then discussed the process for updating the hazard profiles and the specific scenarios that will be used in assessing the County's vulnerability to certain hazards. The following scenarios will be examined using Federal Emergency Management Agency's (FEMA) Hazards U.S. (HAZUS) software:

- Earthquake: the 500-year Mean Return Period (MRP) event
- Flood: the 1-percent annual chance flood
- Wind: the 500-year MRP event

Mr. Pillsbury stated that the flood hazard profile should incorporate the U.S. Army Corps of Engineers' study of the Ohio River Valley.

The next step in the planning process is to update the County's and municipalities' capability assessments. A Capability Assessment Survey was distributed to the attendees to collect information regarding their planning and regulatory, administrative and technical, financial, and education and outreach capabilities. Mr. Subbio reviewed each capability category with the attendees. He pointed out that the worksheet was designed for completion by municipal officials but that other stakeholders could fill out applicable sections. Mr. Subbio then identified the NFIP Survey worksheet for gathering information from the municipal floodplain administrator regarding the municipalities' floodplain management programs and compliance with the National Flood Insurance Program (NFIP).

Once the risk assessment and capabilities assessment are updated, they will be reviewed with the Planning Team and general public at a public meeting.

Mr. Subbio next discussed updating the mitigation strategy. Updating the mitigation strategy consists of reviewing the existing goals and objectives, determining the status of mitigation actions from the 2015 HMP, and identifying new mitigation actions to include in the updated HMP. Mr. Subbio reviewed the Mitigation Strategy 5-Year Mitigation Plan Review Worksheet with attendees. The worksheet collects stakeholders' input on the goals and objectives from the 2015 HMP and provides an opportunity for municipalities to describe the progress made on implementing their mitigation actions since the HMP was last approved. Each municipality is asked to describe the status of each action that applies to that jurisdiction. Mr. Subbio told the attendees about a mitigation strategy workshop that will be conducted during the planning process to help stakeholders identify mitigation actions to include in the HMP. Following the workshop, a Planning Team Meeting will be held to review the updated mitigation strategy. The Planning Team Meeting will be open to the public.

Mr. Subbio then discussed the layout of the HMP. The risk assessment, capabilities assessment, and mitigation strategy would each be included as a section of the HMP. Other sections include the County Profile, documentation of the planning process, and the plan maintenance section.

The draft HMP will be presented to the Planning Team for review and comment. Tetra Tech will incorporate any changes identified by the Planning Team. The draft HMP will then be posted for a period of 30 days, after which a public meeting will be held to collect and review feedback on the HMP. Tetra Tech will address any suggested changes and will submit the HMP to the Pennsylvania Emergency Management Agency (PEMA) and FEMA for formal review. Tetra Tech will make any required changes and resubmit the HMP, as necessary, until FEMA grants it "approvable pending adoption" (APA) status.

Mr. Subbio explained that the HMP cannot be formally approved by FEMA until the County and at least one participating municipality formally adopt the HMP. FEMA grants APA status to let the communities know that the HMP will be approved once it is adopted so that the communities do not adopt the HMP only to have to re-adopt it after any changes are made.

Once the HMP secures APA status, the County and the municipalities will formally adopt the updated HMP. The existing HMP does not expire until January 2020. Mr. Subbio stated that he expects the updated HMP to be fully approved in December 2019. The County and municipalities will then begin the implementation process, which will include conducting regular meetings of the Planning Team and other stakeholders and implementing specific actions and projects.

Review Schedule

Mr. Subbio reviewed the following project schedule with attendees:

- The risk assessment and capabilities assessment will be updated by April 2019.
- The Planning Team Meeting will review the risk assessment, and the capabilities assessment will be held once the assessments are complete in mid-to-late May 2019.
- The mitigation strategy will be updated by mid-July 2019.
- The HMP will be drafted by mid-July 2019 and submitted to PEMA for review at the end of August 2019.
- The HMP will be submitted to FEMA for review in late September 2019.
- Depending on the length of the FEMA review process, Tetra Tech estimates that the HMP will receive APA status by November 2019.

Next Steps

Mr. Subbio requested that relevant documents (such as comprehensive plans, capital improvement plans, floodplain management ordinances, etc.) be sent to him. Municipalities will complete the four worksheets and provide them to Mr. Subbio or Mr. Tantlinger. Tetra Tech will complete the risk assessment and post the draft hazard profiles to the project website, which is under development. Mr. Tantlinger and Mr. Subbio thanked attendees for their time and participation.

TETRA TECH

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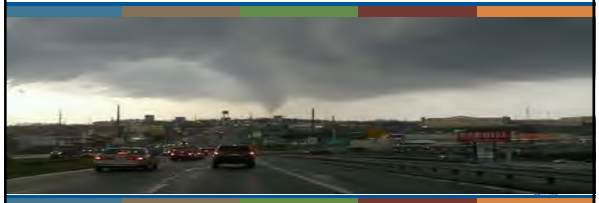
Westmoreland County Hazard Mitigation Plan (HMP) Update 2019 Planning Team Kickoff Meeting



Agenda

- Introductions
- Planning Process
- Review Schedule
- Next Steps
- Questions

Introductions

- Name
- Organization
- Role
- Experience with Hazard Mitigation

Planning Process

- Update the Risk Assessment
- Update the Capabilities Assessment
- Update the Mitigation Strategy
- Update Other Sections of the HMP
- Submit the HMP for Review
- Adopt the HMP
- Implement the HMP

Update the Risk Assessment

- Hazards from the 2015 HMP

Natural Hazards	
Avalanche	Landslide
Drought	Lightning
Earthquake	Radon Exposure
Extreme Temperature	Subsidence and Sinkholes
Flood, Flash Flood, Ice Jam	Tornadoes and Windstorms
Hailstorm	Wildfire
Hurricane	Winter Storm

Update the Risk Assessment

- Hazards from the 2015 HMP (cont'd)

Human-made Hazards	
Dam Failure	Terrorism
Environmental Hazards	Transportation Accident
Nuclear Incident	Utility Interruption
Structural Fire	

- Any to delete?
- One more hazard – Opioid Epidemic?
- *Hazard Identification and Risk Evaluation Worksheet*

Update the Risk Assessment

- Update Hazard Profiles
  - Events since January 2014
  - Robust hazard descriptions
  - Updated vulnerability assessments
- HAZUS-MH Analysis
  - Earthquake – 500-year Mean Return Period (MRP) event
  - Flood – 1-percent annual chance floodplain
  - Wind – 500-year MRP event

Update the Capabilities Assessment

- Capabilities
  - Planning and Regulatory Capability
  - Administrative and Technical Capability
  - Financial Capability
  - Education and Outreach
  - Self-Assessment of Capability
- *Capability Assessment Survey*
- *NFIP Survey*
- Planning Team Meeting (open to the public) to Review Risk and Capabilities Assessments

Update the Mitigation Strategy

- Review Goals and Objectives
- Determine Status of Mitigation Actions
- *Mitigation Strategy 5-Year Mitigation Plan Review Worksheet*
- Identify New Mitigation Actions/Projects
  - ***Focus on specific, implementable actions!***
- Conduct Mitigation Strategy Workshop
- Conduct Planning Team Meeting (Open to the Public) to Review Updated Mitigation Strategy

Update Other Sections of the HMP

- County Profile
  - Updated data
- Planning Process
  - Documentation of the update process
- Plan Maintenance
  - Incorporation into other plans as well as determining ways to incorporate other plans into the updated HMP

Submit the HMP for Review

- Review Draft with Planning Team
- 30-day Public Comment Period
- Conduct Public Meeting to Review the Draft
- Submit for Pennsylvania Emergency Management Agency (PEMA) Review
  - 14 to 28 days
- Submit for Federal Emergency Management Agency (FEMA) Review
  - 45 days
- "Approvable Pending Adoption" Status

Adopt the HMP

- County and at least one participating municipality
- FEMA Approval
- Adoption Deadline – December 2019

Implement the HMP

- Hazard Mitigation Working Group Meetings
- Planning Team Meetings
- Stakeholder Meetings
- Implement Mitigation Actions and Projects
  - Integrate actions where appropriate

Review Schedule

- Risk Assessment
  - February – April 2019
- Capabilities Assessment
  - February – April 2019
- Mitigation Strategy
  - February – July 2019
- Draft Plan by mid-July 2019
- Submit to PEMA by the end of August 2019
- Submit to FEMA by the end of September 2019
- "Approvable Pending Adoption" by late November 2019

Next Steps

- Document Request
- Complete Municipal Worksheets
- Update the Risk Assessment

Questions?

Thank you for your time!

Contacts

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Clyde Snyder
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AGENDA

WESTMORELAND COUNTY HAZARD MITIGATION PLAN UPDATE

Planning Team Kickoff Meeting

Thursday, February 28, 2019 | 2:00 – 4:00 p.m.

1. Introductions
2. Planning Process
    a. Update the Risk Assessment
    b. Update the Capabilities Assessment
    c. Update the Mitigation Strategy
    d. Update Other Sections of the HMP
    e. Submit the HMP for Review
    f. Adopt the HMP
    g. Implement the HMP
3. Review Schedule
4. Next Steps
5. Questions

Updated Project Timeline and Schedule

Task	Deliverables / Timeline
Task 1 – Organize the Resources	► In-person attendance at monthly HMWG meetings. o HMWG Kickoff Meeting conducted on February 11. o August, September, and October HMWG meetings will be used to discuss applying for FEMA mitigation funding. Grants will likely open in October, and applications will be due in December. o Other topics for discussion at HMWG meetings are included in subsequent tasks. ► Initial Planning Team Meeting conducted on February 28. ► Additional stakeholder and public outreach conducted throughout the planning process.
Task 2 – Assess Capabilities	► Capabilities assessed throughout the planning process as documents are reviewed and Capability Assessment Worksheets are received. ► Capabilities discussed at the April HMWG meeting.
Task 3 – Update the Risk Assessment	► Hazards profiled completed in draft format by the end of April.
Task 4 – Review the Risk Assessment and Capability Assessment	► Risk assessment and capability assessment discussed with the HMWG at the May meeting. ► Public Planning Team Meeting conducted in mid-to-late May.
Task 5 – Develop the Updated Mitigation Strategy	► Existing mitigation strategy analyzed by the end of May. ► Draft goals and objectives developed by early June. ► Draft goals and objectives reviewed and discussed at the June HMWG meeting. ► Mitigation Strategy Workshop conducted in mid-June. ► Mitigation actions identified by early July. ► Mitigation Strategy Review Meeting conducted virtually in mid-July.
Task 6 – Update Plan Maintenance Procedures	► Existing HMP plan maintenance procedures discussed at the March HMWG meeting. ► New plan maintenance procedures developed by the end of April.
Task 7 – Develop the Draft Plan	► Draft plan developed by mid-July.
Task 8 – Review and Finalize the Draft Plan	► Draft reviewed with the HMWG at the July meeting. ► Public comment period from late July to late August. ► Public meeting of the Planning Team to review the draft and receive comments conducted in late August. ► Draft finalized for formal review by the end of August.
Task 9 – Submit the Draft Plan for Review	► Draft HMP submitted to PEMA for review by the end of August. ► PEMA reviews the draft HMP by mid-September. ► Draft plan updated based on PEMA review and submitted to FEMA Region III by late September. ► FEMA Region III reviews the draft HMP by early November. ► FEMA Region III comments on the draft HMP reviewed with the HMWG at the November meeting, if needed.

Task	Deliverables / Timeline
	► Draft HMP updated and resubmitted to FEMA Region III by mid-November, if needed. ► APA status obtained by mid-to-late November.
Task 10 – Facilitate Adoption	► APA-designated HMP presented to the Westmoreland County Commissioners for adoption in late November. ► Adoption resolution submitted to FEMA by the end of November. ► FEMA approval of the HMP immediately following receipt of the adoption resolution. Approval of the HMP will be as of the date of adoption.
Project Management	► Status reports provided at the end of each month, beginning in February. ► Quarterly reports drafted and provided to the County one week prior to the reporting due dates (as stated in the response to questions). ► Invoices provided at the beginning of each month, beginning in March.

HMWG = Hazard Mitigation Working Group

WESTMORELAND COUNTY HAZARD MITIGATION PLAN UPDATE
Planning Team Kickoff Meeting

SIGN-IN

Thursday, February 28, 2019 | 2:00 – 4:00 p.m.

NAME / TITLE	AGENCY / ORGANIZATION	E-MAIL ADDRESS	TELEPHONE
ANDY PINSKEY COUNCIL PRESIDENT	SCOTTDALE BOROUGH	ANDYITMT@YAHOO.COM	724 493 9933
Michael P. Siwula COUNCILMAN	SCOTTDALE Borough	msiwula51@Gmail.com	724-889-4281
TOM HAYNES LOCAL COORDINATOR	SMITHTON	HAYNESTHOMAS@MSN.COM	724 872 8677
Matt Brown Chief	Allegheny County Emergency Services	matthew.brown@alleghenycounty.us	412-473-2303
Andrew Rzodkiewicz All Hazards Planner	WCDPS	ARzodkie@CO.Westmoreland.PA.US	724-600-7314
Tony Subbio / PM	Tetra Tech	tony subbio @ tetratech.com	717-545-3580
Chris Tantlinger / HM Officer	WCDPS		
Mike Bertolino	WCDPS		
Mary Beth Eslary	WCDPS		
Roland "Bud" Mertz	WCDPS		

WESTMORELAND COUNTY HAZARD MITIGATION PLAN UPDATE
Planning Team Kickoff Meeting

SIGN-IN

Thursday, February 28, 2019 | 2:00 – 4:00 p.m.

NAME / TITLE	AGENCY / ORGANIZATION	E-MAIL ADDRESS	TELEPHONE
KEVIN ZENK EHS COORDINATOR	CLEAVELAND/PRICE, INC.	kevinz@cleavelandprice.com	724 864 4177
MIKE ROSENSTEEL SECURITY/EM MANAGER	EXCELA HEALTH (AND SOUTH GREENSBURG COUNCIL)	mrosensteel@excelahealth.org	724-516-6003
JASON BROWN Deputy Director, Emergency Prep.	HAP	jbrown@hapowline.org	717-395-1599
VAUGHN NEILL COUNTY ENGINEER	WEST. CO PUB WORKS	vneill@co.westmoreland.pa.us	724 8303466
ANDREW BLENKO PLANNING DIR/ENGINEER	N HUNTINGDON TWP.	ABLENKOE N HTPA. US	724-863-3806
LT Jesse Salandro	Sheriff's Office.	Jsalandr@co.westmoreland.Pa.us.	7248303463
Evan Murphy EHS Specialist	Quadrant EPP USA, Inc.	Evan.murphy@qpias.com	724 4687026
CURT FONTAINE OPS MANAGER	MAWC	fontaine@mawc.org	724-755-5950
JERRY LUCIA	MT. PLEASANT FIRE, BOROUGH EMC	GLUCIA45@ICLOUD.COM	724 640 4987
JIM PILLSBURY	WEST. CONS. DISTRICT	JIM@WCDPA.COM	837-5271

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WESTMORELAND COUNTY HAZARD MITIGATION PLAN UPDATE
Planning Team Kickoff Meeting

SIGN-IN

Thursday, February 28, 2019 | 2:00 – 4:00 p.m.

NAME / TITLE	AGENCY / ORGANIZATION	E-MAIL ADDRESS	TELEPHONE
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Joseph Shigle Supv. Safety	Norwin SD	JSHIGLE@norwinsd.org	724 861-3005
Acty Coordinator Secretary Mang.	Penn Township	[illegible]	724 787-6540
Danielle Skolnekovich Chemical Engineer	ArcelorMittal Monessen	danielle.skolnekovich@arcelormittal.com	724 684 1175
ALAN BLAHOVEC WESTMORELAND TRANSIT	WESTMORELAND TRANSIT	ablahovec@westmorelandtransit.com	724 832 2710
JON KAMMERER District Manager	FERRELLGAS	JONATHAN.KAMMERER@FERRELLGAS.COM	330-204-3882
Jim Nieusma Zoning/Community Development	Ligonier Township	JNieusma@LigonierTownship.com	724-238 2725 x 116
Melissa Fitch EHS Supervisor	DNP	M.fitch@dnp.ringcomm.com	724-696-8999
Angela Pallone Scottdale Borough Mgr	Scottdale Borough	scottdale.boro@zoominternet.net	724 887-8220
DAN LYNCH	PITT POLICE	dpl20@pitt.edu	724-836-9865

WESTMORELAND COUNTY HAZARD MITIGATION PLAN UPDATE
Planning Team Kickoff Meeting

SIGN-IN

Thursday, February 28, 2019 | 2:00 – 4:00 p.m.

NAME / TITLE	AGENCY / ORGANIZATION	E-MAIL ADDRESS	TELEPHONE
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ROBERT GERWICK	ALLEGHENY COUNTY	ROBERT.GERWICK@ALLEGHENYCOUNTY.US	412 337 0943
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JOE LAPIA	MANOR BORO	BOROMGR MANAGER@MANORBOROUGH.COM	724 864 2421
Erin Kopple Adams	SPC	ekopple@spcregion.org	—
Cory Ritter	General Carbide	critter@generalcarbide.com	
Joel D. Landis Director	Somerset County Department of Emergency Services	LandisjA@co.somerset.pa.us	814-445-1515
JEFF LANDRY OPS MNGR	ENTERPRISE PRODUCTS	JSLANDRY@EPROD.COM	281 639 0452
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Frank Murphy TR LT	west county prison	FMURPHY@CO.WESTMORELAND.PA.US	724-640-3769

WESTMORELAND COUNTY HAZARD MITIGATION PLAN UPDATE
Planning Team Kickoff Meeting

SIGN-IN

Thursday, February 28, 2019 | 2:00 – 4:00 p.m.

NAME / TITLE	AGENCY / ORGANIZATION	E-MAIL ADDRESS	TELEPHONE
Clyde Snyder	Tetra Tech	clyde.snyder@tetratech.com	724-516-0907
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THOMAS STEPHANIC	PENN WEST	tstephanic@pennwest1.ft.com	724-433-3682
Jonathan Cunkelman	Chestnut Ridge Foam	safety@CRFoam.com	724-825-3699
Patti Williams	Westmoreland Sanitary Landfill	pwilliams@nobleenviro.com	724-434-6276
elle Speicher	PennWest	espeicher@pennwest1.ft.com	724-696-2350
RALPH FURIN	SOUTH GREENSBURG E.M.C.	RSFURIN@HOT.COM	724-516-9002
Sandy Smythe	Washington Twp.	ssmythe@washingtontownship.com	724-571-7811
Tim PELLEGRINO	FIRESTONE Building Products	PELLEGRINOTIMOTHY@BFUSA.com	412-889-8517

WESTMORELAND COUNTY HAZARD MITIGATION PLAN UPDATE
Planning Team Kickoff Meeting

SIGN-IN

Thursday, February 28, 2019 | 2:00 – 4:00 p.m.

NAME / TITLE	AGENCY / ORGANIZATION	E-MAIL ADDRESS	TELEPHONE
Carl R Bollinger EMA Director	City of Latrobe	crbollsr2@netzero.net	724-433 5352
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JARRED SLATER SGT	PSP GREENSBURG	JSLATER@PA.GOV	724-832-3288
WILLIAM KELLY P.C.O.	PSP GREENSBURG		" "
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Brandon Rapp School Safety	Norwin SD.	brapp@norwinsd.org	724-493 9407
Jeff Kite WCART	WestmCART / PSART	[redacted] YuKonVFC@gmail	724-757 4335
Richard Capraun Principal CWCTC	Central Westmoreland CTC	RCAPRAUN@CWCTC.org	814-215 7762

MEETING NOTES

Meeting	Westmoreland County Hazard Mitigation Working Group (HMWG) Meeting		
Date	March 11, 2019	Time	9:00 – 10:50 a.m.
Location	Westmoreland County Department of Public Safety (WCDPS), 911 Public Safety Road, Greensburg, PA		
Attendees	Janaye Albright, Computer Aided Dispatching (CAD) Technician, WCDPS		
	Michael Bertolino, Chief of Finance and Administration, WCDPS		
	Mary Beth Eslary, Public Information Officer, WCDPS		
	Andrew Rzodkiewicz, All Hazards Planner, WCDPS		
	Kim Shuster, Geographic Information Systems (GIS)/CAD Supervisor, WCDPS		
	Christopher Tantlinger, Hazard Mitigation Officer, WCDPS		
	Rich Fender, Planning Coordinator, Westmoreland County Planning and Development Department		
	Lou Pochet, HMWG Member		
	Darlene Bracken, Pennsylvania Emergency Management Agency (PEMA) Western Area		
	Rick Love		
	Jeff Mayo		
	Clyde Snyder, Tetra Tech, Inc. (Tetra Tech)		
	Tony Subbio, Tetra Tech (via telephone)		

Discussion Points

This section summarizes each discussion point addressed during the HMWG Meeting.

Introductions

Mr. Tantlinger welcomed attendees to the meeting. Each attendee introduced herself/himself.

Hazard Profiles

Mr. Snyder reviewed the list of hazard profiles included in the 2015 version of the hazard mitigation plan (HMP). Mr. Tantlinger stated that the HMWG wants to keep all the hazards from the 2015 HMP.

Mr. Subbio asked which hazards the HMWG would like to add, if any, and pointed out that the opioid epidemic was discussed at the HMWG Kickoff Meeting and the Planning Team Kickoff Meeting. During the discussion of the opioid epidemic in Pennsylvania, it was reported that there has been a 50 percent decrease in overdose deaths compared to 2018 across the Commonwealth, and a 43 percent decrease in southwestern Pennsylvania. Narcan has been used successfully to prevent people from dying from an overdose. Members of the HMWG suggested expanding the hazard profile to include other narcotics as well, in the same way that the County established a Shale Gas Working Group instead of focusing only on the Marcellus Shale gas. The hazard being added to the HMP will be "Illicit Drug Use," to include opioids, methamphetamine, and cocaine. The HMWG discussed including marijuana but decided against it due to the lack of marijuana-related overdose deaths.

Westmoreland County experienced its highest recorded annual rainfall in 2018. Two dams experienced impacts from the rainfall. There was an attempt to have the County receive a disaster declaration based on ongoing precipitation.

There are no levees in the County, but there are structural flood control projects in place. Aliquippa did not have a flooding problem until the mall and a major development were built; Aliquippa now experiences stormwater flooding. In Derry Township, the Loyalhanna Creek flooded onto I-82. A bridge had to be rebuilt. There is a mobile home park along Pine Creek that floods regularly. The County would like the plan to include a project to reduce the impact of flooding there. During a September 2018 flood, a car was washed under a bridge, where it blocked the water.

Ms. Bracken inquired as to whether any municipalities submitted a letter of intent to apply for mitigation funding for DR-4408. Mr. Tantlinger reported that he asked every municipality if they wanted to apply for funding, but there was no interest.

There was an incident in Beaver Run related to over-pressurization of a natural gas well. Mr. Pochet will provide additional information to Tetra Tech about the incident. In addition, there was an incident in Allegheny County in which contractors were killed at a gas well site when their welding equipment caused an explosion of natural gas. Mr. Tantlinger reported that the County receives calls to the 911 center weekly about natural gas equipment failure, resulting in the distribution lines being shut off. There is no mercaptan infused in the natural gas from the well to the midstream line to the distribution line, so the leaking gas has no odor. Mr. Tantlinger pointed out that Mr. Pochet will be very important in providing information on hazardous materials incidents for analysis in the Environmental Hazards profile.

Mr. Fender stated that when a developer submits a development proposal, the developer is supposed to have researched pipelines on the site and include identifying the pipelines in the subdivision proposal. Mr. Tantlinger stated that there have been close to 500 natural gas infrastructure permits in the County in the last 10 years. He also pointed out that the County's first power generation facility, Tenaska Westmoreland, a natural gas-fueled facility, has begun operation, and this needs to be reflected in the HMP.

HMP Review

Mr. Tantlinger reported that the Borough of Smithton noticed that it was not shown on the WCDPS website as having adopted the 2015 HMP. The Borough provided a copy of its adoption resolution.

Mr. Tantlinger also reported that the DPS website includes a project submission form page and that Washington Township submitted a mitigation project in June 2016. Mr. Tantlinger reported that he asked Washington Township officials to update the project and resubmit it. Mr. Subbio will have a link to the project submission form added to the project website.

Mapping

Mr. Tantlinger described the GIS Working Group led by Ms. Shuster. The GIS Working Group includes Ms. Shuster and GIS staff from the GIS Department, 911 Center, and Planning and Development Department. The GIS Working Group is integrating the GIS capabilities of the County.

Mr. Subbio asked about some GIS layers that are vital to the planning effort. DPS has a list of Tier II facilities, but the list comes from the Pennsylvania Department of Labor and Industry database, not local data. The

County has a list of addresses for municipal emergency operations centers, which are usually in the municipal halls. The County does not have a list of municipal buildings or public works facilities readily available. Mr. Subbio explained that these point features are incredibly important to be able to conduct the risk assessment.

Best Practices

Mr. Tantlinger described a Citizens Workshop that was conducted on February 19, 2019. Several attendees from the workshop came to this HMWG Meeting to learn more about the group and mitigation. Mr. Love and Mr. Mayo, two of these attendees, introduced themselves. Another workshop is scheduled for March 19, 2019.

Mr. Tantlinger distributed the Granite Falls Mitigation Minutes and asked everyone to review the document.

Ms. Eslary posted on Facebook a request for residents to provide information about the hazards they face.

Plan Maintenance

Mr. Snyder and Mr. Subbio led a discussion of how the HMP would be maintained over the next five years.

- Mr. Tantlinger will continue to be the Hazard Mitigation Coordinator.
- The HMWG met often since the 2015 HMP was approved. Mr. Tantlinger will send meeting notes to Mr. Subbio. The HMWG will continue to meet after the updated HMP is approved.
- Hazard events are logged in Knowledge Center and the 911 CAD system. Mr. Rzodkiewicz will send Mr. Subbio the list of incidents.
- The HMWG has tracked mitigation actions implemented in the municipalities. The only action was that there was one request to buy out a residence.
- Based on attendance at the Planning Team Kickoff Meeting, the HMWG expects to see more participation by municipalities and more grant applications for project implementation. Lack of municipal funding to meet the non-federal match requirements of the Federal Emergency Management Agency's (FEMA) mitigation grants is a major hurdle to project implementation.
- All meetings of the municipal emergency management coordinators have included a discussion of hazard mitigation. Ms. Eslary provides mitigation information to groups with which she works; she will provide Mr. Subbio a list of outreach meetings she has conducted.
- The Westmoreland County Comprehensive Plan was recently updated and is titled *Reimagining Westmoreland*. It was adopted by the County Commissioners on December 20, 2018. During the planning process, DPS asked that public safety information be added to the plan. The comprehensive plan also includes a section on capital improvement projects with budgets over $100,000.
- The County has not developed or submitted HMP progress reports to PEMA.

Next Steps

- The next meeting of the municipal emergency management coordinators is March 27, 2019 at 7:00 p.m. Mr. Subbio will send Mr. Tantlinger information for that meeting.
- The HMWG will discuss county and municipal mitigation capabilities at the next HMWG Meeting, scheduled for April 8, 2019.

AGENDA
HAZARD MITIGATION WORKING GROUP

March 11, 2019@0900

Introductions:

Conference Call participants:

412-244-3700 5013# Please identify yourself and place your phone on mute.

None

Review:

Hazard Mapping:

Best Practices in Mitigation:

Hazards & Mitigations:

Next Meeting & Location:

April 8, 2019 0900-1000 Westmoreland County Department of Public Safety Conference Room

3/8/2019 updated

Hazard Mitigation Working Group
Monthly Meeting

Last Name	First Name	Title	Representing	E-Mail	Signature
Ashton	Jack	Asst. Manager	MAWC	jashton@mawc.org	SIGN HERE
Bertolino	Michael	FIN/ADMIN Chief	WCDPS	mbertoli@co.westmoreland.pa.us	SIGN HERE
Bova	Christopher	Planner	Gibson-Thomas	Chris.bova@gibson-thomas.com	SIGN HERE
Bracken	Darlene	EM Specialist	PEMA	dbracken@pa.gov	
Cramer	Ron	LEMC	New Alexandria	navfd@hotmail.com	SIGN HERE
Downs	Jeff	Representative	West Penn Power	jdowns@firstenergycorp.com	SIGN HERE
Eslary	Mary Beth	PIO	WCDPS	meslary@co.westmoreland.pa.us	SIGN HERE
Fender	Rich	County Planning	WCDPS	rfender@co.westmoreland.pa.us	
Good	Gene	SPGC	WCDPS	egood@co.westmoreland.pa.us	SIGN HERE
Keefe	Ellen	Member	WC Cleanways	ekeefe@westmorelandcleanways.org	SIGN HERE
Knox	Dave	LEMC	Upper Burrell	knoxda@gmail.com	SIGN HERE
Komondor	Gene	Planner	Red Cross	Gene_Komondor@redcross.org	SIGN HERE
Kopas	Ted	Commissioner	WC	fkopas@co.westmoreland.pa.us	SIGN HERE
Matason	Richard	Member	NHT	richm1709@comcast.net	SIGN HERE
Mertz	Roland	Director	WCDPS	rmertz@co.westmoreland.pa.us	SIGN HERE
Pillsbury	Jim	Member	NRCS	jim@wcdpa.com	SIGN HERE
Pochet	Lou	Member	Greensburg	lfpochet@hotmail.com	
Pologruto	Anthony	GIS Analyst	MAWC	apologruto@mawc.org	SIGN HERE
Rzodkiewicz	Andrew	All Hazards Planner	WCDPS	arzodkie@co.westmoreland.pa.us	SIGN HERE
Snyder	Clyde	Planner	TetraTech	clyde.snyder@tetratech.com	SIGN HERE
Albright Mayo	Janaye Jeff	CAD Technician Retired FAM	WCDPS	JALBRIGH@co.westmoreland.pa.us torgav@yahoo.com	

As of 3/8/2019

3/8/2019 updated

Hazard Mitigation Working Group
Monthly Meeting

Last Name	First Name	Title	Representing	E-Mail	Signature
Stepanovich	Scott	Deputy Director	WCDPS	sstepano@co.westmoreland.pa.us	SIGN HERE
Tantlinger	Christopher	HMO	WCDPS	ctantlin@co.westmoreland.pa.us	SIGN HERE
Walter	Cynthia	Member	Greensburg	walter.atherton@gmail.com	SIGN HERE
Wright	William	Deputy Chief	Firefighting	wr521@msn.com	SIGN HERE
Zambelli	Matt	GIS Green Infr Spec	WCDPA	matt@wcdpa.com	SIGN HERE
Shuster	Kim	GIS/CAD Supvr	WDPS	kshuster@co.westmoreland.pa.us	SIGN HERE
~~Fender~~	~~Rich~~	~~Planning Coordin~~			SIGN HERE
					SIGN HERE
					SIGN HERE
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As of 3/8/2019

WESTMORELAND COUNTY DEPARTMENT OF PUBLIC SAFETY

LOCAL EMERGENCY COORDINATORS BI-MONTHLY MEETING

9-1-1 / EOC 911 Public Safety Road, Greensburg PA 15601

Wednesday, March 27, 2019 - 7:00 P.M.

AGENDA & CHECKLIST

1. **PUBLIC SAFETY UPDATES**
   - **A. Directors Report**
     - **Chief of Technology & Pilot 9-1-1 Protocols briefings**
   - **B. Public Information Officer/Community Outreach Coordinator – Mary Beth Eslary**
     - **First Responder Suicide/PTSD Outreach**
     - **Outreach & VOAD updates**
   - **C. All Hazards Planner – Andrew Rzodkiewicz**
     - **Report on current projects**
2. **EMERGENCY MANAGEMENT**
   - **A. Topics**
     - **Local Elected Official's Seminar 5/22/2019 (Next Meeting)**
     - **Marine 800 arrival**
   - **B. Hazard Mitigation**
     - **2020 HMP MHMJ Update – Strategy**
     - **Evaluation of Identified Hazards & Risks**
   - **C. Coordinators**
     - **Reports and comment**
   - **D. Exercises/Training**
     - **2019 AHX PEMA**
     - **SARA Summit April 24, 2019**
     - **Child Government Day May 10, 2019**
     - **ALICE Training May 15, 2019 SVC**
3. **WEATHER**
   - **A. Outlook-NWS Spring update**
     - **Outlook for Spring & Summer**
     - **Weather Ambassador handout**
     - **StormReady renewal 5/19**

NEXT MEETING: WEDNESDAY, May 22, 2019, 0900hrs Westmoreland County Community College
Phone: 724-600-7300

Westmoreland County Department of Public Safety-First Hour Considerations for Elected Officials

Purpose: These First Hour Considerations will help elected and appointed officials assess what has happened during the first hour of a major event and make decisions concerning what actions need to be taken to help protect life, property, and the environment.

Immediate Actions for any Incident

1. Gain Situational Awareness
2. Determine Response Status
3. Review Status of Initial Protective Actions
4. Consider Additional Protective Actions
5. Evaluate Public Information Needs

1. Situational Awareness

- If an incident occurred, what happened, including where and when?
- What kind of incident (natural disaster, accident, terrorism)?
- Estimated injuries/fatalities?
- Estimated damage to or status of critical infrastructure (transportation, power, medical, water, communications, cyber, chemical)?
- Estimated duration of incident?
- If incident has not occurred, what is latest information/intelligence about threats? What is the potential impact? What is the expected timeframe?

2. Response Status

- Who is leading the response or investigation?
- What assets/agencies are on-scene, available, or needed?
- What is the threat status and/or emergency declarations status (federal, state, local)?

3. Initial Protective Actions (Schools, Workforce, and Transportation)

- Have any initial protective actions occurred for **schools** (e.g. lockdown)?
- Have any initial protective actions occurred for **citizens** and the **workforce** (e.g. shelter in place or evacuate)?
- How have special needs populations and pets been addressed?
- Have any initial protective actions occurred for **transportation** (e.g. public transportation operational, tolls suspended)?
- What schools, hospitals, other congregate care facilities, hospitals, and/or workforce facilities are in the hazard area?

4. Additional Protective Actions and who should be involved in these discussions.

- What additional protective actions may be needed to protect affected general public, schools, workforce, critical infrastructure, etc?
- Evacuation, shelter in place, quarantine, school/work dismissal, cancellation of public meetings, closing of government facilities, closing of roads.
- How to prepare?
- Activate emergency operations centers and joint information centers; inform health services sector, mass care facilities, transportation assets; request mutual aid; issue public advisories.
- What considerations should be included when making protective action decisions?
- For a threat or hazard with a large area impact, consider shelter in place or partial or full-scale evacuation of potentially impacted area.
- For a threat or hazard with a local impact area, consider shelter in place or local evacuation unless addressed below.
- For a short air release of a toxic chemical (e.g., brief plume), consider shelter in place initially downwind of release.
- For a long air release of a toxic chemical (e.g., continuous leak), consider local evacuation downwind of release.
- For an explosion, consider evacuating the impacted area and secondary devices.
- For infectious contamination, depending on type, consider quarantine, requesting the strategic national stockpile, and/or mass prophylaxis.
- For a dirty bomb, consider sheltering initially and then evacuation of people downwind.
- For flooding, consider evacuation of impacted area.

5. Public Information

- What should be communicated, when, how, and by whom?
- What information has been communicated to the general public/schools/workforce, and is the message uniform and consistent across all jurisdictions involved?
- First hour summary statement can be filled in with details gathered in Sections 1 – 3.

[An incident] has occurred in [jurisdiction]. [Local, County, State, Federal officials and agencies] are [responding to/managing the incident]. At this time, [we] are asking individuals who live or work in the area to [shelter-in-place/evacuate] and monitor local radio and television stations for further information and instructions. Schools and daycare facilities throughout the impacted area are [locked down. Students will not be released until the situation has been fully assessed.]

Evacuation Statement.

The emergency management agency of [insert jurisdiction] is directing all people in the area of [identify areas] to immediately evacuate. [Insert incident] has occurred and residents in this area are in immediate danger. Residents should leave via the following route(s). [Identify streets/roads to use]. Shelters have been opened at [identify shelter locations]. Residents needing emergency transportation should [call / go to] [identify emergency transportation number or assembly location]. Do not drive through barricades or off-limit areas. Do not go to your children's school or day care center. They will probably be evacuated by the time you get there. Public safety officials are requesting residents to follow these instructions immediately and drive safely. Tune to local radio stations and follow message signs while driving for more information. Please make sure your neighbors, homebound people, latchkey children, and mobility impaired neighbors are aware of this bulletin and assist them if possible.

Weather-Ready Nation
Ambassador Application

Organization Title: _____ Phone Number: _____

First Name: _____ Email Address: _____

Last Name: _____ Website: _____

Contact's Position Title: _____

Organizational Relationship
Do you currently have a relationship with NOAA/NWS?
If **yes,** please provide NOAA/NWS contact name and office and nature of partnership. If **no**, is your organization at the national, regional, state, or local scale?

Yes: _____ No: _____

Organization Zip Code
This information is being used to determine the appropriate NOAA office for your organization.

Zip Code: _____

Please check the option that best applies to your organization

- ☐ Government Agency
- ☐ Academia
- ☐ Weather, Water, Climate, Environmental Info. Provider
- ☐ Media
- ☐ Corporate and Small Business
- ☐ Non-Profit, Association or NGO
- ☐ Education/Outreach
- ☐ Other:

WRN Ambassador Commitment
Please check all four boxes to accept the WRN Ambassador responsibilities for your organization.
On behalf of your organization, you commit to performing the four actions below as a recognized Weather-Ready Nation Ambassador:

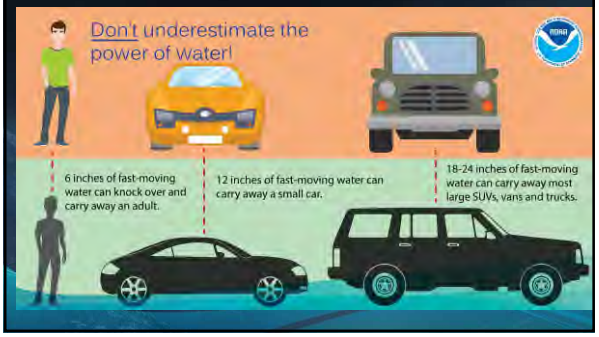
THANK YOU!
For doing your part to make our nation Weather-Ready

- ☐ Promote Weather-Ready Nation messages and themes to your stakeholders.
- ☐ Engage with NOAA personnel on potential collaboration opportunities.
- ☐ Share your success stories of preparedness and resiliency
- ☐ Serve as an "Example" by educating employees on workplace preparedness and encouraging personal preparedness at home.

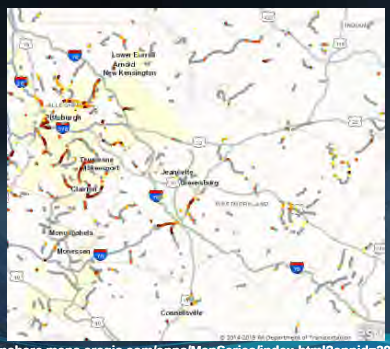
Westmoreland County Emergency Coordinator Training

3/27/2019

Power Of Water

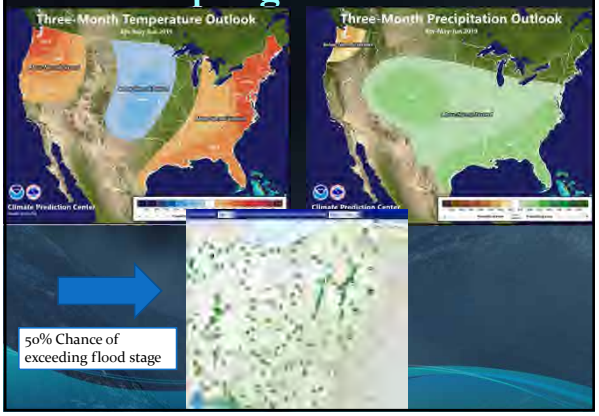


Do you know your hot spots?



- http://pennshare.maps.arcgis.com/apps/MapSeries/index.html?appid=29bf9f06045f47feb9888193674f8a95

Spring Outlook



Weather Ready Nation Ambassador

More Information

- Fred.mcmullen@noaa.gov
- 412-262-1882
- Weather.gov/pittsburgh
- @NWSPittsburgh
- Facebook/NWSPittsburgh

Every other month through November – Hazard Mitigation Plan Update Public Meetings (5)

January 9th – Hempfield School Safety Meeting

January 16th– Yough School Safety Meeting

January 23rd - Local Coordinators Meeting

January 24th – WCVOAD Meeting
January 30th – School Safety & Security Coordinators Meeting at the IU

January 30th – Knowledge center training for the schools ~Chris & Rocky~

January 30th – Belle Vernon School Safety Meeting ~MB~

January 31st – Mon Valley Area Opioid Coalition Meeting ~MB~

February 4th, 5th and 6th– Traumas of Law Enforcement ~MB & CHRIS~

February 7th – WCCC occupational advisory board meeting & Digital camera class at WCCC every Thursday in February ~MB~

February 11th- Hazard Mitigation Working Group Meeting

February 12th – BVPS post plume ingestion ttx exercise/training Aliquippa

February 19th - Hazards Workshop for Citizens (2)
February 20th – School Safety & Security Coordinators Meeting

February 20th- WIU Franklin Regional presentation

February 20th – LEPC Meeting 1900hrs

February 21st & 22nd - Excel training

February 26th & 27th – PEMA in Service Training

March 11th- Hazard Mitigation Working Group Meeting

March 12th & 13th – ALICE Instructor Certificate Training ~ MB & Rocky

March 14th – Regional VOAD meeting ~MB~

March 18th-WCDPS After Action Meeting

March 19th - Hazards Workshop for Citizens

March 20th -Southwest PA Oil and Gas Emergency Management Alliance~ Chris/Rocky

March 20th- Airport Table top

March 21st – Crabtree Meeting

March 23rd – Keynote speaker Waterford F.H. ~ MB~

March 25th-Region 13 Agriculture Meeting

March 26th- PEMA Statewide All Hazards Exercise

March 26th- Conemaugh Loyalhanna Dam Meeting

March 27th-IU Safe Schools Meeting

March 27th – LEMC bi-monthly meeting

March 28th-Career Day GBG Salem~MB~

March 30th-March for Parks

April 7th -10th – PA APCO Annual Spring Conference Keynote speaker ~ MB~

April 8th- Sewickley Twp/Hazmat/911 Tour

April 12th-Ligonier YMCA Preparedness

April 13th-TANASKA Walkthrough

April 15th-WC VOAD Meeting

April 16th-Smail Preparedness Active Shooter

April 18th- Smail Preparedness Active Shooter

April 24th - SARA Summit

April 24th- Hempfield Safety Meeting

May 7th-8th- G290 Basic PIO Training-Rocky

May 10th Child Government Day

May 15th - ALICE Training SVC

May 15th – LEPC 1300hrs

May 22nd - Local Elected Official Seminar & LEMC bi-monthly meeting

May 25th & 26th – Airshow

June 13th – Regional VOAD Meeting

June 13th-16th- IAFC Baltimore Hazmat Conference-Chris

June 17th-20th-NHSC Phoenix

June 15th - CBRNE Boat Training

July 24th - LEMC bi-monthly meeting

July 30th- G271 Hazardous Weather and Flooding Preparedness -Rocky

August 17th - Hazmat Joint Exercise

August 21st – LEPC 1300hrs

September 25th - LEMC bi-monthly meeting

November 20th – LEPC 1300hrs

November 20th - LEMC bi-monthly meeting

November 30th - Hazard Mitigation Plan update

November 30th - Hazmat Recertification

Hazard Identification and Risk Evaluation Worksheet

Name: _____ Title: _____

Jurisdiction: _____

PART I

Identified Hazards 2015 HMP	How has the frequency of occurrence, magnitude of impact, and/or geographic extent changed in your community? *NC = No Change; I = Increase; D = Decrease* *(Please provide an explanation for any hazards marked I or D in the "Additional Comments" column)*	Additional Comments
Natural Hazards		
Avalanche		
Drought		
Earthquake		
Extreme Temperatures		
Floods, Flash Floods, and Ice Jams		
Hailstorm		
Hurricane		
Landslide		
Lightning		
Radon Exposure		
Subsidence, Sinkhole		
Tornado, Windstorm		
Wildfire		
Winter Storm		

Identified Hazards 2015 HMP	How has the frequency of occurrence, magnitude of impact, and/or geographic extent changed in your community? *NC = No Change; I = Increase; D = Decrease* *(Please provide an explanation for any hazards marked I or D in the "Additional Comments" column)*	Additional Comments
Human-made Hazards		
Dam Failure		
Environmental Hazards		
Nuclear Incident		
Structural Fire		
Terrorism		
Transportation Accident		
Utility Interruption		

PART II

Other Hazards:

Do any of these hazards, not previously profiled in the County's hazard mitigation plan; have the potential to affect your municipality significantly? (If so, please check the box)

Natural

- ☐ Coastal Erosion
- ☐ Dust, Sand Storm
- ☐ Expansive Soils
- ☐ Invasive Species
- ☐ Pandemic
- ☐ Tsunami
- ☐ Volcano

Human-Caused

- ☐ Building or Structure Collapse
- ☐ Civil Disturbance
- ☐ Disorientation
- ☐ Drowning
- ☐ Levee Failure
- ☐ Mass Food/Animal Feed Contamination
- ☐ War and Criminal Activity

Other Comments:

DRAFT AGENDA

9th SARA SUMMIT 2019

Summit Agenda

Public Safety Training Center, Smithton PA

Westmoreland County Community College

EPCRA / SARA Title III / PA ACT 165
Facility Emergency Coordinator Summit
Wednesday, April 24, 2019

8:30 am - 9:00 am		**Registration** - Continental Breakfast - **Registration** DPS Staff
9:00 am - 9:05 am	Presentations	**Welcome - Westmoreland County Department of Public Safety** **Les Harvey, LEPC Chairperson**
9:05 am - 9:50 am		***SARA Title III Compliance*** **- PENNSafe / Department of Labor & Industry** **Chief, Carol Freeman -** *confirmed* www.dli.state.pa.us
9:50 am - 10:20 am		***Chemical Facility Anti-Terrorism Review*** **- DHS/CISA** **Supervisory Chemical Security Inspector, Garret J. Hansen -** ***Confirmed*** WWW.DHS.GOV/critical-infrastructure-chemical-security
10:20 am -10:35 am		Break-Network
10:35 am - 11:20 am		***Protective Measures for Current Threats, - DHS*** **Protective Security Advisor , Bob Winters -** www.dhs.gov
11:20 am - 12:00 am		***Incident Management Training at your Facility, MERP*** **- OneStar Consulting** **Facilitator - Gene Komondor** www.onestartraining.com

Lunch Break

1:00pm - 1:30 pm	Presentations	***Walking Tour, Public Safety Training Center*****- Westmoreland Community College** **PSTC Director, Marc Jackson -** https://westmoreland.edu/about/locations/public-safety-training-center/
1:30 pm - 1:45pm		***SPECIAL GUEST*** ***OSHA Briefing, Words from the Area Director - Chris Robinson, CSP*** www.osha.gov
1:45 pm - 2:30pm		**Response Exercise "VBIED at a Chemical Facility"- PSP, DHS, DPS, Hazmat** **Chris Tantlinger, Chief 800 -** www.wcdps.org
2:30 pm -2:45 pm		**Break Network**
2:45 pm - 3:30 pm		***Full Incident "Debriefing"*****- WCDPS Team 800** **PSP, DHS, DPS, Hazmat Leads -** www.wcdps.org

SPECIAL THANKS

MID-ATLANTIC FIRE & AIR

Safeguard RISK SOLUTIONS

ONE STAR
EMERGENCY MANAGEMENT TRAINING & EXERCISES

PENNSYLVANIA ASSOCIATION OF HAZARDOUS MATERIALS TECHNICIANS

Local Emergency Management Coordinators
Bi-Monthly Meeting
March 27, 2019
Westmoreland County Department of Public Safety Conference Room

	A	B	C	D	E	F	G
1	#	Municipality	Name	Email	Home Phone	Cell Phone	Signature
2	1	ADAMSBURG BOROUGH	Ronald Thompson	ronlin79@comcast.net	724-523-2171	724-433-2506	
3	2	ARNOLD, CITY OF	John Tedorski	tedorskisr@hotmail.com	724-339-9954		
4	3	ARONA BOROUGH	Walter Geiger	annlg429@yahoo.com	724-446-7090	724-600-6266	
5	4	AVONMORE BOROUGH	Donald Morgan	ezgoin2@comcast.net; avonmoreboro@yahoo.com		724-840-0814	
6	5	BOLIVAR BOROUGH	Bill Brett	beejbrett@gmail.com		724-762-9846	
7	6	DERRY BOROUGH	Steve Kozar	kozar41@verizon.net	724-694-5150	724-640-7994	
8	7	DONEGAL BOROUGH		dontwp@lhtot.com			
9	8	EAST VANDERGRIFT BOROUGH	Robert Baustert	ff102bobbyb@yahoo.com	724-882-6904	724-882-6904	
10	10	GREENSBURG, CITY OF	Les Harvey	lharvey@greensburgpa.org	724-836-7370	724-640-5558	
11	11	HUNKER BOROUGH	Daniel McKay	paintdan85@hotmail.com	724-600-9543	724-635-0415	
12	12	HYDE PARK BOROUGH	Nathan Baker	nbaker@lowerkiskiems.org		724-845-4931	
13	13	IRWIN BOROUGH	Robert Leuthhold	rleuthhold@comast.net		412-601-4158	Poly Com
14	14	JEANNETTE, CITY OF	Ryan Highlands	rhighlands260@yahoo.com	724-527-2397	724-331-5716	
15	15	LATROBE, CITY OF	Carl R. Bollinger	crboll52@netzero.net	724-539-1117	724-433-5352	Polycom
16	16	LIGONIER BOROUGH	Gene Stouffer	genestouffer@aol.com	724-309-6224		
17	17	LOWER BURRELL, CITY OF	John Jay Rockwell	emc@cityoflowerburrell.com	724-448-0165		
18	18	MADISON BOROUGH	Darren Achtzen	madboro@comcast.net	724-446-0582		
19	19	MANOR BOROUGH	Jeremy Dixon	jeremy.dixon@manorborough.com		412-612-4599	
20	20	MONESSEN, CITY OF	William N. Hess III	chief516@comcast.net		724-684-8911	
21	21	MOUNT PLEASANT BOROUGH	Gerald D. Lucia	glucia45@icloud.com	724-547-5123	724-640-4987	Gerald D. Lucia
22	22	NEW ALEXANDRIA BOROUGH	Ronald Cramer	newalexboro@yahoo.com; navfd@hotmail.com		724-787-4719	
23	23	NEW FLORENCE BOROUGH	Keith Boring	nfborough@winbeam.com; nf46chief@hotmail.com	724-235-2621	724-549-8976	

Local Emergency Management Coordinators
Bi-Monthly Meeting
March 27, 2019
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	A	B	C	D	E	F	G
24	#	Municipality	Name	Email	Home Phone	Cell Phone	Signature
25	24	NEW KENSINGTON, CITY OF	Kyle Freiberg	kwfreiberg@comcast.net	724-339-9695	724-448-6038	
26	25	DELMONT BOROUGH	David Weber		724-468-8852	412 817-8444	
27	26	NORTH BELLE VERNON BOROUGH	Michael Parzynski	msparzynski@comcast.net; lipparzynski@comcast.net	724-929-2465	724-640-5421	
28	27	NORTH IRWIN BOROUGH	Kyle Bryan	kyle.bryan@verizon.net	724-863-9775	724-433-8014	
29	28	OKLAHOMA BOROUGH	Adam Lockhart	hookturnr@aol.com		724-910-0568	
30	29	PENN BOROUGH	Randy Dreistadt	sixdreistadts@aol.com	724-527-6702	724-600-6495	
31	30	SCOTTDALE BOROUGH	Leslie Myers	Chief58@zoominternet.net		724-336-9995	
32	32	SMITHTON BOROUGH	Thomas Haynes	haynesthomas@msn.com	724-872-8677		
33	33	SOUTH GREENSBURG BOROUGH	Ralph Furin	rsfurin@aol.com	724-836-1058	724-516-9002	Ralph Furin
34	34	SOUTHWEST GREENSBURG BORO	Todd Brant	dtbrant24@comcast.net		724-217-3285	
35	35	SUTERSVILLE BOROUGH	George Neat	georgeneat12@gmail.com		724-633-2188	
36	36	TRAFFORD BOROUGH	John Elyas	eliyasj@comcast.net	724-856-8536	p	
37	37	VANDERGRIFT BOROUGH	Stephen E Potoka IV	Stepnen_potoka@unifirst.com	724-568-1004	724-882-3765	
38	38	WEST LEECHBURG BOROUGH	Gary Cline	garycline417@gmail.com	724-845-7995		
39	39	WEST NEWTON BOROUGH	Paul Williams	pcwilliamssr@comcast.net; wnbemadirector39@comcast.net	724-872-3135	724-323-4489	Paul C Williams
40	41	NEW STANTON BOROUGH	Robert Cammarata Jr.	rcammarata@myproscape.com	724-691-0644	724-309-5475	
41	42	ALLEGHENY TOWNSHIP	Lee Schumaker	schumaker@twp.allegheny.pa.us		724-591-4288	
42	43	BELL TOWNSHIP	Jeffrey Duffner	jduffner@horizonstables.net	724-882-1347		
43	44	COOK TOWNSHIP	Joshua Umbaugh	cooktwp@lhtc.net; jmu826@yahoo.com	724-593-0035		
44	45	DERRY TOWNSHIP	Terry Giannini	tgiannini@derrytownship.com	724-694-2414	724-640-0100	Polycomm
45	46	DONEGAL TOWNSHIP		dontwp@lhtot.com			
46	47	EAST HUNTINGDON TOWNSHIP	James King	kingff74@easthuntingdonvfd.com ; ehuntingdonema@yahoo.com		412-558-0241	
47	48	FAIRFIELD TOWNSHIP	Daniel Sowers	dsowers@fairfieldtwp.org	724-235-2365		

Local Emergency Management Coordinators
Bi-Monthly Meeting
March 27, 2019
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	A	B	C	D	E	F	G
48	#	Municipality	Name	Email	Home Phone	Cell Phone	Signature
49	50	HEMPFIELD TOWNSHIP	Anthony Kovacic	akovacic@hempfieldtwp.org		724-771-0637	
50	51	LIGONIER TOWNSHIP	John Beaufort	ibeaufort@zamias.net; john@beaufortservices.com	724-238-6579	814-525-2042	
51	52	LOYALHANNA TOWNSHIP	Donald Kelly	twpsec@comcast.net; veknod1969@yahoo.com	724-388-4060	724-388-4060	
52	53	MOUNT PLEASANT TOWNSHIP	Duane Hutter	mptduane@zoominternet.net	724-423-2463	724-433-1817	
53	54	NORTH HUNTINGDON TOWNSHIP	Gene Komondor	emc@nhtpa.us; genek19@comcast.net	724-864-3172	412-310-5180	
54	55	PENN TOWNSHIP	Paul Wersing	EMC@penntwp.org; wersingp@gmail.com	724-744-4887	724-454-5721	
55	56	ROSTRAVER TOWNSHIP	Ronald Olschon	olschon@verizon.net	724-872-8788	724-350-6209	
56	57	SALEM TOWNSHIP	Robert Rosatti	RRSSROSA@aol.com	724-834-0170	724-309-9365	
57	58	SEWICKLEY TOWNSHIP	Glenn Wees	emadirector@sewickleytownship.org	724-835-1855	412-491-6455	
58	59	SOUTH HUNTINGDON TOWNSHIP	Daniel Pergola Jr.	pergolacd@comcast.net	724-875-2741		
59	62	UPPER BURRELL TOWNSHIP	David Knox	emcupperburrelltwp@gmail.com	412-670-3044	724-327-0972	
60	63	WASHINGTON TOWNSHIP	Sandy Smythe	ssmythe@washingtontownship.org; mainesmythe@live.com	724-845-2167	724-393-7809	
61	64	YOUNGWOOD BOROUGH	Robert Coletta	boocoletta@hotmail.com	724-925-7602	724-771-0010	
62	65	LAUREL MOUNTAIN BOROUGH	Susan Crouse	winterset@verizon.net	724-238-6844	724-771-1852	
63	31/60	SEWARD BOROUGH	Phillip Ferris	PFerrisEMC@msn.com	724-235-2583	814-322-2371	
64	40/61	YOUNGSTOWN BOROUGH	Pete Tenerowicz	dir061@comcast.net	724-668-7063	724-787-1264	
65	49/9	EXPORT BOROUGH	Charles Tappe	ctappe@murrysvillegov.org	724- 309-2369		
66	60/31	SAINT CLAIR TOWNSHIP	Phillip Ferris	PFerrisEMC@msn.com	724-235-2583	814-322-2371	
67	49/9	MURRYSVILLE, MUNICIPALITY OF	Charles Tappe	ctappe@murrysvillegov.org	724- 309-2369		
68		EXPORT	BARRY DELISSIO	barry delissio@ [illegible]		412-848 1035	
69		SMITHTON	TOM HAYES	d [illegible]		724-944-6117	
70		WEST NEWTON	DON AUGUSTINE				
71		HEMPFIELD	JAMES SITAR	JSITAR@HEMPFIELDTWP			

Local Emergency Management Coordinators
Bi-Monthly Meeting
March 27, 2019
Westmoreland County Department of Public Safety Conference Room

Last Name	First Name	Title	ORG	E-Mail	Phone #	Signature
Mertz	Bud	Director	WCDPS	rmertz@co.westmoreland.pa.us	724-600-7301	
Stepanovich	Scott	Deputy Director	WCDPS	sstepano@co.westmoreland.pa.us	724-600-7302	
Fontana	Henry	Chief Park PD	WCDPS	hfontan1@co.westmoreland.pa.us	724-830-3469	
Good	Gene	OPS Chief	WCDPS	egood@co.westmoreland.pa.us	724-600-7306	
Burke	Mike	Deputy OPS Chief	WCDPS	mburke@co.westmoreland.pa.us	724-600-7310	
Tantlinger	Chris	PLN Chief	WCDPS	ctantlinger@co.westmoreland.pa.us	724-600-7349	
Hobaugh	Bill	LOG Chief	WCDPS	whobaugh@co.westmoreland.pa.us	724-600-7387	
Bertolino	Michael	FIN/ADMIN Chief	WCDPS	mbertolin@co.westmoreland.pa.us	724-600-7319	
Chew	Nicole	QA Supv	WCDPS	nchew@co.westmoreland.pa.us	724-600-7311	
Polinsky	Tanya	QA Instructor	WCDPS	tpolinsk@co.westmoreland.pa.us	724-600-7375	
Eslary	Mary Beth	PIO COC	WCDPS	meslary@co.westmoreland.pa.us	724-600-7305	
Rzodkiewicz	Andrew	All Hazards Planne	WCDPS	arzodkie@co.westmoreland.pa.us	724-600-7314	
Taylor	Marc	COM Specialist	WCDPS	mtaylor1@co.westmoreland.pa.us	724-600-7320	
		Tech Chief	WCDPS			
Shuster	Kim	CAD/GIS Supv	WCDPS	kshuster@co.westmoreland.pa.us	724-600-7313	
Albright	Janaye	CAD Tech	WCDPS	jalbright@co.westmoreland.pa.us	724-600-7374	
Permuko	Michelle	Admin	WCDPS	mpermuko@co.westmoreland.pa.us	724-600-7303	
Kovry	Christian	Supvr	WCDPS			

Subbio, Tony

From: Snyder, Clyde
Sent: Tuesday, April 9, 2019 12:51 PM
To: Subbio, Tony
Subject: RE: Westmoreland HMP - meeting today

Tony,
The meeting went well sorry I did not get to you yesterday but was having trouble getting on to outlook finally got it going this morning. I took the questions you sent and turned that into a report (attached) and made copies for all attendees. As a result you should be receiving info from participants. Here are my notes:

1. Chris Tantlinger was out of town and Andrew "Rocky" Rzodkiewicz Hazmat Planner conducted the meeting. Diane Bracken from PEMA and a gentleman from Latrobe Municipal Authority called in.
2. Gave report from Tt as a result Jim Pillsbury (Conservation District) is sending a map showing hazard areas throughout county particularly flooding. Map has dots when you click on dot it gives you info on the hazard.
3. Discussed community meeting recently held in Crabtree concerning chronic flooding in the community. It was a good meeting to pinpoint problems and start working on a solution. It was also mentioned that Crabtree is the largest area in the county without sanitary sewers. Problem is the town is located in three municipalities (Hempfield, Unity and Salem Townships). Three years ago the Sewer Authority discussed placing sewers in the area but never followed up.
4. Rich Fender from Westmoreland County Planning will be sending you the info you asked for in the questions. I ask him to copy me so that I know you got it.
5. The second session held at University of Pittsburgh went well they had 15 citizen attendees. Right now are working on details to take this session on the road. I mentioned that it would be a good idea to follow up with all attendees with an update on the Mitigation process. It is good to connect with these citizens but need to keep communications open so they do not feel let out of the process. Group thought that was a good idea.
6. Jim Pillsbury mentioned that the county has not approved the new Stormwater Management Plan and probably will not approve and adopt till the end of May. I explained to Jim that we are on a deadline and could we get an interim copy to review? He had no problem with that and said there will be little change in the document when adopted so he is sending it to us.
7. I think we need to send our contact info to the entire working group for future reference, is that possible?
8. They asked Diane Bracken if she had any comment and she said: "No comment just keep doing the great job the county and Tetra Tech are doing! Westmoreland County is always one of the best and can be counted on to do a good job."

That is about it hopefully we will get the info we asked for.

Clyde

From: Subbio, Tony
Sent: Monday, April 08, 2019 8:53 PM
To: Snyder, Clyde <Clyde.Snyder@tetratech.com>
Subject: Westmoreland HMP - meeting today
Clyde,

How did today's meeting go? Could you please send me your notes? Thanks!

Tony Subbio, CEM, CFM, PMP | Emergency Management Specialist
Direct **+1 (717) 839-5654** | Business **+1 (717) 545-3580** | Mobile **+1 (717) 856-4290** | Fax **+1 (717) 545-3062** |
tony.subbio@tetratech.com

Tetra Tech | Complex World, Clear Solutions™ |
2400 Park Drive, Suite I | Harrisburg, PA 17110 | tetratech.com

12/17/2018 Updated

Hazard Mitigation Working Group
Monthly Meeting

Last Name	First Name	Title	Representing	E-Mail	Signature
Ashton	Jack	Asst. Manager	MAWC	jashton@mawc.org	SIGN HERE
Bova	Chris	Deputy Dir.	WC Planning	cbova@co.westmoreland.pa.us	Poly Comm
Bracken	Darlene	EM Specialist	PEMA	dbracken@pa.gov	Polycomm
Mertz	Bud	Director	WCDPS	rmertz@co.westmoreland.pa.us	SIGN HERE
Cramer	Ron	LEMC	New Alexandria	navfd@hotmail.com	SIGN HERE
Downs	Jeff	Representative	West Penn Power	jdowns@firstenergycorp.com	SIGN HERE
Stepanovich	Scott	Deputy Dir.	WCDPS	sstepano@co.westmoreland.pa.us	SIGN HERE
Keefe	Ellen	Member	WC Cleanways	ekeefe@westmorelandcleanways.org	SIGN HERE
Knox	Dave	LEMC	Upper Burrell	knoxda@gmail.com	SIGN HERE
Kopas	Ted	Commissioner	WC	fkopas@co.westmoreland.pa.us	SIGN HERE
Matason	Richard	Member	NHT	richm1709@comcast.net	SIGN HERE
Pillsbury	Jim	Member	NRCS	jim@wcdpa.com	[illegible]
Eslary	Mary Beth	PIO/COC	WCDPS	meslary@co.westmoreland.pa.us	SIGN HERE
Good	Gene	Operations Chief	WCDPS	egood@co.westmorelnad.pa.us	SIGN HERE
Bertolino	Michael	Finance/Admin	WCDPS	mbertoli@co.westmoreland.pa.us	SIGN HERE
Tantlinger	Christopher	HMO	WCDPS	ctantlin@co.westmoreland.pa.us	SIGN HERE
Rzodkiewicz	Andrew	All Hazards Planne	WCDPS	arzodkie@co.westmoreland.pa.us	SIGN HERE
Walter	Cynthia	Member		walter.atherton@gmail.com	SIGN HERE
Pochet	Lou	Member		lfpochet@hotmail.com	SIGN HERE
Snyder	Clyde	Member	Tetratech	clyde.snyder@tetratech.com	SIGN HERE

As of 4/8/2019

12/17/2018 Updated

Hazard Mitigation Working Group
Monthly Meeting

Last Name	First Name	Title	Representing	E-Mail	Signature
Shuster	Kim		WCDPS		Kim Shuster
ALBRIGHT	Jennaye		WCDPS		SIGN HERE
Fender	Rich		WC Planning		SIGN HERE
					SIGN HERE
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As of 4/8/2019

Westmoreland County Department of Public Safety, 911 Public Safety Rd, Greensburg PA

Elected Officials & Public Safety SEMINAR
May 22, 2019

The Westmoreland County Department of Public Safety that operates the Enhanced 9-1-1 and County Emergency Operations Center will be conducting a seminar on timely public safety programs, a catastrophic incident case study, and critical information on disaster and emergency response. The seminar provides elected officials and public safety personnel one on one discussion and networking opportunities. Key stakeholders and professionals with unique insight into how the mission of public safety encompasses everything, everyday, will be on hand to provide short presentations with a disaster table top exercise to wrap up the day.

Presenters include Pennsylvania Emergency Management Agency, Local Fire Chief, Public Safety Training Center, West Penn Power, County Public Safety, Local Officials will all be on hand.

PLEASE NOTE: Continental Breakfast Provided at Registration 8:30-9:00

Morning Track	**9:00 - 12:00**	**FULL LUNCH WILL BE PROVIDED by WCCC Culinary Program**
Afternoon Track	**1:00 - 3:30**	
Table Top Exercise	**3:30 - 4:00**	

Contact Michelle Permuko @ 724-600-7303 for registration

RSVP 5/15/19 email - mpermuko@co.westmoreland.pa.us

Location: Westmoreland County Community College, 145 Pavilion Lane, Commissioners Hall 2112 Youngwood, PA 15697

Questions: Contact Christopher Tantlinger, Deputy Emergency Management Coordinator, Westmoreland County Department of Public Safety 724-600-7349 ctantlin@co.westmoreland.pa.us

Director of Public Safety – Roland "Bud" Mertz / Deputy Director of Public Safety – Scott Stepanovich

ANNUAL EMERGENCY MANAGEMENT SEMINAR FOR LOCAL ELECTED OFFICIALS & PUBLIC SAFETY OFFICIALS

May 22, 2019
Registration 8:30 A.M.

REGISTRATION FORM

JURISDICTION / AGENCY/BUSINESS NAME:

_____

PLEASE LIST NAMES OF ATTENDEES:

Name	E-Mail

PLEASE RETURN THIS FORM TO THE DEPARTMENT OF PUBLIC SAFETY AT:

Mail: 911 Public Safety Road, Greensburg, PA 15601

Fax: (724) 600-7388

E-Mail: mpermuko@co.westmoreland.pa.us

PLEASE RSVP BY May 15, 2019

Seminar Agenda

Local Elected Officials Seminar 2019

Commissioners Hall

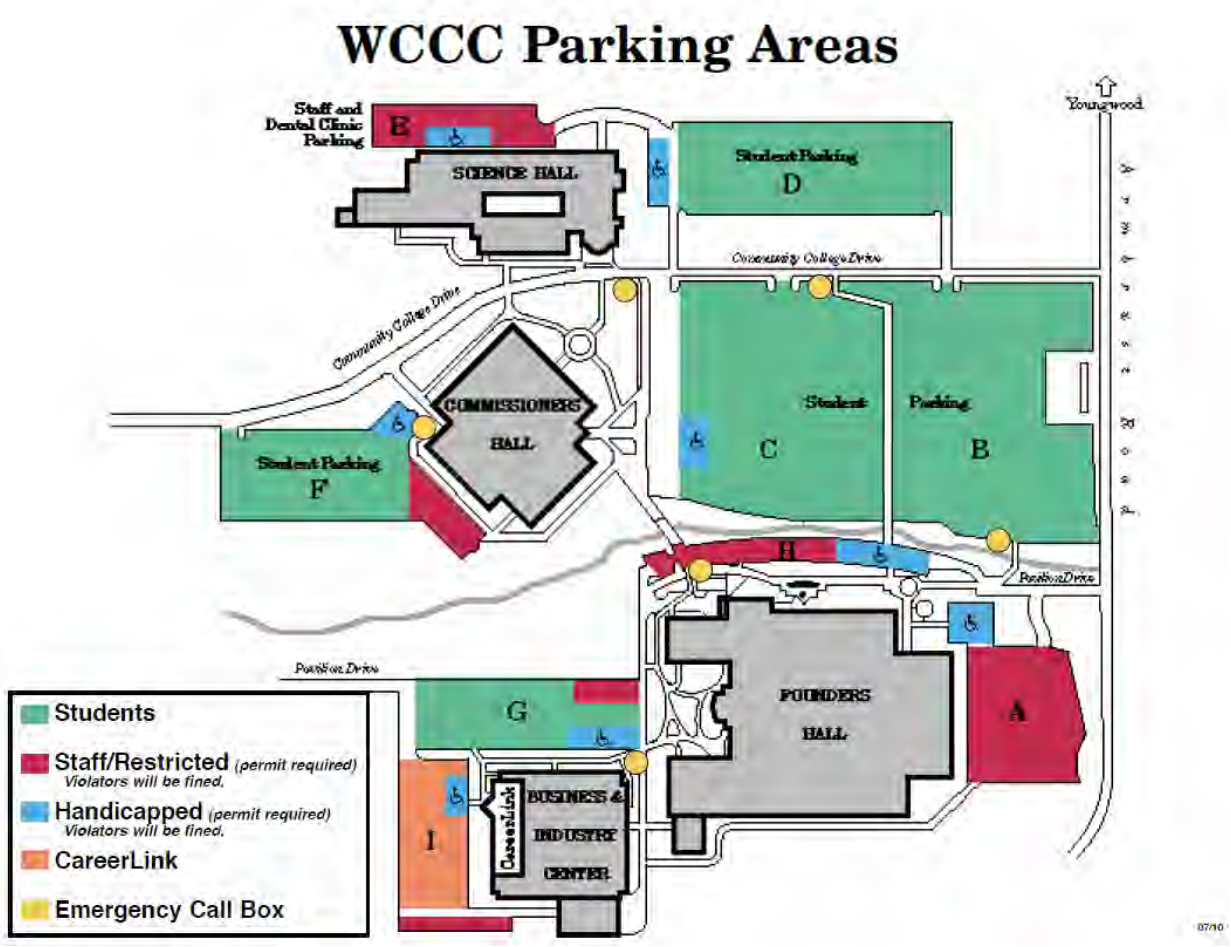
Title 35 Emergency Management
Department of Public Safety Seminar
Wednesday, May 22, 2019

Morning Track

8:30 am - 9:00 am		**Registration** - Continental Breakfast - **Registration** DPS Staff
9:00 am - 9:05 am	Presentations	**Welcome - Westmoreland County Commissioners** **Department of Public Safety Director, Roland "Bud" Mertz**
9:05 am - 10:00am		***Multi-Hazard Multi-Jurisdiction Hazard Mitigation Plan Update*** **Chris Tantlinger - WCDPS Hazard Mitigation Officer** http://www.westmorelandcountyhmp.com (plan website)
10:00 am - 11:00 am		***Salem Pipeline Explosion*** **Bob Rosatti - Fire Chief / Local Emergency Management Coordinator** https://bit.ly/2UjKSCz
11:00 am -11:10 am		**Break-Network**

Mid-Morning Track

11:10 am - 12:00 pm		***9-1-1 Emergency Call Taking Protocols*** **Tanya Polinsky - WCDPS QA Instructor** www.wcdps.gov
12:00 pm - 1:00 pm		**LUNCH Break**
1:00 pm - 1:45 pm		***9-1-1 Response Plans in your Jurisdiction*** **Bud Mertz, Gene Good - WCDPS Director & 9-1-1 Operations Chief** www.wcdps.gov
1:45 pm - 2:50 pm		***SBA Overview and Exercise*** **William Spencer - PEMA WAO Assistant Director** readypa.gov
2:50 pm - 3:00 pm		**Break-Network**
3:00 pm - 3:30 pm		***First Energy-West Penn Power Safety and Rebate Program*** **Dave Omatick - Regional External Affairs - First Energy/West Penn Power** www.firstenergycorp.com
3:30 pm - 4:00pm		**Tabletop Exercise "Fire Loss"**
4:00 pm		**SUMMIT CLOSE**



Address: 145 Pavilion Lane Youngwood, PA 15697

From Greensburg and Route 30

1. Take Route 119 South into Youngwood
2. At the second traffic light (Depot Street), turn left
3. Proceed 1 mile to the college located on the right

From the New Stanton Interchange of the Pennsylvania Turnpike (Exit 75)

1. Take Route 119 North into Youngwood
2. At the fourth traffic light (Depot Street), turn right
3. Proceed 1 mile to the college located on the right

Interactive Map: **Click here for Alternate Routes**

Google Map: **View Larger Map**

Local Emergency Management Coordinators
Bi-Monthly Meeting/Local Elected Officials Seminar
May 22, 2019
Westmoreland Community College Comissioners Hall

	A	B	C	D	E	F	G
1	#	Municipality	Name	Email	Home Phone	Cell Phone	Signature
2	1	ADAMSBURG BOROUGH	Ronald Thompson	ronlin79@comcast.net	724-523-2171	724-433-2506	
3	2	ARNOLD, CITY OF	John Tedorski	tedorskisr@hotmail.com	724-339-9954		
4	3	ARONA BOROUGH	Walter Geiger	annlg429@yahoo.com	724-446-7090	724-600-6266	
5	4	AVONMORE BOROUGH	Donald Morgan	ezgoin2@comcast.net; avonmoreboro@yahoo.com		724-840-0814	
6	5	BOLIVAR BOROUGH	Bill Brett	beejbrett@gmail.com		724-762-9846	
7	6	DERRY BOROUGH	Steve Kozar	kozar41@verizon.net	724-694-5150	724-640-7994	
8	7	DONEGAL BOROUGH		dontwp@lhtot.com			
9	8	EAST VANDERGRIFT BOROUGH	Robert Baustert	ff102bobbyb@yahoo.com	724-882-6904	724-882-6904	
10	10	GREENSBURG, CITY OF	Les Harvey	lharvey@greensburgpa.org	724-836-7370	724-640-5558	
11	11	HUNKER BOROUGH	Daniel McKay	paintdan85@hotmail.com	724-600-9543	724-635-0415	
12	12	HYDE PARK BOROUGH	Nathan Baker	nbaker@lowerkiskiems.org		724-845-4931	
13	13	IRWIN BOROUGH	Robert Leuthhold	rleuthhold@comast.net		412-601-4158	
14	14	JEANNETTE, CITY OF	Ryan Highlands	rhighlands260@yahoo.com	724-527-2397	724-331-5716	
15	15	LATROBE, CITY OF	Carl R. Bollinger	crboll52@netzero.net	724-539-1117	724-433-5352	
16	16	LIGONIER BOROUGH	Gene Stouffer	genestouffer@aol.com	724-309-6224		
17	17	LOWER BURRELL, CITY OF	John Jay Rockwell	emc@cityoflowerburrell.com	724-448-0165		
18	18	MADISON BOROUGH	Darren Achtzen	madboro@comcast.net	724-446-0582		
19	19	MANOR BOROUGH	Jeremy Dixon	jeremy.dixon@manorborough.com		412-612-4599	
20	20	MONESSEN, CITY OF	William N. Hess III	chief516@comcast.net		724-684-8911	
21	21	MOUNT PLEASANT BOROUGH	Gerald D. Lucia	glucia45@icloud.com	724-547-5123	724-640-4987	Gerald D. Lucia
22	22	NEW ALEXANDRIA BOROUGH	Ronald Cramer	newalexboro@yahoo.com; navfd@hotmail.com		724-787-4719	
23	23	NEW FLORENCE BOROUGH	Keith Boring	nfborough@winbeam.com; nf46chief@hotmail.com	724-235-2621	724-549-8976	

Local Emergency Management Coordinators
Bi-Monthly Meeting/Local Elected Officials Seminar
May 22, 2019
Westmoreland Community College Comissioners Hall

	A	B	C	D	E	F	G
24	#	Municipality	Name	Email	Home Phone	Cell Phone	Signature
25	24	NEW KENSINGTON, CITY OF	Kyle Freiberg	kwfreiberg@comcast.net	724-339-9695	724-448-6038	
26	25	DELMONT BOROUGH	David Weber		724-468-8852	412 817-8444	
27	26	NORTH BELLE VERNON BOROUGH	Michael Parzynski	msparzynski@comcast.net; ljparzynski@comcast.net	724-929-2465	724-640-5421	
28	27	NORTH IRWIN BOROUGH	Kyle Bryan	kyle.bryan@verizon.net	724-863-9775	724-433-8014	
29	28	OKLAHOMA BOROUGH	Adam Lockhart	hooktumr@aol.com		724-910-0568	
30	29	PENN BOROUGH	Randy Dreistadt	sixdreistadts@aol.com	724-527-6702	724-600-6495	
31	30	SCOTTDALE BOROUGH	Leslie Myers	Chief58@zoominternet.net		724-336-9995	
32	32	SMITHTON BOROUGH	Thomas Haynes	haynesthomas@msn.com	724-872-8677		
33	33	SOUTH GREENSBURG BOROUGH	Ralph Furin	rsfurin@aol.com	724-836-1058	724-516-9002	Ralph Furin
34	34	SOUTHWEST GREENSBURG BORO	Todd Brant	dtbrant24@comcast.net		724-217-3285	
35	35	SUTERSVILLE BOROUGH	George Neat	georgeneat12@gmail.com		724-633-2188	
36	36	TRAFFORD BOROUGH	John Elyas	eliyasj@comcast.net	724-856-8536	p	
37	37	VANDERGRIFT BOROUGH	Stephen E Potoka IV	Stepnen_potoka@unifirst.com	724-568-1004	724-882-3765	
38	38	WEST LEECHBURG BOROUGH	Gary Cline	garycline417@gmail.com	724-845-7995		
39	39	WEST NEWTON BOROUGH	Paul Williams	pcwilliamssr@comcast.net; wnbemadirector39@comcast.net	724-872-3135	724-323-4489	Paul C Williams
40	41	NEW STANTON BOROUGH	Robert Cammarata Jr.	rcammarata@myproscape.com	724-691-0644	724-309-5475	
41	42	ALLEGHENY TOWNSHIP	Lee Schumaker	schumaker@twp.allegheny.pa.us		724-591-4288	
42	43	BELL TOWNSHIP	Jeffrey Duffner	jduffner@horizonstables.net	724-882-1347		
43	44	COOK TOWNSHIP	Joshua Umbaugh	cooktwp@lhtc.net; jmu826@yahoo.com	724-593-0035		
44	45	DERRY TOWNSHIP	Terry Giannini	tgiannini@derrytownship.com	724-694-2414	724-640-0100	
45	46	DONEGAL TOWNSHIP		dontwp@lhtot.com			
46	47	EAST HUNTINGDON TOWNSHIP	James King	kingff74@easthuntingdonvfd.com ; ehuntingdonema@yahoo.com		412-558-0241	
47	48	FAIRFIELD TOWNSHIP	Daniel Sowers	dsowers@fairfieldtwp.org	724-235-2365		

Local Emergency Management Coordinators
Bi-Monthly Meeting/Local Elected Officials Seminar
May 22, 2019
Westmoreland Community College Comissioners Hall

	A	B	C	D	E	F	G
48	#	Municipality	Name	Email	Home Phone	Cell Phone	Signature
49	50	HEMPFIELD TOWNSHIP	Anthony Kovacic	akovacic@hempfieldtwp.org		724-771-0637	
50	51	LIGONIER TOWNSHIP	John Beaufort	jbeaufort@zamias.net; john@beaufortservices.com	724-238-6579	814-525-2042	
51	52	LOYALHANNA TOWNSHIP	Donald Kelly	twpsec@comcast.net; yeknod1969@yahoo.com	724-388-4060	724-388-4060	Donald R Kelly
52	53	MOUNT PLEASANT TOWNSHIP	Duane Hutter	mptduane@zoominternet.net	724-423-2463	724-433-1817	
53	54	NORTH HUNTINGDON TOWNSHIP	Gene Komondor	emc@nhtpa.us; genek19@comcast.net	724-864-3172	412-310-5180	
54	55	PENN TOWNSHIP	Paul Wersing	EMC@penntwp.org; wersingp@gmail.com	724-744-4887	724-454-5721	
55	56	ROSTRAVER TOWNSHIP	Ronald Olschon	olschon@verizon.net	724-872-8788	724-350-6209	
56	57	SALEM TOWNSHIP	Robert Rosatti	RRSSROSA@aol.com	724-834-0170	724-309-9365	Robert Rosatti
57	58	SEWICKLEY TOWNSHIP	Glenn Wees	emadirector@sewickleytownship.org	724-835-1855	412-491-6455	
58	59	SOUTH HUNTINGDON TOWNSHIP	Daniel Pergola Jr.	pergolacd@comcast.net	724-875-2741		Daniel J Pergola
59	62	UPPER BURRELL TOWNSHIP	David Knox	emcupperburrelltwp@gmail.com	412-670-3044	724-327-0972	
60	63	WASHINGTON TOWNSHIP	Sandy Smythe	ssmythe@washingtontownship.org; mainesmythe@live.com	724-845-2167	724-393-7809	Sandy Smythe
61	64	YOUNGWOOD BOROUGH	Robert Coletta	boocoletta@hotmail.com	724-925-7602	724-771-0010	
62	65	LAUREL MOUNTAIN BOROUGH	Susan Crouse	winterset@verizon.net	724-238-6844	724-771-1852	
63	31/60	SEWARD BOROUGH	Phillip Ferris	PFerrisEMC@msn.com	724-235-2583	814-322-2371	
64	40/61	YOUNGSTOWN BOROUGH	Pete Tenerowicz	dir061@comcast.net	724-668-7063	724-787-1264	
65	49/9	EXPORT BOROUGH	Charles Tappe	ctappe@murrysvillegov.org	724- 309-2369		
66	60/31	SAINT CLAIR TOWNSHIP	Phillip Ferris	PFerrisEMC@msn.com	724-235-2583	814-322-2371	
67	49/9	MURRYSVILLE, MUNICIPALITY OF	Charles Tappe	ctappe@murrysvillegov.org	724- 309-2369		Charles J Tappe
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Local Emergency Management Coordinators
Bi-Monthly Meeting/Local Elected Officials Seminar
May 22, 2019
Westmoreland Community College Comissioners Hall

Last Name	First Name	Title	ORG	E-Mail	Phone #	Signature
Mertz	Bud	Director	WCDPS	rmertz@co.westmoreland.pa.us	724-600-7301	
Stepanovich	Scott	Deputy Director	WCDPS	sstepano@co.westmoreland.pa.us	724-600-7302	
Fontana	Henry	Chief Park PD	WCDPS	hfontan1@co.westmoreland.pa.us	724-830-3469	
Good	Gene	OPS Chief	WCDPS	egood@co.westmoreland.pa.us	724-600-7306	
Burke	Mike	Deputy OPS Chief	WCDPS	mburke@co.westmoreland.pa.us	724-600-7310	
Tantlinger	Chris	PLN Chief	WCDPS	ctantlinger@co.westmoreland.pa.us	724-600-7349	
Hobaugh	Bill	LOG Chief	WCDPS	whobaugh@co.westmoreland.pa.us	724-600-7387	
Bertolino	Michael	FIN/ADMIN Chief	WCDPS	mbertolin@co.westmoreland.pa.us	724-600-7319	
Chew	Nicole	QA Supv	WCDPS	nchew@co.westmoreland.pa.us	724-600-7311	
Polinsky	Tanya	QA Instructor	WCDPS	tpolinsk@co.westmoreland.pa.us	724-600-7375	
Eslary	Mary Beth	PIO COC	WCDPS	meslary@co.westmoreland.pa.us	724-600-7305	
Rzodkiewicz	Andrew	All Hazards Planne	WCDPS	arzodkie@co.westmoreland.pa.us	724-600-7314	
Taylor	Marc	COM Specialist	WCDPS	mtaylor1@co.westmoreland.pa.us	724-600-7320	
Shuster	Kim	CAD/GIS Supv	WCDPS	kshuster@co.westmoreland.pa.us	724-600-7313	
Albright	Janaye	CAD Tech	WCDPS	jalbright@co.westmoreland.pa.us	724-600-7374	
Permuko	Michelle	Admin	WCDPS	mpermuko@co.westmoreland.pa.us	724-600-7303	

2019 Elected Officals Seminar

Location	*Name*	*Signature*
Adamsburg Borough	Ronald Thompson	x
Chief Of Police Latrobe PD	John Sleasman	x
City of Greensburg	Randy Finfrock	x
City of Latrobe	Carl Bollinger	x
City of Latrobe	Holly Peton	x
City of Latrobe	Mike Gray	x
City of Latrobe Council Member	Eric Bartels	x
City of Latrobe Council Member	Christine Weller	x
Cumberland County LEPC	Steve Spangler	x
Derry Township	Terry Giannini	x
HAZMAT Team	Lou Pochet	x
Irwin Boro EMA	Rob Leuthold	x
Irwin Boro EMA	Shari Martino	x
Jeannette City Council	Robin Mozley	x
TWP, Saltsburg Borough	Don Kelly	x
MAWC	Mike Kukura	x
MAWC	Tom Ceraso	x
MAWC	Matt Junker	x
Midway- St Clair VFD	Richard Kepple	x
Mt. Pleasant	Jeff Landy	x
Mt. Pleasant Mayor	Jerry Lucia	x

Murrysville	Chuck Tappe	x
North Huntingdon EMS	Shane Spielvogle	x
Penn Twp	Paul Wersing	x
Penn Twp	Alex Graziani	x
Penn Twp	Mary Perez	x
Penn Twp Police	David Noll	x
PRESENTER	Terri Grabiak	x
PRESENTER	Todd Kirkpatrick	x
PRESENTER	CD Jarrett	x
PRESENTER	Bob Rosatti	x
PRESENTER	William Spencer	x
PRESENTER	Dave Omatick	x
South GBG	Richard Johnson	x
South Greensburg Boro	Ralph Furin	x
South Huntingdon TWP	Dan Pergola	x
South Huntingdon TWP	Larry Nemec	x
South Huntingdon TWP	Richard Gates	x
South Huntingdon TWP	Matthew Jennewine	x
Susan Ruszkowski	Mt. Pleasant	x
Trafford FD	Brian Lindbloom	x
Trafford FD	Tom Dobrinick	x
Washington Township	Rich Hill	x
Washington Township	Sandy Smythe	x
Washington Township	Gary Rowan	x

WC Coroner	Ken Bacha	x_____
WCDPS	Chris Tantilinger	x_____
WCDPS	Andrew Rzodkiewicz	x_____
WCDPS	Michelle Permuko	x_____
WCDPS	MaryBeth Eslary	x_____
WCDPS	Tanya Polinksy	x_____
WCDPS	Bud Mertz	x_____
WCDPS	Gene Good	x_____
WCDPS	Michael Bertolino	x_____
WCDPS	Scott Stepanovich	x_____
West Newton	Paul Williams	x_____
West Newton	Mary Popovich	x_____

WCLERK
SALEM
SALEM

Chuck McCandless
Bill Fuller
Ken Trombetta

Subbio, Tony

From: Christopher Tantlinger <CTANTLIN@co.westmoreland.pa.us>
Sent: Thursday, July 25, 2019 2:37 PM
To: Subbio, Tony
Cc: Snyder, Clyde; Andrew L. Rzodkiewicz; Mary Beth Eslary
Subject: RE: HMP - facilities

Tony,
We had 10 municipalities represented last night. I read verbatim the information requested and we also covered several other items involved with HMP update and redirected them to the website and we also stated that we will be calling each of the municipalities through Mary Beth our outreach coordinator to discuss an EOC – Elected official visit and that will be another opportunity to discuss with them the hazard mitigation participation process. I only received two more additional documents that are attached, from Export and Latrobe. Keep in mind that Export is a combined Emergency Management agency with Murrysville and under the direction of the Murrysville EMA. Export still filed an evaluated risks form however.
I have attached the handouts from the meeting, sign in sheet with telecom attendance, and the weather ambassador information from the NWS. Additionally the agenda is attached. Unfortunately we video recorded the session and the video recorder failed on us and we do not have a dictation of the meeting.

I can summarize that we discussed 9-1-1 and mobile command post upgrades to be used for special events including surveillance trailers that could be used to monitor hazards in the communities. The VOAD volunteer organizations active in a disaster has been newly formed in the County and we are also utilizing information from the 2-1-1 system to augment emergency needs or hazards identified after a disaster. We reviewed the requirements for emergency management for each municipality to include a coordinator, an emergency operations plan, and an emergency operations center as directed under PA Law Title 35. We also discussed the components of the plans to include functional annexes and hazard specific appendices for specific hazards and to consider acquiring a map of their community and getting the hazard layers noted on them to share with their elected officials. This brought up the discussion regarding the map layer of specialized response teams in the county and how that could be utilized to do resource planning for each community. We then provided in detail the email from your office regarding information requested for the HMP update. The balance of the agenda included discussion period with the local coordinators and administrative items. Training and exercises for emergency management county involvement were reported and weather information regarding the Weather Ambassador program and StormReady renewal were covered. I impressed upon the group that if their communities did not participate that it could become problematic for mitigation funding as described in the multiple emails sent to the committees requesting the information.
Chris

See attachements.

Christopher Tantlinger
Deputy Emergency Management Coordinator
Westmoreland County Department of Public Safety
911 Public Safety Road
Greensburg, PA 15601
724-600-7349
724-600-7388 fax

From: Subbio, Tony [mailto:Tony.Subbio@tetratech.com]
Sent: Thursday, July 25, 2019 12:08 PM
To: Christopher Tantlinger
Subject: RE: HMP - facilities

Chris,

Any updates from the meeting last night?

Tony Subbio, CEM, CFM, PMP | Emergency Management Specialist
Direct **+1 (717) 839-5654** | Business **+1 (717) 545-3580** | Mobile **+1 (717) 856-4290** | Fax **+1 (717) 545-3062** |
tony.subbio@tetratech.com

Tetra Tech | Complex World, Clear Solutions™ |
2400 Park Drive, Suite I | Harrisburg, PA 17110 | tetratech.com

From: Christopher Tantlinger <CTANTLIN@co.westmoreland.pa.us>
Sent: Wednesday, July 24, 2019 9:27 AM
To: Subbio, Tony <Tony.Subbio@tetratech.com>
Subject: Re: HMP - facilities

After tonight's meeting I think we will be ready.
Thanks
Chris

Sent from my iPhone

On Jul 24, 2019, at 8:22 AM, Subbio, Tony <Tony.Subbio@tetratech.com> wrote:

Chris,

Are we expecting any more responses from the municipalities, giving the addresses of their facilities? I think we should just move ahead with what we have at this point. Do you agree?

Tony Subbio, CEM, CFM, PMP | Emergency Management Specialist
Direct **+1 (717) 839-5654** | Business **+1 (717) 545-3580** | Mobile **+1 (717) 856-4290** | Fax **+1 (717) 545-3062** |
tony.subbio@tetratech.com

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2400 Park Drive, Suite I | Harrisburg, PA 17110 | tetratech.com

   Please consider the environment before printing. Read more

WESTMORELAND COUNTY DEPARTMENT OF PUBLIC SAFETY

LOCAL EMERGENCY COORDINATORS BI-MONTHLY MEETING

9-1-1 / EOC 911 Public Safety Road, Greensburg PA 15601

Wednesday, July 24, 2019 - 7:00 P.M.

AGENDA & CHECKLIST

1. PUBLIC SAFETY UPDATES
   A. Directors Report
      - Updates 9-1-1, Command post deployments and additional communication resources.
   B. Public Information Officer/Community Outreach Coordinator – Mary Beth Eslary
      - Outreach – EOC elected official visits
      - VOAD
   C. All Hazards Planner – Andrew Rzodkiewicz (Vacation)
      - Data for planning & mitigation, hazard events
2. EMERGENCY MANAGEMENT
   A. Topics
      - Emergency Operations Plan
        i. Functional Annexes
        ii. Hazard Specific Appendix
      - Deployments and resource requests
   B. Hazard Mitigation
      - 2020 HMP MHMJ Update – Participation
   C. Coordinators
      - Reports and comment
   D. Exercises/Training
      - Valley School of Ligonier, Active Shooter August 22, 2019
      - Derry Area SD Alice, Stop the Bleed, August 22, 2019
      - Bombing Prevention Awareness DHS, September 4, 2019 (DHS OBP)
      - CASA Active Shooter September 9, 2019
3. WEATHER
   A. Outlook-
      - Weather Ambassador handout
      - StormReady renewal approved

NEXT MEETING: WEDNESDAY, September 25, 2019, 1900hrs 911 Public Safety Road, Greensburg PA 15601 Phone: 724-600-7300

Hazard Identification and Risk Evaluation Worksheet

Name: _____ Title: _____

Jurisdiction: _____

PART I

Identified Hazards 2015 HMP	How has the frequency of occurrence, magnitude of impact, and/or geographic extent changed in your community? *NC = No Change; I = Increase; D = Decrease* *(Please provide an explanation for any hazards marked I or D in the "Additional Comments" column)*	Additional Comments
Natural Hazards		
Avalanche		
Drought		
Earthquake		
Extreme Temperatures		
Floods, Flash Floods, and Ice Jams		
Hailstorm		
Hurricane		
Landslide		
Lightning		
Radon Exposure		
Subsidence, Sinkhole		
Tornado, Windstorm		
Wildfire		
Winter Storm		

Identified Hazards 2015 HMP	How has the frequency of occurrence, magnitude of impact, and/or geographic extent changed in your community? *NC = No Change; I = Increase; D = Decrease* *(Please provide an explanation for any hazards marked I or D in the "Additional Comments" column)*	Additional Comments
Human-made Hazards		
Dam Failure		
Environmental Hazards		
Nuclear Incident		
Structural Fire		
Terrorism		
Transportation Accident		
Utility Interruption		

PART II

Other Hazards:

Do any of these hazards, not previously profiled in the County's hazard mitigation plan; have the potential to affect your municipality significantly? (If so, please check the box)

Natural

- ☐ Coastal Erosion
- ☐ Dust, Sand Storm
- ☐ Expansive Soils
- ☐ Invasive Species
- ☐ Pandemic
- ☐ Tsunami
- ☐ Volcano

Human-Caused

- ☐ Building or Structure Collapse
- ☐ Civil Disturbance
- ☐ Disorientation
- ☐ Drowning
- ☐ Levee Failure
- ☐ Mass Food/Animal Feed Contamination
- ☐ War and Criminal Activity

Other Comments:

The U.S. Department of Homeland Security
Office for Bombing Prevention

Presents

Bombing Prevention Awareness (AWR 348)

David L. Lawrence Convention Center
Pittsburgh, PA

September 4, 2019
8:00 am - 4:30 pm

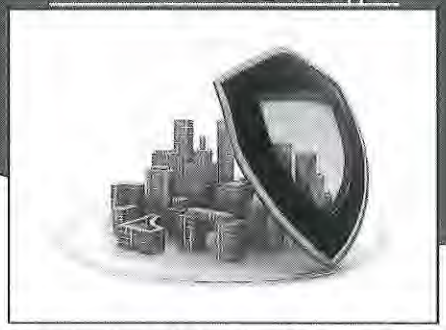
Course POC:
Bob Winters, Protective Security Advisor
US Dept. of Homeland Security
bob.e.winters@dhs.gov

Event Purpose

The Bombing Prevention Awareness Course Course (BPAC) provides participants knowledge of general bombing prevention measures from Improvised Explosive Device (IED) construction and classification through protective measures for potential bombing incidents. It enhances the participants understanding of the IED threat and potential response picture that aids the participant in mitigating the impact of a bombing incident while considering time constraints of CI owner/operators and response personnel.

Who Should Attend?

This course is designed for public and private sector CI owners/operators interested in or required to have a basic awareness of bombing prevention measures.



Shield protecting Critical Infrastructure (CI)
(Source: Shutterstock)

Schedule of Events

Module 1: Course Introduction and Overview
Module 2: IED Construction and Classification
Module 3: IED Explosive Effects
Module 4: HME and Precursor Awareness
Module 5: Introduction to the Terrorist Training Cycle
Module 6: Response to Suspicious Behaviors and Items
Module 7: Protective Measures Awareness

Transportation, Lunch & Parking

Transportation and lunch are the attendee's responsibility. Parking is available on site at cost.

Cost:

This event will be provided by DHS with no charge to attend—any lodging/per diem expenditures will be the

responsibility of the attendee's own agency/ department/company.

Registration Information:

Online registration will be completed through the FEMA Center for Domestic Preparedness. Students require a FEMA Student Identification (SID) number to register.

Course Application:

Use this link to apply for the course:
https://cdp.dhs.gov/apply/to/19N-0213 BPAC

- Enter your FEMA SID and password
- If you do not have a FEMA SID, you can obtain one at the following link: https://cdp.dhs.gov/femasid/register
- A CDP Training Registration System (TRS) application for 19N-0213 BPAC will open.
- Complete the required fields.
- Click the "Review and Submit Application Now" button.
- Download any course materials.
- Additional information will be provided to register students prior to the class.

For more information, please visit http://www.dhs.gov/obp

Chapter 5
Functional Annex Content

Content

Annexes are the parts of the EOP that begin to provide specific information and direction. Annexes should focus on operations: what the function is and who is responsible for carrying it out. While the Basic Plan provides information relevant to the EOP as a whole, annexes should emphasize responsibilities, tasks, and operational actions that pertain to the function being covered. Annexes should cover, in general terms, the activities to be performed by anyone with a responsibility under the function. An annex should identify actions that not only ensure effective response but also aid in preparing for emergencies and disasters.

Annexes should clearly define and describe the policies, processes, roles, and responsibilities inherent in the various functions before, during, and after any emergency period. To ensure adequate planning for all appropriate contingencies, it may be necessary to spend time projecting the consequences of various emergencies. This should not be restricted to those hazards found to be most threatening during the hazard analysis. For example, airplane crashes, while infrequent, can occur almost anywhere with little or no warning. The term "generic" has been used to describe these functional annexes that are generally applicable to all hazards. The generic annexes are critically important parts of the plan, since they must enable the jurisdiction to cope with any unforeseen emergency.

In general, the organization of the annexes parallels that of the Basic Plan. Specific sections can be developed to expand upon--but not to repeat--information contained in the Basic Plan.

Functions To Include as Annexes

One of the more important things to be done early in the planning process is to select the functions that will be the subjects of separate annexes. These choices are influenced by such factors as the organizational structures of the State and local governments, the capabilities of the jurisdiction's emergency services agencies, and the established policy or intentions with respect to the concept of operations. No single listing of functional annexes, therefore, can be prescribed for all jurisdictions.

The following list of functional annexes addresses core functions that warrant attention and may require that specific actions be taken during emergency response operations:

- Direction and Control
- Communications
- Warning
- Emergency Public Information
- Evacuation
- Mass Care
- Health and Medical Services
- Resource Management

The fact that several functions are not included in the list does not mean that they are regarded as less important than the ones that are included. Each jurisdiction's planning team should assess its own need for functional annexes. Additional or different functional annexes should be prepared at the discretion of the planning team. Typical candidate annexes include: damage assessment, search and rescue, emergency services, aviation operations, and radiological protection, among others. The primary concern is that all important activities be covered properly in the plan. The location or categorization of these activities is of secondary importance, though a State should strive for consistency among its jurisdictions to facilitate coordination.

Description of Core Functions

The following attachments provide a brief description of each of the eight functional annexes listed above. They also outline the types of operational activity on which each annex should focus and, for consistency, follow the same general format as recommended for the Basic Plan. **These functions are not prescribed, and the attachments are not sample annexes.**

Table 6-1: Typical Content of Hazard-Specific Appendices to Core Functional Annexes

Functional Annex	*Hazard-Specific Appendix Topics*
Direction and Control	★ Response actions keyed to specific time periods and phases. ★ Damage assessment. ★ Debris removal. ★ Urban Search and Rescue (US&R). ★ Utilities and lifeline repairs. ★ Inspection, condemnation, and demolition of structures and buildings. ★ Protective gear for responders. ★ Issuance of radioprotective drugs. ★ Detection equipment and techniques. ★ Laboratory analysis services. ★ Containment and cleanup teams. ★ Actions to ensure that the area directly affected by the disaster is secure and safe enough for the return of evacuated populations or for the continued presence of those who did not evacuate.
Communications	★ Provisions that have been made to ensure that effects associated with a particular hazard do not prevent or impede the ability of response personnel to communicate with each other during response operations.
Warning	★ Hazard-unique public warning protocols (including warning of custodial populations). ★ Required or recommended notifications of State and Federal officials.
Emergency Public Information	★ Information the public will need to know about the particular hazard (e.g., special evacuation routes and shelters, in-place protective actions). ★ Means that will be used to convey that information to the public.
Evacuation	★ Evacuation options and their timing. ★ Special exclusion zones for the particular hazard (e.g., down- and cross-wind areas for nuclear power and major chemical plants; high risk areas for nuclear weapon detonation; coastal areas subject to flooding caused by storms, hurricane, tidal surge). ★ Evacuation routes. ★ Transportation resources to support mass evacuation.
Mass Care	★ Shelter locations outside the area vulnerable to the hazard. ★ Structural survivability requirements for shelters, and application of mitigation measures. ★ Protection of shelter occupants from the effects of the hazard (e.g., radiological hazards). ★ Special medicines/antidotes for shelter occupants. ★ Food/water stocks to support extended stays (over 72 hours). ★ Capability to decontaminate people exposed to hazardous materials.
Health and Medical	★ Unique health consequences and treatment options for people exposed to the hazard. ★ Environmental monitoring and decontamination requirements.
Resource Management	★ Provisions for purchasing, stockpiling, or otherwise obtaining special protective gear, supplies, equipment, and medical supplies needed for response tasks and to meet the immediate needs of disaster victims.

WESTMORELAND COUNTY RESOURCE REQUEST FORM

Region13/ County Equipment [circle one]

Part I	**Requesting Agency Contact Information** (To be completed by Requesting Entity)	
Date: Time:		Event:
Mission Priority: ☐ Lifesaving ☐ Life Sustaining ☐ Incident Stabilization ☐ Property Conservation		
Requestor's Name:		Title:
Requestor's Organization:		
Phone #:	Mobile #:	Fax #:
Email Address:		
Requesting Entity Signature: (Phone, Text, Email)		

Part II	**Requested Resource(s)** (To be completed by Requesting Entity)
Date(s) and Time:	Municipality:
Description of Requested Assistance/Resources Required *(must include what is to be accomplished, for what purpose)*:	

Quantity:	Detailed Resource Requested (include resource Type/Kind): *Provide details on setup/transport, fuel, meals, operator(s), water, maintenance, lodging, power, etc:*	
	1)	
	2)	
	3)	

Address Where Resources will be located *(include municipality, city, state and zip)*:

Delivery Site POC *(Point of Contact)*:	24-hour phone for POC:
Statement of Situation *(include private, local, county, or state resources already in use and mutual aid)*:	

Part III	**Public Safety Director Review**	
Received: Date and Time:	Status: *(indicate approved or denied)* APPROVED DENIED	Date and Time:
Augmenting Justification/Comments:		
Public Safety Director Signature:		

Part IV	**LOGISTICS Chief Review**	
Received: Date and Time:	Status: *(indicate approved or denied)* APPROVED DENIED	Date and Time:
Logistics Chief Signature:	CAD Incident Number: KC Incident Number:	

NATIONAL WEATHER SERVICE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

About Weather-Ready Nation Ambassadors™

Contact Us
About NWS Communications Office
What is WRN?
WRN FAQ
WRN Brochure
Hazard Simplification
IDSS Brochure
Roadmap
Strategic Plan
WRN International

The Weather-Ready Nation Ambassador™ initiative is the National Oceanic and Atmospheric Administration's (NOAA) effort to formally recognize NOAA partners who are improving the nation's readiness, responsiveness, and overall resilience against extreme weather, water, and climate events. As a WRN Ambassador, partners commit to working with NOAA and other Ambassadors to strengthen national resilience against extreme weather. In effect, the WRN Ambassador initiative helps unify the efforts across government, non-profits, academia, and private industry toward making the nation more ready, responsive, and resilient against extreme environmental hazards. Weather-Ready Nation (WRN) is a strategic outcome where society's response should be equal to the risk from all extreme weather, water, and climate hazards.

The WRN Ambassador initiative is a:

WRN Ambassadors serve a pivotal role in affecting societal change — helping to build a nation that is ready, responsive, and resilient to the impacts of extreme weather and water events.
To be officially recognized as a WRN Ambassador, an organization must commit to:

- Promoting Weather-Ready Nation messages and themes to their stakeholders;
- Engaging with NOAA personnel on potential collaboration opportunities;
- Sharing their success stories of preparedness and resiliency;
- Serving as an example by educating employees on workplace preparedness

As a WRN Ambassador, you will serve as a change agent and leader in your community. You will inspire others to be better informed and prepared, helping to minimize or even avoid the impacts of these natural disasters.
To support your efforts, NOAA can:

- Provide outreach content about creating a Weather-Ready Nation;
- Explore innovative approaches for collaboration with your organization;
- Assist with StormReady®/TsunamiReady™ opportunities for communities;
- Recognize your organization as a WRN Ambassador; and
- Share the WRN Ambassador logo for your use.

Building a Weather-Ready Nation requires more than government alone. It requires the entire Weather Enterprise to provide information for better community, business, and personal decision making, and innovative partnerships across all segments of society. We must involve everyone in an effort to move people – and society – toward heeding warnings, taking action, and influencing their circles of family, friends, and social network to act appropriately.

The WRN Ambassador initiative is the connecting hub of a vast network of federal, state, and local government agencies; emergency managers and city planners; researchers, the media; the insurance industry; nonprofit organizations; the private sector; and many others who are working together to address the impacts of extreme weather on daily life.

Together we will inform and empower communities, businesses, and people to make pre-event decisions that can be life-saving and prevent or limit devastating economic losses. We are a nation of many communities, and it is only through connected communities that we will achieve this goal.

How to Become a Weather-Ready Nation Ambassador
Any organization across all levels of government, businesses large and small, non-profit and non-governmental organizations, and academia can become a WRN Ambassador. The WRN Ambassador initiative is intended for organizations and designed to help serve the public by strengthening our national resilience against extreme weather events.

Apply to Become a Weather-Ready Nation Ambassador.

For More Information

1. Read the Weather-Ready Nation Ambassador FAQ to learn more about this new initiative.
2. Download the Weather-Ready Nation Ambassador Brochure.

Contact Us

If you have further questions, email NOAA's Weather-Ready Nation team at wrn.feedback@noaa.gov.

Local Emergency Management Coordinators
Bi-Monthly Meeting
July 24, 2019
Westmoreland County Emergency Operations Center

Last Name	First Name	Title	Representing	E-Mail	Signature
HARVEY	LES	DIR EMC MGT	CITY OF GBG		
SHAW	JAMES	DIR OF SAFETY	HEMPFIELD		
KOVALIC	ANTHONY	EMC	Hempfield		
Pergola	Dan	EMC	South Huntingdon		
Rosatti	Robert	EMC	Salem Twp		
TELECOM					
KOMONDOR	GENE		NHT		
DIXON	JEREMY		MANOR		
KURISKO	MARK		PENN TWP		
BOLLINGER	CARL		LATROBE		
GIANNINI	TERRI		DERRY TWP		

Local Emergency Management Coordinators
Bi-Monthly Meeting/Local Elected Officials Seminar
July 24, 2019
Westmoreland County Emergency Operations Center

	A	B	C	D	E	F	G
1	#	Municipality	Name	Email	Home Phone	Cell Phone	Signature
2	1	ADAMSBURG BOROUGH	Ronald Thompson	ronlin79@comcast.net	724-523-2171	724-433-2506	
3	2	ARNOLD, CITY OF	John Tedorski	tedorskisr@hotmail.com	724-339-9954		
4	3	ARONA BOROUGH	Walter Geiger	annlg429@yahoo.com	724-446-7090	724-600-6266	
5	4	AVONMORE BOROUGH	Donald Morgan	ezgoin2@comcast.net; avonmoreboro@yahoo.com		724-840-0814	
6	5	BOLIVAR BOROUGH	Bill Brett	beejbrett@gmail.com		724-762-9846	
7	6	DERRY BOROUGH	Steve Kozar	kozar41@verizon.net	724-694-5150	724-640-7994	
8	7	DONEGAL BOROUGH		dontwp@lhtot.com			
9	8	EAST VANDERGRIFT BOROUGH	Robert Baustert	ff102bobbyb@yahoo.com	724-882-6904	724-882-6904	
10	10	GREENSBURG, CITY OF	Les Harvey	lharvey@greensburgpa.org	724-836-7370	724-640-5558	
11	11	HUNKER BOROUGH	Daniel McKay	paintdan85@hotmail.com	724-600-9543	724-635-0415	
12	12	HYDE PARK BOROUGH	Nathan Baker	nbaker@lowerkiskiems.org		724-845-4931	
13	13	IRWIN BOROUGH	Robert Leuthhold	rleuthhold@comast.net		412-601-4158	
14	14	JEANNETTE, CITY OF	Ryan Highlands	rhighlands260@yahoo.com	724-527-2397	724-331-5716	
15	15	LATROBE, CITY OF	Carl R. Bollinger	crboll52@netzero.net	724-539-1117	724-433-5352	
16	16	LIGONIER BOROUGH	Gene Stouffer	genestouffer@aol.com	724-309-6224		
17	17	LOWER BURRELL, CITY OF	John Jay Rockwell	emc@cityoflowerburrell.com	724-448-0165		
18	18	MADISON BOROUGH	Darren Achtzen	madboro@comcast.net	724-446-0582		
19	19	MANOR BOROUGH	Jeremy Dixon	jeremy.dixon@manorborough.com		412-612-4599	
20	20	MONESSEN, CITY OF	William N. Hess III	chief516@comcast.net		724-684-8911	
21	21	MOUNT PLEASANT BOROUGH	Gerald D. Lucia	glucia45@icloud.com	724-547-5123	724-640-4987	
22	22	NEW ALEXANDRIA BOROUGH	Ronald Cramer	newalexboro@yahoo.com; navfd@hotmail.com		724-787-4719	
23	23	NEW FLORENCE BOROUGH	Keith Boring	nfborough@winbeam.com; nf46chief@hotmail.com	724-235-2621	724-549-8976	

Local Emergency Management Coordinators
Bi-Monthly Meeting/Local Elected Officials Seminar
July 24, 2019
Westmoreland County Emergency Operations Center

	A	B	C	D	E	F	G
24	#	Municipality	Name	Email	Home Phone	Cell Phone	Signature
25	24	NEW KENSINGTON, CITY OF	Kyle Freiberg	kwfreiberg@comcast.net	724-339-9695	724-448-6038	
26	25	DELMONT BOROUGH	David Weber		724-468-8852	412 817-8444	
27	26	NORTH BELLE VERNON BOROUGH	John Garber	chiefbennyik@aol.com		724-880-8159	
28	27	NORTH IRWIN BOROUGH	Kyle Bryan	kyle.bryan@verizon.net	724-863-9775	724-433-8014	
29	28	OKLAHOMA BOROUGH	Adam Lockhart	hookturnr@aol.com		724-910-0568	
30	29	PENN BOROUGH	Randy Dreistadt	sixdreistadts@aol.com	724-527-6702	724-600-6495	
31	30	SCOTTDALE BOROUGH	Leslie Myers	Chief58@zoominternet.net		724-336-9995	
32	32	SMITHTON BOROUGH	Thomas Haynes	haynesthomas@msn.com	724-872-8677		
33	33	SOUTH GREENSBURG BOROUGH	Ralph Furin	rsfurin@aol.com	724-836-1058	724-516-9002	Ralph Furin
34	34	SOUTHWEST GREENSBURG BORO	Todd Brant	dtbrant24@comcast.net		724-217-3285	
35	35	SUTERSVILLE BOROUGH	George Neat	georgeneat12@gmail.com		724-633-2188	
36	36	TRAFFORD BOROUGH	John Elyas	eliyasj@comcast.net	724-856-8536	p	
37	37	VANDERGRIFT BOROUGH	Stephen E Potoka IV	Stepnen_potoka@unifirst.com	724-568-1004	724-882-3765	
38	38	WEST LEECHBURG BOROUGH	Gary Cline	garycline417@gmail.com	724-845-7995		
39	39	WEST NEWTON BOROUGH	Paul Williams	pcwilliamssr@comcast.net; wnbemadirector39@comcast.net	724-872-3135	724-323-4489	
40	41	NEW STANTON BOROUGH	Robert Cammarata Jr.	rcammarata@myproscape.com	724-691-0644	724-309-5475	
41	42	ALLEGHENY TOWNSHIP	Lee Schumaker	schumaker@twp.allegheny.pa.us		724-591-4288	
42	43	BELL TOWNSHIP	Jeffrey Duffner	jduffner@horizonstables.net	724-882-1347		
43	44	COOK TOWNSHIP	Joshua Umbaugh	cooktwp@lhtc.net; jmu826@yahoo.com	724-593-0035		
44	45	DERRY TOWNSHIP	Terry Giannini	tgiannini@derrytownship.com	724-694-2414	724-640-0100	
45	46	DONEGAL TOWNSHIP		dontwp@lhtot.com			
46	47	EAST HUNTINGDON TOWNSHIP	James King	klngff74@easthuntingdonvfd.com ; ehuntingdonema@yahoo.com		412-558-0241	
47	48	FAIRFIELD TOWNSHIP	Daniel Sowers	dsowers@fairfieldtwp.org	724-235-2365		

Local Emergency Management Coordinators
Bi-Monthly Meeting/Local Elected Officials Seminar
July 24, 2019
Westmoreland County Emergency Operations Center

	A	B	C	D	E	F	G
48	#	Municipality	Name	Email	Home Phone	Cell Phone	Signature
49	50	HEMPFIELD TOWNSHIP	Anthony Kovacic	akovacic@hempfieldtwp.org		724-771-0637	
50	51	LIGONIER TOWNSHIP	John Beaufort	jbeaufort@zamias.net; john@beaufortservices.com	724-238-6579	814-525-2042	
51	52	LOYALHANNA TOWNSHIP	Donald Kelly	twpsec@comcast.net; veknod1969@yahoo.com	724-388-4060	724-388-4060	
52	53	MOUNT PLEASANT TOWNSHIP	Duane Hutter	mptduane@zoominternet.net	724-423-2463	724-433-1817	
53	54	NORTH HUNTINGDON TOWNSHIP	Gene Komondor	emc@nhtpa.us; genek19@comcast.net	724-864-3172	412-310-5180	
54	55	PENN TOWNSHIP	Paul Wersing	EMC@penntwp.org; wersingp@gmail.com	724-744-4887	724-454-5721	
55	56	ROSTRAVER TOWNSHIP	Ronald Olschon	olschon@verizon.net	724-872-8788	724-350-6209	
56	57	SALEM TOWNSHIP	Robert Rosatti	RRSSROSA@aol.com	724-834-0170	724-309-9365	Robert A Rosatti
57	58	SEWICKLEY TOWNSHIP	Glenn Wees	emadirector@sewickleytownship.org	724-835-1855	412-491-6455	
58	59	SOUTH HUNTINGDON TOWNSHIP	Daniel Pergola Jr.	pergolacd@comcast.net	724-875-2741		[illegible signature]
59	62	UPPER BURRELL TOWNSHIP	David Knox	emcupperburrelltwp@gmail.com	412-670-3044	724-327-0972	
60	63	WASHINGTON TOWNSHIP	Sandy Smythe	ssmythe@washingtontownship.org; mainesmythe@live.com	724-845-2167	724-393-7809	
61	64	YOUNGWOOD BOROUGH	Robert Coletta	boocoletta@hotmail.com	724-925-7602	724-771-0010	
62	65	LAUREL MOUNTAIN BOROUGH	Susan Crouse	winterset@verizon.net	724-238-6844	724-771-1852	
63	31/60	SEWARD BOROUGH	Phillip Ferris	PFerrisEMC@msn.com	724-235-2583	814-322-2371	
64	40/61	YOUNGSTOWN BOROUGH	Pete Tenerowicz	dir061@comcast.net	724-668-7063	724-787-1264	
65	49/9	EXPORT BOROUGH	Charles Tappe	ctappe@murrysvillegov.org	724- 309-2369		
66	60/31	SAINT CLAIR TOWNSHIP	Phillip Ferris	PFerrisEMC@msn.com	724-235-2583	814-322-2371	
67	49/9	MURRYSVILLE, MUNICIPALITY OF	Charles Tappe	ctappe@murrysvillegov.org	724- 309-2369		
68		EXPORT	BARRY DELISSIO	barrydelissio@windstream.net	724 327 1710	412 [illegible] 1033	
69	30	Scottdale	Mark Costa	ass1800@gmail.com	7246914623	"	
70							
71							

MEETING NOTES

Meeting	Westmoreland County Hazard Mitigation Working Group (HMWG) Meeting		
Date	September 9, 2019	Time	9:00 – 10:50 a.m.
Location	Westmoreland County Department of Public Safety (WCDPS), 911 Public Safety Road, Greensburg, PA		
Attendees	Andrew Rzodkiewicz, All Hazards Planner, WCDPS		
	Christopher Tantlinger, Hazard Mitigation Officer, WCDPS		
	Jim Pillsbury, Hydraulic Engineer, Westmoreland Conservation District		
	Rich Fender, Planning Coordinator, Westmoreland County Planning and Development Department		
	Lou Pochet, HMWG Member		
	Darlene Bracken, Pennsylvania Emergency Management Agency (PEMA) Western Area (via telephone)		
	Gillian Graber, Executive Director, Protect Penn-Trafford (Protect PT)		
	Clyde Snyder, Tetra Tech, Inc. (Tetra Tech)		
	Tony Subbio, Tetra Tech (via telephone)		

Discussion Points

This section summarizes each discussion point addressed during the HMWG Meeting.

Welcome

Mr. Tantlinger welcomed attendees to the meeting. Each of the attendees introduced themselves.

Worksheet Completion Status

Mr. Subbio stated that worksheets were still needed from 48 municipalities. At least one worksheet was received from 26 municipalities, and all four worksheets have been received from 17 municipalities.

Hazard Profiles

Mr. Subbio reviewed the results of the risk assessment with the HMWG. Discussion points for each hazard are listed below.

- Earthquake – The HMWG asked that earthquakes caused by hydraulic fracturing (fracking) be added to the hazard profile, as it is a concern in the county due to the natural gas drilling activity. HMWG members were also concerned about the impacts that an earthquake may have on sites storing waste materials.
- Flood – Mr. Tantlinger stated that the modeled impacts align well with flood impacts observed in the county. He also stated that private utility companies do not report damages to WCDPS. An action will be added to the HMP to develop stronger relationships with utilities.
- Hail – Individuals in the county suffer damages to their roofs from hail. Car dealerships have suffered $250,000 - $500,000 in damage to their inventories.

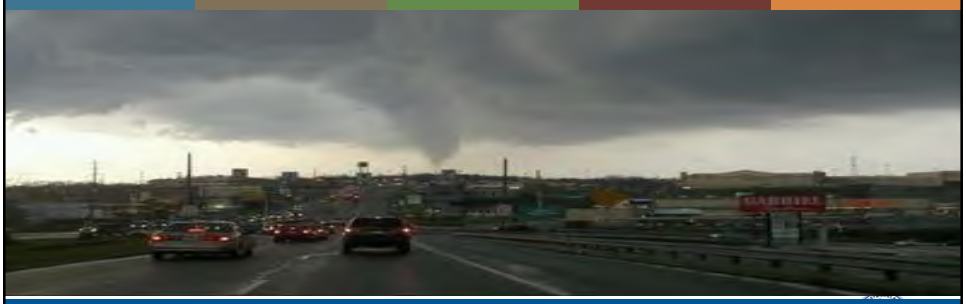
- Landslide – Landslide events are dependent on soil type. Soil type will be added to the analysis. The HMWG asked that the hazard profile show pipelines in landslide hazard areas as well.
- Lightning – Two fatalities have occurred as a result of lightning in 2019 alone, in mid-June 2019. In addition, two lightning events damaged the Westmoreland County 9-1-1 Center. Mr. Tantlinger will provide information on the cost of repairs.
- Radon – Mr. Pochet pointed out that the waste materials being brought up from deep underground in fracking operations may have some residual radioactivity, and those radioactive materials are being deposited elsewhere. Pennsylvania Department of Environmental Protection (PADEP) has reports on radioactivity in leachate at landfills.
- Subsidence/Sinkholes – Mine subsidence poses a much greater risk in the county than sinkholes in limestone bedrock. Subsidence insurance is available. In many parts of the county, old pipes are collapsing, and the ground sinking over top of them is being labeled a sinkhole. One such event occurred on July 17, 2019. Tetra Tech will add to the hazard profile that media reporters often refer to subsidence over collapsed pipes as "sinkholes."
- Winter Storms – Mr. Tantlinger pointed out that most municipalities budget for 17 winter storm events per year. More events than that can have a significant impact on municipalities' finances.
- Dam Failure – Mr. Tantlinger reported that WCDPS probably has 35 Emergency Action Plans for dams in the county. Ms. Graber discussed that water impoundments created by oil and gas drilling companies at well sites should be considered dams. In Penn Township, such impoundments have met the Commonwealth of Pennsylvania's criteria for high-hazard dams. Penn Township argued to PADEP that the impoundments should be regulated as dams. PADEP did not agree; however, these impoundments may be holding back more water than other officially designated high-hazard dams.
- Environmental Hazards – Tetra Tech will add pipelines to the hazard profile. Pipeline infrastructure in the county includes the pipelines themselves, well sites, compressor stations, and methyl mercaptan injection sites. Tetra Tech will request a list of well sites from PADEP. Ms. Graber pointed out that PADEP's Oil & Gas Mapping dataset has almost all active facilities. She also pointed out that a risk assessment was performed on the Mariner East Pipeline in October 2018. The pipeline transports compressed natural gas, and an explosion could have a huge blast radius. In addition, a pipeline accident occurred in Salem Township in 2017. Westmoreland County has one of the largest natural gas storage facilities in the United States – the Oakford Storage Field and related pipelines. Mr. Tantlinger stated that the county has engaged environmental interest groups and wants to address the potential impacts from accidents at the oil and gas industry sites in the county. His focus is on understanding the risks faced by the county and its people, and educating the public and local officials on these risks. Ms. Graber stated that natural gas development is expected to increase rapidly over the next 10 years. She will provide additional documents to Tetra Tech to further enhance the hazard profile.
- Illicit Drug Use – Mr. Tantlinger reported that the county experienced a 38-percent decrease in opioid deaths in the last few years, though overall overdose deaths had risen.

Next Steps

- The completed hazard profiles will be posted to the HMP website.
- A Planning Team meeting will be held to review the results of the risk assessment on September 30, 2019. Mr. Tantlinger will send out the invitations to the meeting and issue a press release to invite the public to attend.
- Following the meeting on September 30, 2019, Mr. Snyder and other Tetra Tech staff will reach out to municipalities that have not yet participated in the planning process.

Westmoreland County Hazard Mitigation Plan (HMP) Update 2019

HMWG Risk Assessment Review Meeting



Agenda

- Worksheet Completion Status
- Risk Assessment Results
- Next Steps

Worksheet Completion Status

- Still need worksheets from 48 municipalities
  - Have received at least one worksheet from 26
  - Received all four worksheets from 17
- Participation status tracker available upon request
- Worksheet completion is a participation requirement for the HMP
  - Lack of participation in this HMP planning process can prevent funding eligibility

3

Risk Assessment Results

- Avalanche
  - One event in March 1994
  - $7,400 in damages
  - No other information available

4

Risk Assessment Results

- Drought
  - History (since 1980)
    - 22 drought watch declarations
    - 11 drought warning declarations
    - 1 drought emergency declaration
    - $3.4 million in lost crop insurance payments within the County from 1989-2017
  - Exposure
    - 144,278 acres of farmland
    - $66.3 million per year in agricultural products
    - $32.7 million in livestock, poultry, and associated products

5

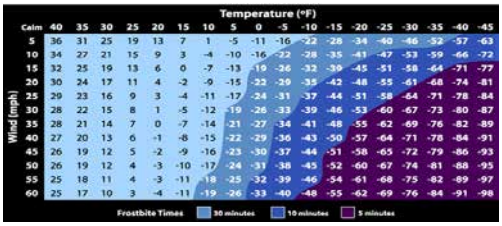
Risk Assessment Results

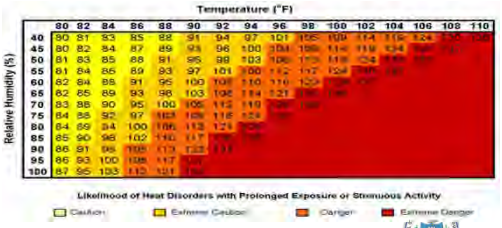
- Earthquake
  - History
    - None with epicenters in the County since 1950
  - Exposure
    - Entire County
  - Annualized losses
    - $162,892
  - Losses from 500-year Mean Return Period (MRP) event
    - $19.1 million in building damage
    - 26,439 tons of debris

6

Risk Assessment Results

- Extreme Temperatures
  - History (since 2014)
    - 8 extreme lows
  - Impacts
    - Health effects
    - Drought
    - Utility load
  - Probability
    - 8 events in 6 years - 100% chance each year





7

Risk Assessment Results

- Flood, Flash Flood, and Ice Jam (1% annual chance)
  - History
    - County has been declared a federal disaster area 16 times since 1954
    - 118 major floods, flash floods, or ice jams since 1996
    - $14.8 million in property damages; $154,000 in crop damages
  - Exposure
    - 6,670 people in the SFHA
    - 4.9% of land area is in the SFHA
    - $2.3 billion in exposed property value
    - 118 critical facilities

8

Risk Assessment Results

- Flood, Flash Flood, and Ice Jam (1% annual chance)
  - Expected losses (1% annual chance flood)
    - $449.6 million in property damage (including residential, commercial, and other occupancy types)
    - 34,815 tons of debris
    - 10,065 individuals displaced
    - 158 people seeking shelter

9

Risk Assessment Results

- Hailstorm
  - History
    - 237 hailstorms 1950-2018; hail size up to 2.5 inches in diameter
    - No property damages reported
    - $2,600 in crop loss insurance payments since 1989
  - Exposure
    - 144,278 acres of farmland
    - $66.3 million per year in agricultural products

10

Risk Assessment Results

- Hurricane and Tropical Storm
  - History
    - 58 storms (remnants)
    - 5 federal disaster declarations
  - Expected Losses
    - 100-year MRP event (below 39 miles per hour [mph])
      - No damage; no debris
    - 500-year MRP event (54-65 mph)
      - $6.0 million in damage to building stock
      - 1,825 tons of debris (mostly tree debris)
    - $62,690 in annualized losses

11

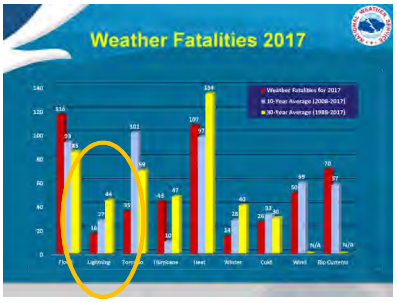
Risk Assessment Results

- Landslide
  - Major Events
    - February-April 2018
    - $1.44 million in damages countywide
  - Exposure
    - 56% of the County population is in the landslide hazard area
    - $40.2 billion in property is in the hazard area
    - 204 critical facilities
  - Expected losses depend on the nature and extent of the landslide

12

Risk Assessment Results

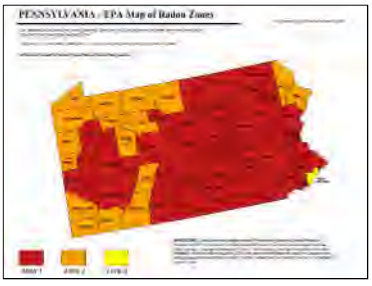
- Lightning
  - History
    - 10 lightning events (1996-2019)
    - $58,000 in property damage
    - 1 injury
  - Exposure
    - Entire County is vulnerable in exposed outdoor areas in thunderstorms



13

Risk Assessment Results

- Radon Exposure
  - High exposure potential
  - Average level in Armstrong County homes is 6.2 picoCuries per liter (pCi/L)
  - EPA action level is 4 pCi/L
  - U.S. average is about 1.3 pCi/L



14

Risk Assessment Results

- Subsidence and Sinkholes
  - Mined out areas
  - Stripes of near-surface limestone
  - Profile analyzes exposure only on near-surface limestone
    - 143,539 people
    - $30.2 billion in property value
    - 486 critical facilities

15

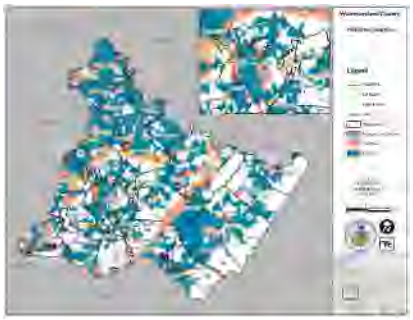
Risk Assessment Results

- Tornadoes and Windstorms
  - History
    - 36 tornadoes since 1950; $267 million in recorded damage
    - 671 wind events from 1950-2019
  - Exposure
    - Entire County's building stock
    - 11,164 manufactured homes

16

Risk Assessment Results

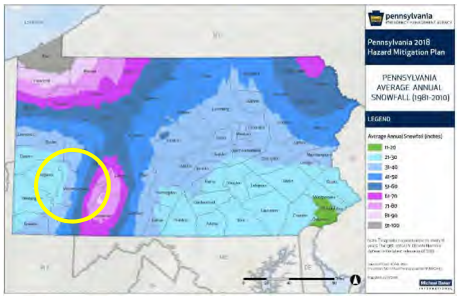
- Wildfire
  - History
    - 238 wildfires, 2002-2018
    - Does not include all events
  - Exposure
    - 216,544 people
    - 159,587 structures
    - $39.5 billion in structure value
    - 545 critical facilities



17

Risk Assessment Results

- Winter Storm
  - History
    - 60 major winter storm events since December 2010
    - 6 disaster declarations since 1954
  - Exposure
    - Entire County is vulnerable
    - $43.6 billion in structural value



18

Risk Assessment Results

- Dam Failure
  - 147 dams; 30 high-hazard
  - History – Fort Pitt Dam
    - 1896
    - 1903
  - Emergency Action Plans for high-hazard dams

19

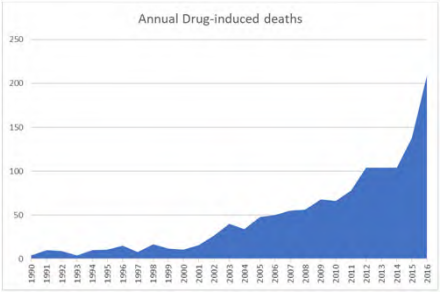
Risk Assessment Results

- Environmental Hazards (Hazardous Materials)
  - History
    - 457 significant incidents since 2006
    - Hundreds of other small spills
  - Exposure
    - 67,189 people within ¼ mile of railroad
    - 159,106 people within ¼ mile of major roadway
    - 144,902 people within vulnerability radius of a hazmat facility
  - Expected damage depends on the incident

20

Risk Assessment Results

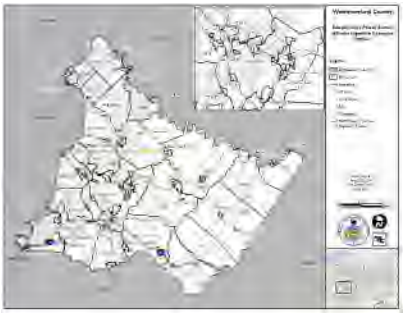
- Illicit Drug Use
  - County has higher-than-average incidence of overdose deaths
  - Most deaths from Fentanyl/Fentanyl-Related Substances (FRS)/ Non-Prescription Synthetic Opioids (NPSO)



21

Risk Assessment Results

- Nuclear Incident
  - Beaver Valley Power Station in Beaver County
  - History
    - Westinghouse Waltz Mill 1960
    - TMI 1979
  - Exposure
    - Ingestion Exposure Pathway EPZ (50 miles)
      - 37 municipalities
      - 138,423 structures
      - 585 critical facilities



22

Risk Assessment Results

- Structural Fire
  - Any structure is vulnerable
  - Details on deaths, injuries, property damage not maintained

Year	Number of Structure Fires	Year	Number of Structure Fires
2007	51	2014	59
2008	51	2015	104
2009	39	2016	100
2010	65	2017	139
2011	64	2018	153
2012	44	2019	21
2013	35	**Total**	**925**

23

Risk Assessment Results

- Terrorism
  - History
    - Occasional school bomb threats, suspicious devices/packages
  - All critical facilities are vulnerable
  - Low overall risk

24

Risk Assessment Results

- Transportation Accidents
  - History (2011 – Feb. 2019)
    - 9,962 major vehicle accidents
    - 33 railroad incidents
    - 12 aviation incidents
  - Potential economic impacts and other damage

25

Risk Assessment Results

- Utility Interruptions
  - Often a secondary impact of another hazard event
  - History – 2015-2019
    - 57 communications outages
    - 86 power outages
    - 74 water outages
  - Exposure
    - Entire County
    - Regional events are usually the most severe
  - Impacts to vulnerable populations

26

Next Steps

- Post hazard profiles to the website
- Risk Assessment Review Meeting – September 30
- Municipal outreach
- Develop mitigation actions

27

Questions?

Thank you for your time!

28

Contacts

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(412) 921-7090

29

3/8/2019 updated

Hazard Mitigation Working Group
Monthly Meeting

Last Name	First Name	Title	Representing	E-Mail	Signature
Ashton	Jack	Asst. Manager	MAWC	jashton@mawc.org	SIGN HERE
Bertolino	Michael	FIN/ADMIN Chief	WCDPS	mbertoli@co.westmoreland.pa.us	SIGN HERE
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Bracken	Darlene	EM Specialist	PEMA	dbracken@pa.gov	Poly Com
Cramer	Ron	LEMC	New Alexandria	navfd@hotmail.com	SIGN HERE
Downs	Jeff	Representative	West Penn Power	jdowns@firstenergycorp.com	SIGN HERE
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Fender	Rich	County Planning	WCDPS	rfender@co.westmoreland.pa.us	Rich Fender
Good	Gene	SPGC	WCDPS	egood@co.westmoreland.pa.us	SIGN HERE
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Komondor	Gene	Planner	Red Cross	Gene_Komondor@redcross.org	SIGN HERE
Kopas	Ted	Commissioner	WC	fkopas@co.westmoreland.pa.us	SIGN HERE
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Mertz	Roland	Director	WCDPS	rmertz@co.westmoreland.pa.us	SIGN HERE
Pillsbury	Jim	Member	NRCS	jim@wcdpa.com	
Pochet	Lou	Member	Greensburg	lfpochet@hotmail.com	
Pologruto	Anthony	GIS Analyst	MAWC	apologruto@mawc.org	SIGN HERE
Rzodkiewicz	Andrew	All Hazards Planner	WCDPS	arzodkie@co.westmoreland.pa.us	
Snyder	Clyde	Planner	TetraTech	clyde.snyder@tetratech.com	

As of 9/9/2019

3/8/2019 updated

Hazard Mitigation Working Group
Monthly Meeting

Last Name	First Name	Title	Representing	E-Mail	Signature
Stepanovich	Scott	Deputy Director	WCDPS	sstepano@co.westmoreland.pa.us	SIGN HERE
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~~Zambelli~~ NO LONGER AT WCD	~~Matt~~	~~GIS Green Infr Spec~~	~~WCDPA~~	~~matt@wedpa.com~~	SIGN HERE
Subio	Tony		TetraTech		Polycomm HERE
	Jillian	Director	Protect PT		Polycomm ERE
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As of 9/9/2019

MEETING NOTES

Meeting	Westmoreland County Risk Assessment Review Meeting		
Date	September 30, 2019	Time	9:30 a.m. – 12:00 p.m.
Location	Westmoreland County Regional Special Operations Center, Unity Township, 400 Kilo Lane, Latrobe, PA		
Attendees	Michael Bertolino, Chief of Finance and Administration, Westmoreland County Department of Public Safety (WCDPS)		
	Andrew Rzodkiewicz, All Hazards Planner, WCDPS		
	Christopher Tantlinger, Hazard Mitigation Officer, WCDPS		
	Bobby Tanyer, Westmoreland Behavioral Health/Developmental Services (BHDS)/ Disaster Crisis Outreach and Referral Team (DCORT)		
	Lou Pochet, Hazard Mitigation Working Group (HMWG) Member		
	Carl Bollinger, City of Latrobe		
	Gillian Graber, Executive Director, Protect Penn-Trafford (Protect PT)		
	Pat Emich, Protect PT		
	Larry Irr, Protect PT		
	Darlene Leslie, Protect PT		
	Mandy Zalich, Westmoreland Community Action (WCA)		
	Jack Milburn, Westmoreland Marcellus Citizens Group (WMCG)		
	Robin Harkcom, Citizen		
	Bill Hufford, Unity Township Resident		
	Darlene Bracken, Pennsylvania Emergency Management Agency (PEMA) Western Area		
	Clyde Snyder, Tetra Tech, Inc. (Tetra Tech)		
	Tony Subbio, Tetra Tech		

Discussion Points

This section summarizes each discussion point addressed during the Risk Assessment Review Meeting.

Welcome

Mr. Tantlinger welcomed attendees to the meeting. Each attendee introduced themself. Mr. Subbio asked attendees to mark up the maps provided to show problem areas in their municipalities.

Worksheet Completion Status

Mr. Subbio stated that worksheets were still needed from 48 municipalities. At least one worksheet was received from 26 municipalities, and all four worksheets have been received from 17 municipalities.

Risk Assessment Results

Hazard Profiles

Mr. Subbio reviewed the results of the risk assessment with attendees. Discussion points associated with each hazard are listed below.

- Earthquake – The Great Northeast Shakeout exercise will be conducted on October 17, 2019. Approximately 200,000 people in the northeast United States are expected to participate. Earthquake insurance is available for individuals to purchase to protect their finances from earthquake damage. Such damage includes that which would be caused by hydraulic fracturing (fracking) in natural gas drilling, or injecting wastewater deep underground.
- Flood, Flash Flood, and Ice Jams – An ice jam caused flooding in Mt. Pleasant Township a few years ago. Tetra Tech will research the event and add it to the hazard profile. The Mon Valley experienced a flood in the 1980s. A stream passing through Harrison City has also caused flooding problems.
- Landslide - Landslides have increased in the last few years due to increased rain, and could continue to increase. Over 56 percent of the county is prone to landslides depending on soil and weather conditions.
- Lightning – A contractor is starting work today to mitigate damage from lightning strikes on the 9-1-1 Center. Four events have caused communication outages this year. Mr. Pochet expressed concern that lightning could hit natural gas wells and infrastructure. Mr. Tantlinger agreed, and stated that hazardous materials facilities are especially vulnerable to lightning strikes during product transfers.
- Radon Exposure - Mr. Pochet pointed out that the waste materials being brought up from deep underground in fracking operations may have some residual radioactivity, and those radioactive materials are being deposited elsewhere. In addition, waste material from natural gas drilling operations is being deposited into landfills. Radon exposure can also be caused by smoking cigarettes.
- Subsidence/Sinkholes – Mr. Tantlinger stated that the Natural Resources Conservation Service (NRCS) may have data on old pipelines in the county. Many mines under the City of Latrobe could cause the ground above to subside.
- Winter Storms – Mr. Tantlinger stated that the county's largest concern is ice accumulation. He described events in Canada and Kansas that paralyzed communities for 3 weeks and brought down transmission and power lines.
- Dam Failure – Ms. Graber stated that a 25-million-gallon water impoundment is located at the head of a stream in Penn Township. The operator has over 300 previous violations, so the impoundment may not be safe. Public outreach is needed to educate dam owners and operators on the requirements for maintaining their dams and developing emergency action plans, as well as to educate the general public on where to find information about their risk from a dam failure.
- Environmental Hazards – Ms. Graber sent a risk assessment regarding the Mariner East Pipeline to Mr. Subbio after the September 9, 2019 HMWG meeting. Pipelines and gas wells will be added to the hazard profile, using a 0.5-mile buffer as the hazard area. However, the vulnerability radius in the Mariner East Pipeline risk assessment will be used for that pipeline. Also, because of the large number

of wells spread across the county, the entire county falls within the 0.5-mile radius of one or more gas wells. The profile text will be updated to state this, but the map will not show the vulnerability radius around gas wells. Compressor stations will be added to the profile. There have been several well blowouts in the county. Because of the number of wells, compressor stations, and truck activity, all residents of the county are vulnerable to some kind of accident that releases hazardous materials. In the Municipality of Murrysville, 60 middle school students were hospitalized due to exposure to an unknown chemical. Mr. Tantlinger stated that the county is not prepared to respond to a significant airborne release.

- Illicit Drug Use – Narcan is helping lower the number of overdose deaths caused by opioids.
- Utility Interruption – Mr. Tantlinger stated that the county has reached out to critical facilities to determine which facilities have backup power generators or other energy alternatives, along with fuel quantities to power those generators.

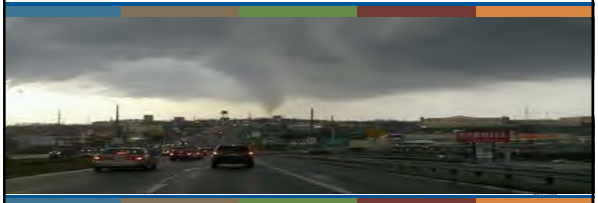
Risk Factor Analysis

Mr. Subbio reviewed the Risk Factor Analysis, which prioritizes the hazards that could affect the county and its municipalities. He also reviewed the Municipal Risk Factor Analysis worksheet. Municipal officials can indicate on the worksheet their risk relative to the county's overall risk from each of the profiled hazards.

Next Steps

- Hazard profiles will be updated based on discussions at this meeting and the HMWG meeting on September 9, 2019.
- Tetra Tech will develop a set of draft mitigation goals and objectives and discuss them with the HMWG.
- A Mitigation Strategy Workshop will be conducted at 9:30 a.m. – 12:00 p.m on October 30, 2019. Invitations will be drafted and sent to the Planning Team.
- Tetra Tech will begin developing mitigation actions for inclusion in the updated HMP.

Westmoreland County Hazard Mitigation Plan (HMP) Update 2019 Risk Assessment Review Meeting



Welcome

Agenda

- Welcome
- Worksheet Completion Status
- Risk Assessment Results
- Next Steps

Worksheet Completion Status

- Still need worksheets from 48 municipalities
  - Have received at least one worksheet from 26
  - Received all four worksheets from 17
- Participation status tracker available upon request
- Worksheet completion is a participation requirement for the HMP
  - Lack of participation in this HMP planning process can prevent funding eligibility

Risk Assessment Results

- Avalanche
  - One event in March 1994
  - $7,400 in damages
  - No other information available

Risk Assessment Results

- Drought
  - History (since 1980)
    - 22 drought watch declarations
    - 11 drought warning declarations
    - 1 drought emergency declaration
    - $3.4 million in lost crop insurance payments within the County from 1989-2017
  - Exposure
    - 144,278 acres of farmland
    - $66.3 million per year in agricultural products
    - $32.7 million in livestock, poultry, and associated products

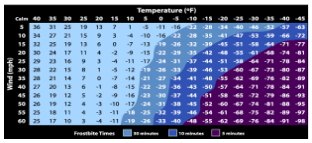
Risk Assessment Results

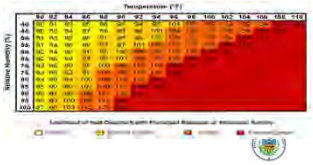
- Earthquake
  - History
    - None with epicenters in the County since 1950
    - Fracking may have caused earthquakes elsewhere
  - Exposure
    - Entire County
  - Annualized losses
    - $162,892
  - Losses from 500-year Mean Return Period (MRP) event
    - $19.1 million in building damage
    - 26,439 tons of debris

8

Risk Assessment Results

- Extreme Temperatures
  - History (since 2014)
    - 8 extreme lows
  - Impacts
    - Health effects
    - Drought
    - Utility load
  - Probability
    - 8 events in 6 years - 100% chance each year





9

Risk Assessment Results

- Flood, Flash Flood, and Ice Jam (1% annual chance)
  - History
    - County has been declared a federal disaster area 16 times since 1954
    - 118 major floods, flash floods, or ice jams since 1996
    - $14.8 million in property damages; $154,000 in crop damages
  - Exposure
    - 6,670 people in the special flood hazard area (SFHA)
    - 4.9% of land area is in the SFHA
    - $2.3 billion in exposed property value
    - 118 critical facilities

10

Risk Assessment Results

- Flood, Flash Flood, and Ice Jam (1% annual chance)
  - Expected losses (1% annual chance flood)
    - $449.6 million in property damage (including residential, commercial, and other occupancy types)
    - 34,815 tons of debris
    - 10,065 individuals displaced
    - 158 people seeking shelter

11

Risk Assessment Results

- Hailstorm
  - History
    - 237 hailstorms 1950-2018; hail size up to 2.5 inches in diameter
    - Damage to roofs
    - Car dealerships - $250K-300K in damage to inventories
    - $2,600 in crop loss insurance payments since 1989
  - Exposure
    - 144,278 acres of farmland
    - $66.3 million per year in agricultural products

12

Risk Assessment Results

- Hurricane and Tropical Storm
  - History
    - 58 storms (remnants)
    - 5 federal disaster declarations
  - Expected Losses
    - 100-year MRP event (below 39 miles per hour [mph])
      - No damage; no debris
    - 500-year MRP event (54-65 mph)
      - $6.0 million in damage to building stock
      - 1,825 tons of debris (mostly tree debris)
    - $62,690 in annualized losses

13

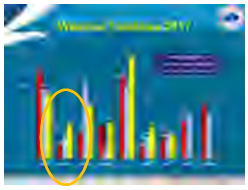
Risk Assessment Results

- Landslide
  - Major Events
    - February-April 2018
    - $1.44 million in damages countywide
  - Exposure
    - 56% of the County population is in the landslide hazard area
    - Depends on soil type
    - $40.2 billion in property is in the hazard area
    - 204 critical facilities
  - Expected losses depend on the nature and extent of the landslide

14

Risk Assessment Results

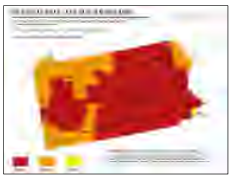
- Lightning
  - History
    - 10 lightning events (1996-2019)
    - $58,000 in property damage
    - Damage to 911 Center
    - 2 fatalities this year
  - Exposure
    - Entire County is vulnerable in exposed outdoor areas during thunderstorms



15

Risk Assessment Results

- Radon Exposure
  - High exposure potential
  - Average level in Westmoreland County homes is 6.2 picoCuries per liter (pCi/L)
  - U.S. Environmental Protection Agency (EPA) action level is 4 pCi/L
  - U.S. average is about 1.3 pCi/L
  - Radioactive materials brought to surface by gas drilling



16

Risk Assessment Results

- Subsidence and Sinkholes
  - Mined out areas
  - Pipe collapse
  - Stripes of near-surface limestone
  - Profile analyzes exposure only on near-surface limestone
    - 143,539 people
    - $30.2 billion in property value
    - 486 critical facilities

17

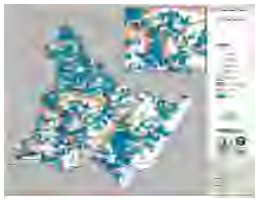
Risk Assessment Results

- Tornadoes and Windstorms
  - History
    - 36 tornadoes since 1950; $267 million in recorded damage
    - 671 wind events from 1950-2019
  - Exposure
    - Entire County's building stock
    - 11,164 manufactured homes

18

Risk Assessment Results

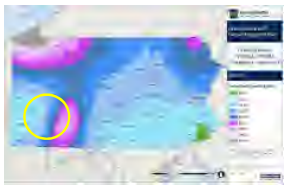
- Wildfire
  - History
    - 238 wildfires, 2002-2018
    - Does not include all events
  - Exposure
    - 216,544 people
    - 159,587 structures
    - $39.5 billion in structure value
    - 545 critical facilities



19

Risk Assessment Results

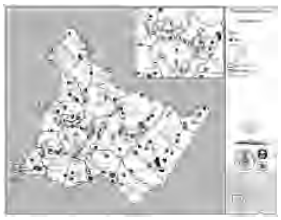
- Winter Storm
  - History
    - 60 major winter storm events since December 2010
    - 6 disaster declarations since 1954
  - Exposure
    - Entire County is vulnerable
    - $43.6 billion in structural value



20

Risk Assessment Results

- Dam Failure
  - 147 dams; 30 high-hazard
  - History – Fort Pitt Dam
    - 1896
    - 1903
  - Emergency Action Plans for high-hazard dams
  - Impoundments that should be classified as high-hazard dams



21

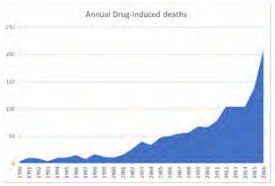
Risk Assessment Results

- Environmental Hazards (Hazardous Materials [HazMat])
  - History
    - 457 significant incidents since 2006
    - Pipeline accident in Salem Township in 2017
    - Hundreds of other small spills
  - Exposure
    - 67,189 people within ¼ mile of railroad
    - 159,106 people within ¼ mile of major roadway
    - 144,902 people within vulnerability radius of a HazMat facility
    - Will add analysis of pipelines and well sites
  - Expected damage depends on the incident

22

Risk Assessment Results

- Illicit Drug Use
  - County has higher-than-average incidence of overdose deaths
  - Most deaths from Fentanyl/Fentanyl-Related Substances (FRS)/ Non-Prescription Synthetic Opioids (NPSO)



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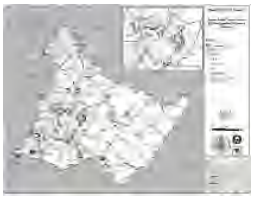
Risk Assessment Results

- Nuclear Incident
  - Beaver Valley Power Station in Beaver County
  - History
    - Westinghouse Waltz Mill 1960
    - TMI 1979
  - Exposure
    - Ingestion Exposure Pathway EPZ (50 miles)
      - 37 municipalities
      - 138,423 structures
      - 585 critical facilities



24

Risk Assessment Results

- Structural Fire
  - Any structure is vulnerable
  - Details on deaths, injuries, property damage not maintained

Year	Number of Structure Fires	Year	Number of Structure Fires
2007	51	2014	59
2008	51	2015	104
2009	39	2016	100
2010	65	2017	139
2011	64	2018	153
2012	44	2019	21
2013	35	**Total**	**925**

25

Risk Assessment Results

- Terrorism
  - History
    - Occasional school bomb threats, suspicious devices/packages
  - All critical facilities are vulnerable
  - Low overall risk

26

Risk Assessment Results

- Transportation Accidents
  - History (2011 – Feb. 2019)
    - 9,962 major vehicle accidents
    - 33 railroad incidents
    - 12 aviation incidents
  - Potential economic impacts and other damage

27

Risk Assessment Results

- Utility Interruptions
  - Often a secondary impact of another hazard event
  - History – 2015-2019
    - 57 communications outages
    - 86 power outages
    - 74 water outages
  - Exposure
    - Entire County
    - Regional events are usually the most severe
  - Impacts to vulnerable populations

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Risk Assessment Results

- Risk Factor Analysis

HAZARD RISK	HAZARDS	RISK ASSESSMENT CATEGORY					RISK FACTOR (RF)
		PROBABILITY	IMPACT	SPATIAL EXTENT	WARNING TIME	DURATION	
HIGH	Flood, Flash Flood, and Ice Jam	4	4	2	1	3	3.2
	Illicit Drug Use	4	4	1	4	1	3.1
	Utility Interruptions	4	1	4	4	3	3.0
	Winter Storm	4	2	4	1	3	3.0
	Tornado, Windstorm	4	3	2	4	1	3.0
	Environmental Hazards	4	3	1	4	2	2.9
	Terrorism	4	3	1	4	1	2.8
	Extreme Temperatures	4	1	4	1	3	2.7
	Radon Exposure	4	1	3	1	4	2.6
	Hailstorm	4	1	4	1	1	2.5
	Landslide	3	3	1	4	1	2.5
MODERATE	Wildfire	4	1	1	4	2	2.3
	Drought	2	1	4	1	4	2.2
	Structural Fire	4	1	1	4	1	2.2
	Transportation Accidents	4	1	1	4	1	2.2
	Hurricane and Tropical Storm	2	1	4	1	3	2.1
LOW	Earthquake	1	1	4	4	1	1.9
	Nuclear Incidents	1	1	4	3	2	1.9
	Subsidence and Sinkholes	3	1	1	4	1	1.9
	Lightning	2	1	1	2	1	1.4
	Dam Failure	1	1	1	3	2	1.3
	Avalanche	1	1	1	1	1	1.0

Risk Assessment Results

- Municipal Risk Factor Analysis

Jurisdiction Risk - _____ (Municipality)

Avalanche	Dam Failure	Drought	Earthquake	Environmental Hazards	Extreme Temperatures	Flood, Flash Flood, and Ice Jam	Hailstorm	Hurricane and Tropical Storm	Illicit Drug Use	Landslide	Lightning	Nuclear Incidents	Radon Exposure	Structural Fire	Subsidence and Sinkholes	Terrorism	Tornado, Windstorm	Transportation Accidents	Utility Interruptions	Wildfire	Winter Storm
1.0	1.3	2.2	1.9	2.9	2.7	3.2	2.5	2.1	3.1	2.5	1.4	1.9	2.6	2.2	1.9	2.8	3.0	2.2	3.0	2.3	3.0

> Your municipality's risk from this hazard is greater than the county's risk as a whole

< Your municipality's risk from this hazard is less than the county's risk as a whole

= Your municipality's risk from this hazard is about the same as the county's risk as a whole

Next Steps

- Complete Municipal Worksheets
- Finalize Risk Assessment
- Develop Mitigation Goals and Objectives
- Conduct Mitigation Strategy Development Workshop
- Identify Mitigation Actions

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Questions?

Thank you for your time!

Contacts

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(412) 921-7090

AGENDA

WESTMORELAND COUNTY HAZARD MITIGATION PLAN UPDATE

Risk Assessment Review Meeting

Monday, September 30, 2019 | 9:30 a.m. – 12:00 p.m.

1. Welcome
2. Worksheet Completion Status
3. Risk Assessment Results
    a. Hazard Profiles
    b. Risk Factor Analysis
4. Next Steps
    a. Mitigation Actions Handout
    b. Mitigation Solutions Workshop
5. Questions

Worksheet Completion Status

Municipality	Hazard Evaluation Survey	Capability Assessment Survey	Mitigation Strategy Survey	NFIP Survey
Westmoreland County	x	x	x	N/A
Adamsburg Borough				
Allegheny Township				
Arnold, City of				
Arona Borough				
Avonmore Borough				
Bell Township				
Bolivar Borough				
Cook Township				
Delmont Borough				
Derry Borough				
Derry Township	x			
Donegal Borough				
Donegal Township	x	x	x	x
East Huntingdon Township				
East Vandergrift Borough	x			
Export Borough	x			
Fairfield Township				
Greensburg, City of				
Hempfield Township	x	x	x	x
Hunker Borough	x			
Hyde Park Borough				
Irwin Borough	x	x	x	x
Jeannette, City of	x	x	x	x
Latrobe, City of	x	x	x	x
Laurel Mountain Borough	x	x	x	x
Ligonier Borough				
Ligonier Township	x	x		x
Lower Burrell, City of				
Loyalhanna Township				
Madison Borough				
Manor Borough	x	x	x	x
Monessen, City of				
Mount Pleasant Borough				
Mount Pleasant Township	x	x		x
Murrysville, Municipality of	x	x	x	x
New Alexandria Borough				

Municipality	Hazard Evaluation Survey	Capability Assessment Survey	Mitigation Strategy Survey	NFIP Survey
New Florence Borough				
New Kensington, City of				
New Stanton Borough				
North Belle Vernon Borough				
North Huntingdon Township	x	x	x	x
North Irwin Borough				
Oklahoma Borough	x			
Penn Borough				
Penn Township	x	x	x	x
Rostraver Township				
St. Clair Township				
Salem Township	x	x	x	x
Scottdale Borough	x	x	x	x
Seward Borough				
Sewickley Township				
Smithton Borough	x	x	x	x
South Greensburg Borough	x	x	x	x
South Huntingdon Township	x	x		
Southwest Greensburg Borough	X	X	X	X
Sutersville Borough				
Trafford Borough	x			
Unity Township				
Upper Burrell Township				
Vandergrift Borough				
Washington Township	x	x	x	x
West Leechburg Borough				
West Newton Borough	x	x	x	x
Youngstown Borough				
Youngwood Borough				

Summary of Risk Factor (RF) Approach

Assessment Category	Level	Criteria	Index	Weight Value
PROBABILITY *What is the likelihood*	POSSIBLE	BETWEEN 1% & 49.9% ANNUAL PROBABILITY	2	
occurring in a given year?	LIKELY	BETWEEN 50% & 90% ANNUAL PROBABILITY	3	
	HIGHLY LIKELY	GREATER THAN 90% ANNUAL PROBABILITY	4	
		PROPERTY DAMAGE & MINIMAL DISRUPTION ON QUALITY OF LIFE. TEMPORARY		
		MINOR INJURIES ONLY. MORE THAN 10% OF PROPERTY IN AFFECTED AREA DAMAGED OR		
damage, or death, would you anticipate	LIMITED	DAY.	2	
catastrophic when a significant hazard	CRITICAL	(MORE THAN 25% OF PROPERTY IN AFFECTED AREA DAMAGED OR DESTROYED. COMPLETE	3	
		HIGH NUMBER OF DEATHS/INJURIES		
		COMPLETE SHUTDOWN OF CRITICAL FACILITIES FOR 30 DAYS OR MORE.		
How large of an area could be impacted by	SMALL	BETWEEN 1 & 10.9% OF AREA AFFECTED	2	
regional?	LARGE	GREATER THAN 25% OF AREA AFFECTED	4	
Is there usually some lead time associated	12 TO 24 HRS	SELF-DEFINED *(NOTE: Levels of warning time and criteria*	2	
measures been implemented?	LESS THAN 6 HRS	SELF-DEFINED *hazard addressed.)*	4	
DURATION *How long does the*	LESS THAN 24 HRS	SELF-DEFINED *(NOTE: Levels of warning time and criteria*	2	
last?	MORE THAN 1 WEEK	SELF-DEFINED *hazard addressed.)*	4	

(Spatial Extent x .20) + (Warning Time x .10) + (Duration x .10)]

HAZARD RISK	HAZARDS	RISK ASSESSMENT CATEGORY					RISK FACTOR (RF)
		PROBABILITY	IMPACT	SPATIAL EXTENT	WARNING TIME	DURATION	
HIGH	Flood, Flash Flood, and Ice Jam	4	4	2	1	3	3.2
	Illicit Drug Use	4	4	1	4	1	3.1
	Utility Interruptions	4	1	4	4	3	3.0
	Winter Storm	4	2	4	1	3	3.0
	Tornado, Windstorm	4	3	2	4	1	3.0
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	Structural Fire	4	1	1	4	1	2.2
	Transportation Accidents	4	1	1	4	1	2.2
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	Subsidence and Sinkholes	3	1	1	4	1	1.9
	Lightning	2	1	1	2	1	1.4
	Dam Failure	1	1	1	3	2	1.3
	Avalanche	1	1	1	1	1	1.0

Jurisdiction Risk - _____ (Municipality)

	Avalanche	Dam Failure	Drought	Earthquake	Environmental Hazards	Extreme Temperatures	Flood, Flash Flood, and Ice Jam	Hailstorm	Hurricane and Tropical Storm	Illicit Drug Use	Landslide	Lightning	Nuclear Incidents	Radon Exposure	Structural Fire	Subsidence and Sinkholes	Terrorism	Tornado, Windstorm	Transportation Accidents	Utility Interruptions	Wildfire	Winter Storm
	1.0	1.3	2.2	1. 9	2.9	2.7	3.2	2.5	2.1	3.1	2.5	1.4	1.9	2.6	2.2	1.9	2.8	3.0	2.2	3.0	2.3	3.0

> Your municipality's risk from this hazard is greater than the County's risk as a whole

< Your municipality's risk from this hazard is less than the County's risk as a whole

= Your municipality's risk from this hazard is about the same as the County's risk as a whole

Please provide the following information for the update of actions and initiatives for your mitigation strategy. Suggested actions have been developed based on an analysis of Westmoreland County's needs and capabilities or were carried over from the previous hazard mitigation plan (HMP) update. If questions do not apply to your municipality, please indicate with N/A.

Hazards being profiled in the HMP are avalanche, dam failure, drought, earthquake, environmental hazards (hazardous materials releases), extreme temperatures, flood, hailstorms, hurricanes and tropical storms, illicit drug use, landslide, lightning strikes, nuclear power plant incidents, radon exposure, structural fires, subsidence and sinkholes, terrorism, tornadoes and windstorms, transportation accidents, utility interruption, wildfire, and winter storms.

Please provide as much detail as possible so that mitigation actions can be expanded and customized for your municipality to accurately reflect your capabilities and methods of operation.

1. Which properties in your jurisdiction are most at-risk from flood events and would have the greatest need for retrofitting or other flood hazard mitigation measures? All repetitive loss and severe repetitive loss properties should be included. Specific property addresses need not be listed (to ensure residential privacy), but names of streets or neighborhoods can be included.

2. What public outreach and education actions would you be most interested in implementing?
    A. Provide general hazard risk preparedness and mitigation information in regular newsletters and mailings.
    B. Provide hazard and risk reduction information through social media channels and e-mail blast systems.
    C. Post flyers and other readily available informational materials at municipal hall or distribute at regular civic meetings.
    D. Develop/maintain a hazard risk management webpage on the municipal website where information and mapping can be posted.
    E. Encourage regular offerings of the American Red Cross Citizen's Disaster Course and other relevant classes.
    F. Encourage private business owners and managers of infrastructure that provide critical services in post-disaster situations to develop Continuity of Operations Plans or Business Continuity Plans.
    G. Enhance public outreach to residents in areas subject to flooding to inform them of annual grant opportunities; this may include distributing periodic articles and including handouts in the annual newsletter.
    H. Other:

3. Which roads would benefit from mitigation or structural projects to reduce vulnerability to flood or stormwater incidents? Also, please specify the types of projects that would most help a high-risk road (for example, new/expanded culvert, road elevation, repaving, etc.), if this information is available.

4. What areas in the municipality are still in need of stormwater rehabilitation and upgrades?

5. Which areas of your municipality concern you regarding hazardous materials (HazMat) releases, whether from a fixed facility, pipeline, natural gas wells, or transportation accident?

6. Which roads would benefit from mitigation or structural projects to reduce vulnerability to HazMat incidents? Also, please specify the types of projects that would most help a high-risk road (for example, lower speed limits), if this information is available.

7. What areas of your municipality have undergone landslides, or are you worried that landslides will happen? What structures or infrastructure is under threat from this?

8. Where in your municipality have land subsidence or sinkholes occurred? What facilities or infrastructure is under threat from this?

9. What facilities are you concerned could be targets of a terrorist attack?

10. What roads or intersections in the municipality are considered high-risk and would benefit from improved design, routing, and traffic control functions? To which hazards (if any) are these roads most vulnerable?

11. Which critical facilities still need or would benefit from a backup generator or redundant power supply?

12. In what other mitigation projects are you interested or targeting for completion during the next 5 years? Please provide as much detail as possible.

WESTMORELAND COUNTY HAZARD MITIGATION PLAN UPDATE

Risk Assessment Review Meeting

SIGN-IN

Monday, September 30, 2019 | 9:30 a.m. – 12:00 p.m.

NAME / TITLE	AGENCY / ORGANIZATION	E-MAIL ADDRESS	TELEPHONE
Andrew Rzodkiewicz AHP	WCDPS	ARzodkie@ co.westmoreland.PA.US	724-600-7314
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Bill Hufford	Unity Twp Resident	billhufford@Comcast.net	724-539-2081
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Robin Harkcom	citizen	Rharkcom40@gmail	724 454-4884

WESTMORELAND COUNTY HAZARD MITIGATION PLAN UPDATE
Risk Assessment Review Meeting

SIGN-IN

Monday, September 30, 2019 | 9:30 a.m. – 12:00 p.m.

NAME / TITLE	AGENCY / ORGANIZATION	E-MAIL ADDRESS	TELEPHONE
Chris Tantlinger / DEMC	WCOPS	ctantlin@co.westmoreland.pa.us	724 640-6601
Darlene Bracken	PEMA W/A	dbracken@pa.gov	724357-0104
Clyde Snyder	Tt	Clyde.Snyder@tetratech.com	724-575-0907
Gillian Graber	Protect PT	gillian@protectpt.org	724-392-7023
Mandy Waltch	WCA	mwaltch@westmorelandca.org	724-834-1260
Larry / Irr	Protect PT	larryjirr@aol.com	412-646-4587
Tony Subbio / PM	Tetra Tech	tony.subbio@tetratech.com	717-545-3580

MEETING NOTES

Meeting	Westmoreland County Hazard Mitigation Plan (HMP) Update Mitigation Solutions Workshop		
Date	October 30, 2019	Time	9:30 – 11:40 a.m.
Location	Westmoreland Intermediate Unit, 102 Equity Drive, Greensburg, PA		
Attendees	Andrew Rzodkiewicz, All-Hazards Planner, WCDPS		
	Christopher Tantlinger, Hazard Mitigation Officer, WCDPS		
	Laura Blood, Source Water Protection Supervisor, Municipal Authority of Westmoreland County (MAWC)		
	Jim Pillsbury, Westmoreland County Conservation District		
	Jeff Thomas, Member, Westmoreland County Local Emergency Planning Committee; Westinghouse		
	Walt Gerber, Arona Borough		
	Chris Tinkel, Cook Township		
	Josh Umbaugh, Cook Township		
	Les Harvey, City of Greensburg		
	Anthony Kovacic, Hempfield Township		
	Bill Frye, Fire Chief, City of Jeanette		
	Jan Shaw, Ligonier Borough		
	Jim Nieusma, Zoning/Community Development, Ligonier Township		
	Bob Nedzesky, City Engineer, City of Monessen; Chief Engineer, WEC Engineers		
	Duane Hutter, Mount Pleasant Township		
	Jeff Silka, Township Manager, North Huntingdon Township		
	Alex Graziani, Secretary/Manager, Penn Township		
	Angelo Pallone, Borough Manager, Scottdale Borough		
	Nina Solivan, Assistant Manager, Borough of Trafford		
	Pete Tencrowicz, Unity Township		
	Mary Popovich, Mayor, West Newton Borough		
	Zachary Derco, Youngwood Borough		
	Austin Erhard, Youngwood Borough		
	Dani Skolnekovich, Chemical Engineer, Arcelor Mittal Monessen, LLC		
	Tyler Cannon, Mountain Watershed Association		
	Darlene Leslie, Protect Penn Trafford (PPT)		
	Darlene Bracken, Pennsylvania Emergency Management Agency (PEMA) Western Area		
	Clyde Snyder, Tetra Tech, Inc. (Tetra Tech)		
	Tony Subbio, Tetra Tech		

Discussion Points

This section summarizes each discussion point addressed during the Mitigation Solutions Workshop.

Welcome

Mr. Tantlinger welcomed attendees to the meeting. Each attendee introduced herself/himself. Mr. Subbio asked attendees to mark up the maps provided to show problem areas within their municipalities.

Worksheet Completion Status

Mr. Subbio stated that worksheets were still needed from 47 municipalities. At least one worksheet was received from 27 municipalities, and all four worksheets have been received from 18 municipalities. Export Borough had submitted their worksheets prior to the meeting, but after materials for this meeting were produced.

Municipal Risk Factor Analysis

Attendees completed a worksheet designed to assess the level of risk from each hazard associated with their respective municipalities as compared to the risk from each hazard to the County as a whole.

Review Existing Mitigation Strategy

Mr. Subbio reviewed the goals and objectives from the 2015 HMP. He explained that the goals and objectives will be updated to consider (1) the Pennsylvania HMP goals and objectives, (2) Westmoreland County capabilities and vulnerabilities based on the risk analysis and capabilities assessment, and (3) feedback received via worksheets and e-mails from representatives of municipalities within Westmoreland County. He also noted that suggested updates to the goals and objectives have already been developed and approved by the Hazard Mitigation Working Group (HMWG) and would be discussed later in the presentation.

After discussing the existing goals and objectives, Mr. Subbio gave attendees a few minutes to review the handout summarizing the status of each mitigation action included in the 2015 HMP. He explained that actions marked as “Completed” or “Discontinued” will be removed from the plan, and that actions marked as “In Progress/Not Yet Complete,” or “No Progress/Unknown” will likely be included in the updated HMP. Actions marked as “Continuous” (i.e., actions considered ongoing capabilities) will likely be removed from the list of actions in the HMP.

Develop the Updated Mitigation Strategy

Mr. Subbio asked attendees to review the updated goals and objectives on the handout provided. He explained the meaning of “appropriate safeguards,” and the need to examine problems at the watershed level with neighboring municipalities (in Objective 3.2).

Mr. Subbio then reviewed the categories of mitigation actions: Local Plans and Regulations; Structure and Infrastructure; Natural Systems Protection; and Education and Awareness Programs. He provided several examples of mitigation actions that fall under each category to give attendees an idea of the types of mitigation actions they could select. Mr. Subbio also went over a series of question prompts to help participants generate project ideas.

Attendees then discussed problems that hazards pose throughout the County, and each municipality's needs for mitigation. Key areas identified during the discussion are listed below:

- Mr. Subbio asked attendees to mark up the municipal maps provided during the meeting to show problem areas and critical facilities that require backup power.
- Mr. Pillsbury stated that renters throughout the County need to be made aware of the hazards they face. Current outreach efforts focus on the property owners.
- Arona Borough has no code enforcement officer or floodplain administrator due to lack of funding.
- There are many traffic accidents along US-30.
- Brush fires have started in Arona Borough along the Pennsylvania Turnpike.
- Through the "Community Champions" program, bankers and real estate agents can track down the owners of vacant properties.
- Municipalities need funding for legal fees to acquire dilapidated structures vulnerable to structural fires and/or used for drug use.
- Mr. Pillsbury discussed programs that exist to help clean streams from mine discharges.
- People have been riding motorcycles and bicycles on abandoned mine lands and getting injured in accidents. Some abandoned mine lands are not blocked off from unauthorized access.
- Ms. Blood stated that the MAWC has identified source water protection areas. MAWC can be leveraged to correct or protect those areas. The Farm Bill has funding mechanisms that can help in this work.
- Sewage has been dumped into old abandoned mines for years.

Mr. Subbio discussed the Mitigation Action Worksheet handout and informed the group that each action in the updated HMP would have a worksheet.

Next Steps

Mr. Subbio reviewed the following next steps in the HMP update process with attendees:

- The County and Tetra Tech will be conducting two regional meetings to solicit additional participation from stakeholders in the County to be held on November 19 and 21, 2019.
- Municipalities and other stakeholders will submit their mitigation actions to Mr. Tantlinger, Mr. Snyder, and/or Mr. Subbio through November 2019.
- A webinar to review the updated mitigation strategy will be conducted upon completion of action development, probably in mid-December 2019 or early January 2020.
- The HMP draft will be completed by January 2020.
- The plan will be available for public review for 30 days following completion.
- A public meeting to review the complete draft will be held after the public comment period.

- After the public meeting, the plan will be finalized and submitted to PEMA for formal review.
- The plan will then be updated based on PEMA's comments, and submitted to Federal Emergency Management Agency (FEMA) Region III for review.

With no further questions, Mr. Tantlinger and Mr. Subbio thanked attendees for their time and participation. The meeting concluded at 11:40 a.m.

Before we get started…

- Grab your municipality's map
- Mark it up!
  - Hazard problem areas (e.g., flooding, transportation accidents, landslides, etc.)
  - Facilities that need backup power
  - Anything else you want to point out or fix

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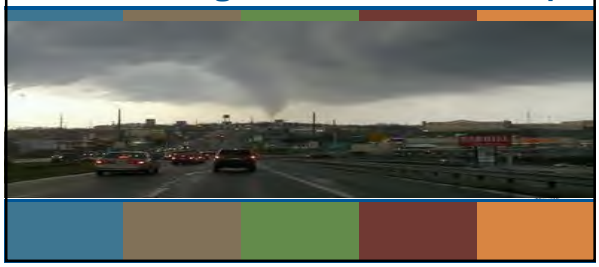
Westmoreland County Hazard Mitigation Plan (HMP) Update 2019 Mitigation Solutions Workshop



Agenda

- Welcome
- Worksheet Completion Status
- Municipal Risk Factor Analysis
- Review Existing Mitigation Strategy
- Develop the Updated Mitigation Strategy
- Next Steps
- Questions

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Welcome

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Worksheet Completion Status

- Still need worksheets from 48 municipalities
  - Have received at least one worksheet from 26
  - Received all four worksheets from 17
- Worksheet completion is a participation requirement for the HMP
  - Lack of participation in this HMP planning process can prevent funding eligibility

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Municipal Risk Factor Analysis

- Risk Factor Analysis

HAZARD RISK	HAZARDS	RISK ASSESSMENT CATEGORY					RISK FACTOR (RF)
		PROBABILITY	IMPACT	SPATIAL EXTENT	WARNING TIME	DURATION	
HIGH	Flood, Flash Flood, and Ice Jam	4	4	2	1	3	3.1
	Illicit Drug Use	4	4	1	4	1	3.1
	Utility Interruptions	4	1	4	4	3	3.0
	Winter Storm	4	2	4	1	3	3.0
	Tornado, Windstorm	4	3	2	4	1	3.0
	Environmental Hazards	4	3	1	4	2	2.9
	Terrorism	4	3	1	4	1	2.8
	Extreme Temperatures	4	1	4	1	3	2.7
	Radon Exposure	4	1	3	1	4	2.6
	Hailstorm	4	1	4	1	1	2.5
	Landslide	3	3	1	4	1	2.5
MODERATE	Wildfire	4	1	1	4	2	2.3
	Drought	2	1	4	1	4	2.2
	Structural Fire	4	1	1	4	1	2.2
	Transportation Accidents	4	1	1	4	1	2.2
	Hurricane and Tropical Storm	2	1	4	1	3	2.1
LOW	Earthquake	1	1	4	4	1	1.9
	Nuclear Incidents	1	1	4	3	2	1.9
	Subsidence and Sinkholes	3	1	1	4	1	1.9
	Lightning	2	1	1	2	1	1.4
	Dam Failure	1	1	1	3	2	1.3
	Avalanche	1	1	1	1	1	1.0

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Municipal Risk Factor Analysis

Jurisdiction Risk - ______________________________ (Municipality)

	Dam Failures	Drought	Earthquake	Environmental Hazards	Flooding/Flash Flood/Ice Jam	Invasive Species	Landslide	Levee Failure	Pandemic	Radon Exposure	Subsidence and Sinkholes	Terrorism	Tornado/Windstorm	Transportation Accidents	Utility Interruption	Wildfire	Winter Storm
	1.3	2.2	1.9	2.6	3.4	3.1	2.5	2.4	3.1	2.8	1.8	1.7	3.5	2.4	3.1	2.2	3.0

> Your municipality's risk from this hazard is greater than the County's risk as a whole

< Your municipality's risk from this hazard is less than the County's risk as a whole

= Your municipality's risk from this hazard is about the same as the County's risk as a whole

Review Existing Mitigation Strategy

- Goals Review

Existing Goals
No objectives were developed for the 2015 HMP.
Goal 1: To minimize the risk to human life associated with natural and non-natural hazards.
Goal 2: To promote hazard avoidance, especially in floodplains, by removing high-risk and repetitive loss structures, and by issuing building restrictions on future development.
Goal 3: To reduce the damage from natural and non-natural hazards to existing and future public and private assets including structures, critical facilities, and infrastructure.
Goal 4: To protect and restore existing natural resources including wetlands, floodplains, and riparian buffers.
Goal 5: To develop, prioritize and implement cost-effective, long-term actions that will reduce the impacts of natural and non-natural hazards.
Goal 6: To enhance planning and emergency response efforts among local, county, state, and federal, emergency management personnel to protect public health and safety.
Goal 7: To promote public awareness on the potential impacts of natural and non-natural hazards, and actions to reduce those impacts.

Review Existing Mitigation Strategy

- Status of 2015 Actions

Existing Mitigation Action	Status: No Progress / Unknown	Status: In Progress / Not Yet Complete	Status: Continuous	Status: Completed	Status: Discontinued	Review Comments
28. All Municipalities – Maintain compliance with and be in 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.			X			• Donegal Township marked this continuous. • Hempfield Township marked this continuous. • Irwin Borough marked this continuous. • The City of Jeannette marked this continuous. • The Municipality of Murrysville marked this continuous. • Penn Township marked this continuous. • Salem Township marked this continuous. • Washington Township marked this continuous.
29. All Municipalities – Begin the process to adopt higher regulatory standards to manage flood risk (i.e. increased freeboard, cumulative substantial damage/improvements) and sinkhole risk (e.g. carbonate bedrock standards).		X	X			• Laurel Mountain Borough marked this as in progress. • Donegal Township marked this continuous. • The Municipality of Murrysville marked this continuous. • Penn Township marked this continuous. • Salem Township marked this continuous.
30. All Municipalities – Determine if a Community Assistance Visit (CAV) or Community Assistance Contact (CAC) is needed, and schedule if needed.		X	X			• The City of Jeannette marked this as in progress. • The Municipality of Murrysville marked this continuous. • Salem Township marked this continuous.
31. All Municipalities – Have designated NFIP Floodplain Administrator (FPA) become a Certified Floodplain Manager through the ASFPM, and pursue relevant continuing education training such as FEMA Benefit-Cost Analysis.		X	X			• Washington Township marked this as in progress – the FPA is not a CFM. • Hempfield Township marked this continuous. • Irwin Borough marked this continuous. • Penn Township marked this continuous. • Salem Township marked this continuous. •
32. All Municipalities – Participate in the Community Rating System (CRS) to further manage flood risk and reduce flood insurance premiums for NFIP policyholders. This process starts by submitting to FEMA-DHS a Letter of Intent to join CRS, followed by completing and submitting an application to the program once the community's current compliance with the NFIP is established.			X			• Irwin Borough marked this continuous. • Penn Township marked this continuous. • Salem Township marked this continuous.

Review Existing Mitigation Strategy

Develop the Updated Mitigation Strategy

- Purpose of the Mitigation Strategy
  - Reduce likelihood of hazard impacts
  - Lessen impacts of hazards
- Suggested Goals and Objectives
  - See Handout for Updated Goals and Objectives
- Categories of Mitigation Actions
  - Local Plans and Regulations (LPR)
  - Structure and Infrastructure Projects (SIP)
  - Natural Systems Protection (NSP)
  - Education and Awareness Programs (EAP)

Develop the Updated Mitigation Strategy

- Example Mitigation Actions
  - **LPR**: Review and revise local regulations to minimize risk from hazards
  - **SIP**: Acquire, elevate, relocate, or flood-proof structures
  - **NSP**: Promote restoration of local wetlands
  - **EAP**: Cross-train personnel to build technical capability
  - **EAP**: Develop a hazards information page on the Township/Borough website

Develop the Updated Mitigation Strategy

- Identify Additional Mitigation Actions (pretending you have all the time and money in the world!)
  - What plans or regulations does your municipality need?
  - What information must you provide to your residents and visitors?
  - What property and products can be insured?
  - What can be done about invasive species?
  - What additional staff do you need?
  - Where are your problem areas? What can be done about them?
  - What critical facilities need backup power generators? What about traffic lights?

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Develop the Updated Mitigation Strategy

- Problems and Problem Areas
  - Dam Failure – awareness of people downstream
  - Floods, Flash Floods, and Ice Jams – 38+ problem areas
    - Small stream flooding
    - Loyalhanna Creek
    - Stormwater flooding
    - What culverts/bridges give you problems?
  - Environmental Hazards
    - Releases from pipeline and well site accidents
    - Naturally radioactive material brought to surface

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Develop the Updated Mitigation Strategy

- Problems and Problem Areas
  - Landslides
    - Steep slopes
    - Caused by heavy rains saturating soil
  - Transportation Accidents
    - Intersections
    - Corridors

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Develop the Updated Mitigation Strategy

- Mitigation Action Worksheet

Municipality(ies):	Action
Action Number:	
Location (address, lat/long)	
Mitigation Technique Category	
Hazard(s) Addressed	
Priority (High, Medium, Low)	
Estimated Cost	
Potential Funding Streams	
Timeline	
Lead Agency/Department	
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

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Next Steps

- Identify and Submit Mitigation Actions
- Solicit Additional Participation
- Conduct Mitigation Strategy Review Meeting
- Finalize the Draft HMP
- Provide Public Comment Period
- Conduct Draft Review Meeting
- Submit Plan Update to Pennsylvania Emergency Management Agency (PEMA)
- Submit Plan Update to Federal Emergency Management Agency (FEMA)

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Questions?

Thank you for your time!

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Contacts

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AGENDA

WESTMORELAND COUNTY HAZARD MITIGATION PLAN UPDATE

Mitigation Solutions Workshop

Wednesday, October 30, 2019 | 9:30 a.m. – 12:00 p.m.

1. Welcome
2. Worksheet Completion Status
3. Municipal Risk Factor Analysis
4. Review Existing Mitigation Strategy
    a. Goals and Objectives Review
    b. Status of 2015 Mitigation Actions
5. Develop the Updated Mitigation Strategy
    a. Purpose of the Mitigation Strategy
    b. Suggested Goals and Objectives
    c. Categories of Mitigation Actions
    d. Example Mitigation Actions
    e. Additional Mitigation Actions
    f. Problems and Problem Areas
    g. Mitigation Action Worksheet
6. Next Steps
    a. Identify and Submit Mitigation Actions
    b. Solicit Additional Participation
    c. Conduct Mitigation Strategy Review Meeting
    d. Finalize the Draft HMP
    e. Provide Public Comment Period
    f. Conduct Draft Review Meeting
    g. Submit Plan Update to PEMA
    h. Submit Plan Update to FEMA
7. Questions

Worksheet Completion Status

Municipality	Hazard Evaluation Survey	Capability Assessment Survey	Mitigation Strategy Survey	NFIP Survey	Municipal Risk Factor Analysis
Westmoreland County	x	x	x	N/A	
Adamsburg Borough					
Allegheny Township					
Arnold, City of					
Arona Borough					
Avonmore Borough					
Bell Township					
Bolivar Borough					
Cook Township					
Delmont Borough					
Derry Borough					
Derry Township	x				
Donegal Borough					
Donegal Township	x	x	x	x	
East Huntingdon Township					
East Vandergrift Borough	x				
Export Borough	x				
Fairfield Township					
Greensburg, City of					
Hempfield Township	x	x	x	x	
Hunker Borough	x				
Hyde Park Borough					
Irwin Borough	x	x	x	x	
Jeannette, City of	x	x	x	x	
Latrobe, City of	x	x	x	x	
Laurel Mountain Borough	x	x	x	x	
Ligonier Borough					
Ligonier Township	x	x		x	
Lower Burrell, City of					
Loyalhanna Township					
Madison Borough					
Manor Borough	x	x	x	x	
Monessen, City of					
Mount Pleasant Borough	x	x		x	
Mount Pleasant Township					
Murrysville, Municipality of	x	x	x	x	
New Alexandria Borough					

Municipality	Hazard Evaluation Survey	Capability Assessment Survey	Mitigation Strategy Survey	NFIP Survey	Municipal Risk Factor Analysis
New Florence Borough					
New Kensington, City of					
New Stanton Borough					
North Belle Vernon Borough					
North Huntingdon Township	x	x	x	x	
North Irwin Borough					
Oklahoma Borough	x				
Penn Borough					
Penn Township	x	x	x	x	
Rostraver Township					
St. Clair Township					
Salem Township	x	x	x	x	
Scottdale Borough	x	x	x	x	
Seward Borough					
Sewickley Township					
Smithton Borough	x	x	x	x	
South Greensburg Borough	x	x	x	x	
South Huntingdon Township	x	x			
Southwest Greensburg Borough	X	X	X	X	
Sutersville Borough					
Trafford Borough	x				
Unity Township					
Upper Burrell Township					
Vandergrift Borough					
Washington Township	x	x	x	x	
West Leechburg Borough					
West Newton Borough	x	x	x	x	
Youngstown Borough					
Youngwood Borough					

Jurisdiction Risk - _____ (Municipality)

Avalanche	Dam Failure	Drought	Earthquake	Environmental Hazards	Extreme Temperatures	Flood, Flash Flood, and Ice Jam	Hailstorm	Hurricane and Tropical Storm	Illicit Drug Use	Landslide	Lightning	Nuclear Incidents	Radon Exposure	Structural Fire	Subsidence and Sinkholes	Terrorism	Tornado, Windstorm	Transportation Accidents	Utility Interruptions	Wildfire	Winter Storm
1.0	1.3	2.2	1. 9	2.9	2.7	3.2	2.5	2.1	3.1	2.5	1.4	1.9	2.6	2.2	1.9	2.8	3.0	2.2	3.0	2.3	3.0

> Your municipality's risk from this hazard is greater than the County's risk as a whole

< Your municipality's risk from this hazard is less than the County's risk as a whole

= Your municipality's risk from this hazard is about the same as the County's risk as a whole

Existing Goals

No objectives were developed for the 2015 HMP.

Goal 1: To minimize the risk to human life associated with natural and non-natural hazards.

Goal 2: To promote hazard avoidance, especially in floodplains, by removing high-risk and repetitive loss structures, and by issuing building restrictions on future development.

Goal 3: To reduce the damage from natural and non-natural hazards to existing and future public and private assets including structures, critical facilities, and infrastructure.

Goal 4: To protect and restore existing natural resources including wetlands, floodplains, and riparian buffers.

Goal 5: To develop, prioritize and implement cost-effective, long-term actions that will reduce the impacts of natural and non-natural hazards.

Goal 6: To enhance planning and emergency response efforts among local, county, state, and federal, emergency management personnel to protect public health and safety.

Goal 7: To promote public awareness on the potential impacts of natural and non-natural hazards, and actions to reduce those impacts.

Goals and Objectives

These updated goals and objectives are aligned with the Pennsylvania HMP goals and objectives.

Goal 1: Prevent injury/death and damage from natural and human-made hazards in Westmoreland County.

- Objective 1.1 Develop regulations limiting development in hazard-prone areas.
- Objective 1.2 Develop and enforce stormwater management regulations.

Goal 2: Protect the citizens of Westmoreland County as well as public and private property from the impacts of natural and human-caused hazards.

- Objective 2.1 Protect existing structures, including critical facilities, from damage that can be caused by hazards.
- Objective 2.2 Acquire, relocate, elevate, and/or retrofit existing structures, including repetitive loss properties, located in hazard areas.
- Objective 2.3 Improve and maintain stormwater management systems to reduce flooding.
- Objective 2.4 Encourage homeowners, renters, and businesses to insure their properties against all hazards, including flood coverage under the National Flood Insurance Program (NFIP).
- Objective 2.5 Protect the health of County residents from illicit drug use.

Goal 3: To protect and restore existing natural resources including wetlands, floodplains, and riparian buffers.

- Objective 3.1 Lessen impacts on natural resources and open space from natural and human-caused hazards.
- Objective 3.2 Provide appropriate safeguards for the preservation of the quality of water resources, stream corridors, watershed areas, and floodplains.

Goal 4: To enhance awareness, understanding, and preparedness among local, county, state, and federal emergency management personnel to protect public health and safety.

- Objective 4.1 Ensure adequate training and resources for those involved in emergency response, services, relief, or hazard mitigation.
- Objective 4.2 Ensure adequacy of equipment and technology.
- Objective 4.3 Develop awareness of hazardous materials being transported or stored throughout Westmoreland County.
- Objective 4.4 Encourage residents and visitors to provide information regarding hazard impacts.

Goal 5: To promote public awareness on the potential impacts of natural and non-natural hazards, and actions to reduce those impacts.

- Objective 5.1 Develop public education and outreach programs on hazards and hazard mitigation.
- Objective 5.2 Educate property owners in hazard-risk areas regarding their risks and the precautions they can take.
- Objective 5.3 Encourage residents to implement hazard mitigation and preparedness measures on their properties.
- Objective 5.4 Encourage local participation in the Community Rating System (CRS) Program.
- Objective 5.5 Develop and enforce a requirement for property sellers to disclose hazards that exist on the property to potential buyers.

Mitigation Action Plan Review

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress/ Not Yet Complete	Continuous	Completed	Discontinued	
1. Mt. Pleasant Borough - Install additional stormwater runoff pipes and upgrade/replace existing deteriorated pipes.	X					• None
2. Hunker Borough - Procure and install a back-up generator into Hunker Borough EOC.	X					• None
3. Hunker Borough - Procure and install air conditioning units into community building / community shelter.	X					• None
4. Hunker Borough - Retrofit community building to prevent flooding in basement.	X					• None
5. Hunker Borough - Pave Bellson Street in Hunker Borough. Install proper drainage to prevent flooding.	X					• None
6. Hunker Borough - Implement the redirection of the stormwater catch basin at the intersection of Walnut and Bridge St.	X					• None
7. Hunker Borough - Demolition of abandoned home.	X					• None
8. Hunker Borough - Install sub-flooring to prevent roadway along Locust St. from sinking.	X					• None
9. Hunker Borough - Retrofit Walnut St. Bridge to prevention erosion.	X					• None
10. Unity Township - Construct and install a new culvert in Lloydsville to enhance hydraulic capacity.	X					• None
11. Unity Township - Install a stormwater detention system in Lawson Heights.	X					• None
12. Allegheny Township - Replace and enhance stormwater runoff pipes in Moreland Manor.	X					• None
13. St. Clair Township - Reconstruction of Bridge River Hill Bridge.	X					• None
14. St. Clair Township - Reconstruction of Bridge Sugar Run Road.	X					• None
15. Fairfield Township - Reconstruction of Patterson Bridge.	X					• None
16. Sewickley Township - Install storm water drainage system along Pinewood Road.	X					• None
17. Sewickley Township - Procure a skid loader/grab attachment for storm clean up and culvert clean out.	X					• None

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress/ Not Yet Complete	Continuous	Completed	Discontinued	
18. Sewickley Township - Procure remote receive sites to enhance communications.	X					• None
19. Sewickley Township - Procure sweeper truck for stormwater management.	X					• None
20. Sewickley Township - Procure and install a back-up generator into Hutchinson VFD Station 85.	X					• None
21. Sewickley Township - Procure and install a back-up generator into Lowber VFD Station 16.	X					• None
22. Sewickley Township - Procure and install a back-up generator into Rillton VFD Station 14.	X					• None
23. Sewickley Township - Procure skid steer attachment to clear debris around culverts.	X					• None
24. Fairfield Township - Develop and implement an action plan to mitigation recurring flooding on Creek Road.	X					• None
25. Upper Burrell Township - Procure and install an emergency generator.	X					• None
26. County and all municipalities - Retrofit structures located in hazard-prone areas to protect structures from future damage, with repetitive loss and severe repetitive loss properties as priority. Phase 1: Identify appropriate candidates for retrofitting based on cost-effectiveness versus relocation. Phase 2: Where retrofitting is determined a viable option, work with property owners toward implementation based on available funding from FEMA and local match availability.			X			• Donegal Township marked this continuous. • The City of Jeannette marked this continuous. • Penn Township marked this continuous. • Salem Township marked this continuous.
27. County and all municipalities - Purchase, or relocate structures located in hazard-prone areas to protect structures from future damage, with repetitive loss and severe repetitive loss properties as priority. Phase 1: Identify appropriate candidates for relocation based on cost-effectiveness versus retrofitting. Phase 2: Where relocation is determined a viable option, work with property owners toward implementation based on available funding from FEMA and local match availability.			X			• The City of Jeannette marked this continuous. • Salem Township marked this continuous.

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress/ Not Yet Complete	Continuous	Completed	Discontinued	
28. All Municipalities - Maintain compliance with and be in 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.			X			• Donegal Township marked this continuous. • Hempfield Township marked this continuous. • Irwin Borough marked this continuous. • The City of Jeannette marked this continuous. • The Municipality of Murrysville marked this continuous. • Penn Township marked this continuous. • Salem Township marked this continuous. • Washington Township marked this continuous.
29. All Municipalities - Begin the process to adopt higher regulatory standards to manage flood risk (i.e. increased freeboard, cumulative substantial damage/improvements) and sinkhole risk (e.g. carbonate bedrock standards).		X	X			• Laurel Mountain Borough marked this as in progress. • Donegal Township marked this continuous. • The Municipality of Murrysville marked this continuous. • Penn Township marked this continuous. • Salem Township marked this continuous.
30. All Municipalities - Determine if a Community Assistance Visit (CAV) or Community Assistance Contact (CAC) is needed, and schedule if needed.		X	X			• The City of Jeannette marked this as in progress. • The Municipality of Murrysville marked this continuous. • Salem Township marked this continuous.
31. All Municipalities - Have designated NFIP Floodplain Administrator (FPA) become a Certified Floodplain Manager through the ASFPM, and pursue relevant continuing education training such as FEMA Benefit-Cost Analysis.		X	X			• Washington Township marked this as in progress – the FPA is not a CFM. • Hempfield Township marked this continuous. • Irwin Borough marked this continuous. • Penn Township marked this continuous. • Salem Township marked this continuous. •
32. All Municipalities - Participate in the Community Rating System (CRS) to further manage flood risk and reduce flood insurance premiums for NFIP policyholders. This process starts by submitting to FEMA-DHS of Letter of Intent to join CRS, followed by completing and submitting an application to the program once the community's current compliance with the NFIP is established.			X			• Irwin Borough marked this continuous. • Penn Township marked this continuous. • Salem Township marked this continuous.

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress/ Not Yet Complete	Continuous	Completed	Discontinued	
33. County and all municipalities - Continue to support the implementation, monitoring, maintenance, and updating of this Plan, as defined in Section 7.0		X	X			• WCPD marked this in progress. • Hempfield Township marked this as in progress. • Donegal Township marked this continuous. • Irwin Borough marked this continuous. • The City of Jeannette marked this continuous. • The Municipality of Murrysville marked this continuous. • Penn Township marked this continuous. • Salem Township marked this continuous. • Washington Township marked this continuous – through WCDPS plan updates.
34. County and all municipalities - Complete the ongoing updates of the Comprehensive Plans		X	X	X		• Hempfield Township marked this as in progress. • Donegal Township marked this continuous. • Irwin Borough marked this continuous. • The City of Jeannette marked this continuous. • Penn Township marked this continuous. • Salem Township marked this continuous. • Washington Township marked this continuous – through WCDPS plan updates. • County Plan Completed December 2018
35. County - Enhance the Westmoreland County Stormwater Management Plan by implementing Phase 2 of the plan.		X	X			• County plan is preparing for adoption. • Irwin Borough marked this continuous. • The Municipality of Murrysville marked this continuous. • Salem Township marked this continuous.
36. County and all municipalities - Create/enhance/ maintain mutual aid agreements with neighboring counties / communities for continuity of operations.		X	X			• MAWC owns/operates emergency interconnects with adjacent water purveyors. • Laurel Mountain Borough marked this as in progress • Hempfield Township marked this continuous. • Irwin Borough marked this continuous. • The Municipality of Murrysville marked this continuous. • Salem Township marked this continuous. • Washington Township marked this continuous – through Region 13.

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress/ Not Yet Complete	Continuous	Completed	Discontinued	
37. County - Identify and develop agreements with entities that can provide support with FEMA/PEMA paperwork after disasters. Qualified damage assessment personnel should be available for post-disaster efforts, including damage assessment; FEMA/PEMA paperwork compilation, submittals, and record-keeping.		X	X			• Washington Township marked this in progress. • Irwin Borough marked this continuous. • The City of Jeannette marked this continuous. • The Municipality of Murrysville marked this continuous. • Salem Township marked this continuous.
38. County - Work with regional agencies (i.e. Region 13 and PEMA) to develop damage assessment capabilities at the local level through training programs, certification of qualified individuals (e.g. code officials, floodplain managers, engineers).		X	X			• Washington Township marked this in progress. • Irwin Borough marked this continuous. • The City of Jeannette marked this continuous. • The Municipality of Murrysville marked this continuous. • Salem Township marked this continuous.
39. County and all municipalities - Partner with community groups such as local community organizations, including civic, business, town watch, faith-based, senior, special needs and tenant associations to promote emergency preparedness and mitigation efforts.		X	X			• MAWC personnel meet with local civic groups, etc. (upon request) to discuss various aspects of the MAWC's business practices including emergency management. • Washington Township marked this in progress. • Irwin Borough marked this continuous. • The City of Jeannette marked this continuous. • The Municipality of Murrysville marked this continuous. • Salem Township marked this continuous.
40. County and all municipalities - Develop geospatial and analytical tools to support community engagement, policy reform, and county and regional planning efforts.			X			• MAWC employs full-time GIS, IT, PR, and Engineering personnel to support these activities. • Irwin Borough marked this continuous. • The Municipality of Murrysville marked this continuous. • Salem Township marked this continuous.
41. County and all municipalities - Develop a hazard event GIS database to help county and local emergency managers with hazard mitigation and other planning initiatives.		X	X			• MAWC employs full-time GIS, IT, PR, and Engineering personnel to support these activities • The City of Jeannette marked this as in progress. • Irwin Borough marked this continuous. • The Municipality of Murrysville marked this continuous. • Salem Township marked this continuous. • Washington Township marked this continuous.

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress/ Not Yet Complete	Continuous	Completed	Discontinued	
42. County and all municipalities - Maintain and exercise continuity of government plan to enable the county government to provide critical services during an interruption of business.		X	X			• MAWC developed and maintains an Emergency Action Plan to address this concern. • The City of Jeannette marked this as in progress. • Washington Township marked this in progress. • Irwin Borough marked this continuous. • The Municipality of Murrysville marked this continuous. • Salem Township marked this continuous.
43. County and all municipalities - Implement seismic retrofits to vulnerable critical facilities.		X	X			• The City of Jeannette marked this as in progress. • The Municipality of Murrysville marked this continuous. • Salem Township marked this continuous.
44. All municipalities - Regulate development to reduce flood losses in vulnerable fluvial areas.		X	X			• The City of Jeannette marked this as in progress. • Irwin Borough marked this continuous. • The Municipality of Murrysville marked this continuous. • Salem Township marked this continuous. • Washington Township marked this continuous – through the Planning Commission.
45. County - Develop and maintain an outreach program to provide information and guidance to municipalities on their role in flood plain development.			X			• Irwin Borough marked this continuous. • The Municipality of Murrysville marked this continuous. • Salem Township marked this continuous.
46. County and all municipalities - Support and utilize an advanced warning system that provides emergency text and email alerts to the public.		X	X			• The City of Jeannette marked this as in progress. • Irwin Borough marked this continuous. • The Municipality of Murrysville marked this continuous. • Salem Township marked this continuous. • Washington Township marked this continuous – through social media, email, township newsletter.
47. County and all municipalities - Procure redundant power sources (portable generators).			X			• MAWC owns stationary and portable backup generators. • The Municipality of Murrysville marked this continuous. • Salem Township marked this continuous. • Washington Township marked this continuous.

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress/ Not Yet Complete	Continuous	Completed	Discontinued	
48. County and all municipalities - Maintain redundant power sources			X			• MAWC owns stationary and portable backup generators. • The Municipality of Murrysville marked this continuous. • Salem Township marked this continuous. • Washington Township marked this continuous.
49. County and all municipalities - Develop and distribute educational information on hazards, emergency preparedness and fire prevention.			X			• MAWC communicates with its customers on a regular basis concerning emergency preparedness and fire protection. • Donegal Township marked this continuous. • Irwin Borough marked this continuous. • The Municipality of Murrysville marked this continuous. • Salem Township marked this continuous. • Washington Township marked this continuous – generators are in place at the Township Building and Fire Department.
50. County and all municipalities - Develop and distribute public outreach materials on water conservation.			X			• MAWC distributes water conservation materials to its customers. • Irwin Borough marked this continuous. • The Municipality of Murrysville marked this continuous. • Salem Township marked this continuous. • Washington Township marked this continuous.

Please provide the following information for the update of actions and initiatives for your mitigation strategy. Suggested actions have been developed based on an analysis of Westmoreland County's needs and capabilities or were carried over from the previous hazard mitigation plan (HMP) update. If questions do not apply to your municipality, please indicate with N/A.

Hazards being profiled in the HMP are avalanche, dam failure, drought, earthquake, environmental hazards (hazardous materials releases), extreme temperatures, flood, hailstorms, hurricanes and tropical storms, illicit drug use, landslide, lightning strikes, nuclear power plant incidents, radon exposure, structural fires, subsidence and sinkholes, terrorism, tornadoes and windstorms, transportation accidents, utility interruption, wildfire, and winter storms.

Please provide as much detail as possible so that mitigation actions can be expanded and customized for your municipality to accurately reflect your capabilities and methods of operation.

1. Which properties in your jurisdiction are most at-risk from flood events and would have the greatest need for retrofitting or other flood hazard mitigation measures? All repetitive loss and severe repetitive loss properties should be included. Specific property addresses need not be listed (to ensure residential privacy), but names of streets or neighborhoods can be included.

2. What public outreach and education actions would you be most interested in implementing?
    A. Provide general hazard risk preparedness and mitigation information in regular newsletters and mailings.
    B. Provide hazard and risk reduction information through social media channels and e-mail blast systems.
    C. Post flyers and other readily available informational materials at municipal hall or distribute at regular civic meetings.
    D. Develop/maintain a hazard risk management webpage on the municipal website where information and mapping can be posted.
    E. Encourage regular offerings of the American Red Cross Citizen's Disaster Course and other relevant classes.
    F. Encourage private business owners and managers of infrastructure that provide critical services in post-disaster situations to develop Continuity of Operations Plans or Business Continuity Plans.
    G. Enhance public outreach to residents in areas subject to flooding to inform them of annual grant opportunities; this may include distributing periodic articles and including handouts in the annual newsletter.
    H. Other:

3. Which roads would benefit from mitigation or structural projects to reduce vulnerability to flood or stormwater incidents? Also, please specify the types of projects that would most help a high-risk road (for example, new/expanded culvert, road elevation, repaving, etc.), if this information is available.

4. What areas in the municipality are still in need of stormwater rehabilitation and upgrades?

5. Which areas of your municipality concern you regarding hazardous materials (HazMat) releases, whether from a fixed facility, pipeline, natural gas wells, or transportation accident?

6. Which roads would benefit from mitigation or structural projects to reduce vulnerability to HazMat incidents? Also, please specify the types of projects that would most help a high-risk road (for example, lower speed limits), if this information is available.

7. What areas of your municipality have undergone landslides, or are you worried that landslides will happen? What structures or infrastructure is under threat from this?

8. Where in your municipality have land subsidence or sinkholes occurred? What facilities or infrastructure is under threat from this?

9. What facilities are you concerned could be targets of a terrorist attack?

10. What roads or intersections in the municipality are considered high-risk and would benefit from improved design, routing, and traffic control functions? To which hazards (if any) are these roads most vulnerable?

11. Which critical facilities still need or would benefit from a backup generator or redundant power supply?

12. In what other mitigation projects are you interested or targeting for completion during the next 5 years? Please provide as much detail as possible.

Mitigation Action Worksheet

Municipality(ies):	**Action**
Action Number:	
Location (address, lat/long)	
Mitigation Technique Category	
Hazard(s) Addressed	
Priority (High, Medium, Low)	
Estimated Cost	
Potential Funding Streams	
Timeline	
Lead Agency/Department	
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Technique 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 (1) modifying existing structures and infrastructure to protect them from a hazard, or (2) removing 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 includes 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.

Costs:

If an estimated cost is known, please provide or use the following ranges:

Low = < $10,000 *Medium* = $10,000 to $100,000 *High* = > $100,000

If costs have not been estimated, please use the following categories:

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.

Timeline: Short = 1 to 5 years Long-Term = 5 years or greater

OG = On-going program DOF = Depending on funding

WESTMORELAND COUNTY HAZARD MITIGATION PLAN UPDATE
Mitigation Solutions Workshop

SIGN-IN

Wednesday, October 30, 2019 | 9:30 a.m. – 12:00 p.m.

NAME / TITLE	AGENCY / ORGANIZATION	E-MAIL ADDRESS	TELEPHONE
Angelo Pallone Boro Mgr	Scottdale Boro	scottdaleborough@outlook.com	724 887-8220
WALT GEIGER	ARONA	W GEIGER 2@GMAIL.com	724 600 6266
Jan Shaw	Ligonier Boro	ligonierboro@comcast.net	724-238-9852
Anthony Kovacic	Hempfield Twp	akovacic@hempfieldtwp.com	724 254 9070
Zachary Perco	Youngwood Borough	Ywdstreetdept.@comcast.net	724-925-3033
Chris Tinkel	Cook Twp	Cooktwp@hot.com	724-593-7471
Josh Umbaugh	Cook Twp	"	"
Pete Tencrowicz	Unity Twp	driobl@comcast.net	724-787-1264
Andrew Rzodkiewicz	WCDPS	ARzodkie@Co.westmoreland.PA.us	724-600-7514
Christopher Tantlinger	WCDPS	ctantlin@Co.westmoreland.PA.us	724-600-7349

WESTMORELAND COUNTY HAZARD MITIGATION PLAN UPDATE
Mitigation Solutions Workshop

SIGN-IN

Wednesday, October 30, 2019 | 9:30 a.m. – 12:00 p.m.

NAME / TITLE	AGENCY / ORGANIZATION	E-MAIL ADDRESS	TELEPHONE
Alex Graziani	Penn Twp	alexgraziani@	724
Secretary/Manager		Penntwp.org	724.2171
Bill Frye, Fire Chief	City of Jeannette	bfrye@cityofjnt.com	724-420-4340
Jim Nieusma	Ligonier Twp	JNieusma@Ligoniertownship.com	7242382725 x116
Austin Erhard	Youngwood Borough	ywdstreetdept@comcast.net	724-454-4068
Dani Skolnekovich	Arcelor Mittal Monessen LLC	danielle.skolnekovich@arcelormitta	~~724-[illegible]~~ 724 594 4032
JEFF THOMAS	LEPC	thomasjp@westinghouse.com	724-722-6220
Clyde Snyder	Tetra Tech	Clyde.Snyder@tetratech.com	724-514-0907
Darlene Bracken	PEMA	dbracken@pa.gov	724-357-0106
LES HARVEY	CITY OF GREENSBURG	LHARVEY@GREENSBURGPA.ORG	724-838-4507

WESTMORELAND COUNTY HAZARD MITIGATION PLAN UPDATE
Mitigation Solutions Workshop

SIGN-IN

Wednesday, October 30, 2019 | 9:30 a.m. – 12:00 p.m.

NAME / TITLE	AGENCY / ORGANIZATION	E-MAIL ADDRESS	TELEPHONE
Mary Papouch, Mayor	West Newton Boro - ERA	marypapouch@gmail.com	724 972 3779
Nina Solivan, Asst. Manager	Borough of Trafford	Borough secretary@traffordboro.	412 372 7652
Jeff Silka Twp Manager	North Huntingdon Twp	j silka @ northhuntingdon.org	724 863-3806
BOB NEDZESKY CITY ENGR	City of Monessen WEC Engrs.	RNedzesky@WECengineers.com	412-257-8774
Duane Hutter Mt Pleasant Twp	Mt Pleasant Twp		724 423-5653
Darlene Leslie	PPT	Lazyl111@yahoo.com	412-849-6799
JIM PILLSBURY	WEST CONS DIST	JIM@WCDPA.COM	8375271
Laura Blood	MAWC	lblood@mawc.org	412-218-8479
Tyler Cannon	Mountain Watershed Association	tyler@mtwatershed.org	
Tony Subbio / PM	Tetra Tech	tony.subbio@tetratech.com	717-545-3580

11/18/2019

HAZARD MITIGATION
Monthly Meeting

Last Name	First Name	Title	Representing	E-Mail/Phone #	Signature
Anthony	Christopher	Dep C	WCDPS	cfanthony@co.westmoreland.pa.us	
Pochet	Lori		~~Citizen~~ Citizen	LFPochet@hotmail.com	
Snyder	Clyde		Tetra Tech	Clyde.Snyder@Tetratech.com	
					SIGN HERE
Subbio	Tony		on phone call to Clyde.		SIGN HERE
					SIGN HERE
					SIGN HERE
					SIGN HERE
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					SIGN HERE

AGENDA

WESTMORELAND COUNTY HAZARD MITIGATION PLAN UPDATE

Stakeholder Meeting

Tuesday, November 19, 2019 | 6:00 - 8:00 p.m.

1. Welcome
2. Worksheet Completion Status
3. Municipal Risk Factor Analysis
4. Problems and Problem Areas
5. Next Steps
    a. Finalize the Set of Mitigation Actions
    b. Mitigation Strategy Review Webinar
    c. Finish the Draft
    d. Provide Public Comment Period
    e. Conduct Draft Review Meeting
    f. Submit Plan Update to PEMA
    g. Submit Plan Update to FEMA
6. Questions

AGENDA

WESTMORELAND COUNTY HAZARD MITIGATION PLAN UPDATE

Stakeholder Meeting

Thursday, November 21, 2019 | 6:00 - 8:00 p.m.

1. Welcome
2. Worksheet Completion Status
3. Municipal Risk Factor Analysis
4. Problems and Problem Areas
5. Next Steps
    a. Finalize the Set of Mitigation Actions
    b. Mitigation Strategy Review Webinar
    c. Finish the Draft
    d. Provide Public Comment Period
    e. Conduct Draft Review Meeting
    f. Submit Plan Update to PEMA
    g. Submit Plan Update to FEMA
6. Questions

Worksheet Completion Status

Municipality	Hazard Evaluation Survey	Capability Assessment Survey	Mitigation Strategy Survey	NFIP Survey
Westmoreland County	x	x	x	N/A
Adamsburg Borough				
Allegheny Township				
Arnold, City of				
Arona Borough				
Avonmore Borough				
Bell Township				
Bolivar Borough				
Cook Township				
Delmont Borough				
Derry Borough				
Derry Township	x			
Donegal Borough				
Donegal Township	x	x	x	x
East Huntingdon Township				
East Vandergrift Borough	x			
Export Borough	x	x	x	x
Fairfield Township				
Greensburg, City of				
Hempfield Township	x	x	x	x
Hunker Borough	x			
Hyde Park Borough				
Irwin Borough	x	x	x	x
Jeannette, City of	x	x	x	x
Latrobe, City of	x	x	x	x
Laurel Mountain Borough	x	x	x	x
Ligonier Borough				
Ligonier Township	x	x		x
Lower Burrell, City of				
Loyalhanna Township				
Madison Borough				
Manor Borough	x	x	x	x
Monessen, City of	x	x	x	X
Mount Pleasant Borough	x	x		x
Mount Pleasant Township				
Murrysville, Municipality of	x	x	x	x
New Alexandria Borough				

Municipality	Hazard Evaluation Survey	Capability Assessment Survey	Mitigation Strategy Survey	NFIP Survey
New Florence Borough				
New Kensington, City of				
New Stanton Borough				
North Belle Vernon Borough				
North Huntingdon Township	x	x	x	x
North Irwin Borough				
Oklahoma Borough	x			
Penn Borough				
Penn Township	x	x	x	x
Rostraver Township				
St. Clair Township				
Salem Township	x	x	x	x
Scottdale Borough	x	x	x	x
Seward Borough				
Sewickley Township				
Smithton Borough	x	x	x	x
South Greensburg Borough	x	x	x	x
South Huntingdon Township	x	x		
Southwest Greensburg Borough	x	x	x	x
Sutersville Borough				
Trafford Borough	x			
Unity Township				
Upper Burrell Township				
Vandergrift Borough				
Washington Township	x	x	x	x
West Leechburg Borough				
West Newton Borough	x	x	x	x
Youngstown Borough				
Youngwood Borough				

Jurisdiction Risk - _____ (Municipality)

Avalanche	Dam Failure	Drought	Earthquake	Environmental Hazards	Extreme Temperatures	Flood, Flash Flood, and Ice Jam	Hailstorm	Hurricane and Tropical Storm	Illicit Drug Use	Landslide	Lightning	Nuclear Incidents	Radon Exposure	Structural Fire	Subsidence and Sinkholes	Terrorism	Tornado, Windstorm	Transportation Accidents	Utility Interruptions	Wildfire	Winter Storm
1.0	1.3	2.2	1. 9	2.9	2.7	3.2	2.5	2.1	3.1	2.5	1.4	1.9	2.6	2.2	1.9	2.8	3.0	2.2	3.0	2.3	3.0

> Your municipality's risk from this hazard is greater than the County's risk as a whole

< Your municipality's risk from this hazard is less than the County's risk as a whole

= Your municipality's risk from this hazard is about the same as the County's risk as a whole

WESTMORELAND COUNTY HAZARD MITIGATION PLAN UPDATE
Stakeholder Meeting

SIGN-IN

Tuesday, November 19, 2019 | 6:00 - 8:00 p.m.

NAME / TITLE	AGENCY / ORGANIZATION	E-MAIL ADDRESS	TELEPHONE
Clyde Snyder	Tetra Tech	Clyde.Snyder@Tetra Tech.com	724-516-0907
Sandy Smythe	Washington Twp EMC	ssmythe@washingtontownship.com	724-571-7211
Jeff Raykes	City of Greensburg	jraykes@greensburgpa.org	724 838 4334
Dennis Scarpiniti	City of New Kensington	cityclerk@newkensington.org	724-337-3342
Chris Tantlinger	WCOPS	ctantlin@co.westmoreland.pa.us	724-640-6601

Need Forms ??

WESTMORELAND COUNTY HAZARD MITIGATION PLAN UPDATE
Stakeholder Meeting

SIGN-IN

Thursday, November 21, 2019 | 6:00 - 8:00 p.m.

NAME / TITLE	AGENCY / ORGANIZATION	E-MAIL ADDRESS	TELEPHONE
MATT JENNEWINE (Supervisor)	South Huntingdon twp	Southhuntingdontwp@comcast.net	724-872-8474
Jeff Seglowich (supervisor)	South Huntingdon twp	southhuntingdontwp@comcast.net	724-872-8474
Dan Pergola (EMA coor.)	South Huntingdon twp.	shuntingdontwpemc@yahoo.com	724-875-2741
FRED Cecchini DEP EMA	SALEM TWP	cecchini34@gmail.com	724-309-3427
Lou & Dorothy Pochet	Hempfield	LFPochet@hotmail.com	724-837-6540
Diane Senaefer	Youngwood Borough	youngwoodborough@comcast.net	724-925-3660
Charity Colebank (Scottdale Council)	Scottdale Borough	colebankc@gmail.com	724-787-6792
Angelo Fallone Scottdale Mgr	Scottdale Borough	scottdaleborough@outlook.com	724 887-8220
Mark Casta EMA Dir	Scottdale Borough	asst800@gmail.com	724/691-4623
Chris Tantlinger DEMC	WCDPS	ctantlin@co.westmoreland.pa.us	724/640-6601

WESTMORELAND COUNTY HAZARD MITIGATION PLAN UPDATE
Stakeholder Meeting

SIGN-IN

Thursday, November 21, 2019 | 6:00 - 8:00 p.m.

NAME / TITLE	AGENCY / ORGANIZATION	E-MAIL ADDRESS	TELEPHONE
JAN KIMRON			
Bob Nedzesky	Monessen	RNedzesky@WECengineers.com	412-257-8774
Rico Cholock	Mt Pleasant Borough	RCholock.FDFD@Gmail.com	724-6005315
Glenn Wees EMA Director	Sewickley Twp		412-491-6457
RALPH FURIN	SOUTH GREENSBURG	RSFURIN@AOL.COM	724-5769002
JERRY LUCIA	MT. PLEASANT BORO	GLUCIA45@ICLOUD.COM	7246404887
Clyde Snyder	Tetra Tech	Clyde.Snyder@Tetratech.com	724-516-0907

12/16/2019 updated

Hazard Mitigation Working Group
Monthly Meeting
10/21/2019

Last Name	First Name	Title	Representing	E-Mail	Signature
Ashton	Jack	Asst. Manager	MAWC	jashton@mawc.org	SIGN HERE
Bertolino	Michael	FIN/ADMIN Chief	WCDPS	mbertoli@co.westmoreland.pa.us	SIGN HERE
Bova	Christopher	Planner	Gibson-Thomas	Chris.bova@gibson-thomas.com	SIGN HERE
Bracken	Darlene	EM Specialist	PEMA	dbracken@pa.gov	SIGN HERE
Cramer	Ron	LEMC	New Alexandria	navfd@hotmail.com	SIGN HERE
Downs	Jeff	Representative	West Penn Power	jdowns@firstenergycorp.com	SIGN HERE
Eslary	Mary Beth	PIO	WCDPS	meslary@co.westmoreland.pa.us	SIGN HERE
Fender	Rich	County Planning	WCDPS	rfender@co.westmoreland.pa.us	SIGN HERE
Good	Gene	Operations Chief	WCDPS	egood@co.westmoreland.pa.us	SIGN HERE
Graber	Gillian	Executive Director	Protect PT	gillian@protectPT	POLYCOM
Keefe	Ellen	Member	WC Cleanways	ekeefe@westmorelandcleanways.org	SIGN HERE
Knox	Dave	LEMC	Upper Burrell	knoxda@gmail.com	SIGN HERE
Komondor	Gene	Planner	Red Cross	Gene_Komondor@redcross.org	SIGN HERE
Kopas	Ted	Commissioner	WC	fkopas@co.westmoreland.pa.us	SIGN HERE
Matason	Richard	Member	NHT	richm1709@comcast.net	SIGN HERE
Mertz	Roland	Director	WCDPS	rmertz@co.westmoreland.pa.us	SIGN HERE
Pillsbury	Jim	Member	NRCS	jim@wcdpa.com	SIGN HERE
Pochet	Lou	Member	Greensburg	lfpochet@hotmail.com	POLYCOM
Pologruto	Anthony	GIS Analyst	MAWC	apologruto@mawc.org	SIGN HERE
Rzodkiewicz	Andrew	All Hazards Planner	WCDPS	arzodkie@co.westmoreland.pa.us	POLYCOM

12/16/2019 updated

Hazard Mitigation Working Group
Monthly Meeting
10/21/2019

Last Name	First Name	Title	Representing	E-Mail	Signature
Snyder	Clyde	Planner	TetraTech	clyde.snyder@tetratech.com	POLYCOM
Stepanovich	Scott	Deputy Director	WCDPS	sstepano@co.westmoreland.pa.us	SIGN HERE
Tantlinger	Christopher	HMO	WCDPS	ctantlin@co.westmoreland.pa.us	POLYCOM
Wright	William	Deputy Chief	Firefighting	wr521@msn.com	SIGN HERE
	Ann		Protect PT	ann@protectpt.org	POLYCOM
Blood	Laura	Source Water Super	MAWC	Lblood@mawc.org	POLYCOM
					SIGN HERE
					SIGN HERE
					SIGN HERE
					SIGN HERE
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12/16/2019 updated

Hazard Mitigation Working Group
Monthly Meeting
10/21/2019

Last Name	First Name	Title	Representing	E-Mail	Signature
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AGENDA Notes
HAZARD MITIGATION WORKING GROUP

January 13, 2020 @0900

Introductions: Chris Tantlinger, Clyde Snyder, Andrew Rzodkiewicz,

Conference Call participants:

Gillian Garber, Ann, Lou Pochet

412-244-3700 5013# Please identify yourself and place your phone on mute.

Review: Status of mitigation strategies to be reviewed this month. January 17th we hope to have prepared drafts for a January 31st webinar to include the hazard mitigation strategies review. 400+ strategies have been reported by Tony Subbio. Discussion from Protect PT in regards to an upcoming meeting to be providing a Home Resource Guide to citizens to help them report concerns related to fracking, drilling, and pipline concerns. Chris Tantlinger stressed the importance of having DEP be notified on everything that could be considered a concern with a spill or air quality. Hazmat County response is relegated to emergent concerns of IDLH atmospheres and has no regulatory authority. Also the companies that are drilling or in well and pipeline construction have government liaison officers that should be contacted or invited to these types of meetings or public outreach. If they do not respond or attend it can be documented that they are not responsive to the concerns. It was noted that MAWC Source Water protection individual has been providing details on some spills. However, it was expressed that more detail could accompany those reports. It was discussed that sometimes these reports may have not come from a 9-1-1 call or any other emergency response and may not have been fully reported or provided to the authorities and it can become difficult to know where and when all spills or releases occur, that can sometimes be unknown by the responsible party or an accident not involving a direct activity. Other concerns were expressed by Lou on landslides and this was addressed in the drafts as confirmed by Clyde. It was noted that in Cumberland County a judge had determined that for areas that do not have good communication that a better means of notifying the public and additional meetings need to be held for the public in outreach due to the hazards and threats specifically with the Mariner East Pipeline, where protection plans need to be put in place. This was directed by the PUC toward the Energy Transfer Partners. There are 17 counties affected by this. (The quarterly report has been submitted to PEMA, and payment request has been processed for the contract consultant. Mike Bertolino was not available to make his report and is noted here.)

Hazard Mapping: Nothing moved forward at this time.

Best Practices in Mitigation: It was relayed that an additional 50$ million dollars was allocated by FEMA for Hazard Mitigation and that a substantial focus has been made on acquisitions and flood concerns for repetitive loss properties. An increase is being made competitively across the US. We need to get the word out on these reports.

Hazards & Mitigations: It has been noted that Youngstown Borough has taken another step to being identified by the NFIP program. The Hazard Mitigation Minute is being distributed to the HMWG, The Protect PT group said they have not received the emails. Gillian@protectpt.com and ann@protectpt.com

Next Meeting & Location:

February 10, 2020 0900-1000 Westmoreland County Department of Public Safety Conference Room

AGENDA Notes
HAZARD MITIGATION WORKING GROUP

February 10, 2020 @0900

Introductions:
Chris Tantlinger, Lou Pochet, Andrew Rzodkiewicz, Clyde Snyder, Jan Milburn, Laura Blood

Conference Call participants:
412-244-3700 5013# Please identify yourself and place your phone on mute.
Gillian Graber, Ann

Review:
Discussed the reconfiguring of the website and directed everyone to the draft documents section. Lou Pochet presented printed questions to the meeting. (see attached). Related that the mitigation strategies webinar has been moved back and date to be announced for review of plan to be scheduled. Jan Milburn had provided discussion related to air quality monitoring and the implementation on some response protocols at some response level. Elected local representation through state legislators, and local elected officials needs to be the driving force to make change as it is related to response or ordinances implemented. Jan had reiterated that a white paper had been provided to the Commissioners and there appears to be no movement on the suggestions. She stated that a program needs to be set up because schools are being evacuated and there really is no way of knowing what exposures may be involved. Extension conversation on response capabilities of fire and hazmat crews and how the process of notification for DEP is made reviewed. The DEP complaint website form and phone numbers were provided as a venue to be considered for providing information for DEP investigation. It was related that the County has no Public Health Department and not able to compel any actions without local request, and only within the means for which a specific response can be generated to the extent provided for established public safety protocols are immediately dangerous to life and health. Questions asked and answered from Mr.Pochet's submitted document were read in their entirety. The County GIS mapping system was illustrated with regards to flood plains and how to navigate the site as was done in the previous hazard mitigation public workshop conducted last February and March. A view of the www.publicsource.org website was presented with an "environmental" search for the meeting participants was conducted and encouraged to review regarding previous and future items that may be related to hazard mitigation. Gillian Graber provided background and invited everyone to the ProtectPT workshop Saturday February 15, 2020 regarding an Home Emergency Resource Guide. Lunch will be served and will be conducted from 1000am to 130pm at the Penn Library in Penn Township. The local emergency management coordinators will be sent a message on the county distribution list to consider attending.

Hazard Mapping:

Review of the 100yr floodplain on the county GIS site

Best Practices in Mitigation:

Discussion on the development of sites in flood plains and the challenges of creating buffer zones when new construction is considered in place of mitigation.

Hazards & Mitigations:

Review the hazrds in Mr. Pochet's document regarding the Corona Virus onset. Discussions on response to the current activities for response to this outbreak and the previous Ebola outbreak were illustrated including actions revealed from a public health exercise that was conducted regarding the Palace Theatre and the spread of a biological threat.

Next Meeting & Location:

March 9, 2020 0900-1000 Westmoreland County Department of Public Safety Conference Room

We all can recognize that "collateral" damage as well as continual exposure to everyday risks can harm. As an example, what can we do to respond as an example to the corona type virus infection ?

Does local government depend solely on the state or federal government if and when this problem develops? If the local county government needs to plan, does the county have access to "hazmat" type suits? Does our local government have access to "thermometers" to monitor sickness via body temperature? Is there access to medical face masks? Is there a plan on how to address situations requiring mass containment quarantine methods?

"Underlying preventive-intervention delivery, no matter the source, is the need for political action. The citizens of every community or jurisdiction must provide the political impetus and the resources to assure that modern prevention is available, whether in regulating and policing the general or workplace environment, assuring high-quality sanitary procedures, furnishing effective educational programs and services, or providing fiscal and geographical access to clinical services. Provision of suitable research programs and prevention professionals is also critical. Prevention interventions may vary considerably in the evidence of their efficacy, the proportion of the population that will be positively affected by the intervention, and intervention delivery costs. Thus, some prioritization of the universe of potential interventions will often be necessary; methods to conduct such prioritization are often lacking, however, and more research is needed in this area."

With respect to determination of potential air pollution problems – do we not have a responsibility to provide real sampling techniques? If so, then we need to have our emergency first response personnel trained and equipped with both real time measurement devices as well as "summa type" canisters.

Since we have industrialized the county, should there be localized discussions to alert people living in kill zones around pipelines as well as gas wells to let these people know where to evacuate to when / if it becomes a necessity? Mushrooms may grow in the dark, people do better in the light of understanding.

With respect to flood plain areas, should an effort be made to alert those people living in the potential affected areas be made aware of that potential?

PENN TOWNSHIP

Protect PT to host workshop this week about fracking

Penn Township environmental group Protect PT will hold a free educational workshop this week about unconventional gas drilling, also known as fracking.

The organization will meet from 10 a.m. to 1:30 p.m. Feb. 15 at the Penn Area Library to discuss pollution, noise and other concerns related to fracking.

"We want to make sure residents have the resources they need to protect themselves and their families," Gillian Graber, executive director of Protect PT, said in a statement. "We hope that those who attend will be able to share the information they learn with their neighbors and friends."

Lunch will be provided and participants will receive a resource guide created by the organization.

There are several active fracking wells in Penn Township, and more are proposed. The workshop is not limited to township residents.

Registration online at protectpt.org/actions-events.

municipal court - p

protectpt.org

Penn Twp.

MEETING NOTES

Meeting	Westmoreland County Hazard Mitigation Plan (HMP) Update Draft Review Meeting		
Date	May 28, 2020	Time	9:00 – 9:55 a.m.
Location	Webinar		
Attendees	Tanya Polinsky, Westmoreland County Department of Public Safety (WCDPS)		
	Andrew Rzodkiewicz, All-Hazards Planner, WCDPS		
	Christopher Tantlinger, Hazard Mitigation Officer, WCDPS		
	Anthony Kovacic, Emergency Management Coordinator, Hempfield Township		
	Bob Nedzesky, City Engineer, City of Monessen; Chief Engineer, WEC Engineers		
	Tony Subbio, Tetra Tech, Inc. (Tetra Tech)		

Discussion Points

The sections below summarize each discussion point addressed during the meeting.

Welcome

Mr. Tantlinger welcomed attendees and described the purpose of the meeting. He stated that Mr. Rzodkiewicz is reviewing the draft HMP in detail. This is the third iteration of the county's HMP. Mr. Tantlinger stated that the HMP has improved with each iteration, and that this version is very detailed and provides useful information.

Mr. Rzodkiewicz thanked the WCPDS staff, municipal emergency management coordinators, and general public for participating in the planning process.

Review the Planning Process

Mr. Subbio reviewed the project timeline. He described the meetings that were conducted and the 90 organizations that participated in the planning process.

Review the Document

Mr. Subbio gave a brief summary of each section of the updated HMP, as described below:

- Section 1: Introduction provides the background, purpose, and scope of the HMP.
- Section 2: County Profile discusses the nature of Westmoreland County, its communities, and its environment. It also discusses the limitations of data used in developing the HMP.
- Section 3: Planning Process summarizes the process by which the HMP was updated. It identifies the municipalities and stakeholders that participated in the planning process.
- Section 4: Risk Assessment includes the hazard profiles and vulnerability summary.
- Section 5: Capability Assessment describes the plans, regulations, staff, and resources available to implement hazard mitigation throughout the County. Mr. Subbio described the capabilities that were analyzed.
- Section 6: Mitigation Strategy includes the goals, objectives, and mitigation actions identified in the planning process. Mr. Subbio described the process used to develop mitigation actions, including using

information gathered from the Westmoreland County Conservation District's stormwater problem mapping application. Mr. Tantlinger stated that the action plan shows the need for each municipality to identify a Hazard Mitigation Officer.

- Section 7: Plan Maintenance describes how the HMP will be maintained over 5 years after adoption, including the annual review process. It describes procedures for non-participating municipalities to follow to be able to adopt the HMP if they so desire in the future.
- Section 8: Plan Adoption includes template resolutions for each participating jurisdiction to adopt the HMP.
- The appendices include documentation of the planning process. Appendix I lists the critical facilities analyzed in the risk assessment; this appendix is not available to the public for security reasons.

Next Steps

Mr. Subbio reviewed the following next steps in the HMP update process with attendees:

- Tetra Tech will put the finishing touches on the draft HMP by June 5, 2020.
- Tetra Tech will submit the HMP to Pennsylvania Emergency Management Agency (PEMA) for review on or about June 10, 2020.
- After PEMA completes its review, Tetra Tech will make any required changes and submit the plan to the Federal Emergency Management Agency (FEMA) for formal review; submission is estimated to be in early July 2020.

With no further questions, Mr. Tantlinger thanked attendees for their time and participation. The meeting concluded at 9:55 a.m.

TETRA TECH

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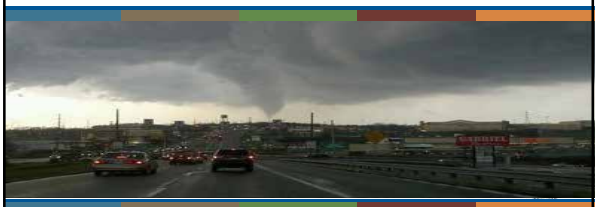
Westmoreland County
Hazard Mitigation Plan (HMP) Update
Plan Draft Review Webinar



1

Agenda

- Welcome
- Review the Planning Process
- Review the Document
- Next Steps
- Questions

2

Welcome

- Christopher Tantlinger, Deputy Emergency Management Coordinator, Westmoreland County Department of Public Safety
- Tony Subbio, Project Manager, Tetra Tech, Inc.

3

Review the Planning Process

- Planning Team Kickoff Meeting
  - February 28, 2019
- Risk Assessment Update
  - February 11 – September 30, 2019
- Mitigation Strategy Update
  - February 28, 2019 – March 5, 2020
- Develop the HMP Document
  - February 28, 2019 – March 11, 2020
- Public Review Period
  - April 17 – May 27, 2020

4

Review the Planning Process

- Citizen Planning Workshop: 02/19/19
- Planning Team Kickoff Meeting: 02/28/19
- Hazard Mitigation Working Group Meetings:
  - 03/11/19
  - 04/08/19
  - 09/09/19
  - 10/21/19
  - 11/18/19
  - 12/16/19
  - 01/13/20
  - 02/10/20
- Emergency Management Coordinator Trainings:
  - 03/27/19
  - 07/24/19
- Elected Officials Seminar: 05/22/19
- Risk Assessment Review Meeting: 09/30/19
- Mitigation Strategy Workshop: 10/30/19
- Stakeholder Meetings: November 2019

5

Review the Planning Process

Westmoreland County Agencies			
Department of Public Safety	Municipal Authority	Public Works	Sheriff's Office
Behavioral Health/ Developmental Services	Planning and Development	Sanitary Landfill	Transit
Conservation District	Prison		
39 of 65 Municipalities			
Schools and School Districts			
Central Westmoreland Career and Technology Center	Eastern Westmoreland Career and Technology Center	Greensburg-Salem School District	Norwin School District
Emergency Response Organizations			
Crabtree Volunteer Fire Department	Mount Pleasant Fire	University of Pittsburgh Police	Westmoreland County Animal Response Team
Forbes Road Volunteer Fire Department	PennWEST	Westmoreland County Trench/Rescue	

6

Review the Planning Process

Industry			
ArcelorMittal Monessen, LLC	DNP Imagingcomm America Corporation	Ferrell Gas	Quadrant EPP USA, Inc.
ArcelorMittal Monessen	Dominion Energy	Firestone Building Products	WEC Engineers
Chestnut Ridge Foam	Enterprise Products	Gabriel Performance Products	West Penn Power
Cleveland/Price, Inc.	Excela Health	General Carbide	Westinghouse Waltz Mill
Community Organizations			
Mountain Watershed Association	Protect Penn-Trafford (Protect PT)	Westmoreland Community Action	Westmoreland Marcellus Citizens Group
Regional Organizations			
Southwestern Pennsylvania Commission		The Hospital and Healthsystem Association of Pennsylvania (HAP)	
Neighboring Counties			
Allegheny County Department of Emergency Services		Somerset County Department of Emergency Services	
Commonwealth Agencies			
Pennsylvania Department of Health	Pennsylvania Emergency Management Agency	Pennsylvania House of Representatives	Pennsylvania State Police - Greensburg
Pennsylvania Department of Transportation			
U.S. Army Corps of Engineers			

7

Review the Document

- Section 1: Introduction
  - Background
  - Purpose
  - Scope
- Section 2: County Profile
  - Geography and Environment
  - Community Facts
  - Population and Demographics
  - Land Use and Development
  - Data Sources and Limitations

8

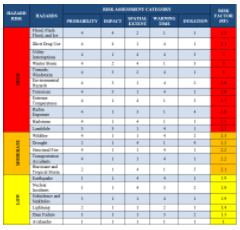
Review the Document

- Section 3: Planning Process
  - Update Process and Participation Summary
  - The Planning Team
  - Meetings and Documentation
  - Public and Stakeholder Participation
  - Multi-Jurisdictional Planning

9

Review the Document

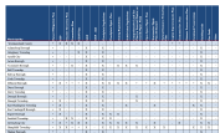
- Section 4: Risk Assessment
  - Update Process Summary
  - Hazard Identification
  - Hazard Profiles
  - Hazard Vulnerability Summary



10

Review the Document

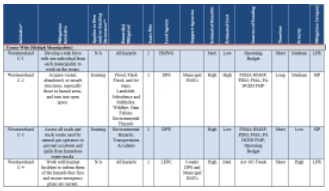
- Section 5: Capability Assessment
  - Comprehensive Planning
  - Emergency Management
  - Participation in the NFIP
  - Community Rating System (CRS)
  - Administrative and Technical Capability
  - Political Capability
  - Financial Capability
  - Education and Outreach
  - Self-Assessment
  - Plan Integration



11

Review the Document

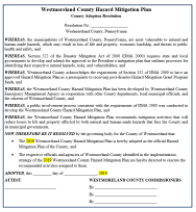
- Section 6: Mitigation Strategy
  - Update Process Summary
  - Mitigation Goals and Objectives
  - Identification and Analysis of Mitigation Techniques
  - Mitigation Action Plan



12

Review the Document

- Section 7: Plan Maintenance Procedures
  - Monitoring, Evaluating, and Updating the Plan
    - Information Requests
    - Worksheets
    - Annual Review Meeting
  - Continued Public Involvement
- Section 8: Plan Adoption


Westmoreland County Hazard Mitigation Plan
County Adoption Resolution

13

Review the Document

- Appendices
  - Authorities and References
  - Local Plan Review Crosswalk
  - Meeting Documentation
  - Municipal Participation Documentation
  - Public and Stakeholder Participation
  - Adoption Resolutions
  - Blank Mitigation Action Worksheet
  - Completed Mitigation Action Worksheets
  - Critical Facilities (not publicly available)

14

Next Steps

- Finishing touches
  - May 28 – June 5, 2020
- Submission to PEMA
  - On or about June 10, 2020
- Submission to FEMA Region III
  - On or about July 1, 2020

15

Questions?

Thank you for your time!

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Contacts

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(724) 600-7349

Tony Subbio
tony.subbio@tetratech.com
(717) 545-3580

Clyde Snyder
clyde.snyder@tetratech.com
(412) 921-7090

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AGENDA

WESTMORELAND COUNTY HAZARD MITIGATION PLAN UPDATE
Plan Draft Review Webinar

Thursday, May 28, 2020 | 9:00 – 10:00 a.m.

1. Welcome
2. Review the Planning Process
3. Review the Document
4. Next Steps
5. Questions

Hazard Identification and Risk Evaluation Worksheet

Name: Lori Mozina Title: Chief CART Coordinator

Jurisdiction: Westmoreland/Fayette/Allegheny Counties County Animal Response Team

PART I

Identified Hazards 2015 HMP	How has the frequency of occurrence, magnitude of impact, and/or geographic extent changed in your community? *NC = No Change; I = Increase; D = Decrease* *(Please provide an explanation for any hazards marked I or D in the "Additional Comments" column)*	Additional Comments
Natural Hazards		
Avalanche	D	Not around here
Drought	NC	
Earthquake	NC	
Extreme Temperatures	I	
Floods, Flash Floods, and Ice Jams	I - flooding	
Hailstorm	NC	
Hurricane	I	
Landslide	I	
Lightning	NC	
Radon Exposure	NC	
Subsidence, Sinkhole	NC	
Tornado, Windstorm	I	
Wildfire	NC	
Winter Storm	NC	

Identified Hazards 2015 HMP	How has the frequency of occurrence, magnitude of impact, and/or geographic extent changed in your community? *NC = No Change; I = Increase; D = Decrease* *(Please provide an explanation for any hazards marked I or D in the "Additional Comments" column)*	Additional Comments
Human-made Hazards		
Dam Failure	I	from flooding
Environmental Hazards	NC	
Nuclear Incident	NC	
Structural Fire	I	
Terrorism	NC	
Transportation Accident	I	
Utility Interruption	I	

PART II

Other Hazards:

Do any of these hazards, not previously profiled in the County's hazard mitigation plan; have the potential to affect your municipality significantly? (If so, please check the box)

Natural

- ☐ Coastal Erosion
- ☐ Dust, Sand Storm
- ☐ Expansive Soils
- ☒ Invasive Species
- ☒ Pandemic
- ☐ Tsunami
- ☐ Volcano

Human-Caused

- ☒ Building or Structure Collapse
- ☒ Civil Disturbance
- ☐ Disorientation
- ☐ Drowning
- ☐ Levee Failure
- ☒ Mass Food/Animal Feed Contamination
- ☐ War and Criminal Activity

Other Comments:

Hazard Identification and Risk Evaluation Worksheet

Name: Municipal Authority Westmoreland County Title: Curt Fontaine, P.E.

Jurisdiction: Water / Wastewater

PART I

Identified Hazards 2015 HMP	How has the frequency of occurrence, magnitude of impact, and/or geographic extent changed in your community? *NC = No Change; I = Increase; D = Decrease* *(Please provide an explanation for any hazards marked I or D in the "Additional Comments" column)*	Additional Comments
Natural Hazards		
Avalanche	NC	
Drought	NC	
Earthquake	NC	
Extreme Temperatures	NC	
Floods, Flash Floods, and Ice Jams	NC	
Hailstorm	NC	
Hurricane	NC	
Landslide	I	Due to increased precipitation
Lightning	NC	
Radon Exposure	NC	
Subsidence, Sinkhole	NC	
Tornado, Windstorm	NC	
Wildfire	NC	
Winter Storm	NC	

Identified Hazards 2015 HMP	How has the frequency of occurrence, magnitude of impact, and/or geographic extent changed in your community? *NC = No Change; I = Increase; D = Decrease* *(Please provide an explanation for any hazards marked I or D in the "Additional Comments" column)*	Additional Comments
Human-made Hazards		
Dam Failure	NC	
Environmental Hazards	NC	
Nuclear Incident	NC	
Structural Fire	NC	
Terrorism	NC	
Transportation Accident	NC	
Utility Interruption	NC	

PART II

Other Hazards:

Do any of these hazards, not previously profiled in the County's hazard mitigation plan; have the potential to affect your municipality significantly? (If so, please check the box)

Natural

- ☐ Coastal Erosion
- ☐ Dust, Sand Storm
- ☐ Expansive Soils
- X Invasive Species (vegetation)
- ☐ Pandemic
- ☐ Tsunami
- ☐ Volcano

Human-Caused

- ☐ Building or Structure Collapse
- ☐ Civil Disturbance
- ☐ Disorientation
- ☐ Drowning
- ☐ Levee Failure
- ☐ Mass Food/Animal Feed Contamination
- ☐ War and Criminal Activity

Other Comments:

Existing and/or future deep gas wells adjacent to public water supply sources present potential hazards. Hazards may result from structural failure and/or human error. The loss of a public water supply source, due to quantity and/or quality issues, may limit the ability to produce and distribute potable water.

Hazard Identification and Risk Evaluation Worksheet

Name: Rich Fender Title: Planning Coordinator

Jurisdiction: Westmoreland Planning and Development

PART I

Identified Hazards 2015 HMP	How has the frequency of occurrence, magnitude of impact, and/or geographic extent changed in your community? *NC = No Change; I = Increase; D = Decrease* *(Please provide an explanation for any hazards marked I or D in the "Additional Comments" column)*	Additional Comments
Natural Hazards		
Avalanche	NC	
Drought	NC	
Earthquake	NC	
Extreme Temperatures	NC	
Floods, Flash Floods, and Ice Jams	NC	
Hailstorm	NC	
Hurricane	NC	
Landslide	NC	
Lightning	NC	
Radon Exposure	NC	
Subsidence, Sinkhole	NC	
Tornado, Windstorm	NC	
Wildfire	NC	
Winter Storm	NC	

Identified Hazards 2015 HMP	How has the frequency of occurrence, magnitude of impact, and/or geographic extent changed in your community? *NC = No Change; I = Increase; D = Decrease* *(Please provide an explanation for any hazards marked I or D in the "Additional Comments" column)*	Additional Comments
Human-made Hazards		
Dam Failure	NC	
Environmental Hazards	NC	
Nuclear Incident	NC	
Structural Fire	NC	
Terrorism	NC	
Transportation Accident	NC	
Utility Interruption	NC	

Tool / Program	Status			Dept./Agency Responsible	Comments
	In Place	Date Adopted or Updated	Under Development		
Subdivision Regulations					
Comprehensive Land Use Plan (or General, Master or Growth Mgt. Plan)					
Open Space Management Plan (or Parks/Rec or Greenways Plan)					
Stormwater Management Plan / Ordinance					
Natural Resource Protection Plan					
Capital Improvement Plan			X		
Economic Development Plan			X		
Historic Preservation Plan					
Farmland Preservation					
Building Code					
Fire Code					
Other					

PART II

Other Hazards:

Do any of these hazards, not previously profiled in the County's hazard mitigation plan; have the potential to affect your municipality significantly? (If so, please check the box)

Natural

- ☐ Coastal Erosion
- ☒ Pandemic
- ☐ Dust, Sand Storm
- ☐ Tsunami
- ☐ Expansive Soils
- ☐ Volcano
- ☒ Invasive Species

Human-Caused

- ☒ Building or Structure Collapse
- ☐ Levee Failure
- ☐ Civil Disturbance
- ☐ Mass Food/Animal Feed Contamination
- ☐ Disorientation
- ☐ War and Criminal Activity
- ☐ Drowning

Other Comments:

3. **Financial Capability:** Please indicate whether your jurisdiction has access to or is eligible to use the following local financial resources ***for hazard mitigation purposes*** (including as match funds for State of Federal mitigation grant funds). Then, identify the primary department or agency responsible for its administration or allocation and provide any other comments you may have in the space provided or with attachments.

Financial Resources	Yes	No	Department/Agency	Comments
Capital Improvement Programming		X		
Community Development Block Grants (CDBG)		X		
Special Purpose Taxes		X		
Gas / Electric Utility Fees		X		
Water / Sewer Fees		X		
Stormwater Utility Fees		X		
Development Impact Fees		X		
General Obligation, Revenue, and/or Special Tax Bonds		X		
Partnering Arrangements or Intergovernmental Agreements	X		SART	Very limited funding from state organization
Other	X		Reg. ES Taskforce	some funding for training equipment only.

Capability Assessment Survey Augusta Response Team

Jurisdiction: Westmoreland County

Point of Contact Name and Title: Lori Mosna - Chief CART Coordinator

Phone: 724-433-7667 c.

Email: Westmorelandcart@comcast.net

1. **Planning and Regulatory Capability:** Please indicate whether the following planning or regulatory tools and programs are currently in place or under development for your jurisdiction by placing an "X" in the appropriate box, followed by the date of adoption/update. Then, for each particular item in place, identify the department or agency responsible for its implementation and indicate it's estimated or anticipated effect on hazard loss reduction (Supports, Neutral or Hinders) with the apropriate symbol and also indicate if there has been a change in the ability of the tool/program to result in loss reduction. Finally, please provide additional comments or explanations in the space provided.

Tool / Program	Status			Dept./Agency Responsible	Comments
	In Place	Date Adopted or Updated	Under Development		
FEMA/PEMA Hazard Mitigation Plan	X	6/1/2018		Hazard County EMA	Interim update in 2008 revised mitigation strategy, completed one action.
Hazard Mitigation Plan			X		
Emergency Operations Plan	X	2018		CART	
Disaster Recovery Plan	X	2018			
Evacuation Plan	X	2018		CART	
Continuity of Operations Plan	X	2018		CART	
NFIP					
NFIP – Community Rating System					
Floodplain Regulations (spec. NFIP Flood Damage Prevention Ordinance)					
Floodplain Management Plan					
Zoning Regulations					

5. **Self-Assessment of Capability:** Please provide an approximate measure of your jurisdiction's capability to effectively implement hazard mitigation strategies to reduce hazard vulnerabilities. Using the following table, please place an "**X**" in the box marking the most appropriate degree of capability (Limited, Moderate or High) based upon best available information and the responses provided in Sections 1-5 of this survey. For multi-jurisdictional plans, record the results of this section into the Self-Assessment Capability Matrix in **Section 5**.

Area	Degree of Capability		
	Limited	Moderate	High
Planning and Regulatory Capability		X	
Administrative and Technical Capability			X
Financial Capability	X		
Education and Outreach			X

2. **Administrative and Technical Capability:** Please indicate whether your jurisdiction maintains the following staff members within its current personnel resources by placing an "X" in the appropriate box. Then, if YES, please identify the department or agency they work under and provide any other comments you may have in the space provided or with attachments.

Staff/Personnel Resources	Yes	No	Department/Agency	Comments
Planners (with land use / land development knowledge)		X		
Planners or engineers (with natural and/or human caused hazards knowledge)		X		
Engineers or professionals trained in building and/or infrastructure construction practices (includes building inspectors)		X		
Emergency Manager	X		CART Coordinator	
NFIP Floodplain Administrator		X		
Land Surveyors		X		
Scientists or staff familiar with the hazards of the community	X		CART Members	Who work in local industries
Personnel skilled in Geographic Information Systems (GIS) and/or FEMA's HAZUS program		X		
Grant writers or fiscal staff to handle large/complex grants	X		SART	State agency we are under
Staff with expertise or training in Benefit-Cost Analysis		X		
Other				

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress/ Not Yet Complete	Continuous	Completed	Discontinued	
37. County - Identify and develop agreements with entities that can provide support with FEMA/PEMA paperwork after disasters. Qualified damage assessment personnel should be available for post-disaster efforts, including damage assessment; FEMA/PEMA paperwork compilation, submittals, and record-keeping.						*Has this activity been Integrated into the municipality's normal operations?*
38. County - Work with regional agencies (i.e. Region 13 and PEMA) to develop damage assessment capabilities at the local level through training programs, certification of qualified individuals (e.g. code officials, floodplain managers, engineers).						
39. County and all municipalities - Partner with community groups such as local community organizations, including civic, business, town watch, faith-based, senior, special needs and tenant associations to promote emergency preparedness and mitigation efforts.				VOAD X CART		*Has this activity been Integrated into the municipality's normal operations?* Yes
40. County and all municipalities - Develop geospatial and analytical tools to support community engagement, policy reform, and county and regional planning efforts.						*Has this activity been Integrated into the municipality's normal operations?*
41. County and all municipalities - Develop a hazard event GIS database to help county and local emergency managers with hazard mitigation and other planning initiatives.						*Has this activity been Integrated into the municipality's normal operations?*

4. **Education and Outreach:** Identify education and outreach programs and methods already in place that could be used to implement mitigation activities and communicate hazard-related information. Then, identify the primary department or agency responsible for its administration or allocation and provide any other comments you may have in the space provided or with attachments.

Program/Organization	Yes	No	Department/Agency	Comments
Firewise Communities Certification		X		
StormReady certification		X		
Natural disaster or safety related school programs		X		
Ongoing public education or information program (e.g. responsible water use, fire safety, household preparedness, environmental education)	X		CART	Disaster planning and preparation
Public-private partnership initiatives addressing disaster-related issues	X		CART and local Emergency Management	
Local citizen groups or nonprofit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.	X		CART	
Other				

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress/ Not Yet Complete	Continuous	Completed	Discontinued	
49. County and all municipalities - Develop and distribute educational information on hazards, emergency preparedness and fire prevention.			VOAD & CART			*Has this activity been Integrated into the municipality's normal operations?* YES
50. County and all municipalities - Develop and distribute public outreach materials on water conservation.						*Has this activity been Integrated into the municipality's normal operations?*

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress/ Not Yet Complete	Continuous	Completed	Discontinued	
31. All Municipalities - Have designated NFIP Floodplain Administrator (FPA) become a Certified Floodplain Manager through the ASFPM, and pursue relevant continuing education training such as FEMA Benefit-Cost Analysis.						
32. All Municipalities– Participate in the Community Rating System (CRS) to further manage flood risk and reduce flood insurance premiums for NFIP policyholders. This process starts by submitting to FEMA-DHS of Letter of Intent to join CRS, followed by completing and submitting an application to the program once the community's current compliance with the NFIP is established.						
33. County and all municipalities - Continue to support the implementation, monitoring, maintenance, and updating of this Plan, as defined in Section 7.0						*Has this activity been Integrated into the municipality's normal operations?*
34. County and all municipalities - Complete the ongoing updates of the Comprehensive Plans						
35. County - Enhance the Westmoreland County Stormwater Management Plan by implementing Phase 2 of the plan.						
36. County and all municipalities - Create/enhance/ maintain mutual aid agreements with neighboring counties / communities for continuity of operations.						*Has this activity been Integrated into the municipality's normal operations?*

Capability Assessment Survey

Jurisdiction: Municipal Authority Westmoreland County Point of Contact Name and Title: Curt Fontaine, P.E., Ops Mgr. Engineering

Phone: 724-853-3051 e-mail: cfontaine@mawc.com

1. **Planning and Regulatory Capability:** Please indicate whether the following planning or regulatory tools and programs are currently in place or under development for your jurisdiction by placing an 'X' in the appropriate box, followed by the date of adoption/update. Then, for each particular item in place, identify the department or agency responsible for its implementation and indicate it's estimated or anticipated effect on hazard loss reduction (Impact: Negative, Neutral or Positive), with the appropriate symbol and also indicate if there has been a change in the ability of the tool/program to result in loss reduction. Finally, please provide additional comments or explanations in the space provided.

Tool / Program	Status			Dept./Agency Responsible	Comments
	In Place	Date Adopted or Updated	Under Development		
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]zard County EMA	Interim update in 2008 revised mitigation strategy; completed one action.
Hazard Mitigation Plan	X				**aka – MAWC Emergency Response Plan**
Emergency Operations Plan	X				
Disaster Recovery Plan					
Evacuation Plan	X				**Posted within each MAWC building**
Continuity of Operations Plan	X				
ADA					
NFIP – Community Rating System					
Floodplain Regulations (see NFIP Model Ordinance requirements)					
Floodplain Management Plan					
Zoning Regulations					

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress/ Not Yet Complete	Continuous	Completed	Discontinued	
42. County and all municipalities - Maintain and exercise continuity of government plan to enable the county government to provide critical services during an interruption of business.						*Has this activity been Integrated into the municipality's normal operations?*
43. County and all municipalities - Implement seismic retrofits to vulnerable critical facilities.						
44. All municipalities - Regulate development to reduce flood losses in vulnerable fluvial areas.						*Has this activity been Integrated into the municipality's normal operations?*
45. County - Develop and maintain an outreach program to provide information and guidance to municipalities on their role in flood plain development.						*Has this activity been Integrated into the municipality's normal operations?*
46. County and all municipalities - Support and utilize an advanced warning system that provides emergency text and email alerts to the public.						*Has this activity been Integrated into the municipality's normal operations?*
47. County and all municipalities - Procure redundant power sources (portable generators).				X		CART has 3 portable generators
48. County and all municipalities - Maintain redundant power sources						*Has this activity been Integrated into the municipality's normal operations?*

Tool / Program	Status: In Place	Status: Date Adopted or Updated	Status: Under Development	Dept./Agency Responsible	Comments
Subdivision Regulations					
Comprehensive Land Use Plan (or general, master or growth mgt. plan)					
Open Space Management Plan (or Parks/Rec or Greenways Plan)					
Stormwater Management Plan / Ordinance					
Natural Resource Protection Plan	X				**aka – Source water Protection Plan**
Capital Improvement Plan	X				**MAWC develops and maintains a 5 year plan**
Economic Development Plan					
Historic Preservation Plan					
Farmland Preservation					
Building Code					
Fire Code					
Other					

2. **Administrative and Technical Capability:** Please indicate whether your jurisdiction maintains the following staff members within its current personnel resources by placing an "X" in the appropriate box. Then, if YES, please identify the department or agency they work under and provide any other comments you may have in the space provided or with attachments.

Staff/Personnel Resources	Yes	No	Department/Agency	Comments
Planners (with land use / land development knowledge)	X			MAWC employees personnel with these skills
Planners or engineers (with natural and/or human-caused hazards knowledge)	X			MAWC employs personnel with these skills
Engineers or professionals trained in building and/or infrastructure construction practices (including building inspectors)	X			MAWC employs personnel with these skills
Emergency Manager	X			MAWC employs personnel with these skills
NFIP Floodplain Administrator				
Land Surveyors				
Scientists or staff familiar with the hazards of the community	X			MAWC employs personnel with these skills
Personnel skilled in Geographic Information Systems (GIS) and/or FEMA's HAZUS program	X			MAWC employs personnel with these skills
Grant writers or fiscal staff to handle large/complex grants	X			MAWC employs personnel with these skills
Staff with expertise or training in Benefit-Cost Analysis	X			MAWC employs personnel with these skills
Other				

3. **Financial Capability:** Please indicate whether your jurisdiction has access to or is eligible to use the following local financial resources ***for hazard mitigation purposes*** (including as match funds for State or Federal mitigation grant funds). Then, identify the primary department or agency responsible for its administration or allocation and provide any other comments you may have in the space provided or with attachments.

Financial Resources	Yes	No	Department/Agency	Comments
Capital Improvement Programming	X			
Community Development Block Grants (CDBG)	X		Various municipalities	MAWC manages CDBG allocations for water/wastewater projects
Special Purpose Taxes				
Gas / Electric Utility Fees	X		Private gas businesses	Royalties from gas leases
Water / Sewer Fees	X			Fees collected by MAWC for water and wastewater services
Stormwater Utility Fees				
Development Impact Fees				
General Obligation, Revenue, and/or Special Tax Bonds	X			MAWC issues Bonds for capital improvement projects on an as needed basis
Partnering Arrangements or Intergovernmental Agreements	X		Various municipalities	MAWC owns/maintains emergency interconnects with adjacent water providers.
Other				

4. **Education and Outreach:** Identify education and outreach programs and methods already in place that could be used to implement mitigation activities and communicate hazard-related information. Then, identify the primary department or agency responsible for its administration or allocation and provide any other comments you may have in the space provided or with attachments.

Program/Organization	Yes	No	Department/Agency	Comments
Firewise Communities Certification				
StormReady Certification				
Natural disaster or safety related school programs	X			MAWC personnel actively participate in various school programs.
Ongoing public education or information program (e.g. responsible water use, fire safety, household preparedness, environmental education)	X			Water conservation and source water protection programs
Public-private partnership initiatives addressing disaster-related issues				
Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.	X			MAWC personnel meet with various civic groups at their requests to discuss these issues
Other				

Capability Assessment Survey

Jurisdiction: Westmoreland Planning and Development Point of Contact Name and Title: Rich Fender

Phone: 724-830-3xxx Email: rfender@co.westmoreland.pa.us

1. **Planning and Regulatory Capability:** Please indicate whether the following planning or regulatory tools and programs are currently in place or under development for your jurisdiction by placing an "X" in the appropriate box, followed by the date of adoption/update. Then, for each particular item in place, identify the department or agency responsible for its implementation and indicate it's estimated or anticipated effect on hazard loss reduction (Supports, Neutral or Hinders) with the appropriate symbol and also indicate if there has been a change in the ability of the tool/program to result in loss reduction. Finally, please provide additional comments or explanations in the space provided.

Tool / Program	Status: In Place	Date Adopted or Updated	Under Development	Dept./Agency Responsible	Comments
[illegible]				...ard County EMA	Interim update in 2008 revised mitigation strategy; completed one action.
Hazard Mitigation Plan	x	11/2016	x	Public Safety	
Emergency Operations Plan					
Disaster Recovery Plan					
Evacuation Plan					
Continuity of Operations Plan					
NFIP					
NFIP – Community Rating System					
Floodplain Regulations (e.g. NFIP Flood Damage Prevention Ordinance)					
Floodplain Management Plan					
Zoning Regulations					

Tool / Program	Status: In Place	Date Adopted or Updated	Under Development	Dept./Agency Responsible	Comments
Subdivision Regulations	x	12/19/13	x	Planning and Development	
Comprehensive Land Use Plan (or General, Master or Growth Mgt. Plan)	x	12/20/16		Planning and Development	
Open Space Management Plan (or Parks/Rec or Greenways Plan)					
Stormwater Management Plan / Ordinance			x	Conservation District	
Natural Resource Protection Plan					
Capital Improvements Plan					
Economic Development Plan					
Historic Preservation Plan					
Farmland Preservation					
Building Code					
Fire Code					
Other					

2. **Administrative and Technical Capability:** Please indicate whether your jurisdiction maintains the following staff members within its current personnel resources by placing an "X" in the appropriate box. Then, if YES, please identify the department or agency they work under and provide any other comments you may have in the space provided or with attachments.

Staff/Personnel Resources	Yes	No	Department/Agency	Comments
Planner/Engineer with land use / land development knowledge	x		Planning and Development	
Planners or engineers with natural and/or human-caused hazards knowledge		x		
Engineers or professionals trained in building and/or infrastructure construction practices (includes building inspectors)		x		
Emergency Manager		x		
NFIP Floodplain Administrator		x		
Land Surveyors		x		
Scientists or staff familiar with the hazards of the community		x		
Personnel skilled in Geographic Information Systems (GIS) and/or FEMA's HAZUS program	x		Planning and Development	
Grant writers or fiscal staff to handle large/complex grants				
Staff with expertise or training in Benefit/Cost Analysis				
Other				

5. **Self-Assessment of Capability:** Please provide an approximate measure of your jurisdiction's capability to effectively implement hazard mitigation strategies to reduce hazard vulnerabilities. Using the following table, please place an "X" in the box marking the most appropriate degree of capability (Limited, Moderate or High) based upon best available information and the responses provided in Sections 1-5 of this survey. For multi-jurisdictional plans, record the results of this section into the Self-Assessment Capability Matrix in **Section 5**.

Area	Degree of Capability: Limited	Moderate	High
Planning and Regulatory Capability			X
Administrative and Technical Capability			X
Financial Capability			X
Education and Outreach			X

3. **Financial Capability:** Please indicate whether your jurisdiction has access to or is eligible to use the following local financial resources ***for hazard mitigation purposes*** (including as match funds for State or Federal mitigation grant funds). Then, identify the primary department or agency responsible for its administration or allocation and provide any other comments you may have in the space provided or with attachments.

Financial Resources	Yes	No	Department/Agency	Comments
Capital Improvements Programming		x		
Community Development Block Grants (CDBG)	x		Planning and Development	
Special Purpose Taxes		x		
Gas / Electric Utility Fees		x		
Water / Sewer Fees		x		
Stormwater Utility Fees		x		
Development Impact Fees		x		
General Obligation, Revenue, and/or Special Tax Bonds		x		
Partnering Arrangements or Intergovernmental Agreements		x		
Other				

4. **Education and Outreach:** Identify education and outreach programs and methods already in place that could be used to implement mitigation activities and communicate hazard-related information. Then, identify the primary department or agency responsible for its administration or allocation and provide any other comments you may have in the space provided or with attachments.

Program/Organization	Yes	No	Department/Agency	Comments
Firewise Communities Certification		x		
StormReady Certification		x		
Natural disaster or safety related school programs		x		
Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)		x		
Public-private partnership initiatives addressing disaster-related issues		x		
Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.		x		
Other				

5. **Self-Assessment of Capability:** Please provide an approximate measure of your jurisdiction's capability to effectively implement hazard mitigation strategies to reduce hazard vulnerabilities. Using the following table, please place an "**X**" in the box marking the most appropriate degree of capability (Limited, Moderate or High) based upon best available information and the responses provided in Sections 1-5 of this survey. For multi-jurisdictional plans, record the results of this section into the Self-Assessment Capability Matrix in **Section 5**.

Area	Degree of Capability		
	Limited	Moderate	High
Planning and Regulatory Capability		x	
Administrative and Technical Capability		x	
Financial Capability	x		
Education and Outreach	x		

Mitigation Strategy 5-Year Mitigation Plan Review

Name: Leia Mcenyt **Title** Chief CART Coordinator **Jurisdiction:** Westmoreland County Animal Response Team

Purpose: To fulfill requirement that plan maintenance from previous plan has been completed and to obtain early feedback from the planning team to incorporate into the update process.

Instructions: Complete the *Goal and Objective Review Worksheet* and *Mitigation Action Plan Review Worksheet* on the next pages keeping the following questions in mind:

- Do the goals, objectives, and actions address current and expected conditions?
- Go through each goal and objective to determine: Should goal be carried forward into updated plan? Should goal be changed based on current conditions in community? Should goal be discontinued and if so why?
- Progress on actions should be noted. For each action the following questions should be answered: What is status? What progress has been made? Should action be continued in updated plan? Should action be discontinued and if so why?
- Has the nature or magnitude of hazard risk changed?
- Are current resources adequate to implement the Plan?
- Should additional local resources be committed to address identified hazard threats?
- Are there any issues that have limited the current implementation schedule?
- Have the implementation of identified mitigation actions resulted in expected outcomes?
- Has the Mitigation Planning Committee measured the effectiveness of completed hazard mitigation projects in terms of specific dollar losses avoided?
- Did the jurisdictions, agencies and other partners participate in the plan implementation process as proposed?
- Other?

Before completing the worksheets, the group may wish to discuss the above questions in a round robin format, using a flip chart. The questions are standard questions, however it is important to check the existing hazard mitigation plan maintenance section to see if there are additional questions that need to be considered.

Suggested Additional Goals and/or Objectives		Comments
Goal		
Objective		
Objective		
Objective		

Goal		
Objective		
Objective		
Objective		

Goal		
Objective		
Objective		
Objective		

Goal and Objective Review Worksheet

Instructions: Write each goal and objective identified in the existing hazard mitigation plan. Use the comment boxes to provide feedback or to suggest modification of any of the proposed goals or objectives. You may suggest additional objectives below each goal, or new goals and objectives on the last page of this exercise.

Existing Goals and Objectives		Comments
Goal 1	**To minimize the risk to human life associated with natural and non-natural hazards.**	
To increase awareness of our teams capabilities to assist in disasters, to motivate people to move out of a potentially life-threatening situation (ie- providing shelter and transportation if needed) for their pets/livestock.		
Goal 2	**To promote hazard avoidance, especially in floodplains, by removing high-risk and repetitive loss structures, and by issuing building restrictions on future development.**	
NA		
Goal 3	**To reduce the damage from natural and non-natural hazards to existing and future public and private assets including structures, critical facilities, and infrastructure.**	
NA		

Mitigation Strategy 5-Year Mitigation Plan Review

Name: Municipal Authority Westmoreland County **Title:** [illegible] Ops Mgr. Engineering **Jurisdiction:** Water / Wastewater

Purpose: To fulfill requirement that plan maintenance from previous plan has been completed and to obtain early feedback from the planning team to incorporate into the update process.

Instructions: Complete the *Goal and Objective Review Worksheet* and *Mitigation Action Plan Review Worksheet* on the next pages keeping the following questions in mind:

- Do the goals, objectives, and actions address current and expected conditions?
- Go through each goal and objective to determine: Should goal be carried forward into updated plan? Should goal be changed based on current conditions in community? Should goal be discontinued and if so why?
- Progress on actions should be noted. For each action the following questions should be answered: What is status? What progress has been made? Should action be continued in updated plan? Should action be discontinued and if so why?
- Has the nature or magnitude of hazard risk changed?
- Are current resources adequate to implement the Plan?
- Should additional local resources be committed to address identified hazard threats?
- Are there any issues that have limited the current implementation schedule?
- Have the implementation of identified mitigation actions resulted in expected outcomes?
- Has the Mitigation Planning Committee measured the effectiveness of completed hazard mitigation projects in terms of specific dollar losses avoided?
- Did the jurisdictions, agencies and other partners participate in the plan implementation process as proposed?
- Other?

Before completing the worksheets, the group may wish to discuss the above questions in a round robin format, using a flip chart. The questions are standard questions, however it is important to check the existing hazard mitigation plan maintenance section to see if there are additional questions that need to be considered.

Existing Goals and Objectives		Comments
Goal 4	**To protect and restore existing natural resources including wetlands, floodplains, and riparian buffers.**	
NA		
Goal 5	**To develop, prioritize and implement cost-effective, long-term actions that will reduce the impacts of natural and non-natural hazards.**	
To reduce short-term stressors/needs for animals and their owners by providing support and supplies in times of disaster - as well as continued resources as needed over the long-term after the disasters		
Goal 6	**To enhance planning and emergency response efforts among local, county, state, and federal, emergency management personnel to protect public health and safety.**	
To properly train our volunteers, prepare with appropriate equipment and have equipment properly stored, inventoried and maintained so as to be ready to assist in a time of need.		
Goal 7	**To promote public awareness on the potential impacts of natural and non-natural hazards, and actions to reduce those impacts.**	
To educate the public and planning ahead for disasters that would include equipment and supports needed to keep pets and livestock as safe as possible - therefore moving people as well to a safer area.		

Goal and Objective Review Worksheet

Instructions: Write each goal and objective identified in the existing hazard mitigation plan. Use the comment boxes to provide feedback or to suggest modification of any of the proposed goals or objectives. You may suggest additional objectives below each goal, or new goals and objectives on the last page of this exercise.

	Existing Goals and Objectives	Comments
Goal 1	To minimize the risk to human life associated with natural and non-natural hazards.	
Goal 2	To promote hazard avoidance, especially in floodplains, by removing high-risk and repetitive loss structures, and by issuing building restrictions on future development.	
Goal 3	To reduce the damage from natural and non-natural hazards to existing and future public and private assets including structural, critical facilities, and infrastructure.	

	Existing Goals and Objectives	Comments
Goal 4	To protect and restore existing natural resources including wetlands, floodplains, and riparian buffers.	
Goal 5	To develop, prioritize and implement cost-effective, long-term actions that will reduce the impacts of natural and non-natural hazards.	
Goal 6	To enhance planning and emergency response efforts among local, county, state, and federal, emergency management personnel, to protect public health and safety.	
Goal 7	To promote public awareness on the potential impacts of natural and non-natural hazards, and actions to reduce those impacts.	

	[illegible]	Comments
Goal		
Objective		
Objective		
Objective		
Goal		
Objective		
Objective		
Objective		
Goal		
Objective		
Objective		
Objective		

Mitigation Action Plan Review Worksheet

Instructions: List each mitigation action from the existing hazard mitigation plan and identify its status as "No Progress / Unknown," "In Progress / Not Yet Complete," "Continuous," "Completed," or "Discontinued." Include review comments for each action.

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress / Not Yet Complete	Continuous	Completed	Discontinued	
1. [illegible] Borough – [illegible]						
2. Hunker Borough – [illegible]						
3. Hunker Borough – [illegible] community building / community shelter.						
4. Hunker Borough – [illegible] community building by [illegible] flooding in basement.						
5. Hunker Borough – [illegible] Hunker Borough – [illegible] to prevent flooding.						
6. Hunker Borough – [illegible] the intersection of [illegible]						
7. Hunker Borough – [illegible] home.						
8. Hunker Borough – Install [illegible] prevent roadway along Locust St. from [illegible].						
9. Hunker Borough – [illegible] bridge to prevent erosion.						

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress / Not Yet Complete	Continuous	Completed	Discontinued	
10. Unity Township – Construct and install a new culvert in [illegible] to enhance hydraulic capacity.						
11. Unity Township – Install stormwater detention system in [illegible].						
12. Allegheny Township – [illegible] stormwater [illegible] Manor.						
13. [illegible] Township – [illegible]						
14. [illegible] Township – [illegible] Bridge [illegible] Run Road.						
15. [illegible] Township – Reconstruction of [illegible]						
16. Sewickley Township – Install stormwater drainage system along [illegible] Road.						
17. Sewickley Township – [illegible]						
18. Sewickley Township – Procure mobile [illegible] to enhance communications.						
19. Sewickley Township – [illegible]						
20. Sewickley Township – Procure and install a back-up generator into [illegible].						

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress / Not Yet Complete	Continuous	Completed	Discontinued	
21. Sewickley Township – Procure and install a back-up generator into [illegible] Station 10.						
22. Sewickley Township – Procure and install a back-up generator into [illegible] Station 14.						
23. Sewickley Township – [illegible]						
24. Fairfield Township – Develop and implement [illegible] requiring [illegible]						
25. [illegible] Township – [illegible]						
26. County and all municipalities – Retrofit structures located in hazard-prone areas to protect structures from future damage, with repetitive loss and severe repetitive loss properties as priority. Phase 1: Identify appropriate candidates for retrofitting based on cost-effectiveness versus relocation. Phase 2: Where retrofitting is determined a viable option, work with property owners toward implementation based on available funding from FEMA and local match availability.						

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress / Not Yet Complete	Continuous	Completed	Discontinued	
27. County and all municipalities – Purchase, or relocate structures located in hazard-prone areas to protect structures from future damage, with repetitive loss and severe repetitive loss properties as priority. Phase 1: Identify appropriate candidates for relocation [illegible]. Phase 2: Where relocation is determined a viable option, work with property owners toward implementation based on available funding from FEMA and local match availability.						
28. All Municipalities – Continue compliance with and good standing in the NFIP, including adoption and enforcement of floodplain management requirements (i.e., regulating all new and substantially improved construction in special hazard flood areas), floodplain identification and mapping, and flood insurance outreach to the community.						*Has this activity been integrated into the municipality's normal operations?*
29. All Municipalities – [illegible] damage [illegible] (e.g., [illegible]).						
30. All Municipalities – [illegible] Community Assistance Visit (CAV) [illegible] Community Assistance Contact (CAC) [illegible] needed, and schedule if needed.						

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress / Not Yet Complete	Continuous	Completed	Discontinued	
31. All Municipalities – Have [illegible] Floodplain Administrator (FPA) become a Certified Floodplain Manager through the ASFPM, and pursue relevant continuing education training such as FEMA Benefit-Cost Analysis.						
32. All Municipalities – Participate in the Community Rating System (CRS) [illegible] premiums for NFIP policyholders. This process starts by submitting to FEMA/DHS of Letter of Intent to join CRS, followed by completing and submitting an application to the program once the community's current compliance with the NFIP is established.						
33. County and all municipalities – Continue to support the implementation, monitoring, maintenance, and updating of this Plan, as defined in Section 7.0.						*Has this activity been integrated into the municipality's normal operations?*
34. County and all municipalities – Complete the ongoing updates of the Comprehensive Plans.						
35. County – Enhance the Westmoreland County Stormwater Management [illegible] implementing Phase 2 of the plan.						
36. County and all municipalities – Create/enhance/ maintain mutual aid agreements with neighboring counties / communities for continuity of operations.			X			*MAWC owns/operates emergency interconnects with adjacent water purveyors*

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress / Not Yet Complete	Continuous	Completed	Discontinued	
37. County – Identify and develop agreements with entities that can provide support with FEMA/PEMA paperwork after disasters. Qualified damage assessment personnel should be available for post-disaster efforts, including damage assessment, FEMA/PEMA paperwork completion, documentation and record keeping.						Has this activity been integrated into the municipality's normal operations?
38. County – Work with regional agencies (i.e. Region 13 and PEMA) to develop damage assessment capabilities at the local level through training programs, certification of qualified individuals (e.g. code officials, floodplain managers, engineers).						
39. County and all municipalities – Partner with community-related entities [illegible] community organizations, including [illegible], business, homeowners, faith-based, senior, special needs, and [illegible], to promote emergency preparedness and mitigation efforts.			X			MAWC personnel meet with local civic groups, etc. on request to discuss various aspects of our business practices including emergency management
40. County and all municipalities – Develop geospatial and analytical tools to support community engagement, policy formation, county and regional planning efforts.			X			MAWC employs fulltime GIS, IT, PR and Engineering personnel to support these activities
41. County and all municipalities – Develop a hazard-based GIS [illegible] to help county and local emergency managers with hazard mitigation and [illegible] initiatives.			X			MAWC employs fulltime GIS, IT, PR and Engineering personnel to support these activities

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress / Not Yet Complete	Continuous	Completed	Discontinued	
42. County and all municipalities – Maintain and exercise continuity of government plan to enable the county government to provide critical services during an interruption of business.			X			MAWC developed and maintains an Emergency Action Plan to address this concern.
43. County and all municipalities – Implement [illegible]						
44. All municipalities – Regulate development to reduce flood losses in [illegible] areas.						Has this activity been integrated into the municipality's normal operations?
45. County – Develop and maintain outreach program to distribute information and guidance [illegible] flood [illegible]						Has this activity been integrated into the municipality's normal operations?
46. County and all municipalities – Support and utilize [illegible] warning system that provides emergency text and email alerts to the public.						Has this activity been integrated into the municipality's normal operations?
47. County and all municipalities – Provide [illegible] power sources [illegible]			X			MAWC owns stationary and portable backup generators
48. County and all municipalities – Maintain redundant power sources.						MAWC owns stationary and portable backup generators

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress / Not Yet Complete	Continuous	Completed	Discontinued	
49. County and all municipalities – Develop and distribute educational information on hazards, emergency preparedness and fire prevention.			X			MAWC communicates with our customers on a regular basis concerning emergency preparedness and fire protection
50. County and all municipalities – Develop and distribute [illegible] water conservation.			X			MAWC distributes water conservation materials to our customers

Mitigation Strategy 5-Year Mitigation Plan Review

Name: Rich Fender **Title**: Planning Coordinator **Jurisdiction**: Westmoreland Planning and Development

Purpose: To fulfill requirements that plan maintenance from previous plan has been completed and to obtain early feedback from the planning team to incorporate into the update process.

Instructions: Complete the *Goal and Objective Review Worksheet* and *Mitigation Action Plan Review Worksheet* on the next pages keeping the following questions in mind:

- Do the goals, objectives, and actions address current and expected conditions?
- Go through each goal and objective to determine: Should goal be carried forward into updated plan? Should goal be changed based on current conditions in community? Should goal be discontinued and if so why?
- Progress on actions should be noted. For each action the following questions should be answered: What is status? What progress has been made? Should action be continued in updated plan? Should action be discontinued and if so why?
- Has the nature or magnitude of hazard risk changed?
- Are current resources adequate to implement the plan?
- Should additional local resources be committed to address identified hazard threats?
- Are there any issues that have limited the current implementation schedule?
- Have the implementation of identified mitigation actions resulted in expected outcomes?
- Has the Mitigation Planning Committee measured the effectiveness of completed hazard mitigation projects in terms of specific dollar losses avoided?
- Did the jurisdictions, agencies and other partners participate in the plan implementation process as proposed?
- Other?

Existing Goals and Objectives	Comments
Goal 4	To protect and restore existing natural resources including wetlands, floodplains, and riparian buffers.
Goal 5	To develop, prioritize and implement cost-effective, long-term actions that will reduce the impacts of natural and non-natural hazards.
Goal 6	To enhance planning and emergency response efforts among local, county, state, and federal, emergency management personnel, to protect public health and safety.
Goal 7	To promote public awareness on the potential impacts of natural and non-natural hazards, and actions to reduce those impacts.

Before completing the worksheets, the group may wish to discuss the above questions in a round robin format, using a flip chart. The questions are standard questions; however it is important to check the existing hazard mitigation plan maintenance section to see if there are additional questions that need to be considered.

		Comments
Goal		
Objective		
Objective		
Objective		
Goal		
Objective		
Objective		
Objective		
Goal		
Objective		
Objective		
Objective		

Goal and Objective Review Worksheet

Instructions: Write each goal and objective identified in the existing hazard mitigation plan. Use the comment boxes to provide feedback or to suggest modification of any of the proposed goals or objectives. You may suggest additional objectives below each goal, or new goals and objectives on the last page of this exercise.

Existing Goals and Objectives	Comments
Goal 1	To minimize the risk to human life associated with natural and non-natural hazards.
Goal 2	To promote hazard avoidance, especially in floodplains, by removing high-risk and repetitive loss structures, and by issuing building restrictions on future development.
Goal 3	To reduce the damage from natural and non-natural hazards to existing and future public and private assets including structural, critical facilities, and infrastructure.

Mitigation Action Plan Review Worksheet

Instructions: List each mitigation action from the existing hazard mitigation plan and identify its status as "No Progress / Unknown," "In Progress / Not Yet Complete," "Continuous," "Completed," or "Discontinued." Include review comments for each action.

Existing Mitigation Action	Status: No Progress / Unknown	Status: In Progress / Not Yet Complete	Status: Continuous	Status: Completed	Status: Discontinued	Review Comments
1. Mt. Pleasant Borough – [illegible] stormwater runoff [illegible] existing [illegible] areas.	X					
2. Hunker Borough – Procure and install a back-up generator [illegible] EOC.	X					
3. Hunker Borough – [illegible] community building / community shelter.	X					
4. Hunker Borough – [illegible] community building [illegible] flooding in basement.	X					
5. Hunker Borough – [illegible] Hunker Borough [illegible] drainage to prevent flooding.	X					
6. Hunker Borough – Improve the [illegible] of the stormwater [illegible] at the intersection of [illegible] St.	X					
7. Hunker Borough – [illegible] home.	X					
8. Hunker Borough – Install [illegible] to prevent roadway along Locust St. from [illegible].	X					
9. Hunker Borough – [illegible] to prevent [illegible].	X					

Existing Mitigation Action	Status: No Progress / Unknown	Status: In Progress / Not Yet Complete	Status: Continuous	Status: Completed	Status: Discontinued	Review Comments
10. Unity Township – Construct and install a new culvert in [illegible] to enhance hydraulic capacity.	X					
11. Unity Township – [illegible] stormwater detention system in [illegible].	X					
12. Allegheny Township – [illegible] stormwater [illegible] Manor.	X					
13. [illegible] Township – [illegible] Hill Road.	X					
14. [illegible] Township – [illegible] Bridge [illegible] Run Road.	X					
15. [illegible] Township – [illegible]	X					
16. Sewickley Township – Install stormwater drainage system along [illegible] Road.	X					
17. Sewickley Township – [illegible] culvert [illegible]	X					
18. Sewickley Township – Procure remote [illegible] to enhance communications.	X					
19. Sewickley Township – [illegible] stormwater management.	X					
20. Sewickley Township – Procure and install a back-up generator into [illegible] VFD [illegible].	X					

Existing Mitigation Action	Status: No Progress / Unknown	Status: In Progress / Not Yet Complete	Status: Continuous	Status: Completed	Status: Discontinued	Review Comments
21. Sewickley Township – Procure and install a back-up generator into [illegible] VFD Station 16.	X					
22. Sewickley Township – Procure and install a back-up generator into [illegible] VFD Station 14.	X					
23. Sewickley Township – [illegible]	X					
24. [illegible] Township – Develop and implement [illegible] flooding [illegible]	X					
25. [illegible] Township – [illegible]	X					
26. County and all municipalities – Retrofit structures located in hazard-prone areas to protect structures from future damage, with repetitive loss and severe repetitive loss properties as priority. Phase 1: Identify appropriate candidates for retrofitting based on cost-effectiveness versus relocation. Phase 2: Where retrofitting is determined a viable option, work with property owners toward implementation based on available funding from FEMA and local match availability.	X					

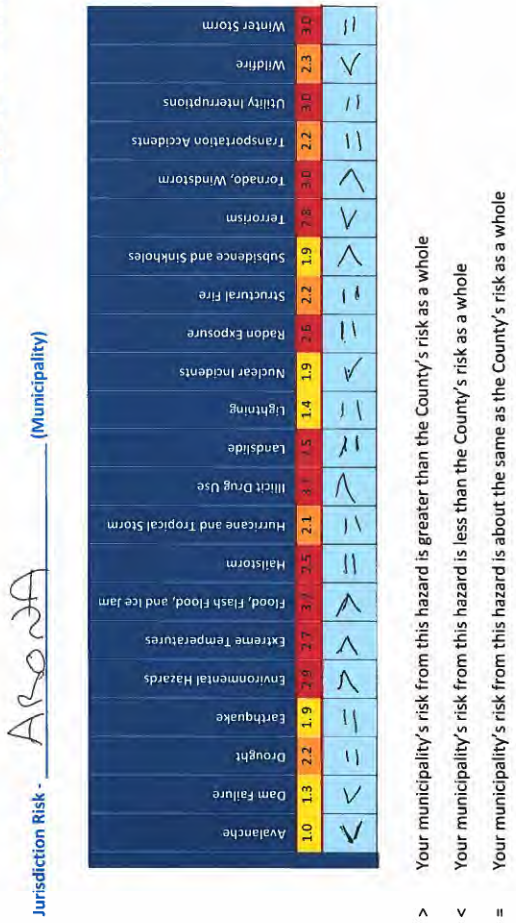
Existing Mitigation Action	Status: No Progress / Unknown	Status: In Progress / Not Yet Complete	Status: Continuous	Status: Completed	Status: Discontinued	Review Comments
27. County and all municipalities – Purchase, or relocate structures located in hazard-prone areas to protect structures from future damage, with repetitive loss and severe repetitive loss properties as priority. Phase 1: Identify appropriate candidates for relocation based on cost-effectiveness versus retrofitting. Phase 2: Where relocation is determined a viable option, work with property owners toward implementation based on available funding from FEMA and local match availability.	X					
28. All Municipalities – Maintain compliance with and good-standing in the NFIP, including adoption and enforcement of floodplain management requirements (i.e., regulating all new and substantially improved construction in special hazard flood areas), floodplain identification and mapping, and flood insurance outreach to the community.	X					*Has this activity been integrated into the municipality's normal operations?*
29. All Municipalities – Begin the process to adopt [illegible] regulatory standards to manage flood risk (i.e. increased freeboard, cumulative substantial damage/improvements) and [illegible] risk (e.g. [illegible]).	X					
30. All Municipalities – [illegible] a Community Assistance Visit (CAV) or Community Assistance Contact (CAC) if needed, and schedule if needed.	X					

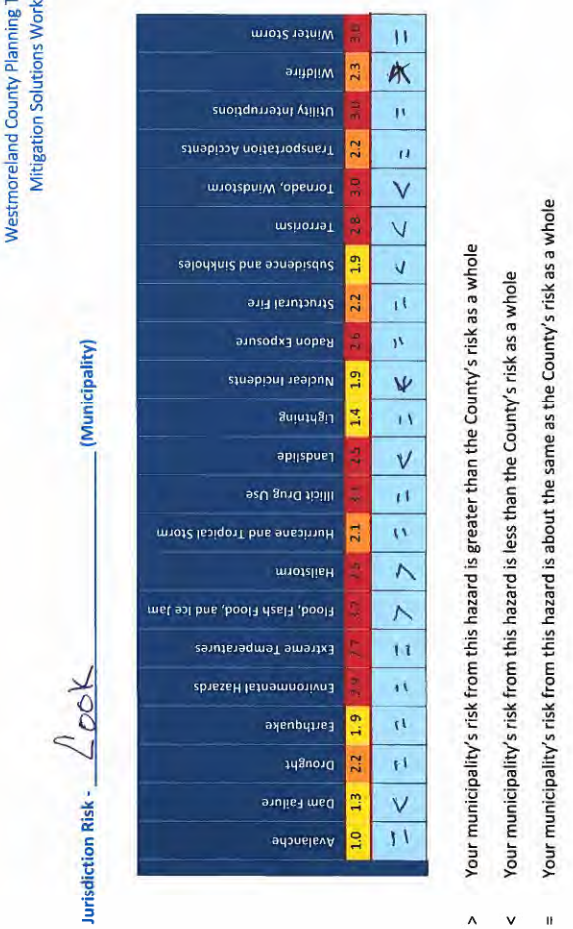
Existing Mitigation Action	Status: No Progress / Unknown	In Progress / Not Yet Complete	Continuous	Completed	Discontinued	Review Comments
31. All Municipalities – [illegible] Certified Floodplain Manager through the ASFPM, and pursue relevant continuing education training such as FEMA Benefit-Cost Analysis.	X					
32. All Municipalities – Participate in the Community Rating System (CRS) to better manage flood risk and reduce flood insurance premiums for NFIP policyholders. This process starts by submitting to FEMA-DHS a Letter of Intent to join CRS, followed by completing and submitting an application to the program once the community's current compliance with the NFIP is established.	X					
33. County and all municipalities – Continue to support the implementation, monitoring, maintenance, and updating of this Plan, as defined in Section 7.0.		X				*Has this activity been integrated into the municipality's normal operations?*
34. County and all municipalities – Complete the ongoing updates of the Comprehensive Plans.			X			*County Plan Completed December 2018*
35. County – Enhance the Westmoreland County Stormwater Management Plan by implementing Phase 2 of the plan.		X				Preparing for Adoption
36. County and all municipalities – Create/enhance/maintain mutual aid agreements with neighboring counties / communities for continuity of operations.	X					*Has this activity been integrated into the municipality's normal operations?*

Existing Mitigation Action	Status: No Progress / Unknown	In Progress / Not Yet Complete	Continuous	Completed	Discontinued	Review Comments
37. County – Identify and develop agreements with entities that can provide support with FEMA/PEMA paperwork after disasters. Qualified damage assessment personnel should be available for post-disaster efforts, including damage assessment, FEMA/PEMA paperwork completion, and record keeping.	X					*Has this activity been integrated into the municipality's normal operations?*
38. County – Work with regional agencies (i.e. Region 11 and PEMA) to develop damage assessment capabilities at the local level through training programs, certification of qualified individuals (e.g. code officials, floodplain managers, engineers).	X					
39. County and all municipalities – Partner with [illegible] community stakeholders, including [illegible] business [illegible] to promote emergency preparedness and mitigation efforts.	X					*Has this activity been integrated into the municipality's normal operations?*
40. County and all municipalities – Develop geospatial and analytical tools to support community engagement, and to inform county and regional planning efforts.	X					*Has this activity been integrated into the municipality's normal operations?*
41. County and all municipalities – Develop a [illegible] to help county and local emergency management with hazard mitigation [illegible].	X					*Has this activity been integrated into the municipality's normal operations?*

Existing Mitigation Action	Status: No Progress / Unknown	In Progress / Not Yet Complete	Continuous	Completed	Discontinued	Review Comments
42. County and all municipalities – Maintain and exercise continuity of government plan to enable the county government to provide critical services during an interruption of business.	X					*Has this activity been integrated into the municipality's normal operations?*
43. County and all municipalities – Implement [illegible]	X					
44. All municipalities – Regulate development to reduce flood losses in vulnerable [illegible] areas.	X					*Has this activity been integrated into the municipality's normal operations?*
45. County – Develop and maintain outreach program to increase information and guidance for municipalities on [illegible] flood [illegible]	X					*Has this activity been integrated into the municipality's normal operations?*
46. County and all municipalities – Support and utilize an advanced warning system that provides emergency text and email alerts to the public.	X					*Has this activity been integrated into the municipality's normal operations?*
47. County and all municipalities – Provide [illegible]	X					
48. County and all municipalities – Maintain redundant power sources.	X					*Has this activity been integrated into the municipality's normal operations?*

Existing Mitigation Action	Status: No Progress / Unknown	In Progress / Not Yet Complete	Continuous	Completed	Discontinued	Review Comments
49. County and all municipalities – Develop and distribute educational information on hazards, emergency preparedness and fire prevention.	X					*Has this activity been integrated into the municipality's normal operations?*
50. County and all municipalities – Develop and distribute public outreach materials on water conservation.	X					*Has this activity been integrated into the municipality's normal operations?*





Westmoreland County Planning Team
Mitigation Solutions Workshop

1

Hazard Identification and Risk Evaluation Worksheet

Name: _Terry Giannini_____Title: _____

Jurisdiction: Director 45_____

PART I

Identified Hazards 2015 HMP	How has the frequency of occurrence, magnitude of impact, and/or geographic extent changed in your community? *NC = No Change; I = Increase; D = Decrease* *(Please provide an explanation for any hazards marked I or D in the "Additional Comments" column)*	Additional Comments
Natural Hazards		
Avalanche	NC	
Drought	NC	
Earthquake	NC	
Extreme Temperatures	NC	
Floods, Flash Floods, and Ice Jams	I	
Hailstorm	NC	
Hurricane	NC	
Landslide	NC	
Lightning	NC	
Radon Exposure	NC	
Subsidence, Sinkhole	NC	
Tornado, Windstorm	NC	
Wildfire	NC	
Winter Storm	NC	

Identified Hazards 2015 HMP	How has the frequency of occurrence, magnitude of impact, and/or geographic extent changed in your community? *NC = No Change; I = Increase; D = Decrease* *(Please provide an explanation for any hazards marked I or D in the "Additional Comments" column)*	Additional Comments

Human-made Hazards		
Dam Failure	NC	
Environmental Hazards	NC	
Nuclear Incident	NC	
Structural Fire	NC	
Terrorism	NC	
Transportation Accident	NC	
Utility Interruption	NC	

Hazard Identification and Risk Evaluation Worksheet

Name: Tom Stull Jr Title: Chairman

Jurisdiction: Donegal Twp.

PART I

Identified Hazards 2015 HMP	How has the frequency of occurrence, magnitude of impact, and/or geographic extent changed in your community? *NC = No Change; I = Increase; D = Decrease* *(Please provide an explanation for any hazards marked I or D in the "Additional Comments" column)*	Additional Comments
Natural Hazards		
Avalanche	NC	
Drought	NC	
Earthquake	NC	
Extreme Temperatures	NC	
Floods, Flash Floods, and Ice Jams	I	With Increased Rainfall - Flash Floods Have Deteriorated our Roads
Hailstorm	NC	
Hurricane	NC	
Landslide	NC	
Lightning	NC	
Radon Exposure	NC	
Subsidence, Sinkhole	NC	
Tornado, Windstorm	NC	
Wildfire	NC	
Winter Storm	NC	

Identified Hazards 2015 HMP	How has the frequency of occurrence, magnitude of impact, and/or geographic extent changed in your community? *NC = No Change; I = Increase; D = Decrease* *(Please provide an explanation for any hazards marked I or D in the "Additional Comments" column)*	Additional Comments
Human-made Hazards		
Dam Failure	NC	
Environmental Hazards	NC	
Nuclear Incident	NC	
Structural Fire	NC	
Terrorism	NC	
Transportation Accident	NC	
Utility Interruption	NC	

PART II

Other Hazards:

Do any of these hazards, not previously profiled in the County's hazard mitigation plan; have the potential to affect your municipality significantly? (If so, please check the box)

Natural

- ☐ Coastal Erosion
- ☐ Dust, Sand Storm
- ☐ Expansive Soils
- ☐ Invasive Species
- ☐ Pandemic
- ☐ Tsunami
- ☐ Volcano

Human-Caused

- ☐ Building or Structure Collapse
- ☐ Civil Disturbance
- ☐ Disorientation
- ☐ Drowning
- ☐ Levee Failure
- ☐ Mass Food/Animal Feed Contamination
- ☐ War and Criminal Activity

Other Comments:

PART II

Other Hazards:

Do any of these hazards, not previously profiled in the County's hazard mitigation plan; have the potential to affect your municipality significantly? (If so, please check the box)

Natural

- ☐ Coastal Erosion
- ☐ Dust, Sand Storm
- ☐ Expansive Soils
- ☐ Invasive Species
- ☐ Pandemic
- ☐ Tsunami
- ☐ Volcano

Human-Caused

- ☐ Building or Structure Collapse
- ☐ Civil Disturbance
- ☐ Disorientation
- ☐ Drowning
- ☐ Levee Failure
- ☐ Mass Food/Animal Feed Contamination
- ☐ War and Criminal Activity

Other Comments:

Capability Assessment Survey

Jurisdiction: Donegal Township Point of Contact Name and Title: Thomas A. Stull, Jr., Chairman of Board

Phone: 724-593-2619 Email: dontwp@lhtot.com

1. **Planning and Regulatory Capability:** Please indicate whether the following planning or regulatory tools and programs are currently in place or under development for your jurisdiction by placing an "X" in the appropriate box, followed by the date of adoption/update. Then, for each particular item in place, identify the department or agency responsible for its implementation and indicate it's estimated or anticipated effect on hazard loss reduction (Supports, Neutral or Hinders) with the appropriate symbol and also indicate if there has been a change in the ability of the tool/program to result in loss reduction. Finally, please provide additional comments or explanations in the space provided.

Tool / Program	Status			Dept./Agency Responsible	Comments
	In Place	Date Adopted or Updated	Under Develop-ment		
EXAMPLE: Hazard Mitigation Plan	X	7/1/2005		Hazard County EMA	Interim update in 2008 revised mitigation strategy; completed one action.
Hazard Mitigation Plan					
Emergency Operations Plan	X	2009		Twp. EMA	
Disaster Recovery Plan					
Evacuation Plan					
Continuity of Operations Plan					
NFIP	X	8/5/1997		Twp.	
NFIP – Community Rating System					
Floodplain Regulations (spec. NFIP Flood Damage Prevention Ordinance)	X	10/11/90		Twp.	
Floodplain Management Plan					
Zoning Regulations					

2. **Administrative and Technical Capability:** Please indicate whether your jurisdiction maintains the following staff members within its current personnel resources by placing an "X" in the appropriate box. Then, if YES, please identify the department or agency they work under and provide any other comments you may have in the space provided or with attachments.

Staff/Personnel Resources	Yes	No	Department/Agency	Comments
Planners (with land use / land development knowledge)				
Planners or engineers (with natural and/or human caused hazards knowledge)				
Engineers or professionals trained in building and/or infrastructure construction practices (includes building inspectors)	X		K2 Engineering	
Emergency Manager	X		EMA	Twp. Supervisor
NFIP Floodplain Administrator	X		Twp.	Twp. Engineer
Land Surveyors				
Scientists or staff familiar with the hazards of the community				
Personnel skilled in Geographic Information Systems (GIS) and/or FEMA's HAZUS program				
Grant writers or fiscal staff to handle large/complex grants				
Staff with expertise or training in Benefit-Cost Analysis				
Other				

Tool / Program	Status			Dept./Agency Responsible	Comments
	In Place	Date Adopted or Updated	Under Develop-ment		
Subdivision Regulations					
Comprehensive Land Use Plan (or General, Master or Growth Mgt. Plan)	X	10/2008		Twp.	
Open Space Management Plan (or Parks/Rec or Greenways Plan)					
Stormwater Management Plan / Ordinance					
Natural Resource Protection Plan					
Capital Improvement Plan					
Economic Development Plan					
Historic Preservation Plan					
Farmland Preservation					
Building Code	X	2/2018		Twp.	
Fire Code					
Other					

3. **Financial Capability:** Please indicate whether your jurisdiction has access to or is eligible to use the following local financial resources ***for hazard mitigation purposes*** (including as match funds for State of Federal mitigation grant funds). Then, identify the primary department or agency responsible for its administration or allocation and provide any other comments you may have in the space provided or with attachments.

Financial Resources	Yes	No	Department/Agency	Comments
Capital Improvement Programming		X		
Community Development Block Grants (CDBG)	X		Twp. Supervisors, Sec., Engineer	
Special Purpose Taxes	X		Tax Collector	Fire Hydrant Tax
Gas / Electric Utility Fees		X		
Water / Sewer Fees		X		
Stormwater Utility Fees		X		
Development Impact Fees		X		
General Obligation, Revenue, and/or Special Tax Bonds		X		
Partnering Arrangements or Intergovernmental Agreements	X		Twp.	Conservation Dist/Neigh Twp.
Other				

NATIONAL FLOOD INSURANCE PROGRAM (NFIP) SURVEY

MUNICIPALITY: _____

1. FLOODPLAIN IDENTIFICATION AND MAPPING

Requirement	Recommended Action	Yes/No	Comments
a. Does the municipality maintain accessible copies of an effective Flood Insurance Rate Map (FIRM)/Digital Flood Insurance Rate Map (DFIRM)? Does the municipality maintain accessible copies of the most recent Flood Insurance Study (FIS)?	Place these documents in the local libraries or make available publicly.	Yes	
b. Has the municipality adopted the most current DFIRM/FIRM and FIS?	State the date of adoption, if approved.	Yes	12/8/1990
c. Does the municipality support request for map updates?	If yes, state how.	Yes	FEMA sends updated Maps
d. Does the municipality share with Federal Emergency Management Agency (FEMA) any new technical or scientific data that could result in map revisions within 6 months of creation or identification of new data?	If yes, specify how.	Yes	FEMA sends updated Maps
e. Does the municipality provide assistance with local floodplain determinations?	If yes, specify how.	Yes	Twp. inspects and Twp. Engineer
f. Does the municipality maintain a record of approved Letters of Map Change?	If yes, specify the responsible office.	No	

2. FLOODPLAIN MANAGEMENT

Requirement	Recommended Action	Yes/No	Comments
a. Has the municipality adopted a compliant floodplain management ordinance that, at a minimum, regulates the following:	If yes, answer questions (1) through (4) below.	Yes	
(1) Does the municipality issue permits for all proposed development in the Special Flood Hazard Areas (SFHAs)?	If yes, specify the office responsible.	Yes	Twp.
(2) Does the municipality obtain, review, and utilize any Base Flood Elevation (BFE) and floodway data, and/or require BFE data for subdivision proposals and other development proposals larger than 50 lots or 5 acres?	If yes, specify the office responsible.	Yes	Twp.
(3) Does the municipality identify measures to keep all new and substantially improved construction reasonably safe from flooding to or above the BFE, including anchoring, using flood-resistant materials, and designing or locating utilities and service facilities to prevent water damage?	If yes, specify the office responsible.	Yes	Twp.
(4) Does the municipality document and maintain records of elevation data that document lowest floor elevation for new or substantially improved structures?	If yes, specify the office responsible.	Yes	Twp.
b. If a compliant floodplain ordinance was adopted, does the municipality enforce the ordinance by monitoring compliance and taking remedial action to correct violations?	If yes, specify how.	Yes	Twp. Engineer and Twp. Solicitor

4. **Education and Outreach:** Identify education and outreach programs and methods already in place that could be used to implement mitigation activities and communicate hazard-related information. Then, identify the primary department or agency responsible for its administration or allocation and provide any other comments you may have in the space provided or with attachments.

Program/Organization	Yes	No	Department/Agency	Comments
Firewise Communities Certification		X		
StormReady certification		X		
Natural disaster or safety related school programs		X		
Ongoing public education or information program (e.g. responsible water use, fire safety, household preparedness, environmental education)	X		Chestnut Ridge Vol Fire Dept.	
Public-private partnership initiatives addressing disaster-related issues		X		
Local citizen groups or nonprofit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.		X		
Other				

5. **Self-Assessment of Capability:** Please provide an approximate measure of your jurisdiction's capability to effectively implement hazard mitigation strategies to reduce hazard vulnerabilities. Using the following table, please place an "**X**" in the box marking the most appropriate degree of capability (Limited, Moderate or High) based upon best available information and the responses provided in Sections 1-5 of this survey. For multi-jurisdictional plans, record the results of this section into the Self-Assessment Capability Matrix in **Section 5**.

Area	Degree of Capability		
	Limited	Moderate	High
Planning and Regulatory Capability		X	
Administrative and Technical Capability		X	
Financial Capability	X		
Education and Outreach		X	

Goal and Objective Review Worksheet

Instructions: Write each goal and objective identified in the existing hazard mitigation plan. Use the comment boxes to provide feedback or to suggest modification of any of the proposed goals or objectives. You may suggest additional objectives below each goal, or new goals and objectives on the last page of this exercise.

	Existing Goals and Objectives	Comments
Goal 1	To minimize the risk to human life associated with natural and non-natural hazards.	
Continued Improvement		
Goal 2	To promote hazard avoidance, especially in floodplains, by removing high-risk and repetitive loss structures, and by issuing building restrictions on future development.	
Continued Improvement		
Goal 3	To reduce the damage from natural and non-natural hazards to existing and future public and private assets including structures, critical facilities, and infrastructure.	
Continued Improvement		

2. FLOODPLAIN MANAGEMENT

Requirement	Recommended Action	Yes/No	Comments
c. Has the municipality considered adopting activities that extend beyond the minimum requirements? Examples include: • Participation in the Community Rating System • Prohibition of production or storage of chemicals in SFHA • Prohibition of certain types of structures, such as hospitals, nursing homes, and jails in SFHA • Prohibition of certain types of residential housing (manufactured homes) in SFHA • Floodplain ordinances that prohibit any new residential or nonresidential structures in SFHA	If yes, specify activities.	No	

3. FLOOD INSURANCE

Requirement	Recommended Action	Yes/No	Comments
a. Does the municipality educate community members about the availability and value of flood insurance?	If yes, specify how.	No	
b. Does the municipality inform community property owners about changes to the DFIRM/FIRM that would impact their insurance rates?	If yes, specify how.	No	
c. Does the municipality provide general assistance to community members regarding insurance issues?	If yes, specify how.	No	

	Existing Goals and Objectives	Comments
Goal 4	To protect and restore existing natural resources including wetlands, floodplains, and riparian buffers.	
Working Progress		
Goal 5	To develop, prioritize and implement cost-effective, long-term actions that will reduce the impacts of natural and non-natural hazards.	
Working Progress		
Goal 6	To enhance planning and emergency response efforts among local, county, state, and federal, emergency management personnel to protect public health and safety.	
Working Progress		
Goal 7	To promote public awareness on the potential impacts of natural and non-natural hazards, and actions to reduce those impacts.	
Working Progress		

Mitigation Strategy 5-Year Mitigation Plan Review

Name: Thomas A Stull Jr. **Title:** Chairman of Board **Jurisdiction:** Donegal Township

Purpose: To fulfill requirement that plan maintenance from previous plan has been completed and to obtain early feedback from the planning team to incorporate into the update process.

Instructions: Complete the *Goal and Objective Review Worksheet* and *Mitigation Action Plan Review Worksheet* on the next pages keeping the following questions in mind.

- Do the goals, objectives, and actions address current and expected conditions?
- Go through each goal and objective to determine: Should goal be carried forward into updated plan? Should goal be changed based on current conditions in community? Should goal be discontinued and if so why?
- Progress on actions should be noted. For each action the following questions should be answered: What is status? What progress has been made? Should action be continued in updated plan? Should action be discontinued and if so why?
- Has the nature or magnitude of hazard risk changed?
- Are current resources adequate to implement the Plan?
- Should additional local resources be committed to address identified hazard threats?
- Are there any issues that have limited the current implementation schedule?
- Have the implementation of identified mitigation actions resulted in expected outcomes?
- Has the Mitigation Planning Committee measured the effectiveness of completed hazard mitigation projects in terms of specific dollar losses avoided?
- Did the jurisdictions, agencies and other partners participate in the plan implementation process as proposed?
- Other?

Before completing the worksheets, the group may wish to discuss the above questions in a round robin format, using a flip chart. The questions are standard questions, however it is important to check the existing hazard mitigation plan maintenance section to see if there are additional questions that need to be considered.

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress/ Not Yet Complete	Continuous	Completed	Discontinued	
10. Unity Township - Construct and install a new culvert in Lloydsville to enhance hydraulic capacity.						
11. Unity Township - Install a stormwater detention system in Lawson Heights.						
12. Allegheny Township - Replace and enhance stormwater runoff pipes in Moreland Manor.						
13. St. Clair Township - Reconstruction of Bridge River Hill Bridge						
14. St. Clair Township - Reconstruction of Bridge Sugar Run Road.						
15. Fairfield Township - Reconstruction of Patterson Bridge.						
16. Sewickley Township - Install storm water drainage system along Pinewood Road.						
17. Sewickley Township - Procure a skid loader/grab attachment for storm clean up and culvert clean out.						
18. Sewickley Township – Procure remote receive sites to enhance communications.						
19. Sewickley Township - Procure sweeper truck for stormwater management.						
20. Sewickley Township - Procure and install a back-up generator into Hutchinson VFD Station 85.						

Suggested Additional Goals and/or Objectives		Comments
Goal		
Objective		
Objective		
Objective		

Goal		
Objective		
Objective		
Objective		

Goal		
Objective		
Objective		
Objective		

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress/ Not Yet Complete	Continuous	Completed	Discontinued	
21. Sewickley Township - Procure and install a back-up generator into Lowber VFD Station 16.						
22. Sewickley Township - Procure and install a back-up generator into Rillton VFD Station 14.						
23. Sewickley Township - Procure skid steer attachment to clear debris around culverts.						
24. Fairfield Township - Develop and implement an action plan to mitigation recurring flooding on Creek Road.						
25. Upper Burrell Township - Procure and install an emergency generator.						
26. County and all municipalities - Retrofit structures located in hazard-prone areas to protect structures from future damage, with repetitive loss and severe repetitive loss properties as priority. Phase 1: Identify appropriate candidates for retrofitting based on cost-effectiveness versus relocation. Phase 2: Where retrofitting is determined a viable option, work with property owners toward implementation based on available funding from FEMA and local match availability.			X			

Mitigation Action Plan Review Worksheet

Instructions: List each mitigation action from the existing hazard mitigation plan and identify its status as "No Progress / Unknown," "In Progress / Not Yet Complete," "Continuous," "Completed," or "Discontinued." Include review comments for each action.

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress/ Not Yet Complete	Continuous	Completed	Discontinued	
1. Mt. Pleasant Borough - Install additional stormwater runoff pipes and upgrade/replace existing deteriorated pipes.						
2. Hunker Borough - Procure and install a back-up generator into Hunker Borough EOC.						
3. Hunker Borough - Procure and install air conditioning units into community building / community shelter.						
4. Hunker Borough - Retrofit community building to prevent flooding in basement.						
5. Hunker Borough - Pave Bellson Street in Hunker Borough. Install proper drainage to prevent flooding.						
6. Hunker Borough - Implement the redirection of the stormwater catch basin at the intersection of Walnut and Bridge St.						
7. Hunker Borough - Demolition of abandoned home.						
8. Hunker Borough - Install sub-flooring to prevent roadway along Locust St. from sinking.						
9. Hunker Borough - Retrofit Walnut St. Bridge to prevention erosion.						

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress/ Not Yet Complete	Continuous	Completed	Discontinued	
27. County and all municipalities - Purchase, or relocate structures located in hazard-prone areas to protect structures from future damage, with repetitive loss and severe repetitive loss properties as priority. Phase 1: Identify appropriate candidates for relocation based on cost-effectiveness versus retrofitting. Phase 2: Where relocation is determined a viable option, work with property owners toward implementation based on available funding from FEMA and local match availability.						
28. All Municipalities - Maintain compliance with and be in 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.			X			*Has this activity been Integrated into the municipality's normal operations?*
29. All Municipalities - Begin the process to adopt higher regulatory standards to manage flood risk (i.e. increased freeboard, cumulative substantial damage/improvements) and sinkhole risk (e.g. carbonate bedrock standards).			X			
30. All Municipalities - Determine if a Community Assistance Visit (CAV) or Community Assistance Contact (CAC) is needed, and schedule if needed.						

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress/ Not Yet Complete	Continuous	Completed	Discontinued	
31. All Municipalities - Have designated NFIP Floodplain Administrator (FPA) become a Certified Floodplain Manager through the ASFPM, and pursue relevant continuing education training such as FEMA Benefit-Cost Analysis.	X					
32. All Municipalities - Participate in the Community Rating System (CRS) to further manage flood risk and reduce flood insurance premiums for NFIP policyholders. This process starts by submitting to FEMA-DHS of Letter of Intent to join CRS, followed by completing and submitting an application to the program once the community's current compliance with the NFIP is established.	X					
33. County and all municipalities - Continue to support the implementation, monitoring, maintenance, and updating of this Plan, as defined in Section 7.0			X			*Has this activity been Integrated into the municipality's normal operations?*
34. County and all municipalities - Complete the ongoing updates of the Comprehensive Plans			X			
35. County - Enhance the Westmoreland County Stormwater Management Plan by implementing Phase 2 of the plan.						
36. County and all municipalities - Create/enhance/ maintain mutual aid agreements with neighboring counties / communities for continuity of operations.						*Has this activity been Integrated into the municipality's normal operations?*

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress/ Not Yet Complete	Continuous	Completed	Discontinued	
37. County - Identify and develop agreements with entities that can provide support with FEMA/PEMA paperwork after disasters. Qualified damage assessment personnel should be available for post-disaster efforts, including damage assessment; FEMA/PEMA paperwork compilation, submittals, and record-keeping.						*Has this activity been Integrated into the municipality's normal operations?*
38. County - Work with regional agencies (i.e. Region 13 and PEMA) to develop damage assessment capabilities at the local level through training programs, certification of qualified individuals (e.g. code officials, floodplain managers, engineers).						
39. County and all municipalities - Partner with community groups such as local community organizations, including civic, business, town watch, faith-based, senior, special needs and tenant associations to promote emergency preparedness and mitigation efforts.						*Has this activity been Integrated into the municipality's normal operations?*
40. County and all municipalities – Develop geospatial and analytical tools to support community engagement, policy reform, and county and regional planning efforts.						*Has this activity been Integrated into the municipality's normal operations?*
41. County and all municipalities - Develop a hazard event GIS database to help county and local emergency managers with hazard mitigation and other planning initiatives.						*Has this activity been Integrated into the municipality's normal operations?*

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress/ Not Yet Complete	Continuous	Completed	Discontinued	
42. County and all municipalities - Maintain and exercise continuity of government plan to enable the county government to provide critical services during an interruption of business.						*Has this activity been Integrated into the municipality's normal operations?*
43. County and all municipalities - Implement seismic retrofits to vulnerable critical facilities.						
44. All municipalities - Regulate development to reduce flood losses in vulnerable fluvial areas.						*Has this activity been Integrated into the municipality's normal operations?*
45. County - Develop and maintain an outreach program to provide information and guidance to municipalities on their role in flood plain development.						*Has this activity been Integrated into the municipality's normal operations?*
46. County and all municipalities - Support and utilize an advanced warning system that provides emergency text and email alerts to the public.						*Has this activity been Integrated into the municipality's normal operations?*
47. County and all municipalities - Procure redundant power sources (portable generators).						
48. County and all municipalities - Maintain redundant power sources						*Has this activity been Integrated into the municipality's normal operations?*

Existing Mitigation Action	Status: No Progress / Unknown	Status: In Progress/ Not Yet Complete	Status: Continuous	Status: Completed	Status: Discontinued	Review Comments: Has this activity been Integrated into the municipality's normal operations?
49. County and all municipalities - Develop and distribute educational information on hazards, emergency preparedness and fire prevention.			x			Has this activity been Integrated into the municipality's normal operations?
50. County and all municipalities - Develop and distribute public outreach materials on water conservation.						

Hazard Identification and Risk Evaluation Worksheet

Name: ___Robert Baustert_____ Title: ____Emer. Mgmt. Coord._____

Jurisdiction: ___East Vandergrift_____

PART I

Identified Hazards 2015 HMP	How has the frequency of occurrence, magnitude of impact, and/or geographic extent changed in your community? *NC = No Change; I = Increase; D = Decrease* *(Please provide an explanation for any hazards marked I or D in the "Additional Comments" column)*	Additional Comments
Natural Hazards		
Avalanche	NC	
Drought	NC	
Earthquake	NC	
Extreme Temperatures	NC	
Floods, Flash Floods, and Ice Jams	I	Ice Jams are a regular occurrence on Kiski River
Hailstorm	NC	
Hurricane	NC	
Landslide	I	Minor slides have been occurring more frequently on the Boro's only two ways In/Out
Lightning	NC	
Radon Exposure	NC	
Subsidence, Sinkhole	NC	
Tornado, Windstorm	NC	
Wildfire	NC	
Winter Storm	NC	

Identified Hazards 2015 HMP	How has the frequency of occurrence, magnitude of impact, and/or geographic extent changed in your community? *NC = No Change; I = Increase; D = Decrease* *(Please provide an explanation for any hazards marked I or D in the "Additional Comments" column)*	Additional Comments
Human-made Hazards		
Dam Failure	NC	
Environmental Hazards	NC	
Nuclear Incident	NC	
Structural Fire	NC	
Terrorism	NC	
Transportation Accident	I	Rail traffic has slowly increased
Utility Interruption	NC	

PART II

Other Hazards:

Do any of these hazards, not previously profiled in the County's hazard mitigation plan; have the potential to affect your municipality significantly? (If so, please check the box)

Natural

- ☐ Coastal Erosion
- ☐ Dust, Sand Storm
- ☐ Expansive Soils
- ☐ Invasive Species
- ☐ Pandemic
- ☐ Tsunami
- ☐ Volcano

Human-Caused

- ☐ Building or Structure Collapse
- ☐ Civil Disturbance
- ☐ Disorientation
- X☐ Drowning
- ☐ Levee Failure
- ☐ Mass Food/Animal Feed Contamination
- ☐ War and Criminal Activity

Other Comments:

Recreational river traffic has increased considerably.

Hazard Identification and Risk Evaluation Worksheet

Name: Barry Delissio Title: Deputy Coordinator MEMA

Jurisdiction: Export Borough

PART I

Identified Hazards 2015 HMP	How has the frequency of occurrence, magnitude of impact, and/or geographic extent changed in your community? NC = No Change; I = Increase; D = Decrease (Please provide an explanation for any hazards marked I or D in the "Additional Comments" column)	Additional Comments
	Natural Hazards	
Avalanche	NA	
Drought	NA	
Earthquake	NA	
Extreme Temperatures	NA	
Floods, Flash Floods, and Ice Jams	D	Flood Control Project
Hailstorm	NA	
Hurricane	NA	
Landslide	D	Projects
Lightning	NA	
Radon Exposure	NA	
Subsidence, Sinkhole	I	DEP Notified
Tornado, Windstorm	NA	
Wildfire	NA	
Winter Storm	NA	

Identified Hazards 2015 HMP	How has the frequency of occurrence, magnitude of impact, and/or geographic extent changed in your community? NC = No Change; I = Increase; D = Decrease (Please provide an explanation for any hazards marked I or D in the "Additional Comments" column)	Additional Comments
	Human-made Hazards	
Dam Failure	NA	
Environmental Hazards	NA	
Nuclear Incident	NA	
Structural Fire	NA	
Terrorism	NA	
Transportation Accident	NA	
Utility Interruption	NA	

Capability Assessment Survey

Jurisdiction: Export Borough Point of Contact Name and Title: ____Barry Delissio Council President____________

Phone: [illegible] Email: ________barrydelissio@windstream.net______________________

1. **Planning and Regulatory Capability:** Please indicate whether the following planning or regulatory tools and programs are currently in place or under development for your jurisdiction by placing an "X" in the appropriate box, followed by the date of adoption/update. Then, for each particular item in place, identify the department or agency responsible for its implementation and indicate it's estimated or anticipated effect on hazard loss reduction (Support, Neutral or Hinders) with the appropriate symbol and also indicate if there has been a change in the ability of the tool/program to result in loss reduction. Finally, please provide additional comments or explanations in the space provided.

Tool / Program	Status: In Place	Date Adopted or Updated	Under Development	Dept./Agency Responsible	Comments
[illegible]		[illegible]		[illegible]zard County EMA	Interim update in 2008 revised mitigation strategy; completed one action.
Hazard Mitigation Plan					
Emergency Operations Plan	X			Export VFD	
Disaster Recovery Plan					
Evacuation Plan					
Continuity of Operations Plan					
NFIP					
NFIP – Community Rating System					
Floodplain Regulations (i.e. NFIP Flood Damage Prevention ordinance)	X	3/4/2011		UCC Code Official	
Floodplain Management Plan	X	3/4/2011		UCC Code Official	
Zoning Regulations	X			Boro Code Enforcement	

Tool / Program	Status: In Place	Date Adopted or Updated	Under Development	Dept./Agency Responsible	Comments
Subdivision Regulations	X			Borough Council	
Comprehensive Land Use Plan (or General, Master or Growth Mgt. Plan)	X			Zoning Plan	
Open Space Management Plan (or Parks/Rec or Greenways Plan)					
Stormwater Management Plan / Ordinance	X			MS 4 Plan	
Natural Resource Protection Plan					
Capital Improvement Plan					
Economic Development Plan					
Historic Preservation Plan	X			History Group	
Farmland Preservation					
Building Code	X			Boro Code Enforcement	
Fire Code	X			Boro Code Enforcement	
Other					

2. **Administrative and Technical Capability:** Please indicate whether your jurisdiction maintains the following staff members within its current personnel resources by placing an "X" in the appropriate box. Then, if YES, please identify the department or agency they work under and provide any other comments you may have in the space provided or with attachments.

Staff/Personnel Resources	Yes	No	Department/Agency	Comments
Planners (with land use / land development knowledge)	X		**Boro Code Enforcement**	
Planners or engineers (with natural and/or human-caused hazards knowledge)		X		
Engineers or professionals trained in building and/or infrastructure construction practices (including building inspectors)	X		**Boro Code Enforcement and UCC officer**	
Emergency Manager	X		Expert/Murrysville EMA Coordinator and Deputy	
NFIP Floodplain Administrator		X		
Land Surveyors	X		Boro Engineers	
Scientists or staff familiar with the hazards of the community		X		
Personnel skilled in Geographic Information Systems (GIS) and/or FEMA's HAZUS program		X		
Grant writers or fiscal staff to handle large/complex grants		X		
Staff with expertise or training in Benefit/Cost Analysis		X		
Other		X		

3. **Financial Capability:** Please indicate whether your jurisdiction has access to or is eligible to use the following local financial resources ***for hazard mitigation purposes*** (including as match funds for State or Federal mitigation grant funds). Then, identify the primary department or agency responsible for its administration or allocation and provide any other comments you may have in the space provided or with attachments.

Financial Resources	Yes	No	Department/Agency	Comments
Capital Improvement Programming		X		
Community Development Block Grants (CDBG)	X		CDBG Westmoreland County	
Special Purpose Taxes		X		
Gas / Electric Utility Fees		X		
Water / Sewer Fees	X		Sewage	
Stormwater Utility Fees		X		
Development Impact Fees		X		
General Obligation Revenue and/or Special Tax Bonds		X		
Partnering Arrangements or Intergovernmental Agreements	X		Inter Municipal agreements with Murrysville	
Other		X		

4. **Education and Outreach:** Identify education and outreach programs and methods already in place that could be used to implement mitigation activities and communicate hazard-related information. Then, identify the primary department or agency responsible for its administration or allocation and provide any other comments you may have in the space provided or with attachments.

Program/Organization	Yes	No	Department/Agency	Comments
Firewise Communities Certification		X		
StormReady Certification		X		
Natural disaster or safety related school programs		X		
Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)		X		
Public-private partnership initiatives addressing disaster-related issues		X		
Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.		X		
Other		X		

5. **Self-Assessment of Capability:** Please provide an approximate measure of your jurisdiction's capability to effectively implement hazard mitigation strategies to reduce hazard vulnerabilities. Using the following table, please place an "X" in the box marking the most appropriate degree of capability (Limited, Moderate or High) based upon best available information and the responses provided in Sections 1-5 of this survey. For multi-jurisdictional plans, record the results of this section into the Self-Assessment Capability Matrix in **Section 5**.

Area	Degree of Capability		
	Limited	Moderate	High
Planning and Regulatory Capability	X		
Administrative and Technical Capability	X		
Financial Capability	X		
Education and Outreach	X		

NATIONAL FLOOD INSURANCE PROGRAM (NFIP) SURVEY

MUNICIPALITY: ___EXPORT BOROUGH________________________

1. FLOODPLAIN IDENTIFICATION AND MAPPING

Requirement	Recommended Action	Yes/No	Comments
a. Does the municipality maintain and make available to the public an effective Flood Insurance Rate Map (FIRM)/Digital Flood Insurance Rate Map (DFIRM)? Does the municipality maintain an accessible copy of the most recent Flood Insurance Study (FIS)?	Please provide documentation on the availability of maps and their use/availability.	No	
b. Has the municipality adopted the most current DFIRM/FIRM and FIS?	Show the date of adoption, if approved.	No	
c. Does the municipality support requests for map updates?	If yes, state how.	No	
d. Does the municipality work with Federal Emergency Management Agency (FEMA) and state partners to submit data that could result in map revisions within 6 months of creation or identification of new data?	If yes, specify how.	No	
e. Does the municipality provide assistance with local floodplain determinations?	If yes, specify how.	No	
f. Does the municipality maintain a record of approved Letters of Map Change?	If yes, specify the responsible office.	No	

2. FLOODPLAIN MANAGEMENT

Requirement	Recommended Action	Yes/No	Comments
a. Has the municipality adopted a compliant floodplain management ordinance that, at a minimum, regulates the following:	If yes, answer questions (1) through (4) below.	No	
(1) Does the municipality issue permits for all proposed development in the Special Flood Hazard Areas (SFHAs)?	If yes, specify the office responsible.	-	
(2) Does the municipality obtain, review, and utilize any Base Flood Elevation (BFE) and floodway data, and/or require BFE data for subdivision proposals and other development proposals larger than 50 lots or 5 acres?	If yes, specify the office responsible.	-	
(3) Does the municipality identify measures to keep all new and substantially improved construction reasonably safe from flooding to or above the BFE, including anchoring, using flood-resistant materials, and designing or locating utilities and service facilities to prevent water damage?	If yes, specify the office responsible.	-	
(4) Does the municipality document and maintain elevation (or floodproofing) data that document lowest floor elevation for new or substantially improved structures?	If yes, specify the office responsible.	-	
b. If a compliant floodplain ordinance was adopted, does the municipality enforce the ordinance by monitoring compliance and taking remedial action to correct violations?	If yes, specify how.	No	

2. FLOODPLAIN MANAGEMENT

Requirement	Recommended Action	Yes/No	Comments
c. Has the municipality considered adopting activities that extend beyond the minimum requirements? Examples include: • Participation in the Community Rating System • Prohibition of production or storage of chemicals in SFHA • Prohibition of certain types of structures, such as hospitals, nursing homes, and jails in SFHA • Prohibition of certain types of residential housing (manufactured homes) in SFHA • Floodplain ordinance that prohibit any new residential or nonresidential structures in SFHA	If yes, specify activities.	No	

3. FLOOD INSURANCE

Requirement	Recommended Action	Yes/No	Comments
a. Does the municipality educate community members about the availability and value of flood insurance?	If yes, specify how.	No	
b. Does the municipality inform community property owners about changes to the DFIRM/FIRM that would impact their insurance rates?	If yes, specify how.	No	
c. Does the municipality provide general assistance to community members regarding insurance issues?	If yes, specify how.	No	

Mitigation Strategy 5-Year Mitigation Plan Review

Name:___Larry Lehman__________ **Title:**___Council President____ **Jurisdiction:**____Export Borough__________

Purpose: To fulfill requirement that plan maintenance from previous plan has been completed and to obtain early feedback from the planning team to incorporate into the update process.

Instructions: Complete the *Goal and Objective Review Worksheet* and *Mitigation Action Plan Review Worksheet* on the next pages keeping the following questions in mind:

- Do the goals, objectives, and actions address current and expected conditions?
- Go through each goal and objective to determine: Should goal be carried forward into updated plan? Should goal be changed based on current conditions in community? Should goal be discontinued and if so why?
- Progress on actions should be noted. For each action the following questions should be answered: What is status? What progress has been made? Should action be continued in updated plan? Should action be discontinued and if so why?
- Has the nature or magnitude of hazard risk changed?
- Are current resources adequate to implement the Plan?
- Should additional local resources be committed to address identified hazard threats?
- Are there any issues that have limited the current implementation schedule?
- Have the implementation of identified mitigation actions resulted in expected outcomes?
- Has the Mitigation Planning Committee measured the effectiveness of completed hazard mitigation projects in terms of specific dollar losses avoided?
- Did the jurisdictions, agencies and other partners participate in the plan implementation process as proposed?
- Other?

Before completing the worksheets, the group may wish to discuss the above questions in a round robin format, using a flip chart. The questions are standard questions; however it is important to check the existing hazard mitigation plan maintenance section to see if there are additional questions that need to be considered.

Goal and Objective Review Worksheet

Instructions: Write each goal and objective identified in the existing hazard mitigation plan. Use the comment boxes to provide feedback or to suggest modification of any of the proposed goals or objectives. You may suggest additional objectives below each goal, or new goals and objectives on the last page of this exercise.

Existing Goals and Objectives		Comments
Goal 1	To minimize the risk to human life associated with natural and non-natural hazards.	
Needed to Control Flooding in the Borough of Export		
Goal 2	To promote hazard avoidance, especially in floodplains, by removing high-risk and repetitive loss structures, and by issuing building restrictions on future development.	
Received a grant from the PA DEP and had a flood control project engineered and installed by Waterway Engineering of DEP		
Goal 3	To reduce the damage from natural and non-natural hazards to existing and future public and private assets including structures, critical facilities, and infrastructure.	
This Project took the high risk of flooding on normal rain events		

Existing Goals and Objectives		Comments
Goal 4	To protect and restore existing natural resources including wetlands, floodplains, and riparian buffers.	
The Flood Control Project was an overflow channel that caught the majority of the water from the Turtle Creek Stream in the Borough of Export above normal flow.		
Goal 5	To develop, prioritize and implement cost-effective, long-term actions that will reduce the impacts of natural and non-natural hazards.	
Need to develop a project to have the storm water pipes in the creek cleared of debris and sediment to have better flow into the creek.		
Goal 6	To enhance planning and emergency response efforts among local, county, state, and federal, emergency management personnel, to protect public health and safety.	
The Borough Public Works group to maintain and clean out the debris gates at the entrance to the flood control project		
Goal 7	To promote public awareness on the potential impacts of natural and non-natural hazards, and actions to reduce those impacts.	
Managed by enforcement to stop any debris ending up in the waterways.		

[illegible]		Comments
Goal		
Objective		
Objective		
Objective		
Goal		
Objective		
Objective		
Objective		
Goal		
Objective		
Objective		
Objective		

Mitigation Action Plan Review Worksheet

Instructions: List each mitigation action from the existing hazard mitigation plan and identify its status as "No Progress / Unknown," "In Progress / Not Yet Complete," "Continuous," "Completed," or "Discontinued." Include review comments for each action.

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress / Not Yet Complete	Continuous	Completed	Discontinued	
1. [illegible]						
2. Hunker Borough – [illegible]						
3. Hunker Borough – [illegible]						
4. Hunker Borough – [illegible] building by [illegible] flooding of basement.						
5. Hunker Borough – [illegible] Hunker Borough [illegible] prevent flooding.						
6. Hunker Borough – [illegible] the intersection of [illegible]						
7. Hunker Borough – [illegible]						
8. Hunker Borough – Install sub-drain to prevent roadway along Locust St. from sinking.						
9. Hunker Borough – [illegible] Bridge to prevent erosion.						

Existing Mitigation Action	Status: No Progress / Unknown	Status: In Progress / Not Yet Complete	Status: Continuous	Status: Completed	Status: Discontinued	Review Comments
10. Unity Township – Construct and install a new culvert in [illegible] to enhance hydraulic capacity.						
11. Unity Township – [illegible] stormwater detention system in [illegible]						
12. Allegheny Township – [illegible] and enhance stormwater [illegible] in [illegible] Manor.						
13. [illegible] Township – [illegible] of [illegible] Hill [illegible]						
14. [illegible] Township – [illegible] Bridge [illegible]						
15. Fairfield Township – [illegible]						
16. Sewickley Township – [illegible] storm water drainage system along [illegible] Road.						
17. Sewickley Township – [illegible]						
18. Sewickley Township – Procure remote [illegible] sites to enhance communications.						
19. Sewickley Township – [illegible]						
20. Sewickley Township – Procure and install a back-up generator into [illegible] VFD [illegible]						

Existing Mitigation Action	Status: No Progress / Unknown	Status: In Progress / Not Yet Complete	Status: Continuous	Status: Completed	Status: Discontinued	Review Comments
21. Sewickley Township – Procure and install a back-up generator into [illegible] VFD Station 15						
22. Sewickley Township – Procure and install a back-up generator into [illegible] VFD Station 14.						
23. Sewickley Township – [illegible]						
24. Fairfield Township – Develop and implement [illegible] plan [illegible] Creek [illegible]						
25. [illegible] Township – [illegible]						
26. County and all municipalities – Retrofit structures located in hazard-prone areas to protect structures from future damage, with repetitive loss and severe repetitive loss properties as priority. Phase 1: Identify appropriate candidates for retrofitting based on cost-effectiveness versus relocation. Phase 2: Where retrofitting is determined a viable option, work with property owners toward implementation based on available funding from FEMA and local match availability.						

Existing Mitigation Action	Status: No Progress / Unknown	Status: In Progress / Not Yet Complete	Status: Continuous	Status: Completed	Status: Discontinued	Review Comments
27. County and all municipalities – Purchase, or relocate structures located in hazard-prone areas to protect structures from future damage, with repetitive loss and severe repetitive loss properties as priority. Phase 1: Identify appropriate candidates for relocation based on cost-effectiveness versus retrofitting. Phase 2: Where relocation is determined a viable option, work with property owners toward implementation based on available funding from FEMA and local match availability.						
28. All Municipalities – 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.						*Has this activity been integrated into the municipality's normal operations?*
29. All Municipalities – [illegible]						
30. All Municipalities – [illegible] Community Assistance Visit (CAV) [illegible] Community Assistance Contact (CAC) [illegible]						

Existing Mitigation Action	Status: No Progress / Unknown	Status: In Progress / Not Yet Complete	Status: Continuous	Status: Completed	Status: Discontinued	Review Comments
31. All Municipalities – [illegible] Floodplain Administrator (FPA) [illegible] Certified Floodplain Manager through the ASFPM, and pursue relevant continuing education training such as FEMA Benefit-Cost Analysis.						
32. All Municipalities – Participate in the Community Rating System (CRS) [illegible] This process starts by submitting to FEMA [illegible] Letter of Interest [illegible] completing and submitting an application [illegible] the community's current compliance with the NFIP is established.						
33. County and all municipalities – Continue to support the implementation, monitoring, maintenance, and updating of this Plan, as defined in Section 7.0.						*Has this activity been integrated into the municipality's normal operations?*
34. County and all municipalities – Complete the ongoing updates of the Comprehensive Plans.						
35. County – Enhance the Westmoreland County Stormwater Management [illegible] implementing Phase 2 of the plan.						
36. County and all municipalities – Create/enhance/maintain mutual aid agreements with neighboring counties / communities for continuity of operations.						*Has this activity been integrated into the municipality's normal operations?*

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress / Not Yet Complete	Continuous	Completed	Discontinued	
49. [illegible]						*Has this activity been integrated into the municipality's normal operations?*
50. [illegible]						*Has this activity been integrated into the municipality's normal operations?*

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress / Not Yet Complete	Continuous	Completed	Discontinued	
37. [illegible]						*Has this activity been integrated into the municipality's normal operations?*
38. [illegible]						
39. [illegible]						*Has this activity been integrated into the municipality's normal operations?*
40. [illegible]						*Has this activity been integrated into the municipality's normal operations?*
41. [illegible]						*Has this activity been integrated into the municipality's normal operations?*

Jurisdiction Risk - City of Greensburg (Municipality)

Avalanche	Dam Failure	Drought	Earthquake	Environmental Hazards	Extreme Temperatures	Flood, Flash Flood, and Ice Jam	Hailstorm	Hurricane and Tropical Storm	Illicit Drug Use	Landslide	Lightning	Nuclear Incidents	Radon Exposure	Structural Fire	Subsidence and Sinkholes	Terrorism	Tornado, Windstorm	Transportation Accidents	Utility Interruptions	Wildfire	Winter Storm
1.0	1.3	2.2	1.9	2.9	2.7	3.2	2.5	2.1	3.1	2.5	1.4	1.9	2.6	2.2	1.9	2.8	3.0	2.2	3.0	2.3	3.0
=	>	=	=	=	=	>	=	=	>	=	=	=	=	>	=	=	=	>	=	=	[illegible]

\> Your municipality's risk from this hazard is greater than the County's risk as a whole

< Your municipality's risk from this hazard is less than the County's risk as a whole

= Your municipality's risk from this hazard is about the same as the County's risk as a whole

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress / Not Yet Complete	Continuous	Completed	Discontinued	
42. [illegible]						*Has this activity been integrated into the municipality's normal operations?*
43. [illegible]						
44. [illegible]						*Has this activity been integrated into the municipality's normal operations?*
45. [illegible]						*Has this activity been integrated into the municipality's normal operations?*
46. [illegible]						*Has this activity been integrated into the municipality's normal operations?*
47. [illegible]						
48. [illegible]						*Has this activity been integrated into the municipality's normal operations?*

Hazard Identification and Risk Evaluation Worksheet

Name: JEFF RAYKES Title: PLNG DIRECTOR

Jurisdiction: City of GREENSBURG

PART I

Identified Hazards 2015 HMP	How has the frequency of occurrence, magnitude of impact, and/or geographic extent changed in your community? NC = No Change; I = Increase; D = Decrease (Please provide an explanation for any hazards marked I or D in the "Additional Comments" column)	Additional Comments
Natural Hazards		
Avalanche	NC	
Drought	NC	
Earthquake	NC	
Extreme Temperatures	I	
Floods, Flash Floods, and Ice Jams	I	LYNCH FIELD NORTHMONT AREAS
Hailstorm	NC	
Hurricane	NC	
Landslide	NC	
Lightning	NC	
Radon Exposure	NC	
Subsidence, Sinkhole	I	
Tornado, Windstorm	NC	
Wildfire	NC	
Winter Storm	I	

Identified Hazards 2015 HMP	How has the frequency of occurrence, magnitude of impact, and/or geographic extent changed in your community? NC = No Change; I = Increase; D = Decrease (Please provide an explanation for any hazards marked I or D in the "Additional Comments" column)	Additional Comments
Human-made Hazards		
Dam Failure	NC	
Environmental Hazards	I	
Nuclear Incident	NC	
Structural Fire	I	
Terrorism	NC	
Transportation Accident	I	
Utility Interruption	NC	

PART II

Other Hazards:

Do any of these hazards, not previously profiled in the County's hazard mitigation plan; have the potential to affect your municipality significantly? (If so, please check the box)

Natural

- ☐ Coastal Erosion
- ☐ Dust, Sand Storm
- ☐ Expansive Soils
- ☒ Invasive Species
- ☐ Pandemic
- ☐ Tsunami
- ☐ Volcano

Human-Caused

- ☒ Building or Structure Collapse
- ☐ Civil Disturbance
- ☐ Disorientation
- ☐ Drowning
- ☐ Levee Failure
- ☐ Mass Food/Animal Feed Contamination
- ☐ War and Criminal Activity

Other Comments:

OLDER BUILDINGS IN DOWNTOWNS + SURROUNDING NEIGHBORHOODS ALSO, NEED FUNDING TO FIX STREAMWALLS ALONG JACKS RUN.

Capability Assessment Survey

Capability Assessment Survey

Jurisdiction: CITY OF GREENSBURG Point of Contact Name and Title: LES HARVEY EMERGENCY MANAGEMENT DIRECTOR

Phone: 724 838 4334 Email: lharvey@greensburgpa.org COORDINATOR

1. **Planning and Regulatory Capability:** Please indicate whether the following planning or regulatory tools and programs are currently in place or under development for your jurisdiction by placing an "X" in the appropriate box, followed by the date of adoption/update. Then, for each particular item in place, identify the department or agency responsible for its implementation and indicate it's estimated or anticipated effect on hazard loss reduction (Supports, Neutral or Hinders) with the appropriate symbol and also indicate if there has been a change in the ability of the tool/program to result in loss reduction. Finally, please provide additional comments or explanations in the space provided.

Tool / Program	Status: In Place	Status: Date Adopted or Updated	Status: Under Development	Dept./Agency Responsible	Comments
EXAMPLE: Hazard Mitigation Plan	X	1/1/2008		Hazard County EMA	Interim update in 2008 revised mitigation strategy; completed one action.
Hazard Mitigation Plan	X			Westmoreland County	City adopted the County HMP. Currently updating
Emergency Operations Plan	X	2018		City	Currently updating
Disaster Recovery Plan	Unsure				
Evacuation Plan	X				
Continuity of Operations Plan	X				
NFIP					
NFIP – Community Rating System	X				
Floodplain Regulations (spec. NFIP Flood Damage Prevention Ordinance)					
Floodplain Management Plan					
Zoning Regulations	X	1971			

3. **Financial Capability:** Please indicate whether your jurisdiction has access to or is eligible to use the following local financial resources ***for hazard mitigation purposes*** (including as match funds for State of Federal mitigation grant funds). Then, identify the primary department or agency responsible for its administration or allocation and provide any other comments you may have in the space provided or with attachments.

Financial Resources	Yes	No	Department/Agency	Comments
Capital Improvement Programming	X		Admin/Council	
Community Development Block Grants (CDBG)	X		Admin/Council	City is entitlement community
Special Purpose Taxes		X		
Gas / Electric Utility Fees		X		
Water / Sewer Fees		X		
Stormwater Utility Fees		X		
Development Impact Fees	unsure			
General Obligation, Revenue, and/or Special Tax Bonds	unsure			
Partnering Arrangements or Intergovernmental Agreements			Some agreements in place with County and County	
Other				

Tool / Program	Status: In Place	Status: Date Adopted or Updated	Status: Under Development	Dept./Agency Responsible	Comments
Subdivision Regulations	X	1965		PLNG+DEV	
Comprehensive Land Use Plan (or General, Master or Growth Mgt. Plan)	X	2004		PLNG+DEV	
Open Space Management Plan (or Parks/Rec or Greenways Plan)					
Stormwater Management Plan / Ordinance	X			Planning Commission	Stormwater Ord. adopted by City
Natural Resource Protection Plan					
Capital Improvement Plan					
Economic Development Plan	X				
Historic Preservation Plan	Unsure			Historic District but unsure if Historic Plan was adopted	
Farmland Preservation					
Building Code UCC		2004		PLNG+DEV	
Fire Code		2010		PLNG+DEV	
Other					

4. **Education and Outreach:** Identify education and outreach programs and methods already in place that could be used to implement mitigation activities and communicate hazard-related information. Then, identify the primary department or agency responsible for its administration or allocation and provide any other comments you may have in the space provided or with attachments.

Program/Organization	Yes	No	Department/Agency	Comments
Firewise Communities Certification				
StormReady certification	X		EMA City	
Natural disaster or safety related school programs	X		EMA City/County	
Ongoing public education or information program (e.g. responsible water use, fire safety, household preparedness, environmental education)	X		City Vol. Fire Dept	
Public-private partnership initiatives addressing disaster-related issues				
Local citizen groups or nonprofit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.	X		Volunteer Organizations Active in Disaster (VOAD)	
Other				

2. **Administrative and Technical Capability:** Please indicate whether your jurisdiction maintains the following staff members within its current personnel resources by placing an "X" in the appropriate box. Then, if YES, please identify the department or agency they work under and provide any other comments you may have in the space provided or with attachments.

Staff/Personnel Resources	Yes	No	Department/Agency	Comments
Planners (with land use / land development knowledge)	X		PLNG+DEV	
Planners or engineers (with natural and/or human caused hazards knowledge)		X		
Engineers or professionals trained in building and/or infrastructure construction practices (includes building inspectors)	X		PLNG+DEV	
Emergency Manager	X		Public Affairs+Safety	
NFIP Floodplain Administrator		X		
Land Surveyors	X		PLNG+DEV	
Scientists or staff familiar with the hazards of the community		X		
Personnel skilled in Geographic Information Systems (GIS) and/or FEMA's HAZUS program		X		
Grant writers or fiscal staff to handle large/complex grants		X		
Staff with expertise or training in Benefit-Cost Analysis		X		
Other				

2. FLOODPLAIN MANAGEMENT			
Requirement	*Recommended Action*	*Yes/No*	*Comments*
a. Has the municipality adopted a compliant floodplain management ordinance that, at a minimum, regulates the following:	If yes, answer questions (1) through (4) below.	yes	
(1) Does the municipality issue permits for all proposed development in the Special Flood Hazard Areas (SFHAs)?	If yes, specify the office responsible.	yes	PLNG + DEV
(2) Does the municipality obtain, review, and utilize any Base Flood Elevation (BFE) and floodway data, and/or require BFE data for subdivision proposals and other development proposals larger than 50 lots or 5 acres?	If yes, specify the office responsible.	NO	
(3) Does the municipality identify measures to keep all new and substantially improved construction reasonably safe from flooding to or above the BFE, including anchoring, using flood-resistant materials, and designing or locating utilities and service facilities to prevent water damage?	If yes, specify the office responsible.	NO	
(4) Does the municipality document and maintain records of elevation data that document lowest floor elevation for new or substantially improved structures?	If yes, specify the office responsible.	NO	
b. If a compliant floodplain ordinance was adopted, does the municipality enforce the ordinance by monitoring compliance and taking remedial action to correct violations?	If yes, specify how.	NA	Unsure

5. **Self-Assessment of Capability:** Please provide an approximate measure of your jurisdiction's capability to effectively implement hazard mitigation strategies to reduce hazard vulnerabilities. Using the following table, please place an "X" in the box marking the most appropriate degree of capability (Limited, Moderate or High) based upon best available information and the responses provided in Sections 1-5 of this survey. For multi-jurisdictional plans, record the results of this section into the Self-Assessment Capability Matrix in **Section 5**.

Area	Degree of Capability		
	Limited	Moderate	High
Planning and Regulatory Capability		X	
Administrative and Technical Capability	X		
Financial Capability	X		
Education and Outreach		X	

2. FLOODPLAIN MANAGEMENT			
Requirement	*Recommended Action*	*Yes/No*	*Comments*
c. Has the municipality considered adopting activities that extend beyond the minimum requirements? Examples include: • Participation in the Community Rating System • Prohibition of production or storage of chemicals in SFHA • Prohibition of certain types of structures, such as hospitals, nursing homes, and jails in SFHA • Prohibition of certain types of residential housing (manufactured homes) in SFHA • Floodplain ordinances that prohibit any new residential or nonresidential structures in SFHA	If yes, specify activities.	NO	LACK OF CAPACITY

3. FLOOD INSURANCE			
Requirement	*Recommended Action*	*Yes/No*	*Comments*
a. Does the municipality educate community members about the availability and value of flood insurance?	If yes, specify how.	NO	
b. Does the municipality inform community property owners about changes to the DFIRM/FIRM that would impact their insurance rates?	If yes, specify how.	NO	
c. Does the municipality provide general assistance to community members regarding insurance issues?	If yes, specify how.	NO	

NATIONAL FLOOD INSURANCE PROGRAM (NFIP) SURVEY

MUNICIPALITY: City of Greensburg

4. FLOODPLAIN IDENTIFICATION AND MAPPING			
Requirement	*Recommended Action*	*Yes/No*	*Comments*
a. Does the municipality maintain accessible copies of an effective Flood Insurance Rate Map (FIRM)/Digital Flood Insurance Rate Map (DFIRM)? Does the municipality maintain accessible copies of the most recent Flood Insurance Study (FIS)?	Place these documents in the local libraries or make available publicly.	Yes	
b. Has the municipality adopted the most current DFIRM/FIRM and FIS?	State the date of adoption, if approved.	UNSU	
c. Does the municipality support request for map updates?	If yes, state how.	YES	THROUGH COUNTY
d. Does the municipality share with Federal Emergency Management Agency (FEMA) any new technical or scientific data that could result in map revisions within 6 months of creation or identification of new data?	If yes, specify how.	NO	
e. Does the municipality provide assistance with local floodplain determinations?	If yes, specify how.	NO	
f. Does the municipality maintain a record of approved Letters of Map Change?	If yes, specify the responsible office.	Yes	

Existing Goals and Objectives		Comments
Goal 4	To protect and restore existing natural resources including wetlands, floodplains, and riparian buffers.	
	DEMONSTRATION Projects Identify priority areas/projects	
Goal 5	To develop, prioritize and implement cost-effective, long-term actions that will reduce the impacts of natural and non-natural hazards.	
Goal 6	To enhance planning and emergency response efforts among local, county, state, and federal, emergency management personnel to protect public health and safety.	
	TIMS training/Local group	
Goal 7	To promote public awareness on the potential impacts of natural and non-natural hazards, and actions to reduce those impacts.	
	Added capacity in Pub Depts	

Mitigation Strategy 5-Year Mitigation Plan Review

Name: Jeff Rawlings Title: Pub Director Jurisdiction: City of Greensburg

Purpose: To fulfill requirement that plan maintenance from previous plan has been completed and to obtain early feedback from the planning team to incorporate into the update process.

Instructions: Complete the *Goal and Objective Review Worksheet* and *Mitigation Action Plan Review Worksheet* on the next pages keeping the following questions in mind:

- Do the goals, objectives, and actions address current and expected conditions?
- Go through each goal and objective to determine: Should goal be carried forward into updated plan? Should goal be changed based on current conditions in community? Should goal be discontinued and if so why?
- Progress on actions should be noted. For each action the following questions should be answered: What is status? What progress has been made? Should action be continued in updated plan? Should action be discontinued and if so why?
- Has the nature or magnitude of hazard risk changed?
- Are current resources adequate to implement the Plan?
- Should additional local resources be committed to address identified hazard threats?
- Are there any issues that have limited the current implementation schedule?
- Have the implementation of identified mitigation actions resulted in expected outcomes?
- Has the Mitigation Planning Committee measured the effectiveness of completed hazard mitigation projects in terms of specific dollar losses avoided?
- Did the jurisdictions, agencies and other partners participate in the plan implementation process as proposed?
- Other?

Before completing the worksheets, the group may wish to discuss the above questions in a round robin format, using a flip chart. The questions are standard questions; however it is important to check the existing hazard mitigation plan maintenance section to see if there are additional questions that need to be considered.

Suggested Additional Goals and/or Objectives		Comments
Goal	UPDATED Stormwater Ord w/ BEST PRACTICES	
Objective		
Objective		
Objective		

Goal	
Objective	
Objective	
Objective	

Goal	
Objective	
Objective	
Objective	

Goal and Objective Review Worksheet

Instructions: Write each goal and objective identified in the existing hazard mitigation plan. Use the comment boxes to provide feedback or to suggest modification of any of the proposed goals or objectives. You may suggest additional objectives below each goal, or new goals and objectives on the last page of this exercise.

Existing Goals and Objectives		Comments
Goal 1	To minimize the risk to human life associated with natural and non-natural hazards.	
Goal 2	To promote hazard avoidance, especially in floodplains, by removing high-risk and repetitive loss structures, and by issuing building restrictions on future development.	
	UPDATE FLOODPLAIN ORD. + REGULATIONS Leverage CDBG funding for ILey projects	
Goal 3	To reduce the damage from natural and non-natural hazards to existing and future public and private assets including structures, critical facilities, and infrastructure.	

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress/ Not Yet Complete	Continuous	Completed	Discontinued	
21. Sewickley Township - Procure and install a back-up generator into Lowber VFD Station 16.						
22. Sewickley Township - Procure and install a back-up generator into Rillton VFD Station 14.						
23. Sewickley Township - Procure skid steer attachment to clear debris around culverts.						
24. Fairfield Township - Develop and implement an action plan to mitigation recurring flooding on Creek Road.						
25. Upper Burrell Township - Procure and install an emergency generator.						
26. County and all municipalities - Retrofit structures located in hazard-prone areas to protect structures from future damage, with repetitive loss and severe repetitive loss properties as priority. Phase 1: Identify appropriate candidates for retrofitting based on cost-effectiveness versus relocation. Phase 2: Where retrofitting is determined a viable option, work with property owners toward implementation based on available funding from FEMA and local match availability.						

Mitigation Action Plan Review Worksheet

Instructions: List each mitigation action from the existing hazard mitigation plan and identify its status as "No Progress / Unknown," "In Progress / Not Yet Complete," "Continuous," "Completed," or "Discontinued." Include review comments for each action.

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress/ Not Yet Complete	Continuous	Completed	Discontinued	
1. Mt. Pleasant Borough - Install additional stormwater runoff pipes and upgrade/replace existing deteriorated pipes.						
2. Hunker Borough - Procure and install a back-up generator into Hunker Borough EOC.						
3. Hunker Borough - Procure and install air conditioning units into community building / community shelter.						
4. Hunker Borough - Retrofit community building to prevent flooding in basement.						
5. Hunker Borough - Pave Bellson Street in Hunker Borough. Install proper drainage to prevent flooding.						
6. Hunker Borough - Implement the redirection of the stormwater catch basin at the intersection of Walnut and Bridge St.						
7. Hunker Borough - Demolition of abandoned home.						
8. Hunker Borough - Install sub-flooring to prevent roadway along Locust St. from sinking.						
9. Hunker Borough - Retrofit Walnut St. Bridge to prevention erosion.						

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress/ Not Yet Complete	Continuous	Completed	Discontinued	
27. County and all municipalities - Purchase, or relocate structures located in hazard-prone areas to protect structures from future damage, with repetitive loss and severe repetitive loss properties as priority. Phase 1: Identify appropriate candidates for relocation based on cost-effectiveness versus retrofitting. Phase 2: Where relocation is determined a viable option, work with property owners toward implementation based on available funding from FEMA and local match availability.	X					
28. All Municipalities - Maintain compliance with and be in 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.	X					*Has this activity been integrated into the municipality's normal operations?*
29. All Municipalities - Begin the process to adopt higher regulatory standards to manage flood risk (i.e. increased freeboard, cumulative substantial damage/improvements) and sinkhole risk (e.g. carbonate bedrock standards).	X					
30. All Municipalities - Determine if a Community Assistance Visit (CAV) or Community Assistance Contact (CAC) is needed, and schedule if needed.	X					

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress/ Not Yet Complete	Continuous	Completed	Discontinued	
10. Unity Township - Construct and install a new culvert in Lloydsville to enhance hydraulic capacity.						
11. Unity Township - Install a stormwater detention system in Lawson Heights.						
12. Allegheny Township - Replace and enhance stormwater runoff pipes in Moreland Manor.						
13. St. Clair Township - Reconstruction of Bridge River Hill Bridge.						
14. St. Clair Township - Reconstruction of Bridge Sugar Run Road.						
15. Fairfield Township - Reconstruction of Patterson Bridge.						
16. Sewickley Township - Install storm water drainage system along Pinewood Road.						
17. Sewickley Township - Procure a skid loader/grab attachment for storm clean up and culvert clean out.						
18. Sewickley Township - Procure remote receive sites to enhance communications.						
19. Sewickley Township - Procure sweeper truck for stormwater management.						
20. Sewickley Township - Procure and install a back-up generator into Hutchinson VFD Station 85.						

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress/ Not Yet Complete	Continuous	Completed	Discontinued	
42. County and all municipalities - Maintain and exercise continuity of government plan to enable the county government to provide critical services during an interruption of business.	✓					*Has this activity been Integrated into the municipality's normal operations?*
43. County and all municipalities - Implement seismic retrofits to vulnerable critical facilities.	✓					
44. All municipalities - Regulate development to reduce flood losses in vulnerable fluvial areas.	✓					*Has this activity been Integrated into the municipality's normal operations?*
45. County - Develop and maintain an outreach program to provide information and guidance to municipalities on their role in flood plain development.	✓					*Has this activity been Integrated into the municipality's normal operations?*
46. County and all municipalities - Support and utilize an advanced warning system that provides emergency text and email alerts to the public.	✓					*Has this activity been Integrated into the municipality's normal operations?*
47. County and all municipalities - Procure redundant power sources (portable generators).				X		
48. County and all municipalities - Maintain redundant power sources				X		*Has this activity been Integrated into the municipality's normal operations?*

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress/ Not Yet Complete	Continuous	Completed	Discontinued	
31. All Municipalities - Have designated NFIP Floodplain Administrator (FPA) become a Certified Floodplain Manager through the ASFPM, and pursue relevant continuing education training such as FEMA Benefit-Cost Analysis.	✓					
32. All Municipalities - Participate in the Community Rating System (CRS) to further manage flood risk and reduce flood insurance premiums for NFIP policyholders. This process starts by submitting to FEMA-DHS of Letter of Intent to join CRS, followed by completing and submitting an application to the program once the community's current compliance with the NFIP is established.	✓					
33. County and all municipalities - Continue to support the implementation, monitoring, maintenance, and updating of this Plan, as defined in Section 7.0	✓					*Has this activity been Integrated into the municipality's normal operations?*
34. County and all municipalities - Complete the ongoing updates of the Comprehensive Plans		✓ 2021				
35. County - Enhance the Westmoreland County Stormwater Management Plan by implementing Phase 2 of the plan.	✓					
36. County and all municipalities - Create/enhance/ maintain mutual aid agreements with neighboring counties / communities for continuity of operations.	✓					*Has this activity been Integrated into the municipality's normal operations?*

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress/ Not Yet Complete	Continuous	Completed	Discontinued	
49. County and all municipalities - Develop and distribute educational information on hazards, emergency preparedness and fire prevention.			X	Fire Prevention Program		*Has this activity been Integrated into the municipality's normal operations?*
50. County and all municipalities - Develop and distribute public outreach materials on water conservation.	✓					*Has this activity been Integrated into the municipality's normal operations?*

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress/ Not Yet Complete	Continuous	Completed	Discontinued	
37. County - Identify and develop agreements with entities that can provide support with FEMA/PEMA paperwork after disasters. Qualified damage assessment personnel should be available for post-disaster efforts, including damage assessment; FEMA/PEMA paperwork compilation, submittals, and record-keeping.	✓					*Has this activity been Integrated into the municipality's normal operations?*
38. County - Work with regional agencies (i.e. Region 13 and PEMA) to develop damage assessment capabilities at the local level through training programs, certification of qualified individuals (e.g. code officials, floodplain managers, engineers).						
39. County and all municipalities - Partner with community groups such as local community organizations, including civic, business, town watch, faith-based, senior, special needs and tenant associations to promote emergency preparedness and mitigation efforts.	✓					*Has this activity been Integrated into the municipality's normal operations?*
40. County and all municipalities - Develop geospatial and analytical tools to support community engagement, policy reform, and county and regional planning efforts.		✓ WORKS WITH COUNTY MAPPING TOOLS				*Has this activity been Integrated into the municipality's normal operations?*
41. County and all municipalities - Develop a hazard event GIS database to help county and local emergency managers with hazard mitigation and other planning initiatives.	✓					*Has this activity been Integrated into the municipality's normal operations?*

Hazard Identification and Risk Evaluation Worksheet

Name: James P. SHAW Title: Director of Code & Safety

Jurisdiction: Hempfield Township, Westmoreland County

PART I

Identified Hazards 2015 HMP	How has the frequency of occurrence, magnitude of impact, and/or geographic extent changed in your community? *NC = No Change; I = Increase; D = Decrease* *(Please provide an explanation for any hazards marked I or D in the "Additional Comments" column)*	Additional Comments
Natural Hazards		
Avalanche	NC	
Drought	NC	
Earthquake	NC	
Extreme Temperatures	NC	
Floods, Flash Floods, and Ice Jams	I	Due to the last 24 months of rainfall
Hailstorm	NC	
Hurricane	NC	
Landslide	I	Due to the last 24 months of rainfall
Lightning	NC	
Radon Exposure	NC	
Subsidence, Sinkhole	I	Due to the last 24 months of rainfall
Tornado, Windstorm	NC	
Wildfire	NC	
Winter Storm	NC	

Identified Hazards 2015 HMP	How has the frequency of occurrence, magnitude of impact, and/or geographic extent changed in your community? *NC = No Change; I = Increase; D = Decrease* *(Please provide an explanation for any hazards marked I or D in the "Additional Comments" column)*	Additional Comments
Human-made Hazards		
Dam Failure	NC	
Environmental Hazards	NC	
Nuclear Incident	NC	
Structural Fire	NC	
Terrorism	NC	
Transportation Accident	NC	
Utility Interruption	NC	

PART II

Other Hazards:

Do any of these hazards, not previously profiled in the County's hazard mitigation plan; have the potential to affect your municipality significantly? (If so, please check the box)

Natural

- ☐ Coastal Erosion
- ☐ Dust, Sand Storm
- ☐ Expansive Soils
- ☐ Invasive Species
- ☐ Pandemic
- ☐ Tsunami
- ☐ Volcano

Human-Caused

- ☐ Building or Structure Collapse
- ☐ Civil Disturbance
- ☐ Disorientation
- ☐ Drowning
- ☐ Levee Failure
- ☐ Mass Food/Animal Feed Contamination
- ☐ War and Criminal Activity

Other Comments:

Capability Assessment Survey

Jurisdiction: Hempfield Township Westmoreland County Point of Contact Name and Title: James P. Shaw Director of Code & Safety

Phone: [illegible] Email: jshaw@hempfieldtwp.org

1. **Planning and Regulatory Capability:** Please indicate whether the following planning or regulatory tools and programs are currently in place or under development for your jurisdiction by placing an "X" in the appropriate box, followed by the date of adoption/update. Then, for each [illegible] item in place, identify the department or agency responsible for its implementation and indicate it's estimated or anticipated effect on hazard loss reduction (Support, Neutral or Hinders) with the appropriate symbol and also indicate if there has been a change in the ability of the tool/program to [illegible] in this jurisdiction. Finally, please provide additional comments or explanations in the space provided.

Tool / Program	Status: In Place	Status: Date Adopted or Updated	Status: Under Development	Dept./Agency Responsible	Comments
[illegible]		[illegible]		[illegible]zard County EMA	Interim update in 2008 revised mitigation strategy; completed one action.
Hazard Mitigation Plan	X	7/1/2012		HEMA	
Emergency Operations Plan	X	3/1/2018		HEMA	
Disaster Recovery Plan	X	Unk		HEMA	In the process of being updated
Evacuation Plan			X		
Continuity of Operations Plan			X		
NFIP	X	12/27/2010		Hempfield Township	Chapter 49 Flood Damage Prevention
NFIP – Community Rating System	X	12/27/2010		Hempfield Township	Chapter 49 Flood Damage Prevention
Floodplain Regulations [illegible]	X	12/27/2010		Hempfield Township	Chapter 49 Flood Damage Prevention

3. **Financial Capability:** Please indicate whether your jurisdiction has access to or is eligible to use the following local financial resources ***for hazard mitigation purposes*** (including annual funds for Stafford Act pre-/post-disaster mitigation grant funds). Then, identify the primary department or agency responsible for its administration or allocation and provide any other comments you may have in the space provided or with attachments.

Financial Resources	Yes	No	Department/Agency	Comments
Capital Improvement Programming		X		
Community Development Block Grants (CDBG)		X	Kevin Siko – Director of Parks & Rec	
Special Purpose Taxes		X		
Gas / Electric Utility Fees		X		
Water / Sewer Fees		X		
Stormwater Utility Fees		X		
Development Impact Fees		X		
General Fund and/or Special Tax (Sales)	X		Jeannie Philips – Director of Finance	
Partnering Arrangements or Intergovernmental Agreements	X		Hempfield Township	Various Departments within the township maintain aggreements
Other				

Tool / Program	Status: In Place	Date Adopted or Updated	Under Development	Dept/Agency Responsible	Comments
Floodplain Management Plan	X	12/27/2010		Hempfield Township	Chapter 49 Flood Damage Prevention
Zoning Regulations	X	2/4/2014		Hempfield Township	Chapter 87 Zoning
Subdivision Regulations	X	10/25/1963		Hempfield Township	Chapter 76 Subdivision of Land
Comprehensive Land Use Plan (or County Master Comprehensive Plan)	X	2/10/1969		Hempfield Township	Chapter 23 Planning Township
Overlay Management Plans (Floodplain Greenways Plan)	X	2/4/2014		Hempfield Township	Chapter 87 Zoning
Stormwater Management Plan / Ordinance	X	7/27/2009		Hempfield Township	Chapter 72 Stormwater Management
Natural Resource Protection Plan	X	2/4/2014		Hempfield Township	Chapter 87 Natural Resource Protection
Capital Improvement Plan					
Economic Development Plan					
Historic Preservation Plan					
Farmland Preservation	X	2/4/2014		Hempfield Township	
Building Code	X	12/27/2010		Hempfield Township	Chapter 63 Property Maintenance
Fire Code	X	12/17/2010		Hempfield Township	Chapter 47 Fire Safety
Other					

4. **Education and Outreach:** Identify education and outreach programs and methods already in place that could be used to implement mitigation activities and communicate hazard-related information. Then, identify the primary department or agency responsible for its administration or allocation and provide any other comments you may have in the space provided or with attachments.

Program/Organization	Yes	No	Department/Agency	Comments
Firewise Communities Certification		X		
StormReady Certification	X			
Natural disaster or safety related school curriculum	X			
Ongoing public education or information program (e.g. responsible water use, fire safety, household preparedness, environmental education)	X		Hempfield Bureau of Fire	
Public-private partnership initiatives addressing disaster-related issues	X		HEMA	Member of local VOAD
Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.		X		
Other				

2. **Administrative and Technical Capability:** Please indicate whether your jurisdiction maintains the following staff members within its current personnel resources by placing an "X" in the appropriate box. Then, if YES, please identify the department or agency they work under and provide any other comments you may have in the space provided or with attachments.

Staff/Personnel Resources	Yes	No	Department/Agency	Comments
Planners with land use and land development knowledge	X		Patrick Karnash -Planning	
Planners or engineers with natural and/or human-caused hazards knowledge	X		Gibson-Thomas Engineering	
Engineers or architects trained in building and/or infrastructure construction practices (preferably hazard mitigation experience)	X		Gibson-Thomas Engineering and Code Enforcement Associates	
Emergency Manager	X		Tony Kavcic-EMA Director	
NFIP Floodplain Administrator	X		Doug Silak Gibson-Thomas Engineering	
Land Surveyors	X		Gibson-Thomas Engineering	
Scientists or staff familiar with the hazards in the community		X		
Personnel skilled in Geographic Information System (GIS) and/or FEMA's HAZUS program	X		Gibson-Thomas Engineering	
Grant writers or staff with experience in obtaining federal/complex grants	X		Jeannie Philips – Director of Finance	
Staff with expertise or training in benefit-cost analysis		X		
Other				

NATIONAL FLOOD INSURANCE PROGRAM (NFIP) SURVEY

MUNICIPALITY: HEMPFIELD TWP, WESTMORELAND COUNTY

1. FLOODPLAIN IDENTIFICATION AND MAPPING			
Requirement	**Recommended Action**	**Yes/No**	**Comments**
a. Does the municipality maintain adequate copies of an effective Flood Insurance Rate Map (FIRM)/Digital Flood Insurance Rate Map (DFIRM)? Does the municipality maintain accessible copies of the most recent Flood Insurance Study (FIS)?	Place these documents in the local libraries or make available publicly.	Y	
b. Has the municipality adopted the most current DFIRM/FIRM and FIS?	State the date of adoption, if approved.		All plans are reviewed by County Conservation District.
c. Does the municipality support requests for map updates?	If yes, state how.	Y	By working in conjunction with the County Conservation District.
d. Does the municipality work with Federal Emergency Management Agency (FEMA) any new technical or scientific data that would result in map revisions within 6 months of creation or identification of new data?	If yes, specify how.	Y	Work directly with FEMA on updating individual properties.
e. Does the municipality provide assistance with map [illegible]?	If yes, specify how.	Y	By working in conjunction with the County Conservation District.
f. Does the municipality maintain a record of approved Letters of Map Change?	If yes, specify the responsible office.	Y	Zoning

2. FLOODPLAIN MANAGEMENT			
Requirement	**Recommended Action**	**Yes/No**	**Comments**
a. Has the municipality adopted a compliant floodplain management ordinance that, at a minimum, regulates the following:	If yes, answer questions (1) through (4) below.	Y	Chapter 49 Floodplain Administrator
(1) Does the municipality issue permits for all proposed development in the Special Flood Hazard Areas (SFHAs)?	If yes, specify the office responsible.	Y	Zoning
(2) Does the municipality obtain, review, and utilize any Base Flood Elevation (BFE) and floodway data, and/or require BFE data for subdivision proposals and other development proposals larger than 50 lots or 5 acres?	If yes, specify the office responsible.	Y	Zoning
(3) Does the municipality identify measures to keep all new and substantially improved construction reasonably safe from flooding to or above the BFE, including anchoring, using flood-resistant materials, and designing or locating utilities and service facilities to prevent water damage?	If yes, specify the office responsible.	Y	Zoning
(4) Does the municipality document and maintain completed elevation data that document lowest floor elevation for new or substantially improved structures?	If yes, specify the office responsible.	Y	Zoning
b. If a compliant floodplain ordinance was adopted, does the municipality enforce the ordinance by monitoring compliance and taking remedial action to correct violations?	If yes, specify how.	Y	Zoning

2. FLOODPLAIN MANAGEMENT			
Requirement	**Recommended Action**	**Yes/No**	**Comments**
c. Has the municipality considered adopting activities that extend beyond the minimum requirements? Examples include: 1. Participation in the Community Rating System 2. Prohibition of production or storage of chemicals in SFHA 3. Prohibition of certain types of structures, such as hospitals, nursing homes, and jails in SFHA 4. Prohibition of certain types of residential housing (manufactured homes) in SFHA 5. Floodplain ordinances that prohibit any new residential or nonresidential structures in SFHA	If yes, specify activities.	Y	1. No 2. Yes 3. Yes 4. Yes 5. Yes

3. FLOOD INSURANCE			
Requirement	**Recommended Action**	**Yes/No**	**Comments**
a. Does the municipality educate community members about the availability and value of flood insurance?	If yes, specify how.	N	
b. Does the municipality inform community property owners about changes to the DFIRM/FIRM that would impact their insurance rates?	If yes, specify how.	N	
c. Does the municipality provide general assistance to community members regarding insurance issues?	If yes, specify how.	N	

5. **Self-Assessment of Capability:** Please provide an approximate measure of your jurisdiction's capability to effectively implement hazard mitigation strategies to reduce hazard vulnerabilities. Using the following table, please place an "**X**" in the box marking the most appropriate degree of capability (Limited, Moderate, or High) based upon best available information and the responses provided in Sections 1-5 of this survey. For multi-jurisdictional plans, record the results of this section into the Self-Assessment Capability Matrix in **Section 5**.

Area	Degree of Capability		
	Limited	Moderate	High
Planning and Regulatory Capability		X	
Administrative and Technical Capability		X	
Financial Capability	[illegible]		
Education and Outreach	[illegible]		

	Existing Goals and Objectives	Comments
Goal 4	To protect and restore existing natural resources including wetlands, floodplains, and riparian buffers.	
Goal 5	To develop, prioritize and implement cost-effective, long-term actions that will reduce the impacts of natural and non-natural hazards.	
Goal 6	To enhance planning and emergency response efforts among local, county, state, and federal, emergency management personnel, to protect public health and safety.	
Goal 7	To promote public awareness on the potential impacts of natural and non-natural hazards, and actions to reduce those impacts.	

Mitigation Strategy 5-Year Mitigation Plan Review

Name: James J. Shaw Title: Director of Code & Safety Jurisdiction: Hempfield Twp. Westmoreland County

Purpose: To fulfill requirement that plan maintenance from previous plan has been completed and to obtain early feedback from the planning team to incorporate into the update process.

Instructions: Complete the *Goal and Objective Review Worksheet* and *Mitigation Action Plan Review Worksheet* on the next pages keeping the following questions in mind:

- Do the goals, objectives, and actions address current and expected conditions?
- Go through each goal and objective to determine. Should goal be carried forward into updated plan? Should goal be changed based on current conditions in community? Should goal be discontinued and if so why?
- Progress on actions should be noted. For each action the following questions should be answered: What is status? What progress has been made? Should action be continued in updated plan? Should action be discontinued and if so why?
- Has the nature or magnitude of hazard risk changed?
- Are current resources adequate to implement the Plan?
- Should additional local resources be committed to address identified hazard threats?
- Are there any issues that have limited the current implementation schedule?
- Have the implementation of identified mitigation actions resulted in expected outcomes?
- Has the Mitigation Planning Committee reviewed the effectiveness of completed hazard mitigation projects in terms of specific dollar losses avoided?
- Did the jurisdictions, agencies and other partners participate in the plan implementation process as proposed?
- Other?

Before completing the worksheets, the group may wish to discuss the above questions in a round robin format, using a flip chart. The questions are standard questions, however it is important to check the existing hazard mitigation plan maintenance section to see if there are additional questions that need to be considered.

	[illegible]	Comments
Goal		
Objective		
Objective		
Objective		
Goal		
Objective		
Objective		
Objective		
Goal		
Objective		
Objective		
Objective		

Goal and Objective Review Worksheet

Instructions: Write each goal and objective identified in the existing hazard mitigation plan. Use the comment boxes to provide feedback or to suggest modification of any of the proposed goals or objectives. You may suggest additional objectives below each goal, or new goals and objectives on the last page of this exercise.

	Existing Goals and Objectives	Comments
Goal 1	To minimize the risk to human life associated with natural and non-natural hazards.	
Goal 2	To promote hazard avoidance, especially in floodplains, by removing high-risk and repetitive loss structures, and by issuing building restrictions on future development.	
Goal 3	To reduce the damage from natural and non-natural hazards to existing and future public and private assets including structures, critical facilities, and infrastructure.	

Mitigation Action Plan Review Worksheet

Instructions: List each mitigation action from the existing hazard mitigation plan and identify its status as "No Progress / Unknown," "In Progress / Not Yet Complete," "Continuous," "Completed," or "Discontinued." Include review comments for each action.

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress / Not Yet Complete	Continuous	Completed	Discontinued	
1. Mt. Pleasant Borough – [illegible] stormwater runoff [illegible] existing detention [illegible] areas.						
2. Hunker Borough – Procure and install a back-up generator [illegible] in EOC.						
3. Hunker Borough – [illegible] community building / community shelter.						
4. Hunker Borough – [illegible] community building by [illegible] flooding of basement.						
5. Hunker Borough – [illegible] in Hunker Borough [illegible] drainage to prevent flooding.						
6. Hunker Borough – Implement [illegible] of the stormwater [illegible] at the intersection of Walnut and Bridge St.						
7. Hunker Borough – [illegible]						
8. Hunker Borough – Install sub-drains to prevent roadway along Locust St. from sinking.						
9. Hunker Borough – [illegible] Bridge to prevent erosion.						

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress / Not Yet Complete	Continuous	Completed	Discontinued	
10. Unity Township – Construct and install a new culvert in [illegible] to enhance hydraulic capacity.						
11. Unity Township – [illegible] stormwater detention system [illegible]						
12. Allegheny Township – [illegible] stormwater [illegible] Manor.						
13. [illegible] Township – [illegible] Hill [illegible]						
14. [illegible] Township – [illegible] Bridge [illegible] Run Road.						
15. Fairfield Township – [illegible]						
16. Sewickley Township – [illegible] stormwater drainage system along [illegible] Road.						
17. Sewickley Township – [illegible]						
18. Sewickley Township – Procure remote [illegible] to enhance communications.						
19. Sewickley Township – [illegible]						
20. Sewickley Township – Procure and install a back-up generator into [illegible]						

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress / Not Yet Complete	Continuous	Completed	Discontinued	
21. Sewickley Township – Procure and install a back-up generator into [illegible] VFD Station 16.						
22. Sewickley Township – Procure and install a back-up generator into [illegible] VFD Station 14.						
23. Sewickley Township – [illegible]						
24. Fairfield Township – Develop and implement [illegible] plan [illegible] flooding in [illegible]						
25. [illegible] Township – [illegible]						
26. County and all municipalities – Retrofit structures located in hazard-prone areas to protect structures from future damage, with repetitive loss and severe repetitive loss properties as priority. Phase 1: Identify appropriate candidates for retrofitting based on cost effectiveness versus relocation. Phase 2: Where retrofitting is determined [illegible], work with property owners toward implementation based on available funding from FEMA and [illegible] availability.						

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress / Not Yet Complete	Continuous	Completed	Discontinued	
27. County and all municipalities – Purchase, or relocate structures located in hazard-prone areas to protect structures from future damage, with repetitive loss and severe repetitive loss properties as priority. Phase 1: Identify appropriate candidates for relocation based on cost effectiveness versus retrofitting. Phase 2: Where relocation is determined [illegible], work with property owners toward implementation based on available funding from FEMA and [illegible] availability.						
28. All Municipalities – 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.						*Has this activity been integrated into the municipality's normal operations?*
29. All Municipalities – Begin the process to adopt higher regulatory standards to manage flood risk (i.e. increased freeboard, cumulative substantial damage/improvements) and [illegible] risk (e.g. [illegible]).	X					
30. All Municipalities – [illegible] Community Assistance Visit (CAV) or Community Assistance Contact (CAC) if needed, and schedule if needed.						

Existing Mitigation Action	Status: No Progress / Unknown	Status: In Progress / Not Yet Complete	Status: Continuous	Status: Completed	Status: Discontinued	Review Comments
31. All Municipalities – [illegible] Administrator (FPA) [illegible] Certified Floodplain Manager through the ASFPM, and [illegible] training [illegible] FEMA Benefit-Cost Analysis.			✓			
32. All Municipalities – [illegible] Community Rating System (CRS) [illegible] manage flood risk and reduce flood insurance premiums for NFIP policyholders. This process starts by submitting to FEMA/[illegible] a Letter of Intent to join CRS, followed by completing and submitting an application to the program once the community's current compliance with the NFIP is established.	✓					
33. County and all municipalities – Continue to support the [illegible] maintenance, and updating of [illegible] defined in Section 7.0.		✓				*Has this activity been integrated into the municipality's normal operations?*
34. County and all municipalities – Complete the [illegible] update of the Comprehensive Plan.		✓				
35. County – Enhance the Westmoreland County Stormwater Management [illegible] implementing Phase 2 of [illegible].	✓					
36. County and all municipalities – Create/amend/maintain mutual aid agreements with neighboring counties / communities for continuity of operations.			✓			*Has this activity been integrated into the municipality's normal operations?*

Existing Mitigation Action	Status: No Progress / Unknown	Status: In Progress / Not Yet Complete	Status: Continuous	Status: Completed	Status: Discontinued	Review Comments
37. County – Identify and develop [illegible] with entities that can provide support with FEMA/PEMA paperwork after disasters. Qualified damage assessment personnel [illegible] damage assessment FEMA/PEMA paperwork [illegible] record keeping.						*Has this activity been integrated into the municipality's normal operations?*
38. County – Work with [illegible] (i.e. Region 13 and PEMA) [illegible] assessment [illegible] training programs, certification of qualified individuals (e.g. [illegible] floodplain managers, engineers).						
39. County and all municipalities – Partner with community [illegible] community stakeholders, including [illegible] business [illegible] special needs [illegible] to promote emergency preparedness and mitigation efforts.						*Has this activity been integrated into the municipality's normal operations?*
40. County and all municipalities – Develop [illegible] community engagement [illegible] county and regional planning efforts.						*Has this activity been integrated into the municipality's normal operations?*
41. County and all municipalities – Develop a [illegible] GIS [illegible] county and local emergency managers with hazard mitigation and [illegible] initiatives.						*Has this activity been integrated into the municipality's normal operations?*

Existing Mitigation Action	Status: No Progress / Unknown	Status: In Progress / Not Yet Complete	Status: Continuous	Status: Completed	Status: Discontinued	Review Comments
42. County and all municipalities – Maintain and exercise continuity of government plan to enable the county government to provide critical services during an interruption of business.						*Has this activity been integrated into the municipality's normal operations?*
43. County and all [illegible] – Implement [illegible]						
44. All municipalities – [illegible] development [illegible] space.						*Has this activity been integrated into the municipality's normal operations?*
45. County – [illegible] outreach program to [illegible] information and guidance [illegible] municipalities [illegible] flood [illegible]						*Has this activity been integrated into the municipality's normal operations?*
46. County and all municipalities – Support and [illegible] warning system that [illegible] to the public.						*Has this activity been integrated into the municipality's normal operations?*
47. County and all [illegible] – [illegible]						
48. County and all municipalities – Maintain redundant power sources.						*Has this activity been integrated into the municipality's normal operations?*

Existing Mitigation Action	Status: No Progress / Unknown	Status: In Progress / Not Yet Complete	Status: Continuous	Status: Completed	Status: Discontinued	Review Comments
49. County and all municipalities – Develop and distribute [illegible] information on hazards, emergency preparedness and fire prevention.						*Has this activity been integrated into the municipality's normal operations?*
50. County and all municipalities – Develop and distribute public outreach materials on water conservation.						*Has this activity been integrated into the municipality's normal operations?*

Hazard Identification and Risk Evaluation Worksheet

Name: Daniel McKay Title: Hunker EMA Director 11

Jurisdiction: Hunker Boro

PART I

Identified Hazards 2015 HMP	How has the frequency of occurrence, magnitude of impact, and/or geographic extent changed in your community? *NC = No Change; I = Increase; D = Decrease* *(Please provide an explanation for any hazards marked I or D in the "Additional Comments" column)*	Additional Comments
Natural Hazards		
Avalanche	NC	
Drought	NC	
Earthquake	NC	
Extreme Temperatures	NC	
Floods, Flash Floods, and Ice Jams	I	
Hailstorm	NC	
Hurricane	NC	
Landslide	NC	
Lightning	NC	
Radon Exposure	NC	
Subsidence, Sinkhole	I	
Tornado, Windstorm	NC	
Wildfire	NC	
Winter Storm	D	

Identified Hazards 2015 HMP	How has the frequency of occurrence, magnitude of impact, and/or geographic extent changed in your community? *NC = No Change; I = Increase; D = Decrease* *(Please provide an explanation for any hazards marked I or D in the "Additional Comments" column)*	Additional Comments
Human-made Hazards		
Dam Failure	NC	
Environmental Hazards	NC	
Nuclear Incident	NC	
Structural Fire	NC	
Terrorism	NC	
Transportation Accident	NC	
Utility Interruption	NC	

PART II

Other Hazards:

Do any of these hazards, not previously profiled in the County's hazard mitigation plan; have the potential to affect your municipality significantly? (If so, please check the box)

Natural

- ☐ Coastal Erosion
- ☐ Dust, Sand Storm
- ☐ Expansive Soils
- ☐ Invasive Species
- ☐ Pandemic
- ☐ Tsunami
- ☐ Volcano

Human-Caused

- ☐ Building or Structure Collapse
- ☐ Civil Disturbance
- ☐ Disorientation
- ☐ Drowning
- ☐ Levee Failure
- ☐ Mass Food/Animal Feed Contamination
- ☐ War and Criminal Activity

Other Comments:

Hazard Identification and Risk Evaluation Worksheet

Name: Shari Martino Title: Manager

Jurisdiction: Borough of Irwin

PART I

Identified Hazards 2015 HMP	How has the frequency of occurrence, magnitude of impact, and/or geographic extent changed in your community? *NC = No Change; I = Increase; D = Decrease* *(Please provide an explanation for any hazards marked I or D in the "Additional Comments" column)*	Additional Comments
Natural Hazards		
Avalanche	NC	
Drought	NC	
Earthquake	NC	
Extreme Temperatures	NC	
Floods, Flash Floods, and Ice Jams	Increase	
Hailstorm	NC	
Hurricane	NC	
Landslide	Increase	
Lightning	NC	
Radon Exposure	NC	
Subsidence, Sinkhole	NC	
Tornado, Windstorm	NC	
Wildfire	NC	
Winter Storm	NC	

Capability Assessment Survey

Jurisdiction: Borough of Irwin   Point of Contact Name and Title: Shari Martino - manager

Phone: 724 [illegible]   Email: irwinborough@comcast.net

1. **Planning and Regulatory Capability:** Please indicate whether the following planning or regulatory tools and programs are currently in place or under development for your jurisdiction by placing an "X" in the appropriate box, followed by the date of adoption/update. Then, for each particular item in place, identify the department or agency responsible for its implementation and indicate it's estimated or anticipated effect on hazard loss reduction (Supports, Neutral or Hinders) with the appropriate symbol and also indicate if there has been a change in the ability of the tool/program to result in loss reduction. Finally, please provide additional comments or explanations in the space provided.

Tool / Program	Status: In Place	Status: Date Adopted or Updated	Status: Under Development	Dept./Agency Responsible	Comments
EXAMPLE: Hazard Mitigation Plan	X	1/1/2008		Hazard County EMA	Interim update in 2008 revised mitigation strategy; completed one action.
Hazard Mitigation Plan	X	1/2015			
Emergency Operations Plan	X	2016			
Disaster Recovery Plan			X		
Evacuation Plan			X		
Continuity of Operations Plan			X		
NFIP	X	12/2010			
NFIP – Community Rating System			X		
Floodplain Regulations (spec. NFIP Flood Damage Prevention Ordinance)	X				
Floodplain Management Plan			X		
Zoning Regulations	X	11/2019			

Tool / Program	Status: In Place	Status: Date Adopted or Updated	Status: Under Development	Dept./Agency Responsible	Comments
Subdivision Regulations	X	6/2019			
Comprehensive Land Use Plan (or General, Master or Growth Mgt. Plan)	X	2005			
Open Space Management Plan (or Parks/Rec or Greenways Plan)	X	2005			
Stormwater Management Plan / Ordinance	X				
Natural Resource Protection Plan			X		
Capital Improvement Plan	X	2005			
Economic Development Plan	Y	2005			
Historic Preservation Plan	X	2005			
Farmland Preservation			X		
Building Code	X	2019			
Fire Code	X	2018			
Other			√		

Identified Hazards 2015 HMP	How has the frequency of occurrence, magnitude of impact, and/or geographic extent changed in your community? *NC = No Change; I = Increase; D = Decrease* *(Please provide an explanation for any hazards marked I or D in the "Additional Comments" column)*	Additional Comments
	Human-made Hazards	
Dam Failure	NC	
Environmental Hazards	NC	
Nuclear Incident	NC	
Structural Fire	NC	
Terrorism	NC	
Transportation Accident	NC	
Utility Interruption	NC	

PART II

Other Hazards:

Do any of these hazards, not previously profiled in the County's hazard mitigation plan; have the potential to affect your municipality significantly? (If so, please check the box)

Natural

- ☐ Coastal Erosion
- ☐ Dust, Sand Storm
- ☐ Expansive Soils
- ☐ Invasive Species
- ☐ Pandemic
- ☐ Tsunami
- ☐ Volcano

Human-Caused

- ☐ Building or Structure Collapse
- ☐ Civil Disturbance
- ☐ Disorientation
- ☐ Drowning
- ☐ Levee Failure
- ☐ Mass Food/Animal Feed Contamination
- ☐ War and Criminal Activity

Other Comments:

No additional Hazards Noted

4. **Education and Outreach:** Identify education and outreach programs and methods already in place that could be used to implement mitigation activities and communicate hazard-related information. Then, identify the primary department or agency responsible for its administration or allocation and provide any other comments you may have in the space provided or with attachments.

Program/Organization	Yes	No	Department/Agency	Comments
Firewise Communities Certification		X		
StormReady certification		X		
Natural disaster or safety related school programs		X		
Ongoing public education or information program (e.g. responsible water use, fire safety, household preparedness, environmental education)	X		Borough/clearway/ turtlecreek/IVFD	
Public-private partnership initiatives addressing disaster-related issues	X		Borough/IH Methodist	
Local citizen groups or nonprofit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.	X		turtlecreek Assoc. Clearways Conservation Dist	
Other				

2. **Administrative and Technical Capability:** Please indicate whether your jurisdiction maintains the following staff members within its current personnel resources by placing an "X" in the appropriate box. Then, if YES, please identify the department or agency they work under and provide any other comments you may have in the space provided or with attachments.

Staff/Personnel Resources	Yes	No	Department/Agency	Comments
Planners (with land use / land development knowledge)	X		Borough	
Planners or engineers (with natural and/or human caused hazards knowledge)	X		BUNE - consulting	
Engineers or professionals trained in building and/or infrastructure construction practices (includes building inspectors)	X		Borough / Bove-consulting	
Emergency Manager	X		Borough	
NFIP Floodplain Administrator	X		Borough	
Land Surveyors	X		Bove-Consulting	
Scientists or staff familiar with the hazards of the community		X		
Personnel skilled in Geographic Information Systems (GIS) and/or FEMA's HAZUS program	X		Borough / Bove consulting	
Grant writers or fiscal staff to handle large/complex grants	X		Borough	
Staff with expertise or training in Benefit-Cost Analysis		X		
Other				

5. **Self-Assessment of Capability:** Please provide an approximate measure of your jurisdiction's capability to effectively implement hazard mitigation strategies to reduce hazard vulnerabilities. Using the following table, please place an "**X**" in the box marking the most appropriate degree of capability (Limited, Moderate or High) based upon best available information and the responses provided in Sections 1-5 of this survey. For multi-jurisdictional plans, record the results of this section into the Self-Assessment Capability Matrix in **Section 5**.

Area	Degree of Capability		
	Limited	Moderate	High
Planning and Regulatory Capability		X	
Administrative and Technical Capability		X	
Financial Capability		X	
Education and Outreach		X	

3. **Financial Capability:** Please indicate whether your jurisdiction has access to or is eligible to use the following local financial resources ***for hazard mitigation purposes*** (including as match funds for State of Federal mitigation grant funds). Then, identify the primary department or agency responsible for its administration or allocation and provide any other comments you may have in the space provided or with attachments.

Financial Resources	Yes	No	Department/Agency	Comments
Capital Improvement Programming	X		Borough	
Community Development Block Grants (CDBG)	X		Borough / County	
Special Purpose Taxes	X		Borough	
Gas / Electric Utility Fees	X		Borough / State	
Water / Sewer Fees	X		Borough	
Stormwater Utility Fees		X		
Development Impact Fees	X		Borough	
General Obligation, Revenue, and/or Special Tax Bonds		X		
Partnering Arrangements or Intergovernmental Agreements	X		Borough / County / MHT	
Other				

2. FLOODPLAIN MANAGEMENT			
Requirement	*Recommended Action*	*Yes/No*	*Comments*
c. Has the municipality considered adopting activities that extend beyond the minimum requirements? Examples include: • Participation in the Community Rating System • Prohibition of production or storage of chemicals in SFHA • Prohibition of certain types of structures, such as hospitals, nursing homes, and jails in SFHA • Prohibition of certain types of residential housing (manufactured homes) in SFHA • Floodplain ordinances that prohibit any new residential or nonresidential structures in SFHA	If yes, specify activities.	NO	

3. FLOOD INSURANCE			
Requirement	*Recommended Action*	*Yes/No*	*Comments*
a. Does the municipality educate community members about the availability and value of flood insurance?	If yes, specify how.	YES	
b. Does the municipality inform community property owners about changes to the DFIRM/FIRM that would impact their insurance rates?	If yes, specify how.	YES	
c. Does the municipality provide general assistance to community members regarding insurance issues?	If yes, specify how.	YES	

Mitigation Strategy 5-Year Mitigation Plan Review

Name: _____ **Title:** Manager **Jurisdiction:** Borough of Irwin

Purpose: To fulfill requirement that plan maintenance from previous plan has been completed and to obtain early feedback from the planning team to incorporate into the update process.

Instructions: Complete the *Goal and Objective Review Worksheet* and *Mitigation Action Plan Review Worksheet* on the next pages keeping the following questions in mind:

- Do the goals, objectives, and actions address current and expected conditions?
- Go through each goal and objective to determine: Should goal be carried forward into updated plan? Should goal be changed based on current conditions in community? Should goal be discontinued and if so why?
- Progress on actions should be noted. For each action the following questions should be answered: What is status? What progress has been made? Should action be continued in updated plan? Should action be discontinued and if so why?
- Has the nature or magnitude of hazard risk changed?
- Are current resources adequate to implement the Plan?
- Should additional local resources be committed to address identified hazard threats?
- Are there any issues that have limited the current implementation schedule?
- Have the implementation of identified mitigation actions resulted in expected outcomes?
- Has the Mitigation Planning Committee measured the effectiveness of completed hazard mitigation projects in terms of specific dollar losses avoided?
- Did the jurisdictions, agencies and other partners participate in the plan implementation process as proposed?
- Other?

Before completing the worksheets, the group may wish to discuss the above questions in a round robin format, using a flip chart. The questions are standard questions; however it is important to check the existing hazard mitigation plan maintenance section to see if there are additional questions that need to be considered.

NATIONAL FLOOD INSURANCE PROGRAM (NFIP) SURVEY

MUNICIPALITY: Borough of Irwin

1. FLOODPLAIN IDENTIFICATION AND MAPPING			
Requirement	*Recommended Action*	*Yes/No*	*Comments*
a. Does the municipality maintain accessible copies of an effective Flood Insurance Rate Map (FIRM)/Digital Flood Insurance Rate Map (DFIRM)? Does the municipality maintain accessible copies of the most recent Flood Insurance Study (FIS)?	Place these documents in the local libraries or make available publicly.	YES	Not digital
b. Has the municipality adopted the most current DFIRM/FIRM and FIS?	State the date of adoption, if approved.	YES	
c. Does the municipality support request for map updates?	If yes, state how.	YES	Digital
d. Does the municipality share with Federal Emergency Management Agency (FEMA) any new technical or scientific data that could result in map revisions within 6 months of creation or identification of new data?	If yes, specify how.	NO	
e. Does the municipality provide assistance with local floodplain determinations?	If yes, specify how.	NO	
f. Does the municipality maintain a record of approved Letters of Map Change?	If yes, specify the responsible office.	NO	

2. FLOODPLAIN MANAGEMENT			
Requirement	*Recommended Action*	*Yes/No*	*Comments*
a. Has the municipality adopted a compliant floodplain management ordinance that, at a minimum, regulates the following:	If yes, answer questions (1) through (4) below.	NO	
(1) Does the municipality issue permits for all proposed development in the Special Flood Hazard Areas (SFHAs)?	If yes, specify the office responsible.		
(2) Does the municipality obtain, review, and utilize any Base Flood Elevation (BFE) and floodway data, and/or require BFE data for subdivision proposals and other development proposals larger than 50 lots or 5 acres?	If yes, specify the office responsible.		
(3) Does the municipality identify measures to keep all new and substantially improved construction reasonably safe from flooding to or above the BFE, including anchoring, using flood-resistant materials, and designing or locating utilities and service facilities to prevent water damage?	If yes, specify the office responsible.		
(4) Does the municipality document and maintain records of elevation data that document lowest floor elevation for new or substantially improved structures?	If yes, specify the office responsible.		
b. If a compliant floodplain ordinance was adopted, does the municipality enforce the ordinance by monitoring compliance and taking remedial action to correct violations?	If yes, specify how.		

Suggested Additional Goals and/or Objectives		Comments
Goal		
Objective		
Objective		
Objective		

Goal		
Objective		
Objective		
Objective		

Goal		
Objective		
Objective		
Objective		

Goal and Objective Review Worksheet

Instructions: Write each goal and objective identified in the existing hazard mitigation plan. Use the comment boxes to provide feedback or to suggest modification of any of the proposed goals or objectives. You may suggest additional objectives below each goal, or new goals and objectives on the last page of this exercise.

	Existing Goals and Objectives	Comments
Goal 1	**To minimize the risk to human life associated with natural and non-natural hazards.**	
Goal 2	**To promote hazard avoidance, especially in floodplains, by removing high-risk and repetitive loss structures, and by issuing building restrictions on future development.**	
Goal 3	**To reduce the damage from natural and non-natural hazards to existing and future public and private assets including structures, critical facilities, and infrastructure.**	

Mitigation Action Plan Review Worksheet

Instructions: List each mitigation action from the existing hazard mitigation plan and identify its status as "No Progress / Unknown," "In Progress / Not Yet Complete," "Continuous," "Completed," or "Discontinued." Include review comments for each action.

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress/ Not Yet Complete	Continuous	Completed	Discontinued	
1. Mt. Pleasant Borough - Install additional stormwater runoff pipes and upgrade/replace existing deteriorated pipes.						
2. Hunker Borough - Procure and install a back-up generator into Hunker Borough EOC.						
3. Hunker Borough - Procure and install air conditioning units into community building / community shelter.						
4. Hunker Borough - Retrofit community building to prevent flooding in basement.						
5. Hunker Borough - Pave Bellson Street in Hunker Borough. Install proper drainage to prevent flooding.						
6. Hunker Borough - Implement the redirection of the stormwater catch basin at the intersection of Walnut and Bridge St.						
7. Hunker Borough - Demolition of abandoned home.						
8. Hunker Borough - Install sub-flooring to prevent roadway along Locust St. from sinking.						
9. Hunker Borough - Retrofit Walnut St. Bridge to prevention erosion.						

	Existing Goals and Objectives	Comments
Goal 4	**To protect and restore existing natural resources including wetlands, floodplains, and riparian buffers.**	
Goal 5	**To develop, prioritize and implement cost-effective, long-term actions that will reduce the impacts of natural and non-natural hazards.**	
Goal 6	**To enhance planning and emergency response efforts among local, county, state, and federal, emergency management personnel to protect public health and safety.**	
Goal 7	**To promote public awareness on the potential impacts of natural and non-natural hazards, and actions to reduce those impacts.**	

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress/ Not Yet Complete	Continuous	Completed	Discontinued	
27. County and all municipalities - Purchase, or relocate structures located in hazard-prone areas to protect structures from future damage, with repetitive loss and severe repetitive loss properties as priority. Phase 1: Identify appropriate candidates for relocation based on cost-effectiveness versus retrofitting. Phase 2: Where relocation is determined a viable option, work with property owners toward implementation based on available funding from FEMA and local match availability.	X					
28. All Municipalities - Maintain compliance with and be in 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.			X			*Has this activity been integrated into the municipality's normal operations?*
29. All Municipalities - Begin the process to adopt higher regulatory standards to manage flood risk (i.e. increased freeboard, cumulative substantial damage/improvements) and sinkhole risk (e.g. carbonate bedrock standards).	X					
30. All Municipalities - Determine if a Community Assistance Visit (CAV) or Community Assistance Contact (CAC) is needed, and schedule if needed.	X					

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress/ Not Yet Complete	Continuous	Completed	Discontinued	
10. Unity Township - Construct and install a new culvert in Loydsville to enhance hydraulic capacity.						
11. Unity Township - Install a stormwater detention system in Lawson Heights.						
12. Allegheny Township - Replace and enhance stormwater runoff pipes in Moreland Manor.						
13. St. Clair Township - Reconstruction of Bridge River Hill Bridge.						
14. St. Clair Township - Reconstruction of Bridge Sugar Run Road.						
15. Fairfield Township - Reconstruction of Patterson Bridge.						
16. Sewickley Township - Install storm water drainage system along Pinewood Road.						
17. Sewickley Township - Procure a skid loader/grab attachment for storm clean up and culvert clean out.						
18. Sewickley Township - Procure remote receive sites to enhance communications.						
19. Sewickley Township - Procure sweeper truck for stormwater management.						
20. Sewickley Township - Procure and install a back-up generator into Hutchinson VFD Station 85.						

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress/ Not Yet Complete	Continuous	Completed	Discontinued	
31. All Municipalities - Have designated NFIP Floodplain Administrator (FPA) become a Certified Floodplain Manager through the ASFPM, and pursue relevant continuing education training such as FEMA Benefit-Cost Analysis.			X			
32. All Municipalities - Participate in the Community Rating System (CRS) to further manage flood risk and reduce flood insurance premiums for NFIP policyholders. This process starts by submitting to FEMA-DHS of Letter of Intent to join CRS, followed by completing and submitting an application to the program once the community's current compliance with the NFIP is established.			X			
33. County and all municipalities - Continue to support the implementation, monitoring, maintenance, and updating of this Plan, as defined in Section 7.0			X			*Has this activity been integrated into the municipality's normal operations?*
34. County and all municipalities - Complete the ongoing updates of the Comprehensive Plans			X			
35. County - Enhance the Westmoreland County Stormwater Management Plan by implementing Phase 2 of the plan.			X			
36. County and all municipalities – Create/enhance/ maintain mutual aid agreements with neighboring counties / communities for continuity of operations.			X			*Has this activity been integrated into the municipality's normal operations?*

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress/ Not Yet Complete	Continuous	Completed	Discontinued	
21. Sewickley Township - Procure and install a back-up generator into Lowber VFD Station 16.						
22. Sewickley Township - Procure and install a back-up generator into Rillton VFD Station 14.						
23. Sewickley Township - Procure skid steer attachment to clear debris around culverts.						
24. Fairfield Township - Develop and implement an action plan to mitigation recurring flooding on Creek Road.						
25. Upper Burrell Township - Procure and install an emergency generator.						
26. County and all municipalities - Retrofit structures located in hazard-prone areas to protect structures from future damage, with repetitive loss and severe repetitive loss properties as priority. Phase 1: Identify appropriate candidates for retrofitting based on cost-effectiveness versus relocation. Phase 2: Where retrofitting is determined a viable option, work with property owners toward implementation based on available funding from FEMA and local match availability.	X					

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress/ Not Yet Complete	Continuous	Completed	Discontinued	
37. County - Identify and develop agreements with entities that can provide support with FEMA/PEMA paperwork after disasters. Qualified damage assessment personnel should be available for post-disaster efforts, including damage assessment; FEMA/PEMA paperwork compilation, submittals, and record-keeping.			X			*Has this activity been Integrated into the municipality's normal operations?*
38. County - Work with regional agencies (i.e. Region 13 and PEMA) to develop damage assessment capabilities at the local level through training programs, certification of qualified individuals (e.g. code officials, floodplain managers, engineers).			X			
39. County and all municipalities - Partner with community groups such as local community organizations, including civic, business, town watch, faith-based, senior, special needs and tenant associations to promote emergency preparedness and mitigation efforts.			X			*Has this activity been Integrated into the municipality's normal operations?*
40. County and all municipalities - Develop geospatial and analytical tools to support community engagement, policy reform, and county and regional planning efforts.			X			*Has this activity been Integrated into the municipality's normal operations?*
41. County and all municipalities - Develop a hazard event GIS database to help county and local emergency managers with hazard mitigation and other planning initiatives.			X			*Has this activity been Integrated into the municipality's normal operations?*

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress/ Not Yet Complete	Continuous	Completed	Discontinued	
42. County and all municipalities - Maintain and exercise continuity of government plan to enable the county government to provide critical services during an interruption of business.			X			*Has this activity been Integrated into the municipality's normal operations?*
43. County and all municipalities - Implement seismic retrofits to vulnerable critical facilities.	X					
44. All municipalities - Regulate development to reduce flood losses in vulnerable fluvial areas.			X			*Has this activity been Integrated into the municipality's normal operations?*
45. County - Develop and maintain an outreach program to provide information and guidance to municipalities on their role in flood plain development.			X			*Has this activity been Integrated into the municipality's normal operations?*
46. County and all municipalities - Support and utilize an advanced warning system that provides emergency text and email alerts to the public.			X			*Has this activity been Integrated into the municipality's normal operations?*
47. County and all municipalities - Procure redundant power sources (portable generators).	X					
48. County and all municipalities - Maintain redundant power sources	X					*Has this activity been Integrated into the municipality's normal operations?*

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress/ Not Yet Complete	Continuous	Completed	Discontinued	
49. County and all municipalities - Develop and distribute educational information on hazards, emergency preparedness and fire prevention.			X			*Has this activity been Integrated into the municipality's normal operations?*
50. County and all municipalities - Develop and distribute public outreach materials on water conservation.			X			*Has this activity been Integrated into the municipality's normal operations?*

Hazard Identification and Risk Evaluation Worksheet

Name: Ryan Highlands_____ Title: Emergency Manager_____

Jurisdiction: City of Jeannette_____

PART I

Natural Hazards	Identified Hazards 2015 HMP	How has the frequency of occurrence, magnitude of impact, and/or geographic extent changed in your community? NC = No Change; I = Increase; D = Decrease (Please provide an explanation for any hazards marked I or D in the "Additional Comments" column)	Additional Comments
Avalanche	NC		
Drought	NC		
Earthquake	NC		
Extreme Temperatures	NC		
Floods, Flash Floods, and Ice Jams	I		INCREASE IS DUE TO AN UNUSUAL AMOUNT OF RAINFALL THIS YEAR
Hailstorm	NC		
Hurricane	NC		
Landslide	NC		
Lightning	NC		
Radon Exposure	NC		
Subsidence, Sinkhole	NC		
Tornado, Windstorm	NC		
Wildfire	NC		
Winter Storm	NC		

Identified Hazards 2015 HMP	How has the frequency of occurrence, magnitude of impact, and/or geographic extent changed in your community? *NC = No Change; I = Increase; D = Decrease* *(Please provide an explanation for any hazards marked I or D in the "Additional Comments" column)*	Additional Comments
Human-made Hazards		
Dam Failure	NC	
Environmental Hazards	NC	
Nuclear Incident	NC	
Structural Fire	NC	
Terrorism	NC	
Transportation Accident	NC	
Utility Interruption	NC	

PART II

Other Hazards:

Do any of these hazards, not previously profiled in the County's hazard mitigation plan; have the potential to affect your municipality significantly? (If so, please check the box)

Natural

- ☐ Coastal Erosion
- ☐ Dust, Sand Storm
- ☐ Expansive Soils
- ☐ Invasive Species
- ☐ Pandemic
- ☐ Tsunami
- ☐ Volcano

Human-Caused

- ☐ Building or Structure Collapse
- ☐ Civil Disturbance
- ☐ Disorientation
- ☐ Drowning
- ☐ Levee Failure
- ☐ Mass Food/Animal Feed Contamination
- ☐ War and Criminal Activity

Other Comments:

Jurisdiction Risk - Jeannette City **(Municipality)**

Avalanche	Dam Failure	Drought	Earthquake	Environmental Hazards	Extreme Temperatures	Flood, Flash Flood, and Ice Jam	Hailstorm	Hurricane and Tropical Storm	Illicit Drug Use	Landslide	Lightning	Nuclear Incidents	Radon Exposure	Structural Fire	Subsidence and Sinkholes	Terrorism	Tornado, Windstorm	Transportation Accidents	Utility Interruptions	Wildfire	Winter Storm
1.0	1.3	2.2	1.9	[illegible]	[illegible]	[illegible]	[illegible]	2.1	[illegible]	[illegible]	1.4	1.9	[illegible]	2.2	1.9	2.8	3.0	2.2	3.0	2.3	3.0
<	>	=	=	=	=	>	=	=	>	=	=	<	=	>	=	=	=	>	>	<	=

> Your municipality's risk from this hazard is greater than the County's risk as a whole

< Your municipality's risk from this hazard is less than the County's risk as a whole

= Your municipality's risk from this hazard is about the same as the County's risk as a whole

Capability Assessment Survey

Jurisdiction: City of Jeannette [illegible] Point of Contact Name and Title: ____________

Phone: ____________ Email: ____________

1. **Planning and Regulatory Capability:** [illegible] indicate whether the following planning or regulatory tools and programs are currently in place or under development in your jurisdiction by placing an "X" in the appropriate box, followed by the date of adoption/update. Then, for each particular item in place, identify the department or agency responsible for its implementation and indicate it's estimated or anticipated effect on hazard loss reduction (Supports, Neutral or Hinders) with the appropriate symbol and also indicate if there has been a change in the ability of the tool/program to result in loss reduction. Finally, please provide additional comments or explanations in the space provided.

Tool / Program	Status: In Place	Date Adopted or Updated	Under Development	Dept./Agency Responsible	Comments
[illegible]		[illegible]		[illegible]ard County EMA	Interim update in 2008 revised mitigation strategy; completed one action.
Hazard Mitigation Plan	X	2015		CITY OF JEANNETTE	PLAN TO BE REVIEWED IN 2019
Emergency Operations Plan	X	2016		CITY OF JEANNETTE	PLAN TO BE REVIEWED IN 2019
Disaster Recovery Plan	X	2016		CITY OF JEANNETTE	PLAN TO BE REVIEWED IN 2019
[illegible] Plan	X	2016		CITY OF JEANNETTE	PLAN TO BE REVIEWED IN 2019
Continuity of Operations Plan	X	2016		CITY OF JEANNETTE	PLAN TO BE REVIEWED IN 2019
NFIP					
NFIP – Community Rating System					
Floodplain Regulations [illegible]	X			CITY OF JEANNETTE	PLAN HAS BEEN IN PLACE. CITY ENGINEER MAKES UPDATES AS NECESSARY
Floodplain Management Plan	X			CITY OF JEANNETTE	PLAN HAS BEEN IN PLACE. CITY ENGINEER MAKES UPDATES AS NECESSARY

3. **Financial Capability:** Please indicate whether your jurisdiction has access to or is eligible to use the following local financial resources ***for hazard mitigation purposes*** (including in-match funds for State or Federal mitigation grant funds). Then, identify the primary department or agency responsible for its administration or allocation and provide any other comments you may have in the space provided or with attachments.

Financial Resources	Yes	No	Department/Agency	Comments
Capital Improvement Programming	X			
Community Development Block Grants (CDBG)	X			
Special Purpose Taxes	X			
Gas / Electric Utility Fees		X		
Water / Sewer Fees		X		
Stormwater Utility Fees		X		
Development Impact Fee				
General Obligation, Revenue, and/or Special Tax Bonds	X			
Partnering Arrangements or Intergovernmental Agreements	X			
Other				

Tool / Program	Status: In Place	Status: Date Adopted or Updated	Status: Under Development	Dept./Agency Responsible	Comments
Zoning Regulations	X			CITY OF JEANNETTE	
Subdivision Regulations	X			CITY OF JEANNETTE	
Comprehensive Land Use Plan (or equivalent, such as Growth Management Plan)	X			CITY OF JEANNETTE	
Open Space Management Plan (or Parks Plan or Greenway Plan)	X			CITY OF JEANNETTE	
Stormwater Management Plan / Ordinance	X			CITY OF JEANNETTE	
Natural Resource Protection Plan			X	CITY OF JEANNETTE	
Capital Improvement Plan	X			CITY OF JEANNETTE	
Economic Development Plan	X			CITY OF JEANNETTE	
Historic Preservation Plan	X			CITY OF JEANNETTE	
Farmland Preservation					N/A
Building Code	X			CITY OF JEANNETTE	
Fire Code	X			CITY OF JEANNETTE	
Other					

4. **Education and Outreach:** Identify education and outreach programs and methods already in place that could be used to implement mitigation activities and communicate hazard-related information. Then, identify the primary department or agency responsible for its administration or allocation and provide any other comments you may have in the space provided or with attachments.

Program/Organization	Yes	No	Department/Agency	Comments
Firewise Communities certification		X		
StormReady certification		X		
Natural disaster or safety related school programs		X		
Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	X		FIRE DEPARTMENT	
Public-private partnership initiative addressing disaster-related issues		X		
Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access, and functional needs populations, etc.		X		
Other				

2. **Administrative and Technical Capability:** Please indicate whether your jurisdiction maintains the following staff members within its current personnel resources by placing an "X" in the appropriate box. Then, if YES, please identify the department or agency they work under and provide any other comments you may have in the space provided or with attachments.

Staff/Personnel Resources	Yes	No	Department/Agency	Comments
Planners (with land use / land development knowledge)	X		EMERGENCY MANAGEMENT	
Planners or engineers (with natural and/or human caused hazards knowledge)	X		EMERGENCY MANAGEMENT/CITY ENGINEER	
Engineers or professionals trained in building and/or infrastructure construction practices (building, engineering)	X		CITY ENGINEER//STREET FOREMAN	
Emergency Manager	X		EMERGENCY MANAGEMENT	
GIS Professional/Administrator				
Land Surveyor		X		
Scientists or staff familiar with the hazards of the community		X		
Personnel skilled in Geographic Information Systems (GIS) and/or FEMA's HAZUS program		X		
Grant writers or staff with a flexible day/complex grant		X		
Staff with expertise or training in Benefit-Cost Analysis		X		
Other				

2. FLOODPLAIN MANAGEMENT			
Requirement	**Recommended Action**	**Yes/No**	**Comments**
a. Has the municipality adopted a compliant floodplain management ordinance that, at a minimum, regulates the following:	If yes, answer questions (1) through (4) below.	Yes	A Floodplain Management Ordinance was enacted on March 17, 2011.
(1) Does the municipality issue permits for all proposed development in the Special Flood Hazard Areas (SFHAs)?	If yes, specify the office responsible.	Yes	Building Inspector's office with the help of the City Engineer.
(2) Does the municipality obtain, review and utilize any Base Flood Elevation (BFE) and floodway data, and/or require BFE data for subdivision proposals and other development proposals larger than 50 lots or 5 acres?	If yes, specify the office responsible.	Yes	Building Inspector's office with the help of the City Engineer
(3) Does the municipality identify measures to keep all new and substantially improved construction reasonably safe from flooding to or above the BFE, including anchoring, using flood-resistant materials, and designing or elevating utilities and service facilities to prevent water damage?	If yes, specify the office responsible.	Yes	Building Inspector's office with the help of the City Engineer
(4) Does the municipality document and maintain elevation certificates or floodproofing certificates for new and substantially improved structures?	If yes, specify the office responsible.	Yes	City Engineer
b. If a compliant floodplain ordinance was adopted, does the municipality enforce the ordinance by monitoring compliance and taking remedial action to correct violations?	If yes, specify how.	Yes	Construction is discouraged in the floodplain. The City acquired numerous properties in the floodplain area for the Phase II Flood Protection Project being designed by the DEP Waterways Engineering.

5. **Self-Assessment of Capability:** Please provide an approximate measure of your jurisdiction's capability to effectively implement hazard mitigation strategies to reduce hazard vulnerabilities. Using the following table, please place an "**X**" in the box marking the most appropriate degree of capability (Limited, Moderate or High) based upon best available information and the responses provided in Sections 1-5 of this survey. For multi-jurisdictional plans, record the results of this section into the Self-Assessment Capability Matrix in **Section 5**.

Area	Degree of Capability		
	Limited	**Moderate**	**High**
Planning and Regulatory Capability		X	
Administrative and Technical Capability		X	
Financial Capability		X	
Education and Outreach		X	

2. FLOODPLAIN MANAGEMENT			
Requirement	**Recommended Action**	**Yes/No**	**Comments**
c. Has the municipality considered adopting activities that extend beyond the minimum requirements? Examples include: • Participation in the Community Rating System • Prohibition of production or storage of chemicals in SFHA • Prohibition of certain types of structures, such as hospitals, nursing homes, and jails in SFHA • Prohibition of certain types of residential housing (manufactured homes) in SFHA • Floodplain ordinance that prohibit any new residential or non-residential structures in SFHA	If yes, specify activities.	Yes	Floodplain Ordinance No. 11-2 – Section 5.04 – Prohibits storage of various chemicals in the floodplain area. Section 5.06 – Prohibits manufactured homes to be constructed in the floodway. Section 6.01 – Prohibits construction of hospitals, nursing homes, jails and prisons from being constructed in a floodplain.

3. FLOOD INSURANCE			
Requirement	**Recommended Action**	**Yes/No**	**Comments**
a. Does the municipality educate community members about the availability and value of flood insurance?	If yes, specify how.	Yes	City Engineer's Office
b. Does the municipality inform community property owners about changes to the DFIRM/FIRM that would impact their insurance rates?	If yes, specify how.	Yes	Building Inspector will notify potential builders of the changes to the floodplain limits if they are building near a floodplain,
c. Does the municipality provide general assistance to community members regarding insurance issues?	If yes, specify how.	No	That work is left to the property owner's insurance carriers.

NATIONAL FLOOD INSURANCE PROGRAM (NFIP) SURVEY

MUNICIPALITY: CITY OF JEANNETTE

1. FLOODPLAIN IDENTIFICATION AND MAPPING			
Requirement	**Recommended Action**	**Yes/No**	**Comments**
a. Does the municipality maintain a current copy of its effective Flood Insurance Rate Map (FIRM)/Digital Flood Insurance Rate Map (DFIRM)? Does the municipality maintain a viewable copy of the most recent Flood Insurance Study (FIS)?	Place these documents in the municipal offices or make available publicly.	Yes	Flood Plain maps exist in the Building Inspector's office and the City Engineer's office.
b. Has the municipality adopted the most current DFIRM/FIRM and FIS?	Note the date of adoption if approved.	Yes	Ordinance No. 11-02 was enacted March 17, 2011.
c. Does the municipality submit a request for map updates?	If yes, state how.	Yes	No updates have been made in the last year. This normally occurs when an elevation certificate is required for a property owner questioning if they are located in a floodplain and for property insurance.
d. Does the municipality share with Federal Emergency Management Agency (FEMA) any new technical or scientific data that could result in map revisions within 6 months of creation or identification of new data?	If yes, specify how.	Yes	The City is currently working with DEP Waterways Engineering to complete design of a Phase II Flood Protection Project. After the project is completed, this will be shared with FEMA to make revisions to the floodplain limits.
e. Does the municipality provide assistance with local floodplain determinations?	If yes, specify how.	Yes	Permits are issued through the City's Building Inspector. The City Engineer is consulted when necessary to make judgements.
f. Does the municipality maintain a record of approved Letters of Map Change?	If yes, specify the responsible office.	No	The City relies on the National Flood Insurance website for identifying letters of map change.

Existing Goals and Objectives		Comments
Goal 4	To protect and restore existing natural resources including wetlands, floodplains, and riparian buffers.	
Goal will be constantly reviewed in the EOP and be changed if necessary in the next updated plan.		
Goal 5	To develop, prioritize and implement cost-effective, long-term actions that will reduce the impacts of natural and non-natural hazards.	
Goal will be constantly reviewed in the EOP and be changed if necessary in the next updated plan.		
Goal 6	To enhance planning and emergency response efforts among local, county, state, and federal, emergency management personnel to protect public health and safety.	
Goal will be constantly reviewed in the EOP and be changed if necessary in the next updated plan.		
Goal 7	To promote public awareness on the potential impacts of natural and non-natural hazards, and actions to reduce those impacts.	
Goal will be constantly reviewed in the EOP and be changed if necessary in the next updated plan.		

Mitigation Strategy 5-Year Mitigation Plan Review

Name: _____ Title: _____ **Jurisdiction:** CITY OF JEANNETTE__

Purpose: To fulfill requirement that plan maintenance from previous plan has been completed and to obtain early feedback from the planning team in preparation for the update process.

Instructions: Complete the *Goal and Objective Review Worksheet* and *Mitigation Action Plan Review Worksheet* on the next pages keeping the following questions in mind:

- Do the goals, objectives, and actions address current and expected conditions?
- Go through each goal and objective to determine: Should goal be carried forward into updated plan? Should goal be changed based on current conditions in community? Should goal be discontinued and if so why?
- Progress on actions should be noted. For each action the following questions should be answered: What is status? What progress has been made? Should action be continued in updated plan? Should action be discontinued and if so why?
- Has the nature or magnitude of hazard risk changed?
- Are current resources adequate to implement the Plan?
- Should additional local resources be committed to address identified hazard threats?
- Are there any issues that have limited the current implementation schedule?
- Have the implementation of identified mitigation actions resulted in expected outcomes?
- Has the Mitigation Planning Committee reviewed the effectiveness of completed hazard mitigation projects in terms of specific dollar losses avoided?
- Did the jurisdictions, agencies and other partners participate in the plan implementation process as proposed?
- Other?

Before completing the worksheets, the group may wish to discuss the above questions in a round robin format, using a flip chart. The questions are standard questions, however it is important to check the existing hazard mitigation plan maintenance section to see if there are additional questions that need to be considered.

		Comments
Goal		
Objective		
Objective		
Objective		
Goal		
Objective		
Objective		
Objective		
Goal		
Objective		
Objective		
Objective		

Goal and Objective Review Worksheet

Instructions: Write each goal and objective listed in the existing hazard mitigation plan. Use the comment boxes to provide feedback or to suggest modification of any of the proposed goals or objectives. You may suggest additional objectives below each goal, or new goals and objectives on the last page of this exercise.

Existing Goals and Objectives		Comments
Goal 1	To minimize the risk to human life associated with natural and non-natural hazards.	
Goal will be constantly reviewed in the EOP and be changed if necessary in the next updated plan.		
Goal 2	To promote hazard avoidance, especially in floodplains, by removing high-risk and repetitive loss structures, and by limiting building restrictions on future development.	
Goal will be constantly reviewed in the EOP and be changed if necessary in the next updated plan.		
Goal 3	To reduce the damage from natural and non-natural hazards to existing and future public and private assets, including structures, critical facilities, and infrastructure.	
Goal will be constantly reviewed in the EOP and be changed if necessary in the next updated plan.		

Mitigation Action Plan Review Worksheet

Instructions: List each mitigation action from the existing hazard mitigation plan and identify its status as "No Progress / Unknown," "In Progress / Not Yet Complete," "Continuous," "Completed," or "Discontinued." Include review comments for each action.

Existing Mitigation Action	Status: No Progress / Unknown	Status: In Progress / Not Yet Complete	Status: Continuous	Status: Completed	Status: Discontinued	Review Comments
1. Mt. Pleasant Borough – [illegible] stormwater [illegible] existing [illegible] areas.						
2. Hunker Borough – [illegible] back-up generator [illegible] Borough EOC.						
3. Hunker Borough – [illegible] community building / community shelter.						
4. Hunker Borough – [illegible] community building [illegible] flooding in basement.						
5. Hunker Borough – [illegible] Hunker Borough [illegible] drainage to prevent flooding.						
6. Hunker Borough – [illegible] of the [illegible] at the intersection of [illegible]						
7. Hunker Borough – [illegible] home.						
8. Hunker Borough – Install [illegible] to prevent roadway along Locust St. from [illegible].						
9. Hunker Borough – [illegible] Bridge to prevent erosion.						

Existing Mitigation Action	Status: No Progress / Unknown	Status: In Progress / Not Yet Complete	Status: Continuous	Status: Completed	Status: Discontinued	Review Comments
10. Unity Township – Construct and install a new culvert in [illegible] to enhance hydraulic capacity.						
11. Unity Township – [illegible] stormwater detention system [illegible].						
12. Allegheny Township – [illegible] Manor.						
13. [illegible] Township – [illegible] Hill Road.						
14. [illegible] Township – [illegible] Bridge [illegible] Run Road.						
15. Fairfield Township – [illegible]						
16. Sewickley Township – Install storm water drainage system along [illegible] Road.						
17. Sewickley Township – [illegible]						
18. Sewickley Township – [illegible] communications.						
19. Sewickley Township – [illegible]						
20. Sewickley Township – Procure and install a back-up generator into [illegible] Station [illegible].						

Existing Mitigation Action	Status: No Progress / Unknown	Status: In Progress / Not Yet Complete	Status: Continuous	Status: Completed	Status: Discontinued	Review Comments
21. Sewickley Township – Procure and install a back-up generator into [illegible] VFD Station 16.						
22. Sewickley Township – Procure and install a back-up generator into [illegible] VFD Station 14.						
23. Sewickley Township – [illegible]						
24. Fairfield Township – Develop and implement [illegible] plan [illegible]						
25. [illegible] Borough / Township – [illegible]						
26. County and all municipalities – Retrofit structures located in hazard-prone areas to protect structures from future damage, with repetitive loss and severe repetitive loss properties as priority. Phase 1 – Identify appropriate candidates for retrofitting based on cost-effectiveness [illegible]. Phase 2 – Where retrofitting is determined a viable option, work with property owners toward implementation based on available funding from FEMA and [illegible] availability.						

Existing Mitigation Action	Status: No Progress / Unknown	Status: In Progress / Not Yet Complete	Status: Continuous	Status: Completed	Status: Discontinued	Review Comments
27. County and all municipalities – Purchase or relocate structures located in hazard-prone areas to protect structures from future damage, with repetitive loss and severe repetitive loss properties as priority. Phase 1 – Identify appropriate candidates for relocation based on cost-effectiveness [illegible]. Phase 2 – Where relocation is determined a viable option, work with property owners toward implementation based on available funding from FEMA and local match availability.						
28. All Municipalities – 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.						*Has this activity been integrated into the municipality's normal operations?*
29. All Municipalities – [illegible] to adopt [illegible] regulatory standards to manage flood risk (i.e. increased freeboard, cumulative substantial damage/improvements, and [illegible] risk (e.g. [illegible])).						
30. All Municipalities – [illegible] Community Assistance Visit (CAV) or Community Assistance Contact (CAC) as needed, and schedule if needed.						

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress / Not Yet Complete	Continuous	Completed	Discontinued	
31. All Municipalities – Have a designated NFIP Floodplain Administrator (FPA) become a Certified Floodplain Manager through the ASFPM, and pursue relevant continuing education training such as FEMA Benefit-Cost Analysis.	x					
32. All Municipalities – Participate in the Community Rating System (CRS) to further manage flood risk and reduce flood insurance premiums for NFIP policyholders. This process starts by submitting to FEMA/DHS a Letter of Interest (LOI) in CRS, followed by completing and submitting an application to the program once the community's current compliance with the NFIP is established.	x					
33. County and all municipalities – Continue to support the implementation, monitoring, maintenance, and updating of this Plan, as defined in Section 7.0.			x			*Has this activity been integrated into the municipality's normal operations?*
34. County and all municipalities – Complete the ongoing updates of the Comprehensive Plans.			x			
35. County – Enhance the Westmoreland County Stormwater Management Plan by implementing Phase 2 of the plan.	x					
36. County and all municipalities – Create/amend/maintain mutual aid agreements with neighboring counties / communities for continuity of operations.			x			*Has this activity been integrated into the municipality's normal operations?*

Mitigation Strategy 5-Year Mitigation Plan Review

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress / Not Yet Complete	Continuous	Completed	Discontinued	
37. County – Identify and develop agreements with entities that can provide support with FEMA/PEMA paperwork after disasters. Qualified damage assessment personnel should be available for post-disaster response, including damage assessment, FEMA/PEMA paperwork completion, submission, and record keeping.			x			*Has this activity been integrated into the municipality's normal operations?*
38. County – Work with regional agencies (i.e. Region 13 and PEMA) to develop damage assessment capabilities at the local level through training programs, certification of qualified individuals (e.g. code officials, floodplain managers, engineers).			x			
39. County and all municipalities – Partner with community leaders to reach out to community stakeholders, including [illegible], senior, social services, and school associations to promote emergency preparedness and mitigation efforts.			x			*Has this activity been integrated into the municipality's normal operations?*
40. County and all municipalities – Develop geospatial and analytical tools to support community engagement, policy formation, county and regional planning efforts.	x					*Has this activity been integrated into the municipality's normal operations?*
41. County and all municipalities – Develop a hazard event GIS database to help county and local emergency managers with hazard mitigation and emergency planning initiatives.		x				*Has this activity been integrated into the municipality's normal operations?*

Mitigation Strategy 5-Year Mitigation Plan Review

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress / Not Yet Complete	Continuous	Completed	Discontinued	
42. County and all municipalities – Maintain and exercise continuity of government plan to enable the county government to provide critical services during an interruption of business.		x				*Has this activity been integrated into the municipality's normal operations?*
43. County and all municipalities – Implement [illegible]		x				
44. All municipalities – Regulate development to reduce flood losses in [illegible] areas.		x				*Has this activity been integrated into the municipality's normal operations?*
45. County – Develop and maintain outreach programs to provide information and guidance to municipalities on flood [illegible]			x			*Has this activity been integrated into the municipality's normal operations?*
46. County and all municipalities – Support and utilize a countywide warning system that provides emergency text and email alerts to the public.		x				*Has this activity been integrated into the municipality's normal operations?*
47. County and all municipalities – Provide [illegible]	x					
48. County and all municipalities – Maintain redundant power sources.	x					*Has this activity been integrated into the municipality's normal operations?*

Mitigation Strategy 5-Year Mitigation Plan Review

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress / Not Yet Complete	Continuous	Completed	Discontinued	
49. County and all municipalities – Develop and distribute educational information on hazards, emergency preparedness and fire prevention.	x					*Has this activity been integrated into the municipality's normal operations?*
50. County and all municipalities – Develop and distribute public outreach materials on water conservation.	x					*Has this activity been integrated into the municipality's normal operations?*

Hazard Identification and Risk Evaluation Worksheet

Name: CARL Bollinger Title: EMA Director

Jurisdiction: City of LATROBE

PART I

Identified Hazards 2015 HMP	How has the frequency of occurrence, magnitude of impact, and/or geographic extent changed in your community? *NC = No Change; I = Increase; D = Decrease* *(Please provide an explanation for any hazards marked I or D in the "Additional Comments" column)*	Additional Comments
Natural Hazards		
Avalanche	NC	
Drought	NC	
Earthquake	NC	
Extreme Temperatures	NC	
Floods, Flash Floods, and Ice Jams	NC	
Hailstorm	NC	
Hurricane	NC	
Landslide	NC	
Lightning	NC	
Radon Exposure	NC	
Subsidence, Sinkhole	NC	
Tornado, Windstorm	NC	
Wildfire	NC	
Winter Storm	NC	

Identified Hazards 2015 HMP	How has the frequency of occurrence, magnitude of impact, and/or geographic extent changed in your community? *NC = No Change; I = Increase; D = Decrease* *(Please provide an explanation for any hazards marked I or D in the "Additional Comments" column)*	Additional Comments
Human-made Hazards		
Dam Failure	NC	
Environmental Hazards	NC	
Nuclear Incident	NC	
Structural Fire	NC	
Terrorism	NC	
Transportation Accident	NC	
Utility Interruption	NC	

PART II

Other Hazards:

Do any of these hazards, not previously profiled in the County's hazard mitigation plan; have the potential to affect your municipality significantly? (If so, please check the box)

Natural

- ☐ Coastal Erosion
- ☐ Dust, Sand Storm
- ☐ Expansive Soils
- ☐ Invasive Species
- ☐ Pandemic
- ☐ Tsunami
- ☐ Volcano

Human-Caused

- ☒ Building or Structure Collapse
- ☐ Civil Disturbance
- ☐ Disorientation
- ☒ Drowning
- ☐ Levee Failure
- ☐ Mass Food/Animal Feed Contamination
- ☐ War and Criminal Activity

Other Comments:

Capability Assessment Survey

Jurisdiction: City of Latrobe Point of Contact Name and Title: CARL Bollinger - EMA Director

Phone: 724-433-6362 Email: crboll52@netzero.net

1. **Planning and Regulatory Capability:** Please indicate whether the following planning or regulatory tools and programs are currently in place or under development for your jurisdiction by placing an "X" in the appropriate box, followed by the date of adoption/update. Then, for each particular item in place, identify the department or agency responsible for its implementation and indicate it's estimated or anticipated effect on hazard loss reduction (Supports, Neutral or Hinders) with the appropriate symbol and also indicate if there has been a change in the ability of the tool/program to result in loss reduction. Finally, please provide additional comments or explanations in the space provided.

Tool / Program	Status: In Place	Status: Date Adopted or Updated	Status: Under Development	Dept./Agency Responsible	Comments
EXAMPLE: Hazard Mitigation Plan	X	1/1/2008		Hazard County EMA	Interim update in 2008 revised mitigation strategy; completed one action.
Hazard Mitigation Plan	X	9/11/2015		EMA	
Emergency Operations Plan	X	6/2014		EMA	
Disaster Recovery Plan					
Evacuation Plan			X		
Continuity of Operations Plan					
NFIP	X	12-18-97			
NFIP – Community Rating System					
Floodplain Regulations (spec. NFIP Flood Damage Prevention Ordinance)	X	2-14-11		updated	
Floodplain Management Plan					
Zoning Regulations	X	4-10-06		ZONING OFFICE	

3. **Financial Capability:** Please indicate whether your jurisdiction has access to or is eligible to use the following local financial resources ***for hazard mitigation purposes*** (including as match funds for State of Federal mitigation grant funds). Then, identify the primary department or agency responsible for its administration or allocation and provide any other comments you may have in the space provided or with attachments.

Financial Resources	Yes	No	Department/Agency	Comments
Capital Improvement Programming		X		
Community Development Block Grants (CDBG)		X		
Special Purpose Taxes		X		
Gas / Electric Utility Fees		X		
Water / Sewer Fees		X		
Stormwater Utility Fees		X		
Development Impact Fees		X		
General Obligation, Revenue, and/or Special Tax Bonds	X		FINACIAL DEPT.	
Partnering Arrangements or Intergovernmental Agreements		X		
Other				

Tool / Program	Status: In Place	Status: Date Adopted or Updated	Status: Under Development	Dept./Agency Responsible	Comments
Subdivision Regulations	X	4-23-96			
Comprehensive Land Use Plan (or General, Master or Growth Mgt. Plan)	X	10-14-10			
Open Space Management Plan (or Parks/Rec or Greenways Plan)					
Stormwater Management Plan / Ordinance	X	7-13-81			
Natural Resource Protection Plan					
Capital Improvement Plan					
Economic Development Plan					
Historic Preservation Plan					
Farmland Preservation					
Building Code	X	6-28-04			
Fire Code					
Other					

4. **Education and Outreach:** Identify education and outreach programs and methods already in place that could be used to implement mitigation activities and communicate hazard-related information. Then, identify the primary department or agency responsible for its administration or allocation and provide any other comments you may have in the space provided or with attachments.

Program/Organization	Yes	No	Department/Agency	Comments
Firewise Communities Certification		X		
StormReady certification		X		
Natural disaster or safety related school programs	X		POLICE DEPT.	
Ongoing public education or information program (e.g. responsible water use, fire safety, household preparedness, environmental education)	X		PUBLIC WORKS + CONSERVATION DISTRICT	
Public-private partnership initiatives addressing disaster-related issues		X		
Local citizen groups or nonprofit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.		X		
Other				

2. **Administrative and Technical Capability:** Please indicate whether your jurisdiction maintains the following staff members within its current personnel resources by placing an "X" in the appropriate box. Then, if YES, please identify the department or agency they work under and provide any other comments you may have in the space provided or with attachments.

Staff/Personnel Resources	Yes	No	Department/Agency	Comments
Planners (with land use / land development knowledge)	X		PLANNING & DEVELOPMENT DEPT.	
Planners or engineers (with natural and/or human caused hazards knowledge)	X		ENGINEERING FIRM	
Engineers or professionals trained in building and/or infrastructure construction practices (includes building inspectors)	X		ENGINEERING FIRM	
Emergency Manager	X			
NFIP Floodplain Administrator	X		PLANNING + DEV. DEPT	
Land Surveyors		X		
Scientists or staff familiar with the hazards of the community		X		
Personnel skilled in Geographic Information Systems (GIS) and/or FEMA's HAZUS program	X		ZONING OFFICE	
Grant writers or fiscal staff to handle large/complex grants	X		ZONING OFFICE	
Staff with expertise or training in Benefit-Cost Analysis	X		DEPARTMENT OF PLANNING & DEVELOPMENT	
Other				

2. FLOODPLAIN MANAGEMENT			
Requirement	*Recommended Action*	*Yes/No*	*Comments*
a. Has the municipality adopted a compliant floodplain management ordinance that, at a minimum, regulates the following:	If yes, answer questions (1) through (4) below.		
(1) Does the municipality issue permits for all proposed development in the Special Flood Hazard Areas (SFHAs)?	If yes, specify the office responsible.	YES	ZONING OFFICE
(2) Does the municipality obtain, review, and utilize any Base Flood Elevation (BFE) and floodway data, and/or require BFE data for subdivision proposals and other development proposals larger than 50 lots or 5 acres?	If yes, specify the office responsible.	YES	ZONING OFFICE
(3) Does the municipality identify measures to keep all new and substantially improved construction reasonably safe from flooding to or above the BFE, including anchoring, using flood-resistant materials, and designing or locating utilities and service facilities to prevent water damage?	If yes, specify the office responsible.	YES	ZONING OFFICE
(4) Does the municipality document and maintain records of elevation data that document lowest floor elevation for new or substantially improved structures?	If yes, specify the office responsible.	YES	ZONING OFFICE
b. If a compliant floodplain ordinance was adopted, does the municipality enforce the ordinance by monitoring compliance and taking remedial action to correct violations?	If yes, specify how.	YES	ZONING OFFICE

5. Self-Assessment of Capability: Please provide an approximate measure of your jurisdiction's capability to effectively implement hazard mitigation strategies to reduce hazard vulnerabilities. Using the following table, please place an "X" in the box marking the most appropriate degree of capability (Limited, Moderate or High) based upon best available information and the responses provided in Sections 1-5 of this survey. For multi-jurisdictional plans, record the results of this section into the Self-Assessment Capability Matrix in Section 5.

Area	Degree of Capability		
	Limited	Moderate	High
Planning and Regulatory Capability			X
Administrative and Technical Capability			X
Financial Capability			X
Education and Outreach			X

2. FLOODPLAIN MANAGEMENT			
Requirement	*Recommended Action*	*Yes/No*	*Comments*
c. Has the municipality considered adopting activities that extend beyond the minimum requirements? Examples include: • Participation in the Community Rating System • Prohibition of production or storage of chemicals in SFHA • Prohibition of certain types of structures, such as hospitals, nursing homes, and jails in SFHA • Prohibition of certain types of residential housing (manufactured homes) in SFHA • Floodplain ordinances that prohibit any new residential or nonresidential structures in SFHA	If yes, specify activities.	NO	

3. FLOOD INSURANCE			
Requirement	*Recommended Action*	*Yes/No*	*Comments*
a. Does the municipality educate community members about the availability and value of flood insurance?	If yes, specify how.	NO	
b. Does the municipality inform community property owners about changes to the DFIRM/FIRM that would impact their insurance rates?	If yes, specify how.	NO	ALL INSURANCE CHANGES WOULD BE FROM THE INSURANCE CARRIER
c. Does the municipality provide general assistance to community members regarding insurance issues?	If yes, specify how.	NO	

NATIONAL FLOOD INSURANCE PROGRAM (NFIP) SURVEY

MUNICIPALITY: CITY OF LATROBE

1. FLOODPLAIN IDENTIFICATION AND MAPPING			
Requirement	*Recommended Action*	*Yes/No*	*Comments*
a. Does the municipality maintain accessible copies of an effective Flood Insurance Rate Map (FIRM)/Digital Flood Insurance Rate Map (DFIRM)? Does the municipality maintain accessible copies of the most recent Flood Insurance Study (FIS)?	Place these documents in the local libraries or make available publicly.	YES	
b. Has the municipality adopted the most current DFIRM/FIRM and FIS?	State the date of adoption, if approved.	YES	3/17/11
c. Does the municipality support request for map updates?	If yes, state how.	NO	
d. Does the municipality share with Federal Emergency Management Agency (FEMA) any new technical or scientific data that could result in map revisions within 6 months of creation or identification of new data?	If yes, specify how.	NO	
e. Does the municipality provide assistance with local floodplain determinations?	If yes, specify how.	YES	ZONING OFFICER DETERMINES USING FIRMS
f. Does the municipality maintain a record of approved Letters of Map Change?	If yes, specify the responsible office.	YES	ZONING OFFICE

	Existing Goals and Objectives	Comments
Goal 4	To protect and restore existing natural resources including wetlands, floodplains, and riparian buffers.	
Goal 5	To develop, prioritize and implement cost-effective, long-term actions that will reduce the impacts of natural and non-natural hazards.	
Goal 6	To enhance planning and emergency response efforts among local, county, state, and federal, emergency management personnel to protect public health and safety.	
Goal 7	To promote public awareness on the potential impacts of natural and non-natural hazards, and actions to reduce those impacts.	

Mitigation Strategy 5-Year Mitigation Plan Review

Name: CARL Bollinger Title: EMA Director Jurisdiction: LATrobe

Purpose: To fulfill requirement that plan maintenance from previous plan has been completed and to obtain early feedback from the planning team to incorporate into the update process.

Instructions: Complete the *Goal and Objective Review Worksheet* and *Mitigation Action Plan Review Worksheet* on the next pages keeping the following questions in mind:

- Do the goals, objectives, and actions address current and expected conditions?
- Go through each goal and objective to determine: Should goal be carried forward into updated plan? Should goal be changed based on current conditions in community? Should goal be discontinued and if so why?
- Progress on actions should be noted. For each action the following questions should be answered: What is status? What progress has been made? Should action be continued in updated plan? Should action be discontinued and if so why?
- Has the nature or magnitude of hazard risk changed?
- Are current resources adequate to implement the Plan?
- Should additional local resources be committed to address identified hazard threats?
- Are there any issues that have limited the current implementation schedule?
- Have the implementation of identified mitigation actions resulted in expected outcomes?
- Has the Mitigation Planning Committee measured the effectiveness of completed hazard mitigation projects in terms of specific dollar losses avoided?
- Did the jurisdictions, agencies and other partners participate in the plan implementation process as proposed?
- Other?

Before completing the worksheets, the group may wish to discuss the above questions in a round robin format, using a flip chart. The questions are standard questions; however it is important to check the existing hazard mitigation plan maintenance section to see if there are additional questions that need to be considered.

	Suggested Additional Goals and/or Objectives	Comments
Goal		
Objective		
Objective		
Objective		

Goal		
Objective		
Objective		
Objective		

Goal		
Objective		
Objective		
Objective		

Goal and Objective Review Worksheet

Instructions: Write each goal and objective identified in the existing hazard mitigation plan. Use the comment boxes to provide feedback or to suggest modification of any of the propos ay suggest additional objectives below each goal, or new goals and objectives on the last page of this

↑ I Don't have the plan

	Existing Goals and Object	Comments
Goal 1	To minimize the risk to human li	nd non-natural hazards.
Goal 2	To promote hazard avoidance, especially in floodplains, by removing high-risk and repetitive loss structures, and by issuing building restrictions on future development.	
Goal 3	To reduce the damage from natural and non-natural hazards to existing and future public and private assets including structures, critical facilities, and infrastructure.	

Mitigation Action Plan Review Worksheet

Instructions: List each mitigation action from the existing hazard mitigation plan and identify its status as "No Progress / Unknown," "In Progress / Not Yet Complete," "Continuous," "Completed," or "Discontinued." Include review comments for each action.

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress/ Not Yet Complete	Continuous	Completed	Discontinued	
1. Mt. Pleasant Borough - Install additional stormwater runoff pipes and upgrade/replace existing deteriorated pipes.						
2. Hunker Borough - Procure and install a back-up generator into Hunker Borough EOC.						
3. Hunker Borough - Procure and install air conditioning units into community building / community shelter.						
4. Hunker Borough - Retrofit community building to prevent flooding in basement.						
5. Hunker Borough - Pave Bellson Street in Hunker Borough. Install proper drainage to prevent flooding.						
6. Hunker Borough - Implement the redirection of the stormwater catch basin at the intersection of Walnut and Bridge St.						
7. Hunker Borough - Demolition of abandoned home.						
8. Hunker Borough - Install sub-flooring to prevent roadway along Locust St. from sinking.						
9. Hunker Borough - Retrofit Walnut St. Bridge to prevention erosion.						

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress/ Not Yet Complete	Continuous	Completed	Discontinued	
10. Unity Township - Construct and install a new culvert in Loydsville to enhance hydraulic capacity.						
11. Unity Township - Install a stormwater detention system in Lawson Heights.						
12. Allegheny Township - Replace and enhance stormwater runoff pipes in Moreland Manor.						
13. St. Clair Township - Reconstruction of Bridge River Hill Bridge.						
14. St. Clair Township - Reconstruction of Bridge Sugar Run Road.						
15. Fairfield Township - Reconstruction of Patterson Bridge.						
16. Sewickley Township - Install storm water drainage system along Pinewood Road.						
17. Sewickley Township - Procure a skid loader/grab attachment for storm clean up and culvert clean out.						
18. Sewickley Township - Procure remote receive sites to enhance communications.						
19. Sewickley Township - Procure sweeper truck for stormwater management.						
20. Sewickley Township - Procure and install a back-up generator into Hutchinson VFD Station 85.						

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress/ Not Yet Complete	Continuous	Completed	Discontinued	
21. Sewickley Township - Procure and install a back-up generator into Lower VFD Station 16.						
22. Sewickley Township - Procure and install a back-up generator into Rillton VFD Station 14.						
23. Sewickley Township - Procure skid steer attachment to clear debris around culverts.						
24. Fairfield Township - Develop and implement an action plan to mitigation recurring flooding on Creek Road.						
25. Upper Burrell Township - Procure and install an emergency generator.						
26. County and all municipalities - Retrofit structures located in hazard-prone areas to protect structures from future damage, with repetitive loss and severe repetitive loss properties as priority. Phase 1: Identify appropriate candidates for retrofitting based on cost-effectiveness versus relocation. Phase 2: Where retrofitting is determined a viable option, work with property owners toward implementation based on available funding from FEMA and local match availability.						

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress/ Not Yet Complete	Continuous	Completed	Discontinued	
27. County and all municipalities - Purchase, or relocate structures located in hazard-prone areas to protect structures from future damage, with repetitive loss and severe repetitive loss properties as priority. Phase 1: Identify appropriate candidates for relocation based on cost-effectiveness versus retrofitting. Phase 2: Where relocation is determined a viable option, work with property owners toward implementation based on available funding from FEMA and local match availability.						
28. All Municipalities - Maintain compliance with and be in 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.						*Has this activity been integrated into the municipality's normal operations?*
29. All Municipalities - Begin the process to adopt higher regulatory standards to manage flood risk (i.e. increased freeboard, cumulative substantial damage/improvements) and sinkhole risk (e.g. carbonate bedrock standards).						
30. All Municipalities - Determine if a Community Assistance Visit (CAV) or Community Assistance Contact (CAC) is needed, and schedule if needed.						

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress/ Not Yet Complete	Continuous	Completed	Discontinued	
42. County and all municipalities - Maintain and exercise continuity of government plan to enable the county government to provide critical services during an interruption of business.						*Has this activity been integrated into the municipality's normal operations?*
43. County and all municipalities - Implement seismic retrofits to vulnerable critical facilities.						
44. All municipalities - Regulate development to reduce flood losses in vulnerable fluvial areas.						*Has this activity been integrated into the municipality's normal operations?*
45. County - Develop and maintain an outreach program to provide information and guidance to municipalities on their role in flood plain development.						*Has this activity been integrated into the municipality's normal operations?*
46. County and all municipalities - Support and utilize an advanced warning system that provides emergency text and email alerts to the public.						*Has this activity been integrated into the municipality's normal operations?*
47. County and all municipalities - Procure redundant power sources (portable generators).						
48. County and all municipalities - Maintain redundant power sources						*Has this activity been integrated into the municipality's normal operations?*

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress/ Not Yet Complete	Continuous	Completed	Discontinued	
31. All Municipalities - Have designated NFIP Floodplain Administrator (FPA) become a Certified Floodplain Manager through the ASFPM, and pursue relevant continuing education training such as FEMA Benefit-Cost Analysis.						
32. All Municipalities - Participate in the Community Rating System (CRS) to further manage flood risk and reduce flood insurance premiums for NFIP policyholders. This process starts by submitting to FEMA-DHS of Letter of Intent to join CRS, followed by completing and submitting an application to the program once the community's current compliance with the NFIP is established.						
33. County and all municipalities - Continue to support the implementation, monitoring, maintenance, and updating of this Plan, as defined in Section 7.0						*Has this activity been integrated into the municipality's normal operations?*
34. County and all municipalities - Complete the ongoing updates of the Comprehensive Plans						
35. County - Enhance the Westmoreland County Stormwater Management Plan by implementing Phase 2 of the plan.						
36. County and all municipalities - Create/enhance/ maintain mutual aid agreements with neighboring counties / communities for continuity of operations.						*Has this activity been integrated into the municipality's normal operations?*

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress/ Not Yet Complete	Continuous	Completed	Discontinued	
49. County and all municipalities - Develop and distribute educational information on hazards, emergency preparedness and fire prevention.						*Has this activity been integrated into the municipality's normal operations?*
50. County and all municipalities - Develop and distribute public outreach materials on water conservation.						*Has this activity been integrated into the municipality's normal operations?*

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress/ Not Yet Complete	Continuous	Completed	Discontinued	
37. County - Identify and develop agreements with entities that can provide support with FEMA/PEMA paperwork after disasters. Qualified damage assessment personnel should be available for post-disaster efforts, including damage assessment, FEMA/PEMA paperwork compilation, submittals, and record-keeping.						*Has this activity been integrated into the municipality's normal operations?*
38. County - Work with regional agencies (i.e. Region 13 and PEMA) to develop damage assessment capabilities at the local level through training programs, certification of qualified individuals (e.g. code officials, floodplain managers, engineers).						
39. County and all municipalities - Partner with community groups such as local community organizations, including civic, business, town watch, faith-based, senior, special needs and tenant associations to promote emergency preparedness and mitigation efforts.						*Has this activity been integrated into the municipality's normal operations?*
40. County and all municipalities - Develop geospatial and analytical tools to support community engagement, policy reform, and county and regional planning efforts.						*Has this activity been integrated into the municipality's normal operations?*
41. County and all municipalities - Develop a hazard event GIS database to help county and local emergency managers with hazard mitigation and other planning initiatives.						*Has this activity been integrated into the municipality's normal operations?*

Hazard Identification and Risk Evaluation Worksheet

Name: ___Susan Crouse___________________Title: Council President_____________

Jurisdiction: __Borough of Laurel Mountain___________________________

PART I

Identified Hazards 2015 HMP	How has the frequency of occurrence, magnitude of impact, and/or geographic extent changed in your community? *NC = No Change; I = Increase; D = Decrease* *(Please provide an explanation for any hazards marked I or D in the "Additional Comments" column)*	Additional Comments
Natural Hazards		
Avalanche	NC	
Drought	NC	
Earthquake	NC	
Extreme Temperatures	I	Change in temps sometimes to extreme
Floods, Flash Floods, and Ice Jams	I	Increased storm water and flash flooding due to increased rain accumulation within short periods of time
Hailstorm	NC	
Hurricane	NC	
Landslide	NC	
Lightning	I	Increase with increased storms
Radon Exposure	NC	
Subsidence, Sinkhole	NC	
Tornado, Windstorm	I	Increase in windstorms and risk of tornados.
Wildfire	NC	Risk but on incidents
Winter Storm	NC	

Identified Hazards 2015 HMP	How has the frequency of occurrence, magnitude of impact, and/or geographic extent changed in your community? *NC = No Change; I = Increase; D = Decrease* *(Please provide an explanation for any hazards marked I or D in the "Additional Comments" column)*	Additional Comments
Human-made Hazards		
Dam Failure	D	Dam above municipality removed. We now have increasing flood plains, storm water.
Environmental Hazards	NC	
Nuclear Incident	NC	
Structural Fire	NC	High risk of fire due to wooded area
Terrorism	NC	
Transportation Accident	I	Individual driver accidents
Utility Interruption	NC--frequent	Continued interruption of power and then cable/ or satellite access

PART II

Other Hazards:

Do any of these hazards, not previously profiled in the County's hazard mitigation plan; have the potential to affect your municipality significantly? (If so, please check the box)

Natural

- ☐ Coastal Erosion
- ☐ Dust, Sand Storm
- ☐ Expansive Soils
- X **Invasive Species—knot weed**
- ☐ Pandemic
- ☐ Tsunami
- ☐ Volcano

Human-Caused

- ☐ Building or Structure Collapse
- ☐ Civil Disturbance
- ☐ Disorientation
- ☐ Drowning
- ☐ Levee Failure
- ☐ Mass Food/Animal Feed Contamination
- ☐ War and Criminal Activity

Other Comments:

Capability Assessment Survey

Jurisdiction: __Borough of Laurel Mountain__ Point of Contact Name and Title: __Susan Crouse, council lpresident____________

Phone: __724 [illegible]______________________ Email: _wintersetat11@gmail.com________

1. **Planning and Regulatory Capability:** Please indicate whether the following planning or regulatory tools and programs are currently in place or under development in your jurisdiction by placing an "X" in the appropriate box, followed by the date of adoption/update. Then, for each particular item in place, identify the department or agency responsible for its implementation and indicate it's estimated or anticipated effect on hazard loss reduction (Supports, Neutral or Hinders) with the appropriate symbol and also indicate if there has been a change in the ability of the tool/program to result in loss reduction. Finally, please provide additional comments or explanations in the space provided.

Tool / Program	Status: In Place	Status: Date Adopted or Updated	Status: Under Development	Dept./Agency Responsible	Comments
[illegible]	[illegible]	[illegible]		[illegible]ard County EMA	Interim update in 2008 revised mitigation strategy; completed one action.
Hazard Mitigation Plan					
Emergency Operations Plan					
Disaster Recovery Plan					
Evacuation Plan					
Continuity of Operations Plan					
NFIP	X	[illegible]			
NFIP – Community Rating System					
Floodplain Regulations [illegible]					
Floodplain Management Plan					
Zoning Regulations	X	2007		LMB	With assist of solicitor

Tool / Program	Status: In Place	Status: Date Adopted or Updated	Status: Under Development	Dept./Agency Responsible	Comments
Subdivision Regulations					
Comprehensive/Land Use Plan (or General, Master or Growth Mgt. Plan)					
Open Space Management Plan (or Parks/Rec or Greenways Plan)					
Stormwater Management Plan/Ordinance			X		**Council currently working with storm water mgt issues**
Natural Resource Protection Plan					
Capital Improvements Plan					
Economic Development Plan					
Historic Preservation Plan					
Farmland Preservation					
Building Code					
Fire Code					
Other					

2. **Administrative and Technical Capability:** Please indicate whether your jurisdiction maintains the following staff members within its current personnel resources by placing an "X" in the appropriate box. Then, if YES, please identify the department or agency they work under and provide any other comments you may have in the space provided or with attachments.

Staff/Personnel Resources	Yes	No	Department/Agency	Comments
Planner (with land use / land development knowledge)		–		
Planners or engineers (with natural and/or human-caused hazards knowledge)		X	[illegible] Contracted only per event (no planning as a result)	Solicitor advised against entering agreement
Engineers or professionals trained in building and/or infrastructure construction practices (including building inspectors)	X			
Emergency Manager	X		Also with Borough of Ligonier	Shared EM
Floodplain Administrator	X		LinBoro	
Land Surveyor		X		
Scientists or staff familiar with the hazards of the community		X		
Personnel skilled in Geographic Information Systems (GIS) and/or FEMA's HAZUS program		X		
Grant writers or fiscal staff to handle large/complex grants		X		
Staff with expertise or training in Benefit/Cost Analysis		X		
Other		X		

3. **Financial Capability:** Please indicate whether your jurisdiction has access to or is eligible to use the following local financial resources ***for hazard mitigation purposes*** (including as match funds for State or Federal mitigation grant funds). Then, identify the primary department or agency responsible for its administration or allocation and provide any other comments you may have in the space provided or with attachments.

Financial Resources	Yes	No	Department/Agency	Comments
Capital Improvement Programming		–		
Community Development Block Grants (CDBG)			[illegible] through Westmd Co	Pending
Special Purpose Taxes		–		
Gas / Electric Utility Fees		–		
Water / Sewer Fees		X	MUNICIPAL AUTHORITY OF WESTMORELAND COUNTY	Bill for water, Borough maintains our water lines
Stormwater Utility Fees		X		
Development Impact Fees		X		
General Obligation Revenue and/or Special Tax Bonds		X		
Partnering Arrangements or Intergovernmental Agreements	X		Ligonier Valley Joint Planning—Ligonier Boro, Ligonier Twp, and Laurel Mt Boro	Police agreement in place Additional partnering pending with possible storm water mgt
Other		X		

4. **Education and Outreach:** Identify education and outreach programs and methods already in place that could be used to implement mitigation activities and communicate hazard-related information. Then, identify the primary department or agency responsible for its administration or allocation and provide any other comments you may have in the space provided or with attachments.

Program/Organization	Yes	No	Department/Agency	Comments
Firewise Communities Certification		X		
StormReady certification		X		
Natural disaster or safety related school programs	X		Ligonier Valley School District	No schools in our municipality
Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)		X		
Public-private partnership initiatives addressing disaster-related issues		X		
Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.	X		Ligonier V. Watershed	Borough is at bottom of Laurel Mt surrounded by Ligonier Twp and impacting upon each other
Other		X		

NATIONAL FLOOD INSURANCE PROGRAM (NFIP) SURVEY

MUNICIPALITY: LAUREL MOUNTAIN BOROUGH

1. FLOODPLAIN IDENTIFICATION AND MAPPING			
Requirement	**Recommended Action**	**Yes/No**	**Comments**
a. Does the municipality maintain accessible copies of an effective Flood Insurance Rate Map (FIRM)/Digital Flood Insurance Rate Map (DFIRM)? Does the municipality maintain accessible copies of the most recent Flood Insurance Study (FIS)?	Place these documents in the local libraries or make available publicly.	No	
b. Has the municipality adopted the most current DFIRM/FIRM and FIS?	State the date of adoption if approved.	Yes	12/21/2011
c. Does the municipality support requests for map updates?	If yes, state how.	No	
d. Does the municipality share with Federal Emergency Management Agency (FEMA) any new technical or scientific data that could result in map revisions within 6 months of creation or identification of new data?	If yes, specify how.	No	
e. Does the municipality provide assistance with local floodplain determinations?	If yes, specify how.	No	
f. Does the municipality maintain a record of approved Letters of Map Change?	If yes, specify the responsible office.	No	

2. FLOODPLAIN MANAGEMENT			
Requirement	**Recommended Action**	**Yes/No**	**Comments**
a. Has the municipality adopted a compliant floodplain management ordinance that, at a minimum, regulates the following:	If yes, answer questions (1) through (4) below.	No	
(1) Does the municipality issue permits for all proposed development in the Special Flood Hazard Areas (SFHAs)?	If yes, specify the office responsible.		
(2) Does the municipality obtain, review and utilize any Base Flood Elevation (BFE) and floodway data, and/or require BFE data for subdivision proposals and other development proposals larger than 50 lots or 5 acres?	If yes, specify the office responsible.		
(3) Does the municipality identify measures to keep all new and substantially improved construction reasonably safe from flooding to or above the BFE, including anchoring, using flood-resistant materials, and designing or locating utilities and service facilities to prevent water damage?	If yes, specify the office responsible.		
(4) Does the municipality document and maintain records of elevation data that document lowest floor elevation for new or substantially improved structures?	If yes, specify the office responsible.		
b. If a compliant floodplain ordinance was adopted, does the municipality enforce the ordinance by monitoring compliance and taking remedial action to correct violations?	If yes, specify how.	No	

2. FLOODPLAIN MANAGEMENT			
Requirement	**Recommended Action**	**Yes/No**	**Comments**
c. Has the municipality considered adopting activities that extend beyond the minimum requirements? Examples include: • Participation in the Community Rating System • Prohibition of production or storage of chemicals in SFHA • Prohibition of certain types of structures, such as hospitals, nursing homes, and jails in SFHA • Prohibition of certain types of residential housing (manufactured homes) in SFHA • Floodplain ordinances that prohibit any new residential or nonresidential structures in SFHA	If yes, specify activities.	No	

3. FLOOD INSURANCE			
Requirement	**Recommended Action**	**Yes/No**	**Comments**
a. Does the municipality educate community members about the availability and value of flood insurance?	If yes, specify how.	No	
b. Does the municipality inform community property owners about changes to the DFIRM/FIRM that would impact their insurance rates?	If yes, specify how.	No	
c. Does the municipality provide general assistance to community members regarding insurance issues?	If yes, specify how.	No	

5. **Self-Assessment of Capability:** Please provide an approximate measure of your jurisdiction's capability to effectively implement hazard mitigation strategies to reduce hazard vulnerabilities. Using the following table, please place an "X" in the box marking the most appropriate degree of capability (Limited, Moderate or High) based upon best available information and the responses provided in Sections 1-5 of this survey. For multi-jurisdictional plans, record the results of this section into the Self-Assessment Capability Matrix in **Section 5**.

Area	Degree of Capability		
	Limited	Moderate	High
Planning and Regulatory Capability	x		
Administrative and Technical Capability	x		
Financial Capability	x		
Education and Outreach	x		

Existing Goals and Objectives	Comments
Goal 4	To protect and restore existing natural resources including wetlands, floodplains, and riparian buffers.
Funding (due to minimal availability) has been used for repair of gravel roads. See additional *goals to be implemented.*	
Goal 5	To develop, prioritize and implement cost-effective, long-term actions that will reduce the impacts of natural and non-natural hazards.
Borough will continue to accept the County Plan	
Goal 6	To enhance planning and emergency response efforts among local, county, state, and federal, emergency management personnel, to protect public health and safety.
Emergency Manager in place	
Goal 7	To promote public awareness on the potential impacts of natural and non-natural hazards, and actions to reduce those impacts
Increased use of emails to increase public awareness.	

Mitigation Strategy 5-Year Mitigation Plan Review

Name: Lisa Cross **Title:** Council President **Jurisdiction:** Borough of Laurel Mountain

Purpose: To fulfill requirement that plan maintenance from previous plan has been completed and to obtain early feedback from the planning team to incorporate into the update process.

Instructions: Complete the *Goal and Objective Review Worksheet* and *Mitigation Action Plan Review Worksheet* on the next pages keeping the following questions in mind:

- Do the goals, objectives and actions address current and expected conditions?
- Go through each goal and objective to determine: Should goal be carried forward into updated plan? Should goal be changed based on current conditions in community? Should goal be discontinued and if so why?
- Progress on actions should be noted. For each action the following questions should be answered: What is status? What progress has been made? Should action be continued in updated plan? Should action be discontinued and if so why?
- Has the nature or magnitude of hazard risk changed?
- Are current resources adequate to implement the Plan?
- Should additional local resources be committed to address identified hazard threats?
- Are there any issues that have limited the current implementation schedule?
- Have the implementation of identified mitigation actions resulted in expected outcomes?
- Has the Mitigation Planning Committee reviewed the effectiveness of completed hazard mitigation projects in terms of specific dollar losses avoided?
- Did the jurisdictions, agencies and other partners participate in the plan implementation process as proposed?
- Other?

Before completing the worksheets, the group may wish to discuss the above questions in a round robin format, using a flip chart. The questions are standard questions; however it is important to check the existing hazard mitigation plan maintenance section to see if there are additional questions that need to be considered.

Suggested Additional Goals and/or Objectives		Comments
Goal	To minimize the risk to human life associated with natural and non-natural hazards.	
Objective	Minimize the risk of injury to individuals with increased storm water management practices	
Objective		
Objective		

Goal	To reduce the damage from natural and non-natural hazards to existing and future public and private assets including structures, critical facilities, and infrastructure.	
Objective	Improve storm water management practices to minimize damage to personal property	Westmoreland Conservation Dist. Deadline Oct for spring funding
Objective	Apply for funding for storm water management damaging to infrastructure (roads) and personal properties	
Objective		

Goal and Objective Review Worksheet

Instructions: Write each goal and objective identified in the existing hazard mitigation plan. Use the comment boxes to provide feedback or to suggest modification of any of the proposed goals or objectives. You may suggest additional objectives below each goal, or new goals and objectives on the last page of this exercise.

Existing Goals and Objectives		Comments
Goal 1	To minimize the risk to human life associated with natural and non-natural hazards.	
Continued involvement with United Fire Companies for non-natural hazards and natural hazards including trees down, flooded basements.		
Goal 2	To promote hazard avoidance, especially in floodplains, by removing high-risk and repetitive loss structures, and by issuing building restrictions on future development.	
Minimal flood plain within Borough limits. There are no vacant lots within the flood plain. Flood plain resolution in place.		
Goal 3	To reduce the damage from natural and non-natural hazards to existing and future public and private assets including structures, critical facilities, and infrastructure.	
Our goals have been basically reactionary to natural hazards.		

Goal	To protect and restore existing natural resources including wetlands, floodplains, and riparian buffers.	
Objective	Pending goals to improve storm water runoff issues and flooding with use of riparian buffers and possible detention ponds.	Multiple grants need to be accessed for extensive damage. Pending application through Conservation District.
Objective	To improve roadways and flow with use of squash pipes for cross ways, widening of stream channels.	
Objective		

Goal	To enhance planning and emergency response efforts among local, county, state, and federal, emergency management personnel to protect public health and safety.	
Objective	Increased use of our emergency manager to better respond to emergencies.	
Objective	In addition to improve communication and planning efforts through the comprehensive plan of Ligonier, Ligonier Township, and Laurel Mountain.	
Objective		

Goal	To promote public awareness on the potential impacts of natural and non-natural hazards, and actions to reduce those impacts.	
Objective	Increase use of emails to increase public awareness of the possible resolution of impacts of storm water.	
Objective	One to one contacts with residents and owners to increase awareness.	
Objective	Visits are to be accomplished along with CSBG survey.	

Goal		
Objective		
Objective		
Objective		

Mitigation Action Plan Review Worksheet

Instructions: List each mitigation action from the existing (latest) mitigation plan and identify its status as "No Progress / Unknown," "In Progress / Not Yet Complete," "Continuous," "Completed," or "Discontinued." Include review comments for each action.

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress / Not Yet Complete	Continuous	Completed	Discontinued	
1. Mt. Pleasant Borough - [illegible] stormwater runoff [illegible] areas.						
2. Hunker Borough - Procure and install a backup generator [illegible] EOC.						
3. Hunker Borough - [illegible] community building / community shelter.						
4. Hunker Borough - [illegible] community building [illegible] flooding in basement.						
5. Hunker Borough - [illegible] Hunker Borough [illegible] drainage to prevent flooding.						
6. Hunker Borough - Improve the [illegible] of the stormwater [illegible] at the intersection of [illegible] and Bridge St.						
7. Hunker Borough - [illegible] home.						
8. Hunker Borough - Install sub-flooring to prevent roadway along Locust St. from sinking.						
9. Hunker Borough - Retrofit [illegible] Bridge to prevent erosion.						

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress / Not Yet Complete	Continuous	Completed	Discontinued	
10. Unity Township - Construct and install a new culvert in [illegible] to enhance hydraulic capacity.						
11. Unity Township - [illegible] stormwater detention system in [illegible].						
12. Allegheny Township - [illegible] stormwater runoff [illegible] in [illegible] Manor.						
13. [illegible] Township - [illegible] of [illegible] Hill [illegible].						
14. [illegible] Township - [illegible] Bridge [illegible] Run Road.						
15. [illegible] Township - [illegible]						
16. Sewickley Township - Install storm water drainage system along [illegible] Road.						
17. Sewickley Township - [illegible]						
18. Sewickley Township - Procure remote [illegible] sites to enhance communications.						
19. Sewickley Township - [illegible] stormwater management.						
20. Sewickley Township - Procure and install a backup generator into [illegible].						

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress / Not Yet Complete	Continuous	Completed	Discontinued	
[illegible]						
[illegible]						
[illegible]						
[illegible]						
[illegible]						
[illegible]						

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress / Not Yet Complete	Continuous	Completed	Discontinued	
[illegible]						
[illegible]				Adopted by resolution		*Has this activity been Integrated into the municipality's normal operations?*
[illegible]		[illegible]				*In discussion stage only*
[illegible]						

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress / Not Yet Complete	Continuous	Completed	Discontinued	
[illegible]	No progress					*We are a very little borough. It is very difficult to even obtain council members let alone people willing to go to trainings,.*
[illegible]	No progress					
[illegible]						*Has this activity been Integrated into the municipality's normal operations?*
[illegible]						
[illegible]	pending					
[illegible]		[illegible]				*Increase involvement in Ligonier Valley Joint Comprehensive Plan*

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress / Not Yet Complete	Continuous	Completed	Discontinued	
[illegible]	[illegible]					*Has this activity been Integrated into the municipality's normal operations?*
[illegible]						
[illegible]						*Has this activity been Integrated into the municipality's normal operations?*
[illegible]						*Has this activity been Integrated into the municipality's normal operations?*
[illegible]						*Has this activity been Integrated into the municipality's normal operations?*

Jurisdiction Risk - Ligonier Boro **(Municipality)**

Avalanche	Dam Failure	Drought	Earthquake	Environmental Hazards	Extreme Temperatures	Flood, Flash Flood, and Ice Jam	Hailstorm	Hurricane and Tropical Storm	Illicit Drug Use	Landslide	Lightning	Nuclear Incidents	Radon Exposure	Structural Fire	Subsidence and Sinkholes	Terrorism	Tornado, Windstorm	Transportation Accidents	Utility Interruptions	Wildfire	Winter Storm
1.0	1.3	2.2	1.9	2.9	2.7	3.2	2.5	2.1	3.1	2.5	1.4	1.9	2.6	2.2	1.9	2.8	3.0	2.2	3.0	2.3	3.0
<	<	<	<	<	<	<	<	<	<	>	<	<	<	>	<	<	<	>	<	<	<

> Your municipality's risk from this hazard is greater than the County's risk as a whole

< Your municipality's risk from this hazard is less than the County's risk as a whole

= Your municipality's risk from this hazard is about the same as the County's risk as a whole

Hazard Identification and Risk Evaluation Worksheet

Name: John Beaufort Title: Emergency Management Director

Jurisdiction: Ligonier Township

PART I

Identified Hazards 2015 HMP	How has the frequency of occurrence, magnitude of impact, and/or geographic extent changed in your community? NC = No Change; I = Increase; D = Decrease (Please provide an explanation for any hazards marked I or D in the "Additional Comments" column)	Additional Comments
Natural Hazards		
Avalanche		
Drought		
Earthquake		
Extreme Temperatures		
Floods, Flash Floods, and Ice Jams	Because of high rain totals / accumulation in the last two (2) years.	
Hailstorm		
Hurricane		
Landslide		
Lightning		
Radon Exposure		
Subsidence, Sinkhole		
Tornado, Windstorm		
Wildfire		
Winter Storm		

Existing Mitigation Action	Status: No Progress / Unknown	Status: In Progress / Not Yet Complete	Status: Continuous	Status: Completed	Status: Discontinued	Review Comments
42. County and all municipalities - Maintain and exercise continuity of government plan to enable the county government to provide critical services during an interruption in routine...						*Has this activity been Integrated into the municipality's normal operations?*
[illegible]						
44. All municipalities - [illegible] development [illegible]						*Has this activity been Integrated into the municipality's normal operations?*
[illegible]						*Has this activity been Integrated into the municipality's normal operations?*
46. County and all municipalities - Support and participate in a warning system that provides necessary [illegible]						*Has this activity been Integrated into the municipality's normal operations?*
[illegible]						
48. County and all municipalities - Maintain redundant power sources.						*Has this activity been Integrated into the municipality's normal operations?*

Existing Mitigation Action	Status: No Progress / Unknown	Status: In Progress / Not Yet Complete	Status: Continuous	Status: Completed	Status: Discontinued	Review Comments
49. County and all municipalities - Develop and distribute critical information on hazards, emergency preparedness and the prevention...						*Has this activity been Integrated into the municipality's normal operations?*
50. County and all municipalities - Develop and distribute public educational materials on water conservation.						*Has this activity been Integrated into the municipality's normal operations?*

Identified Hazards 2015 HMP	How has the frequency of occurrence, magnitude of impact, and/or geographic extent changed in your community? *NC = No Change; I = Increase; D = Decrease* *(Please provide an explanation for any hazards marked I or D in the "Additional Comments" column)*	Additional Comments
Human-made Hazards		
Dam Failure		
Environmental Hazards		
Nuclear Incident		
Structural Fire		
Terrorism		
Transportation Accident		
Utility Interruption		

PART II

Other Hazards:

Do any of these hazards, not previously profiled in the County's hazard mitigation plan; have the potential to affect your municipality significantly? (If so, please check the box)

Natural

☐ Coastal Erosion ☐ Pandemic

☐ Dust, Sand Storm ☐ Tsunami

☐ Expansive Soils ☐ Volcano

☐ Invasive Species

Human-Caused

☐ Building or Structure Collapse ☐ Levee Failure

☐ Civil Disturbance ☐ Mass Food/Animal Feed Contamination

☐ Disorientation ☐ War and Criminal Activity

☐ Drowning

Other Comments:

Jurisdiction Risk - Ligonier Twp **(Municipality)**

Avalanche	Dam Failure	Drought	Earthquake	Environmental Hazards	Extreme Temperatures	Flood, Flash Flood, and Ice Jam	Hailstorm	Hurricane and Tropical Storm	Illicit Drug Use	Landslide	Lightning	Nuclear Incidents	Radon Exposure	Structural Fire	Subsidence and Sinkholes	Terrorism	Tornado, Windstorm	Transportation Accidents	Utility Interruptions	Wildfire	Winter Storm
1.0	1.3	2.2	1.9	[illegible]	[illegible]	[illegible]	[illegible]	2.1	[illegible]	2.5	1.4	1.9	2.6	2.2	1.9	2.8	3.0	2.2	3.0	2.3	3.0
≠	>	=	=	=	=	<	=	=	=	=	=	>	≤	=	=	>	=	>	<	<	=

\> Your municipality's risk from this hazard is greater than the County's risk as a whole

< Your municipality's risk from this hazard is less than the County's risk as a whole

= Your municipality's risk from this hazard is about the same as the County's risk as a whole

Capability Assessment Survey

Jurisdiction: Ligonier Township Point of Contact Name and Title: John Beaufort, Emergency Mgmt. Director

Phone: [illegible] Email: [illegible]beaufortservices.com

1. **Planning and Regulatory Capability:** [illegible] the following planning or regulatory tools and programs are currently in place or under development in your jurisdiction by placing an "X" in the appropriate box, followed by the date of adoption/update. Then, for each particular item in place, identify the department or agency responsible for its implementation and indicate it's estimated or anticipated effect on hazard loss reduction (Supports, Neutral or Hinders) with the appropriate symbol and also indicate if there has been a change in the ability of the tool/program to result in loss reduction. Finally, please provide additional comments or explanations in the space provided.

Tool / Program	Status: In Place	Date Adopted or Updated	Under Development	Dept./Agency Responsible	Comments
[illegible]		[illegible]		[illegible]ard County EMA	Interim update in 2008 revised mitigation strategy; completed one action.
Hazard Mitigation Plan	X	02/2016			
Emergency Operations Plan	X	02/2016		Ligonier Twp. / Co.	
Disaster Recovery Plan					
Evacuation Plan	X	02/2016			Under
Continuity of Operations Plan					
NFIP					
NFIP – Community Rating System					
Floodplain Regulations (see [illegible] Flood Damage Prevention Ordinance)	X				Will be revised upon approval from Westmoreland County.
Floodplain Management Plan	X				
Zoning Regulations	X	Rev 2016			

Tool / Program	Status: In Place	Status: Date Adopted or Updated	Status: Under Development	Dept./Agency Responsible	Comments
Subdivision Regulations	X	08/2018		Ligonier Twp.	
Comprehensive Land Use Plan (or General, Master, or Growth Mgt. Plan)					
Open Space Management Plan (or Parks/Rec or Greenways Plan)					
Stormwater Management Plan/Ordinance					
Natural Resource Protection Plan					
Capital Improvements Plan					
Economic Development Plan					
Historic Preservation Plan					
Farmland Preservation					
Building Code	X	2002		State/Twp	State/Twp
Fire Code					
Other					

2. **Administrative and Technical Capability:** Please indicate whether your jurisdiction maintains the following staff members within its current personnel resources by placing an "X" in the appropriate box. Then, if YES, please identify the department or agency they work under and provide any other comments you may have in the space provided or with attachments.

Staff/Personnel Resources	Yes	No	Department/Agency	Comments
Planners (with land use / land development knowledge)		X		All outside consultants
Planners or engineers (with natural and/or human-caused hazards knowledge)		X		All outside consultants
Engineers or professionals trained in building and/or infrastructure construction practices (includes building inspectors)		X		All outside consultants
Emergency Manager	X		Ligonier Township	
NFIP Floodplain Administrator	X		Ligonier Township	
Land Surveyors		X		All outside consultants
Scientists or staff familiar with the hazards of the community		X		All outside consultants
Personnel skilled in Geographic Information Systems (GIS) and/or FEMA's HAZUS program		X		All outside consultants
Grant writers or fiscal staff to handle large/complex grants		X		All outside consultants
Staff with expertise or training in Benefit-Cost Analysis		X		All outside consultants
Other				

3. **Financial Capability:** Please indicate whether your jurisdiction has access to or is eligible to use the following local financial resources ***for hazard mitigation purposes*** (including as match funds for State or Federal mitigation grant funds). Then, identify the primary department or agency responsible for its administration or allocation and provide any other comments you may have in the space provided or with attachments.

Financial Resources	Yes	No	Department/Agency	Comments
Capital Improvements Programming				
Community Development Block Grants (CDBG)				
Special Purpose Taxes				
Gas / Electric Utility Fees				
Water / Sewer Fees	X		LTMA.	
Stormwater Utility Fees				
Development Impact Fees				
General Obligation, Revenue, and/or Special Tax Bonds				
Partnering Arrangements or Intergovernmental Agreements				
Other				

4. **Education and Outreach:** Identify education and outreach programs and methods already in place that could be used to implement mitigation activities and communicate hazard-related information. Then, identify the primary department or agency responsible for its administration or allocation and provide any other comments you may have in the space provided or with attachments.

Program/Organization	Yes	No	Department/Agency	Comments
Firewise Communities Certification				
StormReady Certification				
Hazard education or safety related school program				
Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)				
Public-private partnership initiatives addressing disaster-related issues				
Local citizen groups or nonprofit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.				
Other				

2. FLOODPLAIN MANAGEMENT			
Requirement	**Recommended Action**	**Yes/No**	**Comments**
a. Has the municipality adopted a compliant floodplain management ordinance that, at a minimum, regulates the following:	If yes, answer questions (1) through (4) below.		
(1) Does the municipality issue permits for all proposed development in the Special Flood Hazard Areas (SFHAs)?	If yes, specify the office responsible.		
(2) Does the municipality obtain, review and utilize any Base Flood Elevation (BFE) and floodway data, and/or require BFE data for subdivision proposals and other development proposals larger than 50 lots or 5 acres?	If yes, specify the office responsible.	Yes	Zoning / Building Dept.
(3) Does the municipality identify measures to keep all new and substantially improved construction reasonably safe from flooding (i.e. elevating the BFE, anchoring, using flood-resistant materials, and designing or locating utilities and service facilities to prevent water damage)?	If yes, specify the office responsible.	Yes	Zoning / Building Dept.
(4) Does the municipality document and maintain records of elevation or flood-proofing for new and substantially improved structures?	If yes, specify the office responsible.		
b. In a compliant floodplain ordinance well enforced, does the municipality enforce the ordinance by monitoring compliance and taking remedial action to correct violations?	If yes, specify how.		

2. FLOODPLAIN MANAGEMENT			
Requirement	**Recommended Action**	**Yes/No**	**Comments**
c. Has the municipality considered adopting activities that extend beyond the minimum requirements? Examples include: • Participation in the Community Rating System • Prohibiting or limiting the storage of chemicals in SFHA • Prohibition of certain types of structures, such as hospitals, nursing homes, and jails in SFHA • Prohibition of certain types of residential housing (manufactured homes) in SFHA • Floodplain ordinances that prohibit any new residential or nonresidential structures in SFHA	If yes, specify activities.		

3. FLOOD INSURANCE			
Requirement	**Recommended Action**	**Yes/No**	**Comments**
a. Does the municipality educate community members about the availability and value of flood insurance?	If yes, specify how.		
b. Does the municipality inform community property owners about changes to the DFIRM/FIRM that would impact their insurance rates?	If yes, specify how.		
c. Does the municipality provide general assistance to community members regarding insurance issues?	If yes, specify how.		

6. **Self-Assessment of Capability:** Please provide an approximate measure of your jurisdiction's capability to effectively implement hazard mitigation strategies to reduce hazard vulnerabilities. Using the following table, please place an "**X**" in the box marking the most appropriate degree of capability (Limited, Moderate or High) based upon best available information and the responses provided in Sections 1-5 of this survey. For multi-jurisdictional plans, record the results of this section into the Self-Assessment Capability Matrix in **Section 5**.

Area	Degree of Capability		
	Limited	Moderate	High
Planning and Regulatory Capability			
Administrative and Technical Capability			
Financial Capability			
Education and Outreach			

NATIONAL FLOOD INSURANCE PROGRAM (NFIP) SURVEY

MUNICIPALITY: ____________________

1. FLOODPLAIN IDENTIFICATION AND MAPPING			
Requirement	**Recommended Action**	**Yes/No**	**Comments**
a. Does the municipality maintain accessible copies of effective Flood Insurance Rate Map (FIRM)/Digital Flood Insurance Rate Map (DFIRM)? Does the municipality maintain accessible copies of the most recent Flood Insurance Study (FIS)?	Place these documents in the local libraries or make available publicly.	Yes	
b. Has the municipality adopted the most current DFIRM/FIRM and FIS?	State the date of adoption, if approved.		
c. Does the municipality support requests for map updates?	If yes, state how.	Yes	
d. Does the municipality share with Federal Emergency Management Agency (FEMA) any new technical or scientific data that could result in map revisions within 6 months of creation or identification of new data?	If yes, specify how.		
e. Does the municipality provide assistance with local floodplain determinations?	If yes, specify how.		
f. Does the municipality maintain a record of approved Letters of Map Change?	If yes, specify the responsible office.		

Hazard Identification and Risk Evaluation Worksheet

Name: JOE LAPIA Title: BOROUGH MANAGER

Jurisdiction: MANOR BOROUGH

PART I

Identified Hazards 2015 HMP	How has the frequency of occurrence, magnitude of impact, and/or geographic extent changed in your community? NC = No Change; I = Increase; D = Decrease (Please provide an explanation for any hazards marked I or D in the "Additional Comments" column)	Additional Comments
Natural Hazards		
Avalanche	NC	
Drought	NC	
Earthquake	NC	
Extreme Temperatures	NC	
Floods, Flash Floods, and Ice Jams	I	INCREASED RAINFALL AFFECTING STREAMS AND STORM SEWER SYSTEM
Hailstorm	NC	
Hurricane	NC	
Landslide		
Lightning	I	INCREASE IN FREQUENCY NO INCREASE DAMAGE REPORTED
Radon Exposure	NC	
Subsidence, Sinkhole	I	DUE TO EXCESS RAIN.
Tornado, Windstorm	I	INCREASED WIND CAUSING TREES FALLING CAUSING DAMAGE
Wildfire	NC	
Winter Storm	I	INCREASE IN TYPE OF STORM PUTS STRAIN ON BOROUGH RESOURCES

Identified Hazards 2015 HMP	How has the frequency of occurrence, magnitude of impact, and/or geographic extent changed in your community? NC = No Change; I = Increase; D = Decrease (Please provide an explanation for any hazards marked I or D in the "Additional Comments" column)	Additional Comments
Human-made Hazards		
Dam Failure	NC	
Environmental Hazards	NC	
Nuclear Incident	NC	
Structural Fire	NC	
Terrorism	NC	
Transportation Accident	NC	
Utility Interruption	I	

PART II

Other Hazards:

Do any of these hazards, not previously profiled in the County's hazard mitigation plan; have the potential to affect your municipality significantly? (If so, please check the box)

Natural

- ☐ Coastal Erosion
- ☐ Dust, Sand Storm
- ☐ Expansive Soils
- ☐ Invasive Species
- ☐ Pandemic
- ☐ Tsunami
- ☐ Volcano

Human-Caused

- ☐ Building or Structure Collapse
- ☐ Civil Disturbance
- ☐ Disorientation
- ☐ Drowning
- ☐ Levee Failure
- ☐ Mass Food/Animal Feed Contamination
- ☐ War and Criminal Activity

Other Comments:

MANOR PARK HAS SEEN A VERY LARGE VOLUME OF WATER FLOWING OUT OF THE GROUND. BUBBLING UP FROM A GRASSY AREA. LOCAL THEORY IS WATER IS IN THE AREA OF ARNOLD RELIEF SHAFT FOR A MINE. SHAFT WAS THERE TO ALLOW EXCESS WATER OUT OF THE MINES.

Capability Assessment Survey

Jurisdiction: MANOR BOROUGH Point of Contact Name and Title: JOE LAPIA BOROUGH MANAGER

Phone: 724 864 2242 Email: BOROUGHMANAGER@MANORBOROUGH.COM

1. **Planning and Regulatory Capability:** Please indicate whether the following planning or regulatory tools and programs are currently in place or under development for your jurisdiction by placing an "X" in the appropriate box, followed by the date of adoption/update. Then, for each particular item in place, identify the department or agency responsible for its implementation and indicate it's estimated or anticipated effect on hazard loss reduction (Supports, Neutral or Hinders) with the appropriate symbol and also indicate if there has been a change in the ability of the tool/program to result in loss reduction. Finally, please provide additional comments or explanations in the space provided.

Tool / Program	Status: In Place	Status: Date Adopted or Updated	Status: Under Development	Dept./Agency Responsible	Comments
[illegible]					
Hazard Mitigation Plan					interim update in 2008 revised mitigation strategy completed one action
Emergency Operations Plan			✓	BOROUGH EMA	
Disaster Recovery Plan					
Evacuation Plan					
Continuity of Operations Plan					
NFIP					
NFIP – Community Rating System					
Floodplain Regulations (spec. NFIP Flood Damage Prevention Ordinance)	✓			BOROUGH COUNCIL	
Floodplain Management Plan	✓			"	
Zoning Regulations	✓			"	

3. **Financial Capability:** Please indicate whether your jurisdiction has access to or is eligible to use the following local financial resources ***for hazard mitigation purposes*** (including as match funds for State of Federal mitigation grant funds). Then, identify the primary department or agency responsible for its administration or allocation and provide any other comments you may have in the space provided or with attachments.

Financial Resources	Yes	No	Department/Agency	Comments
Capital Improvement Programming				
Community Development Block Grants (CDBG)	✓		Council	
Special Purpose Taxes	✓		"	
Gas / Electric Utility Fees	✓		"	
Water / Sewer Fees	✓		"	
Stormwater Utility Fees				
Development Impact Fees	✓		"	
General Obligation, Revenue, and/or Special Tax Bonds	✓		4	
Partnering Arrangements or Intergovernmental Agreements	✓		1	
Other				

Tool / Program	Status: In Place	Status: Date Adopted or Updated	Status: Under Development	Dept./Agency Responsible	Comments
Subdivision Regulations	✓			Borough Council	currently being updated
Comprehensive Land Use Plan (or General, Master or Growth Mgt. Plan)	✓			" "	
Open Space Management Plan (or Parks/Rec or Greenways Plan)	✓			" "	
Stormwater Management Plan / Ordinance	✓			" "	
Natural Resource Protection Plan					
Capital Improvement Plan					
Economic Development Plan					
Historic Preservation Plan					
Farmland Preservation					
Building Code	✓			" "	
Fire Code	✓			" "	
Other					

4. **Education and Outreach:** Identify education and outreach programs and methods already in place that could be used to implement mitigation activities and communicate hazard-related information. Then, identify the primary department or agency responsible for its administration or allocation and provide any other comments you may have in the space provided or with attachments.

Program/Organization	Yes	No	Department/Agency	Comments
Firewise Communities Certification				
StormReady certification				
Natural disaster or safety related school programs				
Ongoing public education or information program (e.g. responsible water use, fire safety, household preparedness, environmental education)	✓		Borough Council – Admin Staff	
Public-private partnership initiatives addressing disaster-related issues				
Local citizen groups or nonprofit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.				
Other				

2. **Administrative and Technical Capability:** Please indicate whether your jurisdiction maintains the following staff members within its current personnel resources by placing an "X" in the appropriate box. Then, if YES, please identify the department or agency they work under and provide any other comments you may have in the space provided or with attachments.

Staff/Personnel Resources	Yes	No	Department/Agency	Comments
Planners (with land use / land development knowledge)				
Planners or engineers (with natural and/or human caused hazards knowledge)				
Engineers or professionals trained in building and/or infrastructure construction practices (includes building inspectors)	✓		Engineer	
Emergency Manager	✓		EMA	
NFIP Floodplain Administrator	✓		Zoning Officer	
Land Surveyors	✓		Engineer	
Scientists or staff familiar with the hazards of the community				
Personnel skilled in Geographic Information Systems (GIS) and/or FEMA's HAZUS program				
Grant writers or fiscal staff to handle large/complex grants				
Staff with expertise or training in Benefit-Cost Analysis				
Other				

2. FLOODPLAIN MANAGEMENT

Requirement	Recommended Action	Yes/No	Comments
a. Has the municipality adopted a compliant floodplain management ordinance that, at a minimum, regulates the following:	If yes, answer questions (1) through (4) below.	YES	
(1) Does the municipality issue permits for all proposed development in the Special Flood Hazard Areas (SFHAs)?	If yes, specify the office responsible.	YES	BUILDING INSPECTOR W COPA
(2) Does the municipality obtain, review, and utilize any Base Flood Elevation (BFE) and floodway data, and/or require BFE data for subdivision proposals and other development proposals larger than 50 lots or 5 acres?	If yes, specify the office responsible	YES	PART OF PLANNING APPROVAL
(3) Does the municipality identify measures to keep all new and substantially improved construction reasonably safe from flooding to or above the BFE, including anchoring, using flood-resistant materials, and designing or locating utilities and service facilities to prevent water damage?	If yes, specify the office responsible.	YES	SALDO & STORM ORDINANCES
(4) Does the municipality document and maintain records of elevation data that document lowest floor elevation for new or substantially improved structures?	If yes, specify the office responsible.	YES	BUILDING INSPECTOR
b. If a compliant floodplain ordinance was adopted, does the municipality enforce the ordinance by monitoring compliance and taking remedial action to correct violations?	If yes, specify how.	YES	BY OFFICIALS

5. **Self-Assessment of Capability:** Please provide an approximate measure of your jurisdiction's capability to effectively implement hazard mitigation strategies to reduce hazard vulnerabilities. Using the following table, please place an "X" in the box marking the most appropriate degree of capability (Limited, Moderate or High) based upon best available information and the responses provided in Sections 1-5 of this survey. For multi-jurisdictional plans, record the results of this section into the Self-Assessment Capability Matrix in **Section 5**.

Area	Degree of Capability		
	Limited	Moderate	High
Planning and Regulatory Capability	✓		
Administrative and Technical Capability	✓		
Financial Capability		✓	
Education and Outreach	✓		

2. FLOODPLAIN MANAGEMENT

Requirement	Recommended Action	Yes/No	Comments
c. Has the municipality considered adopting activities that extend beyond the minimum requirements? Examples include: • Participation in the Community Rating System • Prohibition of production or storage of chemicals in SFHA • Prohibition of certain types of structures, such as hospitals, nursing homes, and jails in SFHA • Prohibition of certain types of residential housing (manufactured homes) in SFHA • Floodplain ordinances that prohibit any new residential or nonresidential structures in SFHA	If yes, specify activities.	YES	MOST OF THESE ARE REGULATED UNDER THE BOROUGH FLOODPLAIN ORDINANCE.

3. FLOOD INSURANCE

Requirement	Recommended Action	Yes/No	Comments
a. Does the municipality educate community members about the availability and value of flood insurance?	If yes, specify how.	NO	
b. Does the municipality inform community property owners about changes to the DFIRM/FIRM that would impact their insurance rates?	If yes, specify how.	NO	
c. Does the municipality provide general assistance to community members regarding insurance issues?	If yes, specify how.	YES	VARIES - ANSWER QUESTIONS

NATIONAL FLOOD INSURANCE PROGRAM (NFIP) SURVEY

MUNICIPALITY: _____

1. FLOODPLAIN IDENTIFICATION AND MAPPING

Requirement	Recommended Action	Yes/No	Comments
a. Does the municipality maintain accessible copies of an effective Flood Insurance Rate Map (FIRM)/Digital Flood Insurance Rate Map (DFIRM)? Does the municipality maintain accessible copies of the most recent Flood Insurance Study (FIS)?	Place these documents in the local libraries or make available publicly.	YES	ON WEB PAGE
b. Has the municipality adopted the most current DFIRM/FIRM and FIS?	State the date of adoption, if approved.		
c. Does the municipality support request for map updates?	If yes, state how.	YES	REVIEW OF CHANGE & APPROVAL
d. Does the municipality share with Federal Emergency Management Agency (FEMA) any new technical or scientific data that could result in map revisions within 6 months of creation or identification of new data?	If yes, specify how.	NO	
e. Does the municipality provide assistance with local floodplain determinations?	If yes, specify how.	YES	VARIES CASE BY CASE BASIS
f. Does the municipality maintain a record of approved Letters of Map Change?	If yes, specify the responsible office.	YES	ADMIN OFFICE

Hazard Identification and Risk Evaluation Worksheet

Name: Judy Taylor Title: City Administrator

Jurisdiction: City of Monessen

PART I

Identified Hazards 2015 HMP	How has the frequency of occurrence, magnitude of impact, and/or geographic extent changed in your community? *NC = No Change; I = Increase; D = Decrease* *(Please provide an explanation for any hazards marked I or D in the "Additional Comments" column)*	Additional Comments
Natural Hazards		
Avalanche	NC	
Drought	NC	
Earthquake	NC	
Extreme Temperatures	NC	
Floods, Flash Floods, and Ice Jams	I	Initial report: Flooding at several locations in the City has increased in recent years.
Hailstorm	NC	
Hurricane	NC	
Landslide	I	Initial report: There was one landslide in the City that occurred several years ago that appears to have stabilized.
Lightning	NC	
Radon Exposure	NC	
Subsidence, Sinkhole	I	Initial report: One mine subsidence event occurred in late summer 2019.
Tornado, Windstorm	NC	
Wildfire	NC	

Identified Hazards 2015 HMP	How has the frequency of occurrence, magnitude of impact, and/or geographic extent changed in your community? *NC = No Change; I = Increase; D = Decrease* *(Please provide an explanation for any hazards marked I or D in the "Additional Comments" column)*	Additional Comments
Winter Storm	NC	
Human-made Hazards		
Dam Failure	NC	
Environmental Hazards	NC	
Nuclear Incident	NC	
Structural Fire	NC	
Terrorism	NC	
Transportation Accident	NC	
Utility Interruption	NC	

PART II

Other Hazards:

Do any of these hazards, not previously profiled in the County's hazard mitigation plan; have the potential to affect your municipality significantly? (If so, please check the box)

Natural

- ☐ Coastal Erosion
- ☐ Dust, Sand Storm
- ☐ Expansive Soils
- ☐ Invasive Species
- ☐ Pandemic
- ☐ Tsunami
- ☐ Volcano

Human-Caused

- ☐ Building or Structure Collapse
- ☐ Civil Disturbance
- ☐ Disorientation
- ☐ Drowning
- ☐ Levee Failure
- ☐ Mass Food/Animal Feed Contamination
- ☐ War and Criminal Activity

Other Comments:

Jurisdiction Risk - Monessen (Municipality)

Avalanche	1.0	=
Dam Failure	1.3	>
Drought	2.2	=
Earthquake	1.9	=
Environmental Hazards	2.9	=
Extreme Temperatures	2.7	=
Flood, Flash Flood, and Ice Jam	3.1	>
Hailstorm	2.5	=
Hurricane and Tropical Storm	2.1	=
Illicit Drug Use	3.1	>
Landslide	2.5	=
Lightning	1.4	=
Nuclear Incidents	1.9	=
Radon Exposure	2.6	=
Structural Fire	2.2	<
Subsidence and Sinkholes	1.9	<
Terrorism	2.8	>
Tornado, Windstorm	3.0	=
Transportation Accidents	2.2	=
Utility Interruptions	3.0	=
Wildfire	2.3	<
Winter Storm	3.0	=

> Your municipality's risk from this hazard is greater than the County's risk as a whole

< Your municipality's risk from this hazard is less than the County's risk as a whole

= Your municipality's risk from this hazard is about the same as the County's risk as a whole

Tool / Program	Status			Dept./Agency Responsible	Comments
	In Place	Date Adopted or Updated	Under Develop-ment		
MS4 Illicit Discharge Detection and Elimination Ordinance	X	04/21/2016		Office of Code Enforcement	
MS4 Operations and Maintenance Ordinance	x	04/21/2016		Office of Code Enforcement	

Capability Assessment Survey

Jurisdiction: City of Monessen

Point of Contact Name and Title: Judy Taylor, City Administrator

Phone: (724) 684-9714 x 100

Email: jtaylor@cityofmonessen.com

1. **Planning and Regulatory Capability:** Please indicate whether the following planning or regulatory tools and programs are currently in place or under development for your jurisdiction by placing an "X" in the appropriate box, followed by the date of adoption/update. Then, for each particular item in place, identify the department or agency responsible for its implementation and indicate it's estimated or anticipated effect on hazard loss reduction (Supports, Neutral or Hinders) with the appropriate symbol and also indicate if there has been a change in the ability of the tool/program to result in loss reduction. Finally, please provide additional comments or explanations in the space provided.

Tool / Program	Status			Dept./Agency Responsible	Comments
	In Place	Date Adopted or Updated	Under Develop-ment		
EXAMPLE: Hazard Mitigation Plan	X	1/1/2008		Hazard County EMA	Interim update in 2008 revised mitigation strategy; completed one action.
Hazard Mitigation Plan					Need to develop
Emergency Operations Plan	X				Update plan and appoint Emergency Operations Manager, likely the Fire Chief
Disaster Recovery Plan					Need to develop
Evacuation Plan					
Continuity of Operations Plan					First Energy and Peoples Gas have plans in place
NFIP					
NFIP – Community Rating System					
Floodplain Regulations (spec. NFIP Flood Damage Prevention Ordinance)	X	02/16/2011		Office of Code Enforcement	

2. **Administrative and Technical Capability:** Please indicate whether your jurisdiction maintains the following staff members within its current personnel resources by placing an "X" in the appropriate box. Then, if YES, please identify the department or agency they work under and provide any other comments you may have in the space provided or with attachments.

Staff/Personnel Resources	Yes	No	Department/Agency	Comments
Planners (with land use / land development knowledge)		X		
Planners or engineers (with natural and/or human caused hazards knowledge)	X		Council	Contract with W.E.C. Inc.
Engineers or professionals trained in building and/or infrastructure construction practices (includes building inspectors)	X		Office of Code Enforcement	Also contract with W.E.C. Inc.
Emergency Manager				Need to appoint someone
NFIP Floodplain Administrator		X		
Land Surveyors		X		Contract as needed
Scientists or staff familiar with the hazards of the community		X		
Personnel skilled in Geographic Information Systems (GIS) and/or FEMA's HAZUS program	X			Contract with W.E.C. Inc.
Grant writers or fiscal staff to handle large/complex grants	X		City Administrator	
Staff with expertise or training in Benefit-Cost Analysis	X		City Administrator	
Other				

Tool / Program	Status			Dept./Agency Responsible	Comments
	In Place	Date Adopted or Updated	Under Develop-ment		
Floodplain Management Plan	X	02/16/2011		Office of Code Enforcement	
Zoning Regulations	X	08/10/1998		Office of Code Enforcement	
Subdivision Regulations	X	1964		Planning Commission	
Comprehensive Land Use Plan (or General, Master or Growth Mgt. Plan)			X		It is anticipated that the Comprehensive Plan currently being updated will be enacted in Spring of 2020.
Open Space Management Plan (or Parks/Rec or Greenways Plan)					
Stormwater Management Plan / Ordinance	X	11/21/2017		Office of Code Enforcement	With assistance from the City's contracted engineer.
Natural Resource Protection Plan					
Capital Improvement Plan					
Economic Development Plan					
Historic Preservation Plan					
Farmland Preservation					Not applicable
Building Code	X	05/16/2012		Office of Code Enforcement	
Fire Code	X	06/21/2004		Office of Code Enforcement	

5. **Self-Assessment of Capability:** Please provide an approximate measure of your jurisdiction's capability to effectively implement hazard mitigation strategies to reduce hazard vulnerabilities. Using the following table, please place an "**X**" in the box marking the most appropriate degree of capability (Limited, Moderate or High) based upon best available information and the responses provided in Sections 1-5 of this survey. For multi-jurisdictional plans, record the results of this section into the Self-Assessment Capability Matrix in **Section 5**.

Area	Degree of Capability		
	Limited	Moderate	High
Planning and Regulatory Capability	Limited		
Administrative and Technical Capability	Limited		
Financial Capability	Limited		
Education and Outreach	Limited		

3. **Financial Capability:** Please indicate whether your jurisdiction has access to or is eligible to use the following local financial resources ***for hazard mitigation purposes*** (including as match funds for State of Federal mitigation grant funds). Then, identify the primary department or agency responsible for its administration or allocation and provide any other comments you may have in the space provided or with attachments

Financial Resources	Yes	No	Department/Agency	Comments
Capital Improvement Programming		X		
Community Development Block Grants (CDBG)	X			Used for roadway rehabilitation and building demolitions
Special Purpose Taxes	X		City Administrator	Line usage fee for separate and combination sewer lines
Gas / Electric Utility Fees		X		
Water / Sewer Fees	X		City Administrator	Line usage fee for separate and combination sewer lines
Stormwater Utility Fees	X		City Administrator	Line usage fee for separate and combination sewer lines
Development Impact Fees	X		Office of Code Enforcement	Road opening permit fees
General Obligation, Revenue, and/or Special Tax Bonds		X		
Partnering Arrangements or Intergovernmental Agreements		X		
Other				

NATIONAL FLOOD INSURANCE PROGRAM (NFIP) SURVEY

MUNICIPALITY: CITY OF MONESSEN

1. FLOODPLAIN IDENTIFICATION AND MAPPING			
Requirement	*Recommended Action*	*Yes/No*	*Comments*
a. Does the municipality maintain accessible copies of an effective Flood Insurance Rate Map (FIRM)/Digital Flood Insurance Rate Map (DFIRM)? Does the municipality maintain accessible copies of the most recent Flood Insurance Study (FIS)?	Place these documents in the local libraries or make available publicly.	No	
b. Has the municipality adopted the most current DFIRM/FIRM and FIS?	State the date of adoption, if approved.	Yes	02/16/11
c. Does the municipality support request for map updates?	If yes, state how.	No	
d. Does the municipality share with Federal Emergency Management Agency (FEMA) any new technical or scientific data that could result in map revisions within 6 months of creation or identification of new data?	If yes, specify how.	No	
e. Does the municipality provide assistance with local floodplain determinations?	If yes, specify how.	No	
f. Does the municipality maintain a record of approved Letters of Map Change?	If yes, specify the responsible office.	No	

4. **Education and Outreach:** Identify education and outreach programs and methods already in place that could be used to implement mitigation activities and communicate hazard-related information. Then, identify the primary department or agency responsible for its administration or allocation and provide any other comments you may have in the space provided or with attachments.

Program/Organization	Yes	No	Department/Agency	Comments
Firewise Communities Certification		X		
StormReady certification		X		
Natural disaster or safety related school programs		X		
Ongoing public education or information program (e.g. responsible water use, fire safety, household preparedness, environmental education)		X		
Public-private partnership initiatives addressing disaster-related issues		X		
Local citizen groups or nonprofit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.		X		
Other				

Mitigation Strategy 5-Year Mitigation Plan Review

Name: Judy Taylor **Title:** City Administrator **Jurisdiction:** City of Monessen

Purpose: To fulfill requirement that plan maintenance from previous plan has been completed and to obtain early feedback from the planning team to incorporate into the update process.

Instructions: Complete the *Goal and Objective Review Worksheet* and *Mitigation Action Plan Review Worksheet* on the next pages keeping the following questions in mind:

- Do the goals, objectives, and actions address current and expected conditions?
- Go through each goal and objective to determine: Should goal be carried forward into updated plan? Should goal be changed based on current conditions in community? Should goal be discontinued and if so why?
- Progress on actions should be noted. For each action the following questions should be answered: What is status? What progress has been made? Should action be continued in updated plan? Should action be discontinued and if so why?
- Has the nature or magnitude of hazard risk changed?
- Are current resources adequate to implement the Plan?
- Should additional local resources be committed to address identified hazard threats?
- Are there any issues that have limited the current implementation schedule?
- Have the implementation of identified mitigation actions resulted in expected outcomes?
- Has the Mitigation Planning Committee measured the effectiveness of completed hazard mitigation projects in terms of specific dollar losses avoided?
- Did the jurisdictions, agencies and other partners participate in the plan implementation process as proposed?
- Other?

Before completing the worksheets, the group may wish to discuss the above questions in a round robin format, using a flip chart. The questions are standard questions; however it is important to check the existing hazard mitigation plan maintenance section to see if there are additional questions that need to be considered.

Goal and Objective Review Worksheet

Instructions: Write each goal and objective identified in the existing hazard mitigation plan. Use the comment boxes to provide feedback or to suggest modification of any of the proposed goals or objectives. You may suggest additional objectives below each goal, or new goals and objectives on the last page of this exercise.

	Existing Goals and Objectives	Comments
Goal 1	**To minimize the risk to human life associated with natural and non-natural hazards.**	
Goal 2	**To promote hazard avoidance, especially in floodplains, by removing high-risk and repetitive loss structures, and by issuing building restrictions on future development.**	
Goal 3	**To reduce the damage from natural and non-natural hazards to existing and future public and private assets including structures, critical facilities, and infrastructure.**	

2. FLOODPLAIN MANAGEMENT

Requirement	Recommended Action	Yes/No	Comments
a. Has the municipality adopted a compliant floodplain management ordinance that, at a minimum, regulates the following:	If yes, answer questions (1) through (4) below.	Yes	
(1) Does the municipality issue permits for all proposed development in the Special Flood Hazard Areas (SFHAs)?	If yes, specify the office responsible.	Yes	Office of Code Enforcement
(2) Does the municipality obtain, review, and utilize any Base Flood Elevation (BFE) and floodway data, and/or require BFE data for subdivision proposals and other development proposals larger than 50 lots or 5 acres?	If yes, specify the office responsible.		No action required
(3) Does the municipality identify measures to keep all new and substantially improved construction reasonably safe from flooding to or above the BFE, including anchoring, using flood-resistant materials, and designing or locating utilities and service facilities to prevent water damage?	If yes, specify the office responsible		No action required
(4) Does the municipality document and maintain records of elevation data that document lowest floor elevation for new or substantially improved structures?	If yes, specify the office responsible.		No action required
b. If a compliant floodplain ordinance was adopted, does the municipality enforce the ordinance by monitoring compliance and taking remedial action to correct violations?	If yes, specify how.		No action required

2. FLOODPLAIN MANAGEMENT

Requirement	Recommended Action	Yes/No	Comments
c. Has the municipality considered adopting activities that extend beyond the minimum requirements? Examples include: • Participation in the Community Rating System • Prohibition of production or storage of chemicals in SFHA • Prohibition of certain types of structures, such as hospitals, nursing homes, and jails in SFHA • Prohibition of certain types of residential housing (manufactured homes) in SFHA • Floodplain ordinances that prohibit any new residential or nonresidential structures in SFHA	If yes, specify activities.	No	

3. FLOOD INSURANCE

Requirement	Recommended Action	Yes/No	Comments
a. Does the municipality educate community members about the availability and value of flood insurance?	If yes, specify how.	No	
b. Does the municipality inform community property owners about changes to the DFIRM/FIRM that would impact their insurance rates?	If yes, specify how.	No	
c. Does the municipality provide general assistance to community members regarding insurance issues?	If yes, specify how.	No	

Goal	Improve storm drainage facilities on Pleasant Drive.	
Objective	Eliminate icing condition on Grand Boulevard.	

Goal	Replace 42" brick combination sewer from Shawnee Park to Parente Boulevard.	
Objective	Eliminate potential failure of pipe resulting in lack of sewage facilities for residents in the entire sewage subarea.	

Goal	Rehabilitate 48" brick combination sewer for the entire length of 3rd Street.	
Objective	Eliminate potential failure of pipe resulting in lack of sewage facilities for residents in the entire sewage shed.	

Goal	Rehabilitate 7' x 5'" brick combination sewer in alley between Donner Avenue and Schoonmaker Avenue from 8th Street to 12th Street.	
Objective	Eliminate potential failure of pipe resulting in lack of sewage facilities for residents in the entire sewage shed.	

Goal	Rehabilitate 48" brick combination sewer in 9th Street from Vine Street to Schoonmaker Avenue.	
Objective	Eliminate potential failure of pipe resulting in lack of sewage facilities for residents in the entire sewage shed.	

Goal	Rehabilitate 48" brick combination sewer in 12th Street from Reservoir Avenue to Schoonmaker Avenue.	
Objective	Eliminate potential failure of pipe resulting in lack of sewage facilities for residents in the entire sewage shed.	

	Existing Goals and Objectives	Comments
Goal 4	To protect and restore existing natural resources including wetlands, floodplains, and riparian buffers.	
Goal 5	To develop, prioritize and implement cost-effective, long-term actions that will reduce the impacts of natural and non-natural hazards.	
Goal 6	To enhance planning and emergency response efforts among local, county, state, and federal, emergency management personnel to protect public health and safety.	
Goal 7	To promote public awareness on the potential impacts of natural and non-natural hazards, and actions to reduce those impacts.	

Goal	Rehabilitate storm sewer in Parente Blvd.	
Objective	Rehabilitate deteriorated 84" tin whistle storm sewer for the entire length of Parente Blvd.	

Goal	Rehabilitate 12th Street.	
Objective	Replace washed out subbase and deteriorated concrete pavement.	

Goal	Rehabilitate Herron Street.	
Objective	Replace washed out subbase and deteriorated concrete pavement.	

Goal	Rehabilitate Nash Avenue.	
Objective	Replace washed out subbase and deteriorated concrete pavement.	

Goal	Obtain portable generator.	
Objective	Obtain portable generator for use the Maintenance Garage and City Hall.	

	Suggested Additional Goals and/or Objectives	Comments
Goal	Replace undersized culvert on Grand Boulevard	
Objective	Eliminate flooding at the intersection of Parente Boulevard and Grand Boulevard.	

Goal	Restore UNT-1 to Monongahela River and add retention pond on Grand Boulevard between Euclid Drive and gas station.	
Objective	Reduce stormwater flow into undersized culvert and eliminate flooding at the intersection of Parente Boulevard and Grand Boulevard	

Goal	Add stormwater facilities near the intersection of State Road and Grand Boulevard.	
Objective	Eliminate flooding of residence.	

Goal	Add storm drainage facilities to Spring Drive.	
Objective	Eliminate flooding.	

Goal	Add storm drainage facilities to Cemetery Street.	
Objective	Eliminate flooding.	

Goal	Improve storm drainage facilities on State Road near the pump station.	
Objective	Eliminate icing condition on State Road.	

Mitigation Action Plan Review Worksheet

Instructions: List each mitigation action from the existing hazard mitigation plan and identify its status as "No Progress / Unknown," "In Progress / Not Yet Complete," "Continuous," "Completed," or "Discontinued." Include review comments for each action.

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress/ Not Yet Complete	Continuous	Completed	Discontinued	
1. Mt. Pleasant Borough - Install additional stormwater runoff pipes and upgrade/replace existing deteriorated pipes.						
2. Hunker Borough - Procure and install a back-up generator into Hunker Borough EOC.						
3. Hunker Borough - Procure and install air conditioning units into community building / community shelter.						
4. Hunker Borough - Retrofit community building to prevent flooding in basement.						
5. Hunker Borough - Pave Bellson Street in Hunker Borough. Install proper drainage to prevent flooding.						
6. Hunker Borough - Implement the redirection of the stormwater catch basin at the intersection of Walnut and Bridge St.						
7. Hunker Borough - Demolition of abandoned home.						
8. Hunker Borough - Install sub-flooring to prevent roadway along Locust St. from sinking.						
9. Hunker Borough - Retrofit Walnut St. Bridge to prevention erosion.						

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress/ Not Yet Complete	Continuous	Completed	Discontinued	
10. Unity Township - Construct and install a new culvert in Lloydsville to enhance hydraulic capacity.						
11. Unity Township - Install a stormwater detention system in Lawson Heights.						
12. Allegheny Township - Replace and enhance stormwater runoff pipes in Moreland Manor.						
13. St. Clair Township - Reconstruction of Bridge River Hill Bridge.						
14. St. Clair Township - Reconstruction of Bridge Sugar Run Road.						
15. Fairfield Township - Reconstruction of Patterson Bridge.						
16. Sewickley Township - Install storm water drainage system along Pinewood Road.						
17. Sewickley Township - Procure a skid loader/grab attachment for storm clean up and culvert clean out.						
18. Sewickley Township - Procure remote receive sites to enhance communications.						
19. Sewickley Township - Procure sweeper truck for stormwater management.						
20. Sewickley Township - Procure and install a back-up generator into Hutchinson VFD Station 85.						

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress/ Not Yet Complete	Continuous	Completed	Discontinued	
21. Sewickley Township - Procure and install a back-up generator into Lowber VFD Station 16.						
22. Sewickley Township - Procure and install a back-up generator into Rillton VFD Station 14.						
23. Sewickley Township - Procure skid steer attachment to clear debris around culverts.						
24. Fairfield Township - Develop and implement an action plan to mitigation recurring flooding on Creek Road.						
25. Upper Burrell Township - Procure and install an emergency generator.						
26. County and all municipalities - Retrofit structures located in hazard-prone areas to protect structures from future damage, with repetitive loss and severe repetitive loss properties as priority. Phase 1: Identify appropriate candidates for retrofitting based on cost-effectiveness versus relocation. Phase 2: Where retrofitting is determined a viable option, work with property owners toward implementation based on available funding from FEMA and local match availability.						

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress/ Not Yet Complete	Continuous	Completed	Discontinued	
27. County and all municipalities - Purchase, or relocate structures located in hazard-prone areas to protect structures from future damage, with repetitive loss and severe repetitive loss properties as priority. Phase 1: Identify appropriate candidates for relocation based on cost-effectiveness versus retrofitting. Phase 2: Where relocation is determined a viable option, work with property owners toward implementation based on available funding from FEMA and local match availability.						
28. All Municipalities - Maintain compliance with and be in 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.						*Has this activity been Integrated into the municipality's normal operations?*
29. All Municipalities - Begin the process to adopt higher regulatory standards to manage flood risk (i.e. increased freeboard, cumulative substantial damage/improvements) and sinkhole risk (e.g. carbonate bedrock standards).						
30. All Municipalities - Determine if a Community Assistance Visit (CAV) or Community Assistance Contact (CAC) is needed, and schedule if needed.						

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress/ Not Yet Complete	Continuous	Completed	Discontinued	
31. All Municipalities - Have designated NFIP Floodplain Administrator (FPA) become a Certified Floodplain Manager through the ASFPM, and pursue relevant continuing education training such as FEMA Benefit-Cost Analysis.						
32. All Municipalities - Participate in the Community Rating System (CRS) to further manage flood risk and reduce flood insurance premiums for NFIP policyholders. This process starts by submitting to FEMA-DHS of Letter of Intent to join CRS, followed by completing and submitting an application to the program once the community's current compliance with the NFIP is established.						
33. County and all municipalities – Continue to support the implementation, monitoring, maintenance, and updating of this Plan, as defined in Section 7.0						*Has this activity been Integrated into the municipality's normal operations?*
34. County and all municipalities - Complete the ongoing updates of the Comprehensive Plans						
35. County - Enhance the Westmoreland County Stormwater Management Plan by implementing Phase 2 of the plan.						
36. County and all municipalities – Create/enhance/ maintain mutual aid agreements with neighboring counties / communities for continuity of operations.						*Has this activity been Integrated into the municipality's normal operations?*

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress/ Not Yet Complete	Continuous	Completed	Discontinued	
37. County - Identify and develop agreements with entities that can provide support with FEMA/PEMA paperwork after disasters. Qualified damage assessment personnel should be available for post-disaster efforts, including damage assessment; FEMA/PEMA paperwork compilation, submittals, and record-keeping.						*Has this activity been Integrated into the municipality's normal operations?*
38. County - Work with regional agencies (i.e. Region 13 and PEMA) to develop damage assessment capabilities at the local level through training programs, certification of qualified individuals (e.g. code officials, floodplain managers, engineers).						
39. County and all municipalities - Partner with community groups such as local community organizations, including civic, business, town watch, faith-based, senior, special needs and tenant associations to promote emergency preparedness and mitigation efforts.						*Has this activity been Integrated into the municipality's normal operations?*
40. County and all municipalities - Develop geospatial and analytical tools to support community engagement, policy reform, and county and regional planning efforts.						*Has this activity been Integrated into the municipality's normal operations?*
41. County and all municipalities - Develop a hazard event GIS database to help county and local emergency managers with hazard mitigation and other planning initiatives.						*Has this activity been Integrated into the municipality's normal operations?*

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress/ Not Yet Complete	Continuous	Completed	Discontinued	
42. County and all municipalities - Maintain and exercise continuity of government plan to enable the county government to provide critical services during an interruption of business.						*Has this activity been Integrated into the municipality's normal operations?*
43. County and all municipalities - Implement seismic retrofits to vulnerable critical facilities.						
44. All municipalities - Regulate development to reduce flood losses in vulnerable fluvial areas.						*Has this activity been Integrated into the municipality's normal operations?*
45. County - Develop and maintain an outreach program to provide information and guidance to municipalities on their role in flood plain development.						*Has this activity been Integrated into the municipality's normal operations?*
46. County and all municipalities - Support and utilize an advanced warning system that provides emergency text and email alerts to the public.						*Has this activity been Integrated into the municipality's normal operations?*
47. County and all municipalities - Procure redundant power sources (portable generators).						
48. County and all municipalities - Maintain redundant power sources						*Has this activity been Integrated into the municipality's normal operations?*

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress/ Not Yet Complete	Continuous	Completed	Discontinued	
49. County and all municipalities - Develop and distribute educational information on hazards, emergency preparedness and fire prevention.						*Has this activity been Integrated into the municipality's normal operations?*
50. County and all municipalities - Develop and distribute public outreach materials on water conservation.						*Has this activity been Integrated into the municipality's normal operations?*

Hazard Identification and Risk Evaluation Worksheet

Name: JERRY LUCIA Title: MAYOR - FIRE CHIEF - EMC

Jurisdiction: MT. PLEASANT BORO

PART I

Identified Hazards 2015 HMP	How has the frequency of occurrence, magnitude of impact, and/or geographic extent changed in your community? *NC = No Change; I = Increase; D = Decrease* *(Please provide an explanation for any hazards marked I or D in the "Additional Comments" column)*	Additional Comments
Natural Hazards		
Avalanche	NO CHANGE	
Drought	NC	
Earthquake	NC	
Extreme Temperatures	NC	
Floods, Flash Floods, and Ice Jams	I	FLASH FLOODING
Hailstorm	NC	
Hurricane	NC	
Landslide	I	
Lightning	I	
Radon Exposure	NC	
Subsidence, Sinkhole	I	
Tornado, Windstorm	I	
Wildfire	I	
Winter Storm	I	

Identified Hazards 2015 HMP	How has the frequency of occurrence, magnitude of impact, and/or geographic extent changed in your community? *NC = No Change; I = Increase; D = Decrease* *(Please provide an explanation for any hazards marked I or D in the "Additional Comments" column)*	Additional Comments
Human-made Hazards		
Dam Failure	I	
Environmental Hazards	I	
Nuclear Incident	NC	
Structural Fire	I	
Terrorism	NC	
Transportation Accident	I	
Utility Interruption	I	

PART II

Other Hazards:

Do any of these hazards, not previously profiled in the County's hazard mitigation plan; have the potential to affect your municipality significantly? (If so, please check the box)

Natural

- ☐ Coastal Erosion
- ☐ Dust, Sand Storm
- ☐ Expansive Soils
- ☐ Invasive Species
- ☐ Pandemic
- ☐ Tsunami
- ☐ Volcano

Human-Caused

- ☐ Building or Structure Collapse
- ☐ Civil Disturbance
- ☐ Disorientation
- ☐ Drowning
- ☐ Levee Failure
- ☐ Mass Food/Animal Feed Contamination
- ☐ War and Criminal Activity

Other Comments:

Westmoreland County Hazard Mitigation Plan

Jurisdiction Risk – Mt. Pleasant Boro (Municipality)

Avalanche	1.0	
Dam Failure	1.3	
Drought	2.2	
Earthquake	1.9	
Environmental Hazards	2.9	
Extreme Temperatures	2.7	
Flood, Flash Flood, and Ice Jam	3.4	>
Hailstorm	2.5	
Hurricane and Tropical Storm	2.1	
Illicit Drug Use	3.1	
Landslide	2.5	
Lightning	1.4	
Nuclear Incidents	1.9	
Radon Exposure	2.6	
Structural Fire	2.2	
Subsidence and Sinkholes	1.9	
Terrorism	2.6	
Tornado, Windstorm	3.0	
Transportation Accidents	2.2	
Utility Interruptions	3.0	
Wildfire	2.3	
Winter Storm	3.0	

Your municipality's risk from this hazard is greater than the County's risk as a whole >

Your municipality's risk from this hazard is less than the County's risk as a whole <

Your municipality's risk from this hazard is about the same as the County's risk as a whole =

2. **Administrative and Technical Capability:** Please indicate whether your jurisdiction maintains the following staff members within its current personnel resources by placing an "X" in the appropriate box. Then, if YES, please identify the department or agency they work under and provide any other comments you may have in the space provided or with attachments.

Staff/Personnel Resources	Yes	No	Department/Agency	Comments
Planners (with land use / land development knowledge)	✓			
Planners or engineers (with natural and/or human caused hazards knowledge)	✓			
Engineers or professionals trained in building and/or infrastructure construction practices (includes building inspectors)	✓			
Emergency Manager	✓			
NFIP Floodplain Administrator		✓		
Land Surveyors	✓			
Scientists or staff familiar with the hazards of the community		✓		
Personnel skilled in Geographic Information Systems (GIS) and/or FEMA's HAZUS program		✓		
Grant writers or fiscal staff to handle large/complex grants		✓		
Staff with expertise or training in Benefit-Cost Analysis		✓		
Other				

Capability Assessment Survey

Jurisdiction: MOUNT PLEASANT BOROUGH Point of Contact Name and Title: GERALD LUCIA - MAYOR - FIRE CHIEF - EMC

Phone: 724 610 4987 Email: GLUCIA45@ICLOUD.COM

1. **Planning and Regulatory Capability:** Please indicate whether the following planning or regulatory tools and programs are currently in place or under development for your jurisdiction by placing an "X" in the appropriate box, followed by the date of adoption/update. Then, for each particular item in place, identify the department or agency responsible for its implementation and indicate it's estimated or anticipated effect on hazard loss reduction (Supports, Neutral or Hinders) with the appropriate symbol and also indicate if there has been a change in the ability of the tool/program to result in loss reduction. Finally, please provide additional comments or explanations in the space provided.

Tool / Program	Status: In Place	Status: Date Adopted or Updated	Status: Under Development	Dept./Agency Responsible	Comments
[illegible] Plan		[illegible]		Lt. Col. County EMA	Interim Update in 2008 revised mitigation strategy, completed one action
Hazard Mitigation Plan	X	1/1/2018		"	
Emergency Operations Plan	X	1/1/2018		"	
Disaster Recovery Plan	X	1/1/2018		"	
Evacuation Plan	X	1/1/2018		"	
Continuity of Operations Plan	X	1/1/2018		"	
NFIP					
NFIP – Community Rating System					
Floodplain Regulations (spec. NFIP Flood Damage Prevention Ordinance)	X	1/1/2015		"	
Floodplain Management Plan	X	2/6/1992		"	
Zoning Regulations	X	1/1/1985		"	

3. **Financial Capability:** Please indicate whether your jurisdiction has access to or is eligible to use the following local financial resources ***for hazard mitigation purposes*** (including as match funds for State of Federal mitigation grant funds). Then, identify the primary department or agency responsible for its administration or allocation and provide any other comments you may have in the space provided or with attachments.

Financial Resources	Yes	No	Department/Agency	Comments
Capital Improvement Programming		✓		
Community Development Block Grants (CDBG)	✓		COUNTY	
Special Purpose Taxes		✓		
Gas / Electric Utility Fees	✓		COLUMBIA GAS WEST PENN ELECTRIC	
Water / Sewer Fees	✓		SEWAGE AUTHORITY	
Stormwater Utility Fees		✓		
Development Impact Fees		✓		
General Obligation, Revenue, and/or Special Tax Bonds		✓		
Partnering Arrangements or Intergovernmental Agreements	✓			
Other				

Tool / Program	Status: In Place	Status: Date Adopted or Updated	Status: Under Development	Dept./Agency Responsible	Comments
Subdivision Regulations					
Comprehensive Land Use Plan (or General, Master or Growth Mgt. Plan)			✓		
Open Space Management Plan (or Parks/Rec or Greenways Plan)			✓		
Stormwater Management Plan / Ordinance	✓	3/9/1975			
Natural Resource Protection Plan			✓		
Capital Improvement Plan	✓	3/30/2015			
Economic Development Plan	✓	5/6/2013			
Historic Preservation Plan	✓	4/30/2015			
Farmland Preservation					
Building Code	✓	11/30/2015		STATE CODES	
Fire Code	✓	11/30/2015		STATE CODES	
Other					

NATIONAL FLOOD INSURANCE PROGRAM (NFIP) SURVEY

MUNICIPALITY: MOUNT PLEASANT BOROUGH

1. FLOODPLAIN IDENTIFICATION AND MAPPING

Requirement	Recommended Action	Yes/No	Comments
a. Does the municipality maintain accessible copies of an effective Flood Insurance Rate Map (FIRM)/Digital Flood Insurance Rate Map (DFIRM)? Does the municipality maintain accessible copies of the most recent Flood Insurance Study (FIS)?	Place these documents in the local libraries or make available publicly.	NO	
b. Has the municipality adopted the most current DFIRM/FIRM and FIS?	State the date of adoption, if approved.	NO	
c. Does the municipality support request for map updates?	If yes, state how.	YES	
d. Does the municipality share with Federal Emergency Management Agency (FEMA) any new technical or scientific data that could result in map revisions within 6 months of creation or identification of new data?	If yes, specify how.	NO	
e. Does the municipality provide assistance with local floodplain determinations?	If yes, specify how.	NO	
f. Does the municipality maintain a record of approved Letters of Map Change?	If yes, specify the responsible office.	YES	

2. FLOODPLAIN MANAGEMENT

Requirement	Recommended Action	Yes/No	Comments
a. Has the municipality adopted a compliant floodplain management ordinance that, at a minimum, regulates the following:	If yes, answer questions (1) through (4) below.	YES	
(1) Does the municipality issue permits for all proposed development in the Special Flood Hazard Areas (SFHAs)?	If yes, specify the office responsible.	YES	
(2) Does the municipality obtain, review, and utilize any Base Flood Elevation (BFE) and floodway data, and/or require BFE data for subdivision proposals and other development proposals larger than 50 lots or 5 acres?	If yes, specify the office responsible.	NO	
(3) Does the municipality identify measures to keep all new and substantially improved construction reasonably safe from flooding to or above the BFE, including anchoring, using flood-resistant materials, and designing or locating utilities and service facilities to prevent water damage?	If yes, specify the office responsible.	YES	
(4) Does the municipality document and maintain records of elevation data that document lowest floor elevation for new or substantially improved structures?	If yes, specify the office responsible.	NO	
b. If a compliant floodplain ordinance was adopted, does the municipality enforce the ordinance by monitoring compliance and taking remedial action to correct violations?	If yes, specify how.	YES	

4. Education and Outreach: Identify education and outreach programs and methods already in place that could be used to implement mitigation activities and communicate hazard-related information. Then, identify the primary department or agency responsible for its administration or allocation and provide any other comments you may have in the space provided or with attachments.

Program/Organization	Yes	No	Department/Agency	Comments
Firewise Communities Certification		✓		
StormReady certification		✓		
Natural disaster or safety related school programs	✓			
Ongoing public education or information program (e.g. responsible water use, fire safety, household preparedness, environmental education)	✓		FIRE DEPARTMENT	
Public-private partnership initiatives addressing disaster-related issues		✓		
Local citizen groups or nonprofit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.		✓		
Other				

5. Self-Assessment of Capability: Please provide an approximate measure of your jurisdiction's capability to effectively implement hazard mitigation strategies to reduce hazard vulnerabilities. Using the following table, please place an "X" in the box marking the most appropriate degree of capability (Limited, Moderate or High) based upon best available information and the responses provided in Sections 1-5 of this survey. For multi-jurisdictional plans, record the results of this section into the Self-Assessment Capability Matrix in **Section 5**.

Area	Degree of Capability		
	Limited	Moderate	High
Planning and Regulatory Capability		X	
Administrative and Technical Capability		X	
Financial Capability	X		
Education and Outreach		X	

NATIONAL FLOOD INSURANCE PROGRAM SURVEY

2. FLOODPLAIN MANAGEMENT Requirement	Recommended Action	Yes/No	Comments
c. Has the municipality considered adopting activities that extend beyond the minimum requirements? Examples include: • Participation in the Community Rating System • Prohibition of production or storage of chemicals in SFHA • Prohibition of certain types of structures, such as hospitals, nursing homes, and jails in SFHA • Prohibition of certain types of residential housing (manufactured homes) in SFHA • Floodplain ordinances that prohibit any new residential or nonresidential structures in SFHA	If yes, specify activities		

3. FLOOD INSURANCE Requirement	Recommended Action	Yes/No	Comments
a. Does the municipality educate community members about the availability and value of flood insurance?	If yes, specify how.	NO	
b. Does the municipality inform community property owners about changes to the DFIRM/FIRM that would impact their insurance rates?	If yes, specify how.	NO	
c. Does the municipality provide general assistance to community members regarding insurance issues?	If yes, specify how.	YES	

Westmoreland County Planning Team
Mitigation Solutions Workshop

Jurisdiction Risk - M T Pleasant Twp (Municipality)

Avalanche	1.0	//
Dam Failure	1.3	//
Drought	2.2	//
Earthquake	1.9	//
Environmental Hazards	1.1	/
Extreme Temperatures	1.7	//
Flood, Flash Flood, and Ice Jam	3.7	///
Hailstorm	2.5	//
Hurricane and Tropical Storm	2.1	//
Illicit Drug Use	3.1	///
Landslide	2.5	//
Lightning	1.4	//
Nuclear Incidents	1.9	//
Radon Exposure	1.6	//
Structural Fire	2.2	//
Subsidence and Sinkholes	1.9	//
Terrorism	1.8	//
Tornado, Windstorm	3.0	///
Transportation Accidents	2.2	//
Utility Interruptions	2.0	//
Wildfire	2.3	//
Winter Storm	3.0	///

^ Your municipality's risk from this hazard is greater than the County's risk as a whole

< Your municipality's risk from this hazard is less than the County's risk as a whole

= Your municipality's risk from this hazard is about the same as the County's risk as a whole

Hazard Identification and Risk Evaluation Worksheet

Name: Jim Morrison Title: _____

Jurisdiction: Murrysville

PART I

Identified Hazards 2015 HMP	How has the frequency of occurrence, magnitude of impact, and/or geographic extent changed in your community? *NC = No Change; I = Increase; D = Decrease* *(Please provide an explanation for any hazards marked I or D in the "Additional Comments" column)*	Additional Comments
Natural Hazards		
Avalanche	NC	
Drought	NC	
Earthquake	NC	
Extreme Temperatures	I	
Floods, Flash Floods, and Ice Jams	I	
Hailstorm	NC	
Hurricane	NC	
Landslide	I	
Lightning	NC	
Radon Exposure	NC	
Subsidence, Sinkhole	I	
Tornado, Windstorm	I	
Wildfire	NC	
Winter Storm	NC	

Identified Hazards 2015 HMP	How has the frequency of occurrence, magnitude of impact, and/or geographic extent changed in your community? *NC = No Change; I = Increase; D = Decrease* *(Please provide an explanation for any hazards marked I or D in the "Additional Comments" column)*	Additional Comments
Human-made Hazards		
Dam Failure	NC	
Environmental Hazards	NC	
Nuclear Incident	NC	
Structural Fire	NC	
Terrorism	NC	
Transportation Accident	NC	
Utility Interruption	I	

Tool / Program	Status			Dept./Agency Responsible	Comments
	In Place	Date Adopted or Updated	Under Develop-ment		
Subdivision Regulations	X				
Comprehensive Land Use Plan (or General, Master or Growth Mgt. Plan)	X				
Open Space Management Plan (or Parks/Rec or Greenways Plan)	X				
Stormwater Management Plan / Ordinance	X				
Natural Resource Protection Plan					
Capital Improvement Plan	X				
Economic Development Plan					
Historic Preservation Plan					
Farmland Preservation	X				
Building Code	X				
Fire Code	X				
Other					

PART II

Other Hazards:

Do any of these hazards, not previously profiled in the County's hazard mitigation plan; have the potential to affect your municipality significantly? (If so, please check the box)

Natural

- ☐ Coastal Erosion
- ☐ Dust, Sand Storm
- ☐ Expansive Soils
- X Invasive Species
- ☐ Pandemic
- ☐ Tsunami
- ☐ Volcano

Human-Caused

- ☐ Building or Structure Collapse
- ☐ Civil Disturbance
- ☐ Disorientation
- ☐ Drowning
- ☐ Levee Failure
- ☐ Mass Food/Animal Feed Contamination
- ☐ War and Criminal Activity

Other Comments:

2. **Administrative and Technical Capability:** Please indicate whether your jurisdiction maintains the following staff members within its current personnel resources by placing an "X" in the appropriate box. Then, if YES, please identify the department or agency they work under and provide any other comments you may have in the space provided or with attachments.

Staff/Personnel Resources	Yes	No	Department/Agency	Comments
Planners (with land use / land development knowledge)	X			
Planners or engineers (with natural and/or human caused hazards knowledge)	X			
Engineers or professionals trained in building and/or infrastructure construction practices (includes building inspectors)	X			
Emergency Manager	X			
NFIP Floodplain Administrator	X			
Land Surveyors	X			
Scientists or staff familiar with the hazards of the community	X			
Personnel skilled in Geographic Information Systems (GIS) and/or FEMA's HAZUS program	X			
Grant writers or fiscal staff to handle large/complex grants	X			
Staff with expertise or training in Benefit-Cost Analysis	X			
Other				

Capability Assessment Survey

Jurisdiction: Municipality of Murrysville

Point of Contact Name and Title: Jim Morrison

Phone: 724-327-2100 x106

Email: jmorrison@murrysville.com

1. **Planning and Regulatory Capability:** Please indicate whether the following planning or regulatory tools and programs are currently in place or under development for your jurisdiction by placing an "X" in the appropriate box, followed by the date of adoption/update. Then, for each particular item in place, identify the department or agency responsible for its implementation and indicate it's estimated or anticipated effect on hazard loss reduction (Supports, Neutral or Hinders) with the appropriate symbol and also indicate if there has been a change in the ability of the tool/program to result in loss reduction. Finally, please provide additional comments or explanations in the space provided.

Tool / Program	Status			Dept./Agency Responsible	Comments
	In Place	Date Adopted or Updated	Under Develop-ment		
EXAMPLE: Hazard Mitigation Plan	*X*	*1/1/2008*		*Hazard County EMA*	*Interim update in 2008 revised mitigation strategy; completed one action.*
Hazard Mitigation Plan	X				
Emergency Operations Plan	X				
Disaster Recovery Plan					
Evacuation Plan	X				
Continuity of Operations Plan					
NFIP	X				
NFIP – Community Rating System	X				
Floodplain Regulations (spec. NFIP Flood Damage Prevention Ordinance)	X				
Floodplain Management Plan	X				
Zoning Regulations	X				

5. **Self-Assessment of Capability:** Please provide an approximate measure of your jurisdiction's capability to effectively implement hazard mitigation strategies to reduce hazard vulnerabilities. Using the following table, please place an "X" in the box marking the most appropriate degree of capability (Limited, Moderate or High) based upon best available information and the responses provided in Sections 1-5 of this survey. For multi-jurisdictional plans, record the results of this section into the Self-Assessment Capability Matrix in **Section 5**.

Area	Degree of Capability		
	Limited	Moderate	High
Planning and Regulatory Capability			X
Administrative and Technical Capability			X
Financial Capability			X
Education and Outreach			X

3. **Financial Capability:** Please indicate whether your jurisdiction has access to or is eligible to use the following local financial resources ***for hazard mitigation purposes*** (including as match funds for State of Federal mitigation grant funds). Then, identify the primary department or agency responsible for its administration or allocation and provide any other comments you may have in the space provided or with attachments.

Financial Resources	Yes	No	Department/Agency	Comments
Capital Improvement Programming	X			
Community Development Block Grants (CDBG)	X			
Special Purpose Taxes	X			
Gas / Electric Utility Fees	X			
Water / Sewer Fees	X			
Stormwater Utility Fees	X			
Development Impact Fees	X			
General Obligation, Revenue, and/or Special Tax Bonds	X			
Partnering Arrangements or Intergovernmental Agreements	X			
Other				

NATIONAL FLOOD INSURANCE PROGRAM (NFIP) SURVEY

MUNICIPALITY: MUNICIPALITY OF MURRYSVILLE

1. FLOODPLAIN IDENTIFICATION AND MAPPING			
Requirement	*Recommended Action*	*Yes/No*	*Comments*
a. Does the municipality maintain accessible copies of an effective Flood Insurance Rate Map (FIRM)/Digital Flood Insurance Rate Map (DFIRM)? Does the municipality maintain accessible copies of the most recent Flood Insurance Study (FIS)?	Place these documents in the local libraries or make available publicly.	YES	
b. Has the municipality adopted the most current DFIRM/FIRM and FIS?	State the date of adoption, if approved.	YES	
c. Does the municipality support request for map updates?	If yes, state how.		
d. Does the municipality share with Federal Emergency Management Agency (FEMA) any new technical or scientific data that could result in map revisions within 6 months of creation or identification of new data?	If yes, specify how.	NO	
e. Does the municipality provide assistance with local floodplain determinations?	If yes, specify how.	YES	
f. Does the municipality maintain a record of approved Letters of Map Change?	If yes, specify the responsible office.	YES	

4. **Education and Outreach:** Identify education and outreach programs and methods already in place that could be used to implement mitigation activities and communicate hazard-related information. Then, identify the primary department or agency responsible for its administration or allocation and provide any other comments you may have in the space provided or with attachments.

Program/Organization	Yes	No	Department/Agency	Comments
Firewise Communities Certification		X		
StormReady certification		X		
Natural disaster or safety related school programs	X			
Ongoing public education or information program (e.g. responsible water use, fire safety, household preparedness, environmental education)	X			
Public-private partnership initiatives addressing disaster-related issues				
Local citizen groups or nonprofit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.	X			
Other				

Mitigation Strategy 5-Year Mitigation Plan Review

Name: Charles J. TAPPE **Title:** Emerg. Mgmt Coor. **Jurisdiction:** Municipality of Murrysville

Purpose: To fulfill requirement that plan maintenance from previous plan has been completed and to obtain early feedback from the planning team to incorporate into the update process.

Instructions: Complete the *Goal and Objective Review Worksheet* and *Mitigation Action Plan Review Worksheet* on the next pages keeping the following questions in mind:

- Do the goals, objectives, and actions address current and expected conditions?
- Go through each goal and objective to determine: Should goal be carried forward into updated plan? Should goal be changed based on current conditions in community? Should goal be discontinued and if so why?
- Progress on actions should be noted. For each action the following questions should be answered: What is status? What progress has been made? Should action be continued in updated plan? Should action be discontinued and if so why?
- Has the nature or magnitude of hazard risk changed?
- Are current resources adequate to implement the Plan?
- Should additional local resources be committed to address identified hazard threats?
- Are there any issues that have limited the current implementation schedule?
- Have the implementation of identified mitigation actions resulted in expected outcomes?
- Has the Mitigation Planning Committee measured the effectiveness of completed hazard mitigation projects in terms of specific dollar losses avoided?
- Did the jurisdictions, agencies and other partners participate in the plan implementation process as proposed?
- Other?

Before completing the worksheets, the group may wish to discuss the above questions in a round robin format, using a flip chart. The questions are standard questions; however it is important to check the existing hazard mitigation plan maintenance section to see if there are additional questions that need to be considered.

Goal and Objective Review Worksheet

Instructions: Write each goal and objective identified in the existing hazard mitigation plan. Use the comment boxes to provide feedback or to suggest modification of any of the proposed goals or objectives. You may suggest additional objectives below each goal, or new goals and objectives on the last page of this exercise.

	Existing Goals and Objectives	Comments
Goal 1	**To minimize the risk to human life associated with natural and non-natural hazards.**	
Goal 2	**To promote hazard avoidance, especially in floodplains, by removing high-risk and repetitive loss structures, and by issuing building restrictions on future development.**	
Goal 3	**To reduce the damage from natural and non-natural hazards to existing and future public and private assets including structures, critical facilities, and infrastructure.**	

2. FLOODPLAIN MANAGEMENT

Requirement	Recommended Action	Yes/No	Comments
a. Has the municipality adopted a compliant floodplain management ordinance that, at a minimum, regulates the following:	If yes, answer questions (1) through (4) below.	YES	
(1) Does the municipality issue permits for all proposed development in the Special Flood Hazard Areas (SFHAs)?	If yes, specify the office responsible.		
(2) Does the municipality obtain, review, and utilize any Base Flood Elevation (BFE) and floodway data, and/or require BFE data for subdivision proposals and other development proposals larger than 50 lots or 5 acres?	If yes, specify the office responsible.	YES	
(3) Does the municipality identify measures to keep all new and substantially improved construction reasonably safe from flooding to or above the BFE, including anchoring, using flood-resistant materials, and designing or locating utilities and service facilities to prevent water damage?	If yes, specify the office responsible.		
(4) Does the municipality document and maintain records of elevation data that document lowest floor elevation for new or substantially improved structures?	If yes, specify the office responsible.	YES	
b. If a compliant floodplain ordinance was adopted, does the municipality enforce the ordinance by monitoring compliance and taking remedial action to correct violations?	If yes, specify how.	YES	

2. FLOODPLAIN MANAGEMENT

Requirement	Recommended Action	Yes/No	Comments
c. Has the municipality considered adopting activities that extend beyond the minimum requirements? Examples include: • Participation in the Community Rating System • Prohibition of production or storage of chemicals in SFHA • Prohibition of certain types of structures, such as hospitals, nursing homes, and jails in SFHA • Prohibition of certain types of residential housing (manufactured homes) in SFHA • Floodplain ordinances that prohibit any new residential or nonresidential structures in SFHA	If yes, specify activities.		

3. FLOOD INSURANCE

Requirement	Recommended Action	Yes/No	Comments
a. Does the municipality educate community members about the availability and value of flood insurance?	If yes, specify how.	NO	
b. Does the municipality inform community property owners about changes to the DFIRM/FIRM that would impact their insurance rates?	If yes, specify how.	NO	
c. Does the municipality provide general assistance to community members regarding insurance issues?	If yes, specify how.	YES	

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress/ Not Yet Complete	Continuous	Completed	Discontinued	
10. Unity Township - Construct and install a new culvert in Lloydsville to enhance hydraulic capacity.						
11. Unity Township - Install a stormwater detention system in Lawson Heights.						
12. Allegheny Township - Replace and enhance stormwater runoff pipes in Moreland Manor.						
13. St. Clair Township - Reconstruction of Bridge River Hill Bridge.						
14. St. Clair Township - Reconstruction of Bridge Sugar Run Road.						
15. Fairfield Township - Reconstruction of Patterson Bridge.						
16. Sewickley Township - Install storm water drainage system along Pinewood Road.						
17. Sewickley Township - Procure a skid loader/grab attachment for storm clean up and culvert clean out.						
18. Sewickley Township - Procure remote receive sites to enhance communications.						
19. Sewickley Township - Procure sweeper truck for stormwater management.						
20. Sewickley Township - Procure and install a back-up generator into Hutchinson VFD Station 85.						

	Existing Goals and Objectives	Comments
Goal 4	To protect and restore existing natural resources including wetlands, floodplains, and riparian buffers.	
Goal 5	To develop, prioritize and implement cost-effective, long-term actions that will reduce the impacts of natural and non-natural hazards.	
Goal 6	To enhance planning and emergency response efforts among local, county, state, and federal, emergency management personnel to protect public health and safety.	
Goal 7	To promote public awareness on the potential impacts of natural and non-natural hazards, and actions to reduce those impacts.	

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress/ Not Yet Complete	Continuous	Completed	Discontinued	
21. Sewickley Township - Procure and install a back-up generator into Lowber VFD Station 16.						
22. Sewickley Township - Procure and install a back-up generator into Rillton VFD Station 14.						
23. Sewickley Township - Procure skid steer attachment to clear debris around culverts.						
24. Fairfield Township - Develop and implement an action plan to mitigation recurring flooding on Creek Road.						
25. Upper Burrell Township - Procure and install an emergency generator.						
26. County and all municipalities - Retrofit structures located in hazard-prone areas to protect structures from future damage, with repetitive loss and severe repetitive loss properties as priority. Phase 1: Identify appropriate candidates for retrofitting based on cost-effectiveness versus relocation. Phase 2: Where retrofitting is determined a viable option, work with property owners toward implementation based on available funding from FEMA and local match availability.						

Mitigation Action Plan Review Worksheet

Instructions: List each mitigation action from the existing hazard mitigation plan and identify its status as "No Progress / Unknown," "In Progress / Not Yet Complete," "Continuous," "Completed," or "Discontinued." Include review comments for each action.

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress/ Not Yet Complete	Continuous	Completed	Discontinued	
1. Mt. Pleasant Borough - Install additional stormwater runoff pipes and upgrade/replace existing deteriorated pipes.						
2. Hunker Borough - Procure and install a back-up generator into Hunker Borough EOC.						
3. Hunker Borough - Procure and install air conditioning units into community building / community shelter.						
4. Hunker Borough - Retrofit community building to prevent flooding in basement.						
5. Hunker Borough - Pave Bellson Street in Hunker Borough. Install proper drainage to prevent flooding.						
6. Hunker Borough - Implement the redirection of the stormwater catch basin at the intersection of Walnut and Bridge St.						
7. Hunker Borough - Demolition of abandoned home.						
8. Hunker Borough - Install sub-flooring to prevent roadway along Locust St. from sinking.						
9. Hunker Borough - Retrofit Walnut St. Bridge to prevention erosion.						

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress/ Not Yet Complete	Continuous	Completed	Discontinued	
27. County and all municipalities - Purchase, or relocate structures located in hazard-prone areas to protect structures from future damage, with repetitive loss and severe repetitive loss properties as priority. Phase 1: Identify appropriate candidates for relocation based on cost-effectiveness versus retrofitting. Phase 2: Where relocation is determined a viable option, work with property owners toward implementation based on available funding from FEMA and local match availability.						Not Applicable
28. All Municipalities - Maintain compliance with and be in 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.			✓			*Has this activity been Integrated into the municipality's normal operations?*
29. All Municipalities - Begin the process to adopt higher regulatory standards to manage flood risk (i.e. increased freeboard, cumulative substantial damage/improvements) and sinkhole risk (e.g. carbonate bedrock standards).			✓			
30. All Municipalities - Determine if a Community Assistance Visit (CAV) or Community Assistance Contact (CAC) is needed, and schedule if needed.			✓			

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress/ Not Yet Complete	Continuous	Completed	Discontinued	
37. County - Identify and develop agreements with entities that can provide support with FEMA/PEMA paperwork after disasters. Qualified damage assessment personnel should be available for post-disaster efforts, including damage assessment; FEMA/PEMA paperwork compilation, submittals, and record-keeping.			✓			*Has this activity been Integrated into the municipality's normal operations?*
38. County - Work with regional agencies (i.e. Region 13 and PEMA) to develop damage assessment capabilities at the local level through training programs, certification of qualified individuals (e.g. code officials, floodplain managers, engineers).			✓			
39. County and all municipalities - Partner with community groups such as local community organizations, including civic, business, town watch, faith-based, senior, special needs and tenant associations to promote emergency preparedness and mitigation efforts.			✓			*Has this activity been Integrated into the municipality's normal operations?*
40. County and all municipalities - Develop geospatial and analytical tools to support community engagement, policy reform, and county and regional planning efforts.			✓			*Has this activity been Integrated into the municipality's normal operations?*
41. County and all municipalities - Develop a hazard event GIS database to help county and local emergency managers with hazard mitigation and other planning initiatives.			✓			*Has this activity been Integrated into the municipality's normal operations?*

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress/ Not Yet Complete	Continuous	Completed	Discontinued	
31. All Municipalities - Have designated NFIP Floodplain Administrator (FPA) become a Certified Floodplain Manager through the ASFPM, and pursue relevant continuing education training such as FEMA Benefit-Cost Analysis.						
32. All Municipalities - Participate in the Community Rating System (CRS) to further manage flood risk and reduce flood insurance premiums for NFIP policyholders. This process starts by submitting to FEMA-DHS of Letter of Intent to join CRS, followed by completing and submitting an application to the program once the community's current compliance with the NFIP is established.						
33. County and all municipalities - Continue to support the implementation, monitoring, maintenance, and updating of this Plan, as defined in Section 7.0			✓			*Has this activity been Integrated into the municipality's normal operations?*
34. County and all municipalities - Complete the ongoing updates of the Comprehensive Plans						
35. County - Enhance the Westmoreland County Stormwater Management Plan by implementing Phase 2 of the plan.			✓			
36. County and all municipalities - Create/enhance/ maintain mutual aid agreements with neighboring counties / communities for continuity of operations.			✓			*Has this activity been Integrated into the municipality's normal operations?*

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress/ Not Yet Complete	Continuous	Completed	Discontinued	
42. County and all municipalities - Maintain and exercise continuity of government plan to enable the county government to provide critical services during an interruption of business.			✓			*Has this activity been Integrated into the municipality's normal operations?*
43. County and all municipalities - Implement seismic retrofits to vulnerable critical facilities.			✓			
44. All municipalities - Regulate development to reduce flood losses in vulnerable fluvial areas.			✓			*Has this activity been Integrated into the municipality's normal operations?*
45. County - Develop and maintain an outreach program to provide information and guidance to municipalities on their role in flood plain development.			✓			*Has this activity been Integrated into the municipality's normal operations?*
46. County and all municipalities - Support and utilize an advanced warning system that provides emergency text and email alerts to the public.			✓			*Has this activity been Integrated into the municipality's normal operations?*
47. County and all municipalities - Procure redundant power sources (portable generators).			✓			
48. County and all municipalities - Maintain redundant power sources			✓			*Has this activity been Integrated into the municipality's normal operations?*

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress/ Not Yet Complete	Continuous	Completed	Discontinued	
49. County and all municipalities - Develop and distribute educational information on hazards, emergency preparedness and fire prevention.			√			*Has this activity been integrated into the municipality's normal operations?*
50. County and all municipalities - Develop and distribute public outreach materials on water conservation.			√			*Has this activity been integrated into the municipality's normal operations?*

Jurisdiction Risk - City of Mount Kensington (Municipality)

Avalanche	1.0	<	
Dam Failure	1.3	√	
Drought	2.2	=	
Earthquake	1.9	=	
Environmental Hazards	2.9	=	
Extreme Temperatures	2.7	=	
Flood, Flash Flood, and Ice Jam	3.2	√	
Hailstorm	2.5	=	
Hurricane and Tropical Storm	2.1	=	
Illicit Drug Use	3.3	√	
Landslide	2.5	√	
Lightning	1.4	√	
Nuclear Incidents	1.9	=	
Radon Exposure	2.6	=	
Structural Fire	2.2	<	
Subsidence and Sinkholes	1.9	√	
Terrorism	2.8	=	
Tornado, Windstorm	3.0	=	
Transportation Accidents	2.2	√	
Utility Interruptions	3.0	√	
Wildfire	2.3	√	
Winter Storm	3.0	=	

> Your municipality's risk from this hazard is greater than the County's risk as a whole

< Your municipality's risk from this hazard is less than the County's risk as a whole

= Your municipality's risk from this hazard is about the same as the County's risk as a whole

Hazard Identification and Risk Evaluation Worksheet

Name: ANDREW W. BLENKO Title: PLANNING DIRECTOR

Jurisdiction: NORTH HUNTINGDON TWP.

PART I

Identified Hazards 2015 HMP	How has the frequency of occurrence, magnitude of impact, and/or geographic extent changed in your community? *NC = No Change; I = Increase; D = Decrease* *(Please provide an explanation for any hazards marked I or D in the "Additional Comments" column)*	Additional Comments
Natural Hazards		
Avalanche	NC	
Drought	NC	
Earthquake	NC	
Extreme Temperatures	NC	
Floods, Flash Floods, and Ice Jams	I	MORE FREQUENT, MORE INTENSE STORMS
Hailstorm	NC	
Hurricane	NC	
Landslide	I	DUE TO WET WEATHER
Lightning	NC	
Radon Exposure	NC	
Subsidence, Sinkhole	NC	
Tornado, Windstorm	NC	
Wildfire	NC	
Winter Storm	NC	

Identified Hazards 2015 HMP	How has the frequency of occurrence, magnitude of impact, and/or geographic extent changed in your community? *NC = No Change; I = Increase; D = Decrease* *(Please provide an explanation for any hazards marked I or D in the "Additional Comments" column)*	Additional Comments
Human-made Hazards		
Dam Failure	NC	
Environmental Hazards	NC	
Nuclear Incident	NC	
Structural Fire	NC	
Terrorism	NC	
Transportation Accident	NC	
Utility Interruption	NC	

Capability Assessment Survey

Jurisdiction: NORTH HUNTINGDON TWP. Point of Contact Name and Title: GENE KOMONDOR

Phone: 724-863-3806 Email: GENEK19@COMCAST.NET

1. **Planning and Regulatory Capability:** Please indicate whether the following planning or regulatory tools and programs are currently in place or under development for your jurisdiction by placing an "X" in the appropriate box, followed by the date of adoption/update. Then, for each particular item in place, identify the department or agency responsible for its implementation and indicate it's estimated or anticipated effect on hazard loss reduction (Supports, Neutral or Hinders) with the appropriate symbol and also indicate if there has been a change in the ability of the tool/program to result in loss reduction. Finally, please provide additional comments or explanations in the space provided.

Tool / Program	Status			Dept./Agency Responsible	Comments
	In Place	Date Adopted or Updated	Under Development		
[illegible]	X	1/1/2008		Hazard County EMA	Interim update in 2008 revised mitigation strategy, completed one action
Hazard Mitigation Plan					
Emergency Operations Plan					
Disaster Recovery Plan					
Evacuation Plan					
Continuity of Operations Plan					
NFIP	X	1978			
NFIP – Community Rating System	X	1978			
Floodplain Regulations (spec. NFIP Flood Damage Prevention Ordinance)	X	2/10/2011			
Floodplain Management Plan					
Zoning Regulations	X	2018			

Tool / Program	Status			Dept./Agency Responsible	Comments
	In Place	Date Adopted or Updated	Under Development		
Subdivision Regulations	X	2019		PLANNING + ZONING	
Comprehensive Land Use Plan (or General, Master or Growth Mgt. Plan)	X	2000		PLANNING + ZONING	
Open Space Management Plan (or Parks/Rec or Greenways Plan)					
Stormwater Management Plan / Ordinance	X	2004		PLANNING + ZONING	
Natural Resource Protection Plan					
Capital Improvement Plan	X	2018		ADMINISTRATION	
Economic Development Plan	X	2013		ADMINISTRATION	
Historic Preservation Plan					
Farmland Preservation					
Building Code	X	2015		PLANNING + ZONING	
Fire Code	X	2015		PLANNING + ZONING	
Other					

PART II

Other Hazards:

Do any of these hazards, not previously profiled in the County's hazard mitigation plan, have the potential to affect your municipality significantly? (If so, please check the box)

Natural

- ☐ Coastal Erosion
- ☐ Dust, Sand Storm
- ☐ Expansive Soils
- ☐ Invasive Species
- ☐ Pandemic
- ☐ Tsunami
- ☐ Volcano

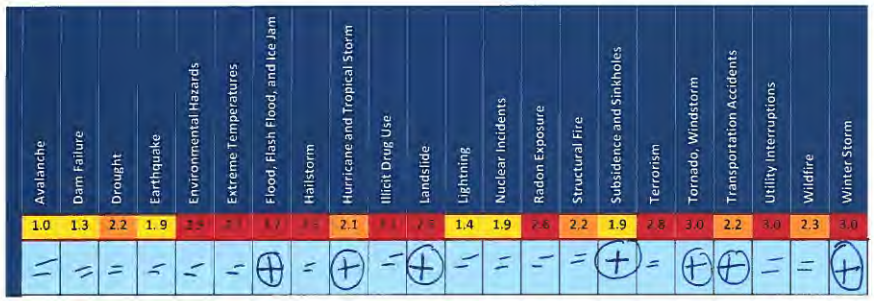
Human-Caused

- ☐ Building or Structure Collapse
- ☐ Civil Disturbance
- ☐ Disorientation
- ☐ Drowning
- ☐ Levee Failure
- ☐ Mass Food/Animal Feed Contamination
- ☐ War and Criminal Activity

Other Comments:

Westmoreland County Planning Team
Mitigation Solutions Workshop

Jurisdiction Risk - North Huntingdon Twp (Municipality)



> Your municipality's risk from this hazard is greater than the County's risk as a whole

< Your municipality's risk from this hazard is less than the County's risk as a whole

= Your municipality's risk from this hazard is about the same as the County's risk as a whole

4. **Education and Outreach:** Identify education and outreach programs and methods already in place that could be used to implement mitigation activities and communicate hazard-related information. Then, identify the primary department or agency responsible for its administration or allocation and provide any other comments you may have in the space provided or with attachments.

Program/Organization	Yes	No	Department/Agency	Comments
Firewise Communities Certification		X		
StormReady certification		X		
Natural disaster or safety related school programs				UNKNOWN
Ongoing public education or information program (e.g. responsible water use, fire safety, household preparedness, environmental education)		X		
Public-private partnership initiatives addressing disaster-related issues		X		
Local citizen groups or nonprofit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.		X		
Other				

2. **Administrative and Technical Capability:** Please indicate whether your jurisdiction maintains the following staff members within its current personnel resources by placing an "X" in the appropriate box. Then, if YES, please identify the department or agency they work under and provide any other comments you may have in the space provided or with attachments.

Staff/Personnel Resources	Yes	No	Department/Agency	Comments
Planners (with land use / land development knowledge)	X		PLANNING + ZONING	
Planners or engineers (with natural and/or human caused hazards knowledge)	X		PLANNING+ZONING	
Engineers or professionals trained in building and/or infrastructure construction practices (includes building inspectors)	X		PLANNING + ZONING	
Emergency Manager	X		ADMINISTRATION	
NFIP Floodplain Administrator	X			
Land Surveyors				
Scientists or staff familiar with the hazards of the community	X		PLANNING + ZONING	
Personnel skilled in Geographic Information Systems (GIS) and/or FEMA's HAZUS program	X		PLANNING + ZONING	
Grant writers or fiscal staff to handle large/complex grants				
Staff with expertise or training in Benefit-Cost Analysis	X		ADMINISTRATION	
Other				

5. **Self-Assessment of Capability:** Please provide an approximate measure of your jurisdiction's capability to effectively implement hazard mitigation strategies to reduce hazard vulnerabilities. Using the following table, please place an "**X**" in the box marking the most appropriate degree of capability (Limited, Moderate or High) based upon best available information and the responses provided in Sections 1-5 of this survey. For multi-jurisdictional plans, record the results of this section into the Self-Assessment Capability Matrix in **Section 5**.

Area	Degree of Capability		
	Limited	Moderate	High
Planning and Regulatory Capability		X	
Administrative and Technical Capability		X	
Financial Capability		X	
Education and Outreach		X	

3. **Financial Capability:** Please indicate whether your jurisdiction has access to or is eligible to use the following local financial resources ***for hazard mitigation purposes*** (including as match funds for State of Federal mitigation grant funds). Then, identify the primary department or agency responsible for its administration or allocation and provide any other comments you may have in the space provided or with attachments.

Financial Resources	Yes	No	Department/Agency	Comments
Capital Improvement Programming	X		ADMINISTRATION	
Community Development Block Grants (CDBG)	X		PLANNING + ZONING	
Special Purpose Taxes				UNKNOWN
Gas / Electric Utility Fees		X		
Water / Sewer Fees		X		
Stormwater Utility Fees		X		
Development Impact Fees		X		
General Obligation, Revenue, and/or Special Tax Bonds	X			
Partnering Arrangements or Intergovernmental Agreements	X			
Other				

2. FLOODPLAIN MANAGEMENT			
Requirement	*Recommended Action*	*Yes/No*	*Comments*
c. Has the municipality considered adopting activities that extend beyond the minimum requirements? Examples include: • Participation in the Community Rating System • Prohibition of production or storage of chemicals in SFHA • Prohibition of certain types of structures, such as hospitals, nursing homes, and jails in SFHA • Prohibition of certain types of residential housing (manufactured homes) in SFHA • Floodplain ordinances that prohibit any new residential or nonresidential structures in SFHA	If yes, specify activities.	NO	

3. FLOOD INSURANCE			
Requirement	*Recommended Action*	*Yes/No*	*Comments*
a. Does the municipality educate community members about the availability and value of flood insurance?	If yes, specify how.	NO	
b. Does the municipality inform community property owners about changes to the DFIRM/FIRM that would impact their insurance rates?	If yes, specify how.	YES	PUBLIC MEETING WHEN ADOPTING MAP REVISIONS
c. Does the municipality provide general assistance to community members regarding insurance issues?	If yes, specify how.	YES	MEET WITH PROPERTY OWNERS AS REQUESTED

NATIONAL FLOOD INSURANCE PROGRAM (NFIP) SURVEY

MUNICIPALITY: _____

1. FLOODPLAIN IDENTIFICATION AND MAPPING			
Requirement	*Recommended Action*	*Yes/No*	*Comments*
a. Does the municipality maintain accessible copies of an effective Flood Insurance Rate Map (FIRM)/Digital Flood Insurance Rate Map (DFIRM)? Does the municipality maintain accessible copies of the most recent Flood Insurance Study (FIS)?	Place these documents in the local libraries or make available publicly.	YES	- AVAILABLE AT TOWNSHIP BUILDING
b. Has the municipality adopted the most current DFIRM/FIRM and FIS?	State the date of adoption, if approved.	YES	2/16/2011
c. Does the municipality support request for map updates?	If yes, state how.	YES	- SIGN OF ON LOMR AND LOMAS
d. Does the municipality share with Federal Emergency Management Agency (FEMA) any new technical or scientific data that could result in map revisions within 6 months of creation or identification of new data?	If yes, specify how.	YES	- NO RECENT UPDATES
e. Does the municipality provide assistance with local floodplain determinations?	If yes, specify how.	YES	THROUGH GIS MAPPING
f. Does the municipality maintain a record of approved Letters of Map Change?	If yes, specify the responsible office.	YES	PLANNING + ZONING

Mitigation Strategy 5-Year Mitigation Plan Review

Name: ANDREW W. BLEIMO **Title:** PLANNING DIRECTOR **Jurisdiction:** NORTH HUNTINGDON TWP.

Purpose: To fulfill requirement that plan maintenance from previous plan has been completed and to obtain early feedback from the planning team to incorporate into the update process.

Instructions: Complete the *Goal and Objective Review Worksheet* and *Mitigation Action Plan Review Worksheet* on the next pages keeping the following questions in mind:

- Do the goals, objectives, and actions address current and expected conditions?
- Go through each goal and objective to determine: Should goal be carried forward into updated plan? Should goal be changed based on current conditions in community? Should goal be discontinued and if so why?
- Progress on actions should be noted. For each action the following questions should be answered: What is status? What progress has been made? Should action be continued in updated plan? Should action be discontinued and if so why?
- Has the nature or magnitude of hazard risk changed?
- Are current resources adequate to implement the Plan?
- Should additional local resources be committed to address identified hazard threats?
- Are there any issues that have limited the current implementation schedule?
- Have the implementation of identified mitigation actions resulted in expected outcomes?
- Has the Mitigation Planning Committee measured the effectiveness of completed hazard mitigation projects in terms of specific dollar losses avoided?
- Did the jurisdictions, agencies and other partners participate in the plan implementation process as proposed?
- Other?

Before completing the worksheets, the group may wish to discuss the above questions in a round robin format, using a flip chart. The questions are standard questions; however it is important to check the existing hazard mitigation plan maintenance section to see if there are additional questions that need to be considered.

2. FLOODPLAIN MANAGEMENT			
Requirement	*Recommended Action*	*Yes/No*	*Comments*
a. Has the municipality adopted a compliant floodplain management ordinance that, at a minimum, regulates the following:	If yes, answer questions (1) through (4) below.	YES	
(1) Does the municipality issue permits for all proposed development in the Special Flood Hazard Areas (SFHAs)?	If yes, specify the office responsible.	YES	PLANNING + ZONING
(2) Does the municipality obtain, review, and utilize any Base Flood Elevation (BFE) and floodway data, and/or require BFE data for subdivision proposals and other development proposals larger than 50 lots or 5 acres?	If yes, specify the office responsible.	YES	PLANNING + ZONING
(3) Does the municipality identify measures to keep all new and substantially improved construction reasonably safe from flooding to or above the BFE, including anchoring, using flood-resistant materials, and designing or locating utilities and service facilities to prevent water damage?	If yes, specify the office responsible.	YES	PLANNING + ZONING
(4) Does the municipality document and maintain records of elevation data that document lowest floor elevation for new or substantially improved structures?	If yes, specify the office responsible.	YES	PLANNING + ZONING
b. If a compliant floodplain ordinance was adopted, does the municipality enforce the ordinance by monitoring compliance and taking remedial action to correct violations?	If yes, specify how.	YES	THROUGH BLDG PERMIT PROCESS

Suggested Additional Goals and/or Objectives		Comments
Goal		
Objective		
Objective		
Objective		

Goal		
Objective		
Objective		
Objective		

Goal		
Objective		
Objective		
Objective		

Goal and Objective Review Worksheet

Instructions: Write each goal and objective identified in the existing hazard mitigation plan. Use the comment boxes to provide feedback or to suggest modification of any of the proposed goals or objectives. You may suggest additional objectives below each goal, or new goals and objectives on the last page of this exercise.

	Existing Goals and Objectives	Comments
Goal 1	To minimize the risk to human life associated with natural and non-natural hazards.	
Goal 2	To promote hazard avoidance, especially in floodplains, by removing high-risk and repetitive loss structures, and by issuing building restrictions on future development.	
Goal 3	To reduce the damage from natural and non-natural hazards to existing and future public and private assets including structures, critical facilities, and infrastructure.	

Mitigation Action Plan Review Worksheet

Instructions: List each mitigation action from the existing hazard mitigation plan and identify its status as "No Progress / Unknown," "In Progress / Not Yet Complete," "Continuous," "Completed," or "Discontinued." Include review comments for each action.

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress/ Not Yet Complete	Continuous	Completed	Discontinued	
1. Mt. Pleasant Borough - Install additional stormwater runoff pipes and upgrade/replace existing deteriorated pipes.						
2. Hunker Borough - Procure and install a back-up generator into Hunker Borough EOC.						
3. Hunker Borough - Procure and install air conditioning units into community building / community shelter.						
4. Hunker Borough - Retrofit community building to prevent flooding in basement.						
5. Hunker Borough - Pave Bellson Street in Hunker Borough. Install proper drainage to prevent flooding.						
6. Hunker Borough - Implement the redirection of the stormwater catch basin at the intersection of Walnut and Bridge St.						
7. Hunker Borough – Demolition of abandoned home.						
8. Hunker Borough - Install sub-flooring to prevent roadway along Locust St. from sinking.						
9. Hunker Borough – Retrofit Walnut St. Bridge to prevention erosion.						

	Existing Goals and Objectives	Comments
Goal 4	To protect and restore existing natural resources including wetlands, floodplains, and riparian buffers.	
Goal 5	To develop, prioritize and implement cost-effective, long-term actions that will reduce the impacts of natural and non-natural hazards.	
Goal 6	To enhance planning and emergency response efforts among local, county, state, and federal, emergency management personnel to protect public health and safety.	
Goal 7	To promote public awareness on the potential impacts of natural and non-natural hazards, and actions to reduce those impacts.	

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress/ Not Yet Complete	Continuous	Completed	Discontinued	
27. County and all municipalities - Purchase, or relocate structures located in hazard-prone areas to protect structures from future damage, with repetitive loss and severe repetitive loss properties as priority. Phase 1: Identify appropriate candidates for relocation based on cost-effectiveness versus retrofitting. Phase 2: Where relocation is determined a viable option, work with property owners toward implementation based on available funding from FEMA and local match availability.						
28. All Municipalities - Maintain compliance with and be in 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.						*Has this activity been Integrated into the municipality's normal operations?*
29. All Municipalities - Begin the process to adopt higher regulatory standards to manage flood risk (i.e. increased freeboard, cumulative substantial damage/improvements) and sinkhole risk (e.g. carbonate bedrock standards).						
30. All Municipalities - Determine if a Community Assistance Visit (CAV) or Community Assistance Contact (CAC) is needed, and schedule if needed.						

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress/ Not Yet Complete	Continuous	Completed	Discontinued	
10. Unity Township - Construct and install a new culvert in Loydsville to enhance hydraulic capacity.						
11. Unity Township - Install a stormwater detention system in Lawson Heights.						
12. Allegheny Township - Replace and enhance stormwater runoff pipes in Moreland Manor.						
13. St. Clair Township - Reconstruction of Bridge River Hill Bridge						
14. St. Clair Township - Reconstruction of Bridge Sugar Run Road.						
15. Fairfield Township - Reconstruction of Patterson Bridge.						
16. Sewickley Township - Install storm water drainage system along Pinewood Road.						
17. Sewickley Township - Procure a skid loader/grab attachment for storm clean up and culvert clean out.						
18. Sewickley Township - Procure remote receive sites to enhance communications.						
19. Sewickley Township - Procure sweeper truck for stormwater management.						
20. Sewickley Township - Procure and install a back-up generator into Hutchinson VFD Station 85.						

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress/ Not Yet Complete	Continuous	Completed	Discontinued	
31. All Municipalities - Have designated NFIP Floodplain Administrator (FPA) become a Certified Floodplain Manager through the ASFPM, and pursue relevant continuing education training such as FEMA Benefit-Cost Analysis.						
32. All Municipalities - Participate in the Community Rating System (CRS) to further manage flood risk and reduce flood insurance premiums for NFIP policyholders. This process starts by submitting to FEMA-DHS of Letter of Intent to join CRS, followed by completing and submitting an application to the program once the community's current compliance with the NFIP is established.						
33. County and all municipalities - Continue to support the implementation, monitoring, maintenance, and updating of this Plan, as defined in Section 7.0.						*Has this activity been Integrated into the municipality's normal operations?*
34. County and all municipalities - Complete the ongoing updates of the Comprehensive Plans.						
35. County - Enhance the Westmoreland County Stormwater Management Plan by implementing Phase 2 of the plan.						
36. County and all municipalities - Create/enhance/ maintain mutual aid agreements with neighboring counties / communities for continuity of operations.						*Has this activity been Integrated into the municipality's normal operations?*

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress/ Not Yet Complete	Continuous	Completed	Discontinued	
21. Sewickley Township - Procure and install a back-up generator into Lowber VFD Station 16.						
22. Sewickley Township - Procure and install a back-up generator into Rillton VFD Station 14.						
23. Sewickley Township - Procure skid steer attachment to clear debris around culverts.						
24. Fairfield Township - Develop and implement an action plan to mitigation recurring flooding on Creek Road.						
25. Upper Burrell Township - Procure and install an emergency generator.						
26. County and all municipalities - Retrofit structures located in hazard-prone areas to protect structures from future damage, with repetitive loss and severe repetitive loss properties as priority. Phase 1: Identify appropriate candidates for retrofitting based on cost-effectiveness versus relocation. Phase 2: Where retrofitting is determined a viable option, work with property owners toward implementation based on available funding from FEMA and local match availability.						

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress/ Not Yet Complete	Continuous	Completed	Discontinued	
37. County - Identify and develop agreements with entities that can provide support with FEMA/PEMA paperwork after disasters. Qualified damage assessment personnel should be available for post-disaster efforts, including damage assessment; FEMA/PEMA paperwork compilation, submittals, and record keeping.						*Has this activity been Integrated into the municipality's normal operations?*
38. County - Work with regional agencies (i.e. Region 13 and PEMA) to develop damage assessment capabilities at the local level through training programs, certification of qualified individuals (e.g. code officials, floodplain managers, engineers).						
39. County and all municipalities - Partner with community groups such as local community organizations, including civic, business, town watch, faith-based, senior, special needs and tenant associations to promote emergency preparedness and mitigation efforts.						*Has this activity been Integrated into the municipality's normal operations?*
40. County and all municipalities - Develop geospatial and analytical tools to support community engagement, policy reform, and county and regional planning efforts.						*Has this activity been Integrated into the municipality's normal operations?*
41. County and all municipalities - Develop a hazard event GIS database to help county and local emergency managers with hazard mitigation and other planning initiatives.						*Has this activity been Integrated into the municipality's normal operations?*

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress/ Not Yet Complete	Continuous	Completed	Discontinued	
42. County and all municipalities - Maintain and exercise continuity of government plan to enable the county government to provide critical services during an interruption of business.						*Has this activity been Integrated into the municipality's normal operations?*
43. County and all municipalities - Implement seismic retrofits to vulnerable critical facilities.						
44. All municipalities - Regulate development to reduce flood losses in vulnerable fluvial areas.						*Has this activity been Integrated into the municipality's normal operations?*
45. County - Develop and maintain an outreach program to provide information and guidance to municipalities on their role in flood plain development.						*Has this activity been Integrated into the municipality's normal operations?*
46. County and all municipalities - Support and utilize an advanced warning system that provides emergency text and email alerts to the public.						*Has this activity been Integrated into the municipality's normal operations?*
47. County and all municipalities - Procure redundant power sources (portable generators).						
48. County and all municipalities - Maintain redundant power sources						*Has this activity been Integrated into the municipality's normal operations?*

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress/ Not Yet Complete	Continuous	Completed	Discontinued	
49. County and all municipalities - Develop and distribute educational information on hazards, emergency preparedness and fire prevention.						*Has this activity been Integrated into the municipality's normal operations?*
50. County and all municipalities - Develop and distribute public outreach materials on water conservation.						*Has this activity been Integrated into the municipality's normal operations?*

Hazard Identification and Risk Evaluation Worksheet

Name: ___Adam Lockhart_____ Title: ___LEMC_____

Jurisdiction: _____Oklahoma Boro_____

PART I

Identified Hazards 2015 HMP	How has the frequency of occurrence, magnitude of impact, and/or geographic extent changed in your community? *NC = No Change; I = Increase; D = Decrease (Please provide an explanation for any hazards marked I or D in the "Additional Comments" column)*	Additional Comments
Natural Hazards		
Avalanche	NC	
Drought	NC	
Earthquake	NC	
Extreme Temperatures	NC	
Floods, Flash Floods, and Ice Jams	NC	
Hailstorm	NC	
Hurricane	NC	
Landslide	D	Recently did hill stabilization work
Lightning	NC	
Radon Exposure	NC	
Subsidence, Sinkhole	NC	
Tornado, Windstorm	NC	
Wildfire	NC	
Winter Storm	NC	
Human-made Hazards		
Dam Failure	NC	
Environmental Hazards	NC	
Nuclear Incident	NC	
Structural Fire	NC	
Terrorism	NC	
Transportation Accident	NC	
Utility Interruption	NC	

PART II

Other Hazards:

Do any of these hazards, not previously profiled in the County's hazard mitigation plan; have the potential to affect your municipality significantly? (If so, please check the box)

Natural

- ☐ Coastal Erosion
- ☐ Dust, Sand Storm
- ☐ Expansive Soils
- ☐ Invasive Species
- ☐ Pandemic
- ☐ Tsunami
- ☐ Volcano

Human-Caused

- ☐ Building or Structure Collapse
- ☐ Civil Disturbance
- ☐ Disorientation
- ☐ Drowning
- ☐ Levee Failure
- ☐ Mass Food/Animal Feed Contamination
- ☐ War and Criminal Activity

Other Comments:

Hazard Identification and Risk Evaluation Worksheet

Name: Alexander J. Graziani Title: Secretary – Manager

Jurisdiction: Penn Township alexgraziani@penntwp.org

PART I

Identified Hazards 2015 HMP	How has the frequency of occurrence, magnitude of impact, and/or geographic extent changed in your community? *NC = No Change; I = Increase; D = Decrease* *(Please provide an explanation for any hazards marked I or D in the "Additional Comments" column)*	Additional Comments
Natural Hazards		
Avalanche	NC	
Drought	D	
Earthquake	NC	
Extreme Temperatures	NC	
Floods, Flash Floods, and Ice Jams	I	Overwhelms stormwater systems
Hailstorm	NC	
Hurricane	NC	
Landslide	I	Roadways and property damage
Lightning	NC	
Radon Exposure	NC	
Subsidence, Sinkhole	I	Related to increased stormwater issues
Tornado, Windstorm	NC	
Wildfire	NC	
Winter Storm	I	More Frequent

Identified Hazards 2015 HMP	How has the frequency of occurrence, magnitude of impact, and/or geographic extent changed in your community? *NC = No Change; I = Increase; D = Decrease* *(Please provide an explanation for any hazards marked I or D in the "Additional Comments" column)*	Additional Comments
Human-made Hazards		
Dam Failure	NC	
Environmental Hazards	I	Unconventional Gas Drilling Pipelines
Nuclear Incident	NC	
Structural Fire	NC	
Terrorism	NC	
Transportation Accident	I	
Utility Interruption	I	

PART II

Other Hazards:

Do any of these hazards, not previously profiled in the County's hazard mitigation plan; have the potential to affect your municipality significantly? (If so, please check the box)

Natural

- ☐ Coastal Erosion
- ☐ Dust, Sand Storm
- ☐ Expansive Soils
- ☒ Invasive Species
- ☐ Pandemic
- ☐ Tsunami
- ☐ Volcano

Human-Caused

- ☒ Building or Structure Collapse
- ☐ Civil Disturbance
- ☐ Disorientation
- ☐ Drowning
- ☐ Levee Failure
- ☐ Mass Food/Animal Feed Contamination
- ☐ War and Criminal Activity

Other Comments:

Aging infrastructure – outlived useful life expectancy

Tool / Program	Status: In Place	Status: Date Adopted or Updated	Status: Under Development	Dept./Agency Responsible	Comments
Floodplain Management Plan	X			Township Community Development	
Zoning Regulations	X			Township Community Development	
Subdivision Regulations	X			Township Community Development	
Comprehensive Land Use Plan (a General Master or Growth Plan)	X			Township Community Development	
Open Space Management Plan or Trail/Recreation Greenways Plan	X			Township Commissioners and Recreation Board	
Stormwater Management Plan / Ordinance	X			Township Community Development	
Natural Resource Protection Plan					
Capital Improvement Plan			X	Township Commissioners	
Economic Development Plan			X	Township Community Development	
Historic Preservation Plan					
Farmland Preservation					
Building Code	X				
Fire Code					
Other					

Gas Fuel Pipelines / Transmission Line
Oakford Underground Gas Storage

Oct 30 2014

Westmoreland County Planning Team
Mitigation Solutions Workshop

Jurisdiction Risk - Penn Township (Municipality)

Alex Graziani alexgraziani@pentwp.org

County Wide Hydro? Mine Subsidence.

Avalanche	Dam Failure	Drought	Earthquake	Environmental Hazards	Extreme Temperatures	Flood, Flash Flood, and Ice Jam	Hailstorm	Hurricane and Tropical Storm	Illicit Drug Use	Landslide	Lightning	Nuclear Incidents	Radon Exposure	Structural Fire	Subsidence and Sinkholes	Terrorism	Tornado, Windstorm	Transportation Accidents	Utility Interruptions	Wildfire	Winter Storm
1.0	1.3	2.2	1.9					2.1			1.4	1.9	1.6	2.2	1.9	2.8	3.0	2.2	3.0	2.3	3.0
< Less than	> Greater than	=	=	> Greater than	=	= Big Deal	=	=	= Active Local Police	> Greater than	=	> Great	-	< Less Than	> Great	=	=	> Great	> Great	=	=

Local Expectancy of Drivers are that the Roads be Cleared

Ball Run Dam
Berlin Dam

PA Turnpike ??
Rail Line

≥ Your municipality's risk from this hazard is greater than the County's risk as a whole

≤ Your municipality's risk from this hazard is less than the County's risk as a whole

= Your municipality's risk from this hazard is about the same as the County's risk as a whole

Roadway Landslides - Painter town Road SR 4029
Sleepy Hollow Rd = TWP Road
Spring Valley Road - TWP Road

2. **Administrative and Technical Capability.** Please indicate whether your jurisdiction maintains the following staff members within its current personnel resources by placing an "X" in the appropriate box. Then, if YES, please identify the department or agency they work under and provide any other comments you may have in the space provided or with attachments.

Staff/Personnel Resources	Yes	No	Department/Agency	Comments
Planner(s) with land use / land development knowledge	YES		Township Community Development	Township Engineer
Planner or engineer with natural and/or human caused hazards knowledge	YES		Township Community Development	Township Engineer
Engineer or professionals trained in building and/or infrastructure construction practices (including building codes)	YES		Township Community Development	Township Engineer
Emergency Manager	YES		EMA	
NFIP Floodplain Administrator	YES		Township Community Development	Township Engineer
Land Surveyor	YES			Township Engineer
Scientists or staff familiar with the hazards of the community	YES		Township Community Development	Township Engineer
Personnel skilled in Geographic Information Systems (GIS) and/or FEMA's HAZUS program	YES		Township Community Development	Township Engineer
Grant writer or local staff to handle grant programs	YES		Finance Director / Secretary-Manager	
Staff with expertise or training in Benefit-Cost Analysis	YES		Finance Director / Secretary-Manager	Township Engineer
Other				

Capability Assessment Survey

Jurisdiction: Penn Township Point of Contact Name and Title: Alexander J. Graziani, Secretary – Manager

Phone: (724)744-7171 E-Mail: [redacted]

1. **Planning and Regulatory Capability.** Please indicate whether the following planning or regulatory tools and programs are currently in place or under development for your jurisdiction by placing an "X" in the appropriate box, followed by the date of adoption/update. Then, for each particular item in place, identify the department or agency responsible for its implementation and indicate it's estimated or anticipated effect on hazard loss reduction (Superior, Neutral or Hinders) with the appropriate symbol and also indicate if there has been a change in the ability of the tool/program to result in loss reduction. Finally, please provide additional comments or explanations in the space provided.

Tool / Program	Status: In Place	Status: Date Adopted or Updated	Status: Under Development	Dept./Agency Responsible	Comments
[illegible]	[illegible]	[illegible]	[illegible]	ard County EMA	Interim update in 2008 revised mitigation strategy; completed one action.
Hazard Mitigation Plan			X		
Emergency Operations Plan	X	[illegible]		Township EMA	
Disaster Recovery Plan			X		
Evacuation Plan			X		
Continuity of Operations Plan			X		
NFIP	X			Township Community Development	
NFIP – Community Rating System	X			Township Community Development	
Floodplain Regulations (exceeding NFIP Flood Damage Prevention Ordinance)	X			Township Community Development	

3. **Financial Capability:** Please indicate whether your jurisdiction has access to or is eligible to use the following local financial resources ***for hazard mitigation purposes*** (including as match funds for State or Federal mitigation grant funds). Then, identify the primary department or agency responsible for its administration or allocation and provide any other comments you may have in the space provided or with attachments.

Financial Resources	Yes	No	Department/Agency	Comments
Capital Improvement Programming	YES		Finance Director / Secretary-Manager	Township Commissioners & Department Heads
Community Development Block Grants (CDBG)	YES		Township Community Development Township Engineer	
Special Purpose Taxes	YES		Tax Collector / Finance Director	Volunteer Fire Tax
Gas / Electric Utility Fees		NO		
Water / Sewer Fees		NO		
Stormwater Utility Fees		NO		
Development Impact Fees	YES		Township Community Development Township Engineer	FOR RECREATION
General Obligation, Revenue, and/or Special Tax Bonds		NO		
Partnering Arrangements or Intergovernmental Agreements	YES		Township Commissioners Community Development Police Dertment	With Westmoreland Conservation District for development reviews
Other				

4. **Education and Outreach:** Identify education and outreach programs and methods already in place that could be used to implement mitigation activities and communicate hazard-related information. Then, identify the primary department or agency responsible for its administration or allocation and provide any other comments you may have in the space provided or with attachments.

Program/Organization	Yes	No	Department/Agency	Comments
Firewise Communities Certification		NO		
StormReady Certification		NO		
Natural disaster or safety related school programs		NO		
Ongoing public education or information program (e.g. responsible water use, fire safety, household preparedness, environmental education)	YES			Through our five VFD
Public-private partnership initiatives addressing disaster-related issues		NO		
Local citizen groups or nonprofit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.	YES			Protect PT
Other				

5. **Self-Assessment of Capability:** Please provide an approximate measure of your jurisdiction's capability to effectively implement hazard mitigation strategies to reduce hazard vulnerabilities. Using the following table, please place an "**X**" in the box marking the most appropriate degree of capability (Limited, Moderate or High) based upon best available information and the responses provided in Sections 1-5 of this survey. For multi-jurisdictional plans, record the results of the jurisdiction in the Self-Assessment Capability Matrix in **Section 5**.

Area	Degree of Capability		
	Limited	Moderate	High
Planning and Regulatory Capability			X
Administrative and Technical Capability			X
Financial Capability			X
Education And Outreach			X

NATIONAL FLOOD INSURANCE PROGRAM (NFIP) SURVEY

MUNICIPALITY: PENN TOWNSHIP

1. FLOODPLAIN IDENTIFICATION AND MAPPING			
Requirement	**Recommended Action**	***Yes/No***	***Comments***
a. Does the municipality maintain accessible copies of effective Flood Insurance Rate Map (FIRM)/Digital Flood Insurance Rate Map (DFIRM)? Does the municipality maintain accessible copies of the most recent Flood Insurance Study (FIS)?	Place these documents in the local libraries or make available publicly	X	
b. Has the municipality adopted the most current DFIRM/FIRM and FIS?	Note the date of adoption if approved.	X	
c. Does the municipality support requests for map updates?	If yes, state how.	X	
d. Does the municipality share with Federal Emergency Management Agency (FEMA) any new technical or scientific data that could result in map revisions within 6 months of creation or identification of new data?	If yes, specify how	X	
e. Does the municipality provide assistance with local floodplain information requests?	If yes, specify how	X	ANSWERING CALLS
f. Does the municipality maintain a record of approved Letters of Map Change?	If yes, specify the responsible office.	X	

Mitigation Strategy 5-Year Mitigation Plan Review

Name: [illegible] **Title:** [illegible] **Jurisdiction:** Penn Township

Purpose: To fulfill requirement that plan maintenance from previous plan has been completed and to obtain early feedback from the planning team to incorporate into the update process.

Instructions: Complete the *Goal and Objective Review Worksheet* and *Mitigation Action Plan Review Worksheet* on the next pages keeping the following questions in mind:

- Do the goals, objectives, and actions address current and expected conditions?
- Go through each goal and objective to determine: Should goal be carried forward into updated plan? Should goal be changed based on current conditions in community? Should goal be discontinued and if so why?
- Progress on actions should be noted. For each action the following questions should be answered: What is status? What progress has been made? Should action be continued in updated plan? Should action be discontinued and if so why?
- Has the nature or magnitude of hazard risk changed?
- Are current resources adequate to implement the Plan?
- Should additional local resources be committed to address identified hazard threats?
- Are there any issues that have limited the current implementation schedule?
- Have the implementation of identified mitigation actions resulted in expected outcomes?
- Has the Mitigation Planning Committee measured the effectiveness of completed hazard mitigation projects in terms of specific dollar losses avoided?
- Did the jurisdictions, agencies and other partners participate in the plan implementation process as proposed?
- Other?

Before completing the worksheets, the group may wish to discuss the above questions in a round robin format, using a flip chart. The questions are standard questions; however it is important to check the existing hazard mitigation plan maintenance section to see if there are additional questions that need to be considered.

Goal and Objective Review Worksheet

Instructions: Write each goal and objective identified in the existing hazard mitigation plan. Use the comment boxes to provide feedback or to suggest modification of any of the proposed goals or objectives. You may suggest additional objectives below each goal, or new goals and objectives on the last page of this exercise.

Existing Goals and Objectives		Comments
Goal 1	To minimize the risk to human life associated with natural and non-natural hazards.	
Excellent		
Goal 2	To promote hazard avoidance, especially in floodplains, by removing high-risk and repetitive loss structures, and by issuing building restrictions on future development.	
Excellent		
Goal 3	To reduce the damage from natural and non-natural hazards to existing and future public and private assets including structures, critical facilities, and infrastructure.	
Excellent		

1. FLOODPLAIN MANAGEMENT

Requirement	Recommended Action	Yes/No	Comments
a. Has the municipality adopted a compliant floodplain management ordinance that, at a minimum, regulates the following:	If yes, answer questions (1) through (4) below.	X	
(1) Does the municipality issue permits for all proposed development in the Special Flood Hazard Areas (SFHAs)?	If yes, specify the office responsible.	X	
(2) Does the municipality obtain, review, and utilize any Base Flood Elevation (BFE) and floodway data, and/or require BFE data for subdivision proposals and other development proposals larger than 50 lots or 5 acres?	If yes, specify the office responsible.	X	
(3) Does the municipality identify measures to keep all new and substantially improved construction reasonably safe from flooding (use above the BFE, reducing economy, using flood-resistant materials, and designing or locating utilities and service facilities to prevent water damage)?	If yes, specify the office responsible.	X	
(4) Does the municipality document and maintain records of lowest floor elevations (document lowest floor elevation for new or substantially improved structures)?	If yes, specify the office responsible.	X	
b. If a compliant floodplain ordinance was adopted, does the municipality enforce the ordinance by monitoring compliance and taking remedial action to correct violations?	If yes, specify how.	X	

1. FLOODPLAIN MANAGEMENT

Requirement	Recommended Action	Yes/No	Comments
c. Has the municipality considered adopting activities that extend beyond the minimum requirements? Examples include: • Participation in the Community Rating System • Prohibition of production or storage of chemicals in SFHA • Prohibition of certain types of structures, such as hospitals, nursing homes, and jails in SFHA • Prohibition of certain types of residential housing (manufactured homes) in SFHA • Floodplain ordinance that prohibit any new residential or nonresidential structures in SFHA	If yes, specify activities.	X	

2. FLOOD INSURANCE

Requirement	Recommended Action	Yes/No	Comments
a. Does the municipality educate community members about the availability and value of flood insurance?	If yes, specify how.	X	
b. Does the municipality inform community property owners about changes to the DFIRM/FIRM that would impact their insurance rates?	If yes, specify how.	X	
c. Does the municipality provide general assistance to community members regarding insurance issues?	If yes, specify how.	X	

	Existing Goals and Objectives	Comments
Goal 4	To protect and restore existing natural resources including wetlands, floodplains, and riparian buffers.	
Excellent		
Goal 5	To develop, prioritize and implement cost-effective, long-term actions that will reduce the impacts of natural and non-natural hazards.	
Excellent		
Goal 6	To enhance planning and emergency response efforts among local, county, state, and federal, emergency management personnel to protect public health and safety.	
Excellent		
Goal 7	To promote public awareness on the potential impacts of natural and non-natural hazards, and actions to reduce those impacts.	
Excellent		

	[illegible]	Comments
Goal		
Objective		
Objective		
Objective		
Goal		
Objective		
Objective		
Objective		
Goal		
Objective		
Objective		
Objective		

Mitigation Action Plan Review Worksheet

Instructions: List each mitigation action from the existing hazard mitigation plan and identify its status as "No Progress / Unknown," "In Progress / Not Yet Complete," "Continuous," "Completed," or "Discontinued." Include review comments for each action.

Existing Mitigation Action	Status: No Progress / Unknown	Status: In Progress / Not Yet Complete	Status: Continuous	Status: Completed	Status: Discontinued	Review Comments
1. Mt. Pleasant Borough – [illegible]						
2. Hunker Borough – [illegible]						
3. Hunker Borough – [illegible] community shelter.						
4. Hunker Borough – [illegible] building [illegible] flooding [illegible]						
5. Hunker Borough – [illegible] Hunker Borough [illegible] to prevent flooding.						
6. Hunker Borough – [illegible] the intersection of [illegible]						
7. Hunker Borough – [illegible]						
8. Hunker Borough – Install [illegible] to prevent roadway along Locust St. from [illegible]						
9. Hunker Borough – [illegible] Bridge [illegible]						

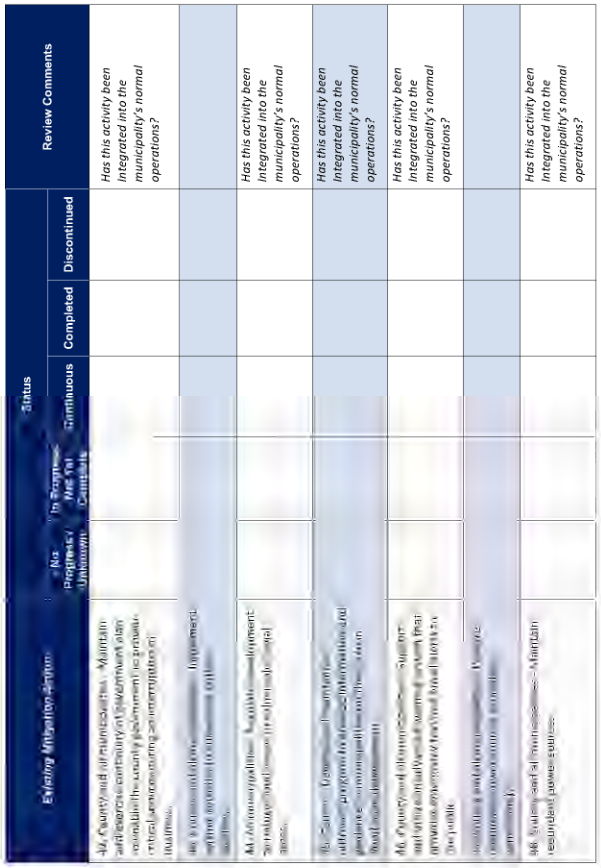
Existing Mitigation Action	Status: No Progress / Unknown	Status: In Progress / Not Yet Complete	Status: Continuous	Status: Completed	Status: Discontinued	Review Comments
10. Unity Township – Construct and install a new culvert in [illegible] to enhance hydraulic capacity.						
11. Unity Township – [illegible] stormwater detention system [illegible]						
12. [illegible] Township – [illegible] Manor.						
13. [illegible] Township – [illegible]						
14. [illegible] Township – [illegible] Bridge [illegible] Run Road.						
15. [illegible] Township – [illegible]						
16. Sewickley Township – Install stormwater drainage system along [illegible]						
17. Sewickley Township – [illegible]						
18. Sewickley Township – [illegible] to enhance communications.						
19. Sewickley Township – [illegible]						
20. Sewickley Township – [illegible] and install a [illegible]						

Existing Mitigation Action	No Progress / Unknown	In Progress / Not Yet Complete	Continuous	Completed	Discontinued	Review Comments
21. Sewickley Township – [illegible]						
22. Sewickley Township – [illegible]						
23. Sewickley Township – [illegible]						
24. [illegible]						
25. [illegible]						
26. County and all municipalities – [illegible] Phase 1 – [illegible] Phase 2 – [illegible]						

Existing Mitigation Action	No Progress / Unknown	In Progress / Not Yet Complete	Continuous	Completed	Discontinued	Review Comments
27. County and all municipalities – [illegible] Phase 1 – [illegible] Phase 2 – [illegible]						
28. All Municipalities – [illegible]			x			*Has this activity been integrated into the municipality's normal operations?*
29. All Municipalities – [illegible]			x			
30. All Municipalities – [illegible]						

Existing Mitigation Action	No Progress / Unknown	In Progress / Not Yet Complete	Continuous	Completed	Discontinued	Review Comments
31. All Municipalities – [illegible]			x			
32. All Municipalities – [illegible]			x			
33. County and all municipalities – [illegible]			x			*Has this activity been integrated into the municipality's normal operations?*
34. County and all municipalities – [illegible]			x			
35. County – [illegible]						
36. County and all municipalities – [illegible]						*Has this activity been integrated into the municipality's normal operations?*

Existing Mitigation Action	No Progress / Unknown	In Progress / Not Yet Complete	Continuous	Completed	Discontinued	Review Comments
37. County – [illegible]						*Has this activity been integrated into the municipality's normal operations?*
38. County – [illegible]						
39. County and all municipalities – [illegible]						*Has this activity been integrated into the municipality's normal operations?*
40. County and all municipalities – [illegible]						*Has this activity been integrated into the municipality's normal operations?*
41. [illegible]						*Has this activity been integrated into the municipality's normal operations?*



Hazard Identification and Risk Evaluation Worksheet

Name: Fred Cecchini Title: Deputy EMA

Jurisdiction: Salem Twp.

PART I

Identified Hazards 2015 HMP	How has the frequency of occurrence, magnitude of impact, and/or geographic extent changed in your community? *NC = No Change; I = Increase; D = Decrease* *(Please provide an explanation for any hazards marked I or D in the "Additional Comments" column)*	Additional Comments
Natural Hazards		
Avalanche	NC	
Drought	NC	
Earthquake	NC	
Extreme Temperatures	NC	
Floods, Flash Floods, and Ice Jams	I	
Hailstorm	NC	
Hurricane	NC	
Landslide	I	
Lightning	NC	
Radon Exposure	NC	
Subsidence, Sinkhole	I	
Tornado, Windstorm	NC	
Wildfire	NC	
Winter Storm	NC	

Identified Hazards 2015 HMP	How has the frequency of occurrence, magnitude of impact, and/or geographic extent changed in your community? *NC = No Change; I = Increase; D = Decrease* *(Please provide an explanation for any hazards marked I or D in the "Additional Comments" column)*	Additional Comments
Human-made Hazards		
Dam Failure	NC	
Environmental Hazards	NC	
Nuclear Incident	NC	
Structural Fire	NC	
Terrorism	NC	
Transportation Accident	NC	
Utility Interruption	I	

Capability Assessment Survey

Jurisdiction: Salem Twp Point of Contact Name and Title: Fred Cecchini – Deputy EMA

Phone: [redacted] Email: [redacted]@gmail.com

1. **Planning and Regulatory Capability.** Please indicate whether the following planning or regulatory tools and programs are currently in place or under development for your jurisdiction (planning area) by placing an 'X' in the appropriate box, followed by the date of adoption/update. Then, for each particular item in place, identify the department or agency responsible for its implementation and indicate it's estimated or anticipated effect on hazard loss reduction (Limited, Moderate, Significant) with the appropriate symbol and also indicate if there has been a change in the ability of the tool/program to result in loss reduction. Finally, please provide additional comments or explanations in the space provided.

Tool / Program	Status: In Place	Date Adopted or Updated	Under Development	Dept./Agency Responsible	Comments
[illegible]				zard County EMA	Interim update in 2008 revised mitigation strategy; completed one action.
Hazard Mitigation Plan	X			Westmoreland County	
Emergency Operations Plan	X			Salem Twp EMA	
Disaster Recovery Plan			X	Salem Twp EMA	
Evacuation Plan	X				
Continuity of Operations Plan			X		
ICS	X				
NFIP – Community Rating System			X		
Floodplain Regulations (part of Flood Damage Prevention Ordinance)			X		
Floodplain Management Plan			X		
Zoning Regulations			X		

Tool / Program	Status: In Place	Date Adopted or Updated	Under Development	Dept./Agency Responsible	Comments
Subdivision Regulations			X		
Comprehensive Land Use Plan (Growth Management Plan)			X		
Flood Damage Management Plan (Policy or Ordinance)			X		
Stormwater Management Plan / Ordinance			X		
Hazard Planning Partnership			X		
Capital Improvement Plan			X		
Economic Development Plan			X		
Historic Preservation Plan			X		
Farmland Preservation			X		
Building Code			X		
Fire Code			X		
Other			X		

PART II

Other Hazards:

Do any of these hazards, not previously profiled in the County's hazard mitigation plan; have the potential to affect your municipality significantly? (If so, please check the box)

Natural

- ☐ Coastal Erosion
- ☐ Dust, Sand Storm
- ☐ Expansive Soils
- ☐ Invasive Species
- ☐ Pandemic
- ☐ Tsunami
- ☐ Volcano

Human-Caused

- X Building or Structure Collapse
- ☐ Civil Disturbance
- ☐ Disorientation
- ☐ Drowning
- ☐ Levee Failure
- ☐ Mass Food/Animal Feed Contamination
- ☐ War and Criminal Activity

Other Comments:

Aging structures within the municipality have potential to create instability. Increase in Flooding/Precipitation without mitigation of these hazards increases the probability.

Jurisdiction Risk - Salem Twp. (Municipality)

Avalanche	Dam Failure	Drought	Earthquake	Environmental Hazards	Extreme Temperatures	Flood, Flash Flood, and Ice Jam	Hailstorm	Hurricane and Tropical Storm	Illicit Drug Use	Landslide	Lightning	Nuclear Incidents	Radon Exposure	Structural Fire	Subsidence and Sinkholes	Terrorism	Tornado, Windstorm	Transportation Accidents	Utility Interruptions	Wildfire	Winter Storm
1.0	1.3	2.2	1.9	2.9	2.7	3.2	2.5	2.1	3.1	2.5	1.4	1.9	2.6	2.2	1.9	2.8	3.0	2.2	3.0	2.3	3.0
=	=	=	=	=	=	=	=	=	=	=	=	=	>	=	>	=	=	>	=	=	=

> Your municipality's risk from this hazard is greater than the County's risk as a whole

< Your municipality's risk from this hazard is less than the County's risk as a whole

= Your municipality's risk from this hazard is about the same as the County's risk as a whole

4. **Education and Outreach:** Identify education and outreach programs and methods already in place that could be used to implement mitigation activities and communicate hazard-related information. Then, identify the primary department or agency responsible for its administration or allocation and provide any other comments you may have in the space provided or with attachments.

Program/Organization	Yes	No	Department/Agency	Comments
Firewise Communities Certification		X		
StormReady certification		X		
Natural disaster or safety related school programs		X		
Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	X			
Natural disaster resistance ordinance addressing new/existing buildings		X		
Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.		X		
Other				

2. **Administrative and Technical Capability:** Please indicate whether your jurisdiction maintains the following staff members within its current personnel resources by placing an "X" in the appropriate box. Then, if YES, please identify the department or agency they work under and provide any other comments you may have in the space provided or with attachments.

Staff/Personnel Resources	Yes	No	Department/Agency	Comments
Planners with hazard mitigation knowledge		X		
Planners or engineers with natural and/or human-caused hazards knowledge	X		DOUG REGOLA	
Engineers or professionals trained in building and/or infrastructure construction practices (includes building inspectors)	X		DAVID JOBE	
Emergency Manager	X			
NFIP Floodplain Administrator		X		
Land surveyor		X		
Scientists or staff familiar with the hazards of the community		X		
Personnel skilled in GIS and/or HAZUS		X		
Grant writers or local staff to handle large/complex grants		X		
Staff with expertise or training in Benefit-Cost Analysis		X		
Other				

5. **Self-Assessment of Capability:** Please provide an approximate measure of your jurisdiction's capability to effectively implement hazard mitigation strategies to reduce hazard vulnerabilities. Using the following table, please place an "**X**" in the box marking the most appropriate degree of capability (Limited, Moderate or High) based upon the available information and the responses provided in Sections 1-5 of this survey. For multi-jurisdictional plans, record the results of this section into the Self-Assessment Capability Matrix in **Section 5**.

Area	Degree of Capability		
	Limited	Moderate	High
Planning and Regulatory Capability	X		
Administrative and Technical Capability	X		
Financial Capability	X		
Education and Outreach	X		

3. **Financial Capability:** Please indicate whether your jurisdiction has access to or is eligible to use the following local financial resources ***for hazard mitigation purposes*** (including as match funds for State or Federal mitigation grant funds). Then, identify the primary department or agency responsible for its administration or allocation and provide any other comments you may have in the space provided or with attachments.

Financial Resources	Yes	No	Department/Agency	Comments
Capital Improvement Programming		X		
Community Development Block Grants (CDBG)	X			
Special Purpose Taxes		X		
Gas/ Electric Utility Fees		X		
Water/ Sewer Fees	X			
Stormwater Utility Fees		X		
Development Impact Fees		X		
General Obligation Revenue and/or Special Tax Bonds		X		
Partnering Arrangements or Intergovernmental Agreements	X			
Other				

NATIONAL FLOOD INSURANCE PROGRAM (NFIP) SURVEY

MUNICIPALITY: SALEM TOWNSHIP

1. FLOODPLAIN IDENTIFICATION AND MAPPING			
Requirement	**Recommended Action**	**Yes/No**	**Comments**
a. Does the municipality maintain accessible copies of effective Flood Insurance Rate Map (FIRM)/Digital Flood Insurance Rate Map (DFIRM)? Does the municipality maintain accessible copies of the most recent Flood Insurance Study (FIS)?	Place these documents in the local libraries or make available publicly	No	Under Development
b. Has the municipality adopted the most current DFIRM/FIRM and FIS?	Note the date of adoption if approved.	No	Under Development
c. Does the municipality support requests for map updates?	If yes, state how.	No	Under Development
d. Does the municipality share with Federal Emergency Management Agency (FEMA) any new technical or scientific data that would result in map revisions within 6 months of creation or identification of new data?	If yes, specify how	No	Under Development
e. Does the municipality provide assistance with local floodplain determinations?	If yes, specify how	Yes	Planning/Engineering: Doug Regola
f. Does the municipality maintain a record of approved Letters of Map Change?	If yes, specify the responsible office.	Yes	Planning/Engineering: Doug Regola

2. FLOODPLAIN MANAGEMENT			
Requirement	**Recommended Action**	**Yes/No**	**Comments**
a. Has the municipality adopted a compliant floodplain management ordinance that, at a minimum, regulates the following:	If yes, answer questions (1) through (4) below.	No	Under Development
(1) Does the municipality issue permits for all proposed development in the Special Flood Hazard Areas (SFHAs)?	If yes, specify the office responsible.		
(2) Does the municipality obtain, review and utilize any Base Flood Elevation (BFE) and floodway data, and/or require BFE data for subdivision proposals and other development proposals larger than 50 lots or 5 acres?	If yes, specify the office responsible.		
(3) Does the municipality identify measures to keep all new and substantially improved construction reasonably safe from flooding to or above the BFE, including anchoring, using flood-resistant materials, and designing or locating utilities and service facilities to prevent water damage?	If yes, specify the office responsible.		
(4) Does the municipality document and maintain records of elevation data that document lowest floor elevation for new or substantially improved structures?	If yes, specify the office responsible.		
b. If a compliant floodplain ordinance was adopted, does the municipality enforce the ordinance by monitoring compliance and taking remedial action to correct violations?	If yes, specify how.		

2. FLOODPLAIN MANAGEMENT			
Requirement	**Recommended Action**	**Yes/No**	**Comments**
c. Has the municipality considered adopting activities that extend beyond minimum requirements? Examples include: • Participation in the Community Rating System • Prohibition of production or storage of chemicals in SFHA • Prohibition of certain types of structures, such as hospitals, nursing homes, and jails in SFHA • Prohibition of certain types of residential housing (manufactured homes) in SFHA • Floodplain ordinances that prohibit any new residential or nonresidential structures in SFHA	If yes, specify activities.	No	

3. FLOOD INSURANCE			
Requirement	**Recommended Action**	**Yes/No**	**Comments**
a. Does the municipality educate community members about the availability and value of flood insurance?	If yes, specify how.	No	
b. Does the municipality inform community property owners about changes to the DFIRM/FIRM that would impact their insurance rates?	If yes, specify how.	No	
c. Does the municipality provide general assistance to community members regarding insurance issues?	If yes, specify how.	Np	

Mitigation Strategy 5-Year Mitigation Plan Review

Name: FRESCHI **Title:** DEPUTY EMA **Jurisdiction:** SALEM TWP

Purpose: To fulfill requirement that plan maintenance from previous plan has been completed and to obtain early feedback from the planning team to incorporate into the update process.

Instructions: Complete the *Goal and Objective Review Worksheet* and *Mitigation Action Plan Review Worksheet* on the next pages keeping the following questions in mind:

- Do the goals, objectives, and actions address current and expected conditions?
- Go through each goal and objective to determine: Should goal be carried forward into updated plan? Should goal be changed based on current conditions in community? Should goal be discontinued and if so why?
- Progress on actions should be noted. For each action the following questions should be answered: What is status? What progress has been made? Should action be continued in updated plan? Should action be discontinued and if so why?
- Has the nature or magnitude of hazard risk changed?
- Are current resources adequate to implement the Plan?
- Should additional local resources be committed to address identified hazard threats?
- Are there any issues that have limited the current implementation schedule?
- Have the implementation of identified mitigation actions resulted in expected outcomes?
- Has the Mitigation Planning Committee measured the effectiveness of completed hazard mitigation projects in terms of specific dollar losses avoided?
- Did the jurisdictions, agencies and other partners participate in the plan implementation process as proposed?
- Other?

Before completing the worksheets, the group may wish to discuss the above questions in a round robin format, using a flip chart. The questions are standard questions. However it is important to check the existing hazard mitigation plan maintenance section to see if there are additional questions that need to be considered.

		Comments
Goal		
Objective		
Objective		
Objective		

Goal		
Objective		
Objective		
Objective		

Goal		
Objective		
Objective		
Objective		

Goal and Objective Review Worksheet

Instructions: Write each goal and objective from the existing hazard mitigation plan. Use the comment boxes to provide feedback or to suggest modification of any of the proposed goals or objectives. You may suggest additional objectives below each goal, or new goals and objectives on the last page of this exercise.

Existing Goals and Objectives		Comments
Goal 1	To minimize the risk to human life associated with natural and non-natural hazards.	
Goal 2	To promote hazard avoidance, especially in floodplains, by removing high-risk and repetitive loss structures, and by issuing building restrictions on future development.	
Goal 3	To reduce the damage from natural and non-natural hazards to existing and future public and private assets including structural, critical facilities, and infrastructure.	

Mitigation Action Plan Review Worksheet

Instructions: List each mitigation action from the existing hazard mitigation plan and identify its status as "No Progress / Unknown," "In Progress / Not Yet Complete," "Continuous," "Completed," or "Discontinued." Include review comments for each action.

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress / Not Yet Complete	Continuous	Completed	Discontinued	
1. Hunker Borough – [illegible]	X					
2. Hunker Borough – [illegible]	X					
3. Hunker Borough – [illegible]	X					
4. Hunker Borough – [illegible]	X					
5. Hunker Borough – [illegible]	X					
6. Hunker Borough – [illegible]	X					
7. Hunker Borough – [illegible]	X					
8. Hunker Borough – [illegible]	X					
9. Hunker Borough – [illegible]	X					

Existing Goals and Objectives		Comments
Goal 4	To protect and restore existing natural resources including wetlands, floodplains, and riparian buffers.	
Goal 5	To develop, prioritize and implement cost-effective, long-term actions that will reduce the impacts of natural and non-natural hazards.	
Goal 6	To enhance planning and emergency response efforts among local, county, state, and federal, emergency management personnel, to protect public health and safety.	
Goal 7	To promote public awareness on the potential impacts of natural and non-natural hazards, and actions to reduce those impacts.	

Existing Mitigation Action	Status: No Progress / Unknown	Status: In Progress / Not Yet Complete	Status: Continuous	Status: Completed	Status: Discontinued	Review Comments
10. Unity Township – Construct and install a new culvert in [illegible] to enhance hydraulic capacity.	X					
11. Unity Township – [illegible] stormwater detention system in [illegible].	X					
12. Allegheny Township – [illegible] and enhance stormwater [illegible] in [illegible] Manor.	X					
13. [illegible] Township – [illegible] Hill [illegible].	X					
14. [illegible] Township – [illegible] Bridge [illegible] Run Road.	X					
15. Fairfield Township – [illegible] of [illegible].	X					
16. Sewickley Township – Install stormwater drainage system along [illegible] Road.	X					
17. Sewickley Township – [illegible] culvert [illegible].	X					
18. Sewickley Township – Procure remote [illegible] sites to enhance communications.	X					
19. Sewickley Township – [illegible] for stormwater management.	X					
20. Sewickley Township – Procure and install a back-up generator into [illegible] VFD Station [illegible].	X					

Existing Mitigation Action	Status: No Progress / Unknown	Status: In Progress / Not Yet Complete	Status: Continuous	Status: Completed	Status: Discontinued	Review Comments
21. Sewickley Township – Procure and install a back-up generator into [illegible] VFD Station 16.	X					
22. Sewickley Township – Procure and install a back-up generator into [illegible] VFD Station 14.	X					
23. Sewickley Township – [illegible]	X					
24. Fairfield Township – [illegible]	X					
25. [illegible] Township – [illegible]	X					
26. County and all municipalities – Retrofit structures located in hazard-prone areas to protect structures from future damage, with repetitive loss and severe repetitive loss properties as priority. Phase 1: Identify appropriate candidates for retrofitting based on cost effectiveness versus relocation. Phase 2: Where retrofitting is determined a viable option, work with property owners toward implementation based on available funding from FEMA and local match availability.						

Existing Mitigation Action	Status: No Progress / Unknown	Status: In Progress / Not Yet Complete	Status: Continuous	Status: Completed	Status: Discontinued	Review Comments
27. County and all municipalities – Purchase, or relocate structures located in hazard-prone areas to protect structures from future damage, with repetitive loss and severe repetitive loss properties as priority. Phase 1: Identify appropriate candidates for relocation based on cost effectiveness versus retrofitting. Phase 2: Where relocation is determined a viable option, work with property owners toward implementation based on available funding from FEMA and local match availability.			X			
28. All Municipalities – 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.			X			*Has this activity been integrated into the municipality's normal operations?*
29. All Municipalities – [illegible]			X			
30. All Municipalities – [illegible] Community Assistance Visit (CAV) or Community Assistance Contact (CAC) if needed, and schedule if needed.			X			

Existing Mitigation Action	Status: No Progress / Unknown	Status: In Progress / Not Yet Complete	Status: Continuous	Status: Completed	Status: Discontinued	Review Comments
31. All Municipalities – [illegible] Floodplain Manager through the ASFPM, and pursue relevant continuing education training such as FEMA Benefit-Cost Analysis.			X			
32. All Municipalities – [illegible] Community Rating System (CRS) [illegible] flood insurance premiums for NFIP policyholders. This process starts by submitting to FEMA/DHS of Letter of Interest (LOI) in CRS, followed by [illegible] the community's current compliance with the NFIP is established.			X			
33. County and all municipalities – Continue to support the implementation, monitoring, maintenance, and updating of this Plan, as defined in Section 7.0.			X			*Has this activity been integrated into the municipality's normal operations?*
34. County and all municipalities – Complete the ongoing update of the Comprehensive Plans.			X			
35. County – Enhance the Westmoreland County Stormwater Management Plan by implementing Phase 2 [illegible].			X			
36. County and all municipalities – Create/enhance/maintain mutual aid agreements with neighboring counties / communities for continuity of operations.			X			*Has this activity been integrated into the municipality's normal operations?*

Hazard Identification and Risk Evaluation Worksheet

Name: _Mark Castin_______________________ Title: __Emergency Management Director____

Jurisdiction: ________Scottdale Borough__________

PART I

Identified Hazards 2015 HMP	How has the frequency of occurrence, magnitude of impact, and/or geographic extent changed in your community? *NC = No Change; I = Increase; D = Decrease* *(Please provide an explanation for any hazards marked I or D in the "Additional Comments" column)*	Additional Comments
Natural Hazards		
Avalanche	NC	
Drought	NC	
Earthquake	NC	
Extreme Temperatures	NC	
Floods, Flash Floods, and Ice Jams	MC	
Hailstorm	NC	
Hurricane	NC	
Landslide	NC	
Lightning	NC	
Radon Exposure	NC	
Subsidence, Sinkhole	NC	
Tornado, Windstorm	NC	
Wildfire	NC	
Winter Storm	NC	

Identified Hazards 2015 HMP	How has the frequency of occurrence, magnitude of impact, and/or geographic extent changed in your community? *NC = No Change; I = Increase; D = Decrease* *(Please provide an explanation for any hazards marked I or D in the "Additional Comments" column)*	Additional Comments
Human-made Hazards		
Dam Failure	NC	
Environmental Hazards	NC	
Nuclear Incident	NC	
Structural Fire	NC	
Terrorism	NC	
Transportation Accident	NC	
Utility Interruption	NC	

PART II

Other Hazards:

Do any of these hazards, not previously profiled in the County's hazard mitigation plan; have the potential to affect your municipality significantly? (If so, please check the box)

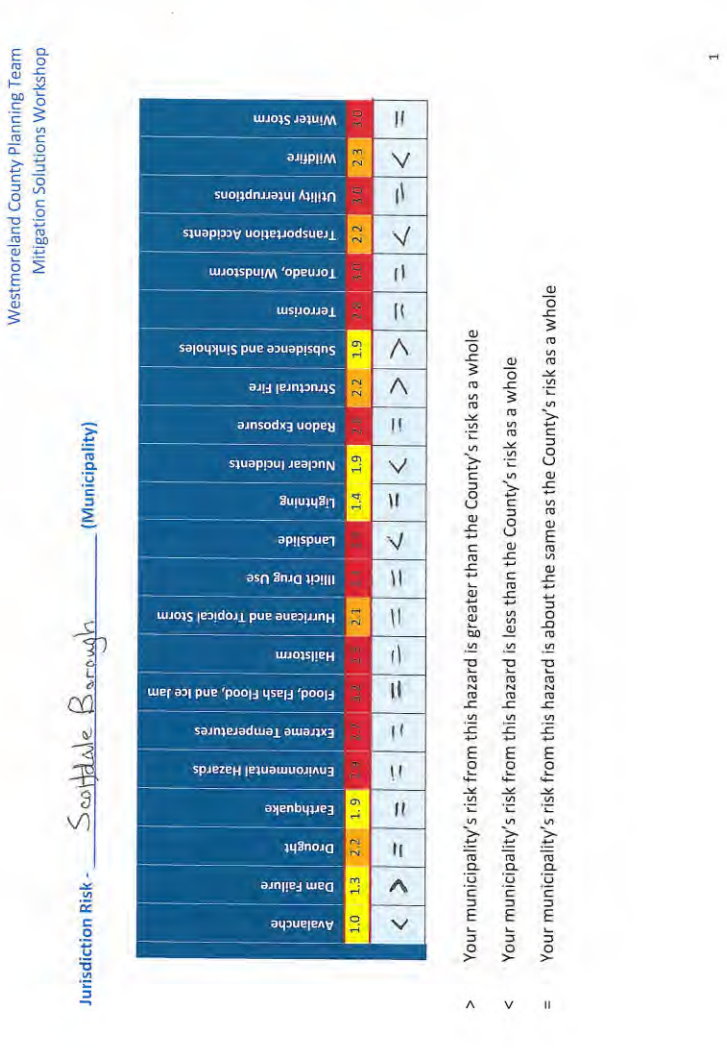
Natural

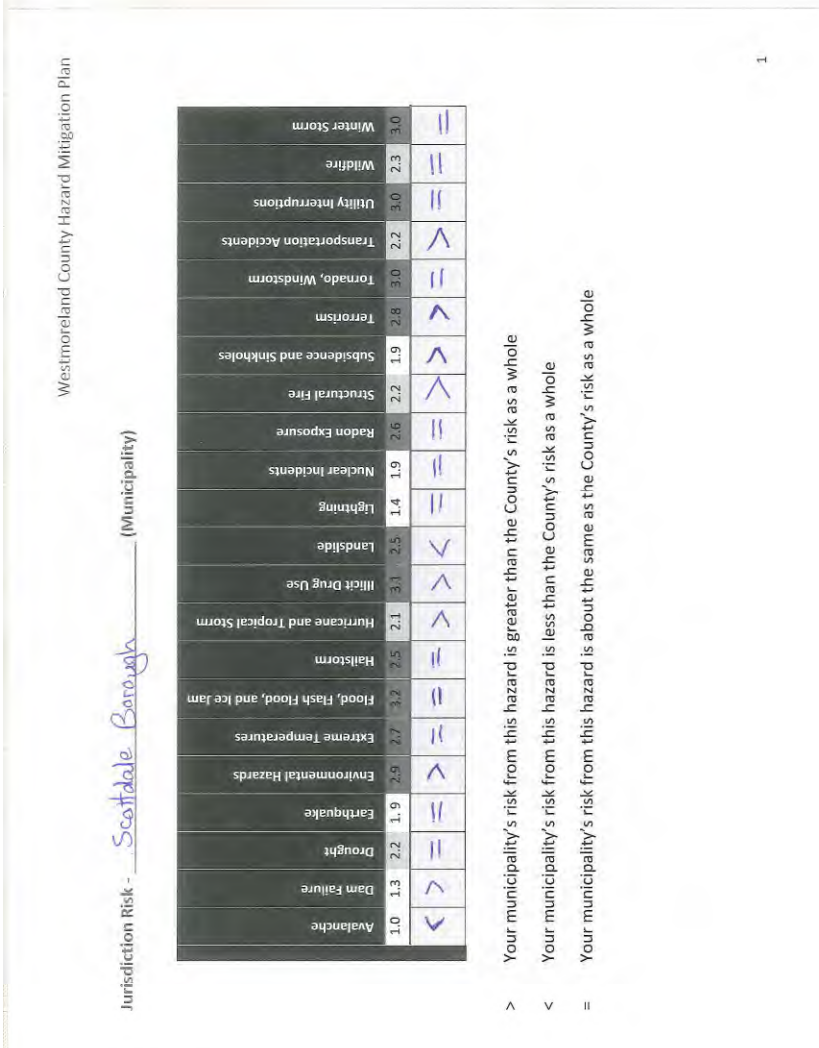
- ☐ Coastal Erosion
- ☐ Dust, Sand Storm
- ☐ Expansive Soils
- ☐ Invasive Species
- ☐ Pandemic
- ☐ Tsunami
- ☐ Volcano

Human-Caused

- ☐ Building or Structure Collapse
- ☐ Civil Disturbance
- ☐ Disorientation
- ☐ Drowning
- ☐ Levee Failure
- ☐ Mass Food/Animal Feed Contamination
- ☐ War and Criminal Activity

Other Comments:





2. **Administrative and Technical Capability.** Please indicate whether your jurisdiction maintains the following staff members within its current personnel resources by placing an "X" in the appropriate box. Then, if YES, please identify the department or agency they work under and provide any clarifying comments you may have in the space provided or with attachments.

Staff/Personnel Resources	Yes	No	Department/Agency	Comments
Planners with knowledge of land development/land management practices				
Planners or engineers with knowledge of floodplain management practices				
Engineers or scientists familiar with natural hazards and their effects on the built environment				
Emergency Manager	X		Scottsdale Borough Emergency Management	
NFIP Floodplain Administrator				
Land Surveyors				
Scientists or staff familiar with the hazards of the community		X		
Personnel skilled in Geographic Information Systems (GIS) and/or FEMA's HAZUS program	X		Scottsdale Borough Emergency Management	
Grant writers or staff to handle/write/complete grants		X		
Staff with expertise in Benefit-Cost Analysis		X		
Other				

3. **Financial Capability.** Please indicate whether your jurisdiction has access to or is eligible to use the following local financial resources ***for hazard mitigation purposes*** (including matching funds for Stafford Act mitigation grant funds). Then, identify the primary department or agency responsible for its administration or allocation and provide any other comments you may have in the space provided or with attachments.

Financial Resources	Yes	No	Department/Agency	Comments
Capital Improvements Programming				
Community Development Block Grants (CDBG)				
Special Purpose Taxes	X			
Gas/Electric Utility Fees	X			
Water/Sewer Fees	X			
Stormwater Utility Fees		X		
Development Impact Fees				
General Obligation, Revenue, and/or Special Tax Bonds	X			
Partnering Arrangements or Intergovernmental Agreements				
Other				

Capability Assessment Survey

Jurisdiction: Scottsdale Borough Point of Contact Name and Title: Angelo Pallone, Borough Manager

Phone: [illegible] Email: [illegible]

1. **Planning and Regulatory Capability.** Please indicate whether the following planning or regulatory tools and programs are currently in place or under development for your jurisdiction by inserting an "X" in the appropriate box, followed by the date of adoption/update. Then, for each particular item in place, identify the department or agency responsible for its implementation and indicate it's estimated or anticipated effect on hazard reduction (Improve, Neutral or Undecided) with the appropriate symbol and also indicate if there has been a change in the ability of the tool/program to result in loss reduction. Finally, please provide additional comments or explanations in the space provided.

Tool / Program	Status: In Place	Date Adopted or Updated	Under Development	Dept./Agency Responsible	Comments
[illegible]	[illegible]	[illegible]	[illegible]	ard County EMA	Interim update in 2008 revised mitigation strategy; completed one action.
Hazard Mitigation Plan			X		
Emergency Operations Plan			X		
Disaster Recovery Plan			X		
Evacuation Plan			X		
Continuity of Operations Plan			X		
NFIP			X		
NFIP – Community Rating System			X		
Floodplain Regulations (exc. NFIP Flood Damage Prevention Ordinance)			X		
Floodplain Management Plan			X		
Zoning Regulations	X	[illegible]		Scottdale Borough	

Tool / Program	Status: In Place	Date Adopted or Updated	Under Development	Dept./Agency Responsible	Comments
Subdivision Regulations	X				
Comprehensive Land Use Plan (or Smart Growth or Growth with Plan)					
Open Space Management Plan (or Policy/Plan or Greenway Plan)					
Stormwater Management Plan / Ordinance					
Natural Resource Protection Plan					
Capital Improvement Plan					
Economic Development Plan					
Historic Preservation Plan					
Farmland Preservation					
Building Code	X				
Fire Code	X				
Other					

National Flood Insurance Program Survey

NATIONAL FLOOD INSURANCE PROGRAM (NFIP) SURVEY

MUNICIPALITY: SCOTTDALE BOROUGH

1. FLOODPLAIN IDENTIFICATION AND MAPPING			
Requirement	Recommended Action	Yes/No	Comments
a. Does the municipality maintain accessible copies of an effective Flood Insurance Rate Map (FIRM)/Digital Flood Insurance Rate Map (DFIRM)? Does the municipality maintain accessible copies of the most recent Flood Insurance Study (FIS)?	Place the maps/information in libraries or make available publicly	No	
b. Has the municipality adopted the most current DFIRM/FIRM and FIS?	State the date of adoption if approved.	No	
c. Does the municipality support request for map updates?	If yes, state how.	No	
d. Does the municipality share with Federal Emergency Management Agency (FEMA) any new technical or scientific data that could result in map revisions within 6 months of creation or identification of new data?	If yes, specify how.	No	
e. Does the municipality provide assistance with local floodplain determinations?	If yes, specify how.	Yes	
f. Does the municipality maintain a record of approved Letters of Map Change?	If yes, specify the responsible office.	Yes	Borough Office

2. FLOODPLAIN MANAGEMENT			
Requirement	Recommended Action	Yes/No	Comments
a. Has the municipality adopted a compliant floodplain management ordinance that, at a minimum, regulates the following:	If yes, answer questions (1) through (4) below.	No	
(1) Does the municipality issue permits for all proposed development in the Special Flood Hazard Areas (SFHAs)?	If yes, specify the office responsible.		
(2) Does the municipality obtain, review and utilize any Base Flood Elevation (BFE) and floodway data, and/or require BFE data for subdivision proposals and other development proposals larger than 50 lots or 5 acres?	If yes, specify the office responsible.		
(3) Does the municipality identify measures to keep all new and substantially improved construction reasonably safe from flooding to or above the BFE, including anchoring, using flood-resistant materials, and designing or locating utilities and service facilities to prevent water damage?	If yes, specify the office responsible.		
(4) Does the municipality document and maintain records of elevation data that document lowest floor elevation for new or substantially improved structures?	If yes, specify the office responsible.		
b. If a compliant floodplain ordinance was adopted, does the municipality enforce the ordinance by monitoring compliance and taking remedial action to correct violations?	If yes, specify how.	NO	

4) **Education and Outreach:** Identify education and outreach programs and methods already in place that could be used to implement mitigation activities and communicate hazard-related information. Then, identify the primary department or agency responsible for its administration or allocation and provide any other comments you may have in the space provided or with attachments.

Program/Organization	Yes	No	Department/Agency	Comments
Firewise Communities Certification		x		
StormReady Certification	x		Scottdale Borough Emergency Management	
Natural disaster or safety related school program				
Ongoing public education or information program (e.g. responsible water use, fire safety, household preparedness, environmental education)	x			
Public-private partnership initiatives addressing disaster-related issues	x		Westmoreland LEPC	
Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.	x			
Other				

5) **Self-Assessment of Capability:** Please provide an approximate measure of your jurisdiction's capability to effectively implement hazard mitigation strategies to reduce hazard vulnerabilities. Using the following table, please place an "**X**" in the box marking the most appropriate degree of capability (Limited, Moderate or High) based upon best available information and the responses provided in Sections 1-5 of this survey. For multi-jurisdictional plans, record the results of this section into the Self-Assessment Capability Matrix in **Section 5**.

Area	Degree of Capability		
	Limited	Moderate	High
Planning and Regulatory Capability	x		
Administrative and Technical Capability		X	
Financial Capability		x	
Education and Outreach	x		

Mitigation Strategy 5-Year Mitigation Plan Review

Name: Mark Eastin **Title:** Emergency Management Director **Jurisdiction:** Scottdale Borough

Purpose: To fulfill requirement that plan maintenance from previous plan has been completed and to obtain early feedback from the planning team to incorporate into the update process.

Instructions: Complete the *Goal and Objective Review Worksheet* and *Mitigation Action Plan Review Worksheet* on the next pages keeping the following questions in mind:

- Do the goals, objectives, and actions address current and expected conditions?
- Go through each goal and objective to determine: Should goal be carried forward into updated plan? Should goal be changed based on current conditions in community? Should goal be discontinued and if so why?
- Progress on actions should be noted. For each action the following questions should be answered: What is status? What progress has been made? Should action be continued in updated plan? Should action be discontinued and if so why?
- Has the nature or magnitude of hazard risk changed?
- Are current resources adequate to implement the Plan?
- Should additional local resources be committed to address identified hazard threats?
- Are there any issues that have limited the current implementation schedule?
- Have the implementation of identified mitigation actions resulted in expected outcomes?
- Has the Mitigation Planning Committee measured the effectiveness of completed hazard mitigation projects in terms of specific dollar losses avoided?
- Did the jurisdictions, agencies and other partners participate in the plan implementation process as proposed?
- Other?

Before completing the worksheets, the group may wish to discuss the above questions in a round robin format, using a flip chart. The questions are standard questions; however it is important to check the existing hazard mitigation plan maintenance section to see if there are additional questions that need to be considered.

Goal and Objective Review Worksheet

Instructions: Write each goal and objective identified in the existing hazard mitigation plan. Use the comment boxes to provide feedback or to suggest modification of any of the proposed goals or objectives. You may suggest additional objectives below each goal, or new goals and objectives on the last page of this exercise.

Existing Goals and Objectives		Comments
Goal 1	To minimize the risk to human life associated with natural and non-natural hazards.	
Goal 2	To promote hazard avoidance, especially in floodplains, by removing high-risk and repetitive loss structures, and by issuing building restrictions on future development.	
Goal 3	To reduce the damage from natural and non-natural hazards to existing and future public and private assets including structures, critical facilities, and infrastructure.	

Existing Goals and Objectives		Comments
Goal 4	To protect and restore existing natural resources including wetlands, floodplains, and riparian buffers.	
Goal 5	To develop, prioritize and implement cost-effective, long-term actions that will reduce the impacts of natural and non-natural hazards.	
Goal 6	To enhance planning and emergency response efforts among local, county, state, and federal, emergency management personnel to protect public health and safety.	
Goal 7	To promote public awareness on the potential impacts of natural and non-natural hazards, and actions to reduce those impacts.	

2. FLOODPLAIN MANAGEMENT

Requirement	Recommended Action	Yes/No	Comments
c. Has the municipality considered adopting activities that extend beyond the minimum requirements? Examples include: Participation in the Community Rating System; Prohibition of production or storage of chemicals in SFHA; Prohibition of certain types of structures, such as hospitals, nursing homes, and jails in SFHA; Prohibition of certain types of residential housing (manufactured homes) in SFHA; Floodplain ordinances that prohibit any new residential or nonresidential structures in SFHA	If yes, specify activities.	No	

3. FLOOD INSURANCE

Requirement	Recommended Action	Yes/No	Comments
a. Does the municipality educate community members about the availability and value of flood insurance?	If yes, specify how.	No	
b. Does the municipality inform community property owners about changes to the DFIRMs/FIRMs that would impact their insurance rates?	If yes, specify how.	No	
c. Does the municipality provide general assistance to community members regarding insurance issues?	If yes, specify how.	Yes	In person at the borough office

[illegible]		Comments
Goal		
Objective		
Objective		
Objective		

Goal		
Objective		
Objective		
Objective		

Goal		
Objective		
Objective		
Objective		

Mitigation Action Plan Review Worksheet

Instructions: List each mitigation action from the existing [illegible] mitigation plan and identify its status as "No Progress / Unknown," "In Progress / Not Yet Complete," "Continuous," "Completed," or "Discontinued." Include review comments for each action.

Existing Mitigation Action	Status: No Progress / Unknown	Status: In Progress / Not Yet Complete	Status: Continuous	Status: Completed	Status: Discontinued	Review Comments
1. [illegible] Borough – [illegible] existing [illegible]						
2. Hunker Borough – [illegible] and install a back-up generator [illegible] EOC.						
3. Hunker Borough – [illegible] community building / community shelter.						
4. Hunker Borough – [illegible] community building to prevent flooding of basement.						
5. Hunker Borough – [illegible] Hunker Borough [illegible] to prevent flooding.						
6. Hunker Borough – [illegible] the intersection of Walnut and Bridge St.						
7. Hunker Borough – [illegible]						
8. Hunker Borough – Install sub-[illegible] to prevent roadway along Locust St. from sinking.						
9. Hunker Borough – [illegible] Bridge to prevent [illegible] erosion.						

Existing Mitigation Action	Status: No Progress / Unknown	Status: In Progress / Not Yet Complete	Status: Continuous	Status: Completed	Status: Discontinued	Review Comments
10. Unity Township – Construct and install a new culvert in [illegible] to enhance hydraulic capacity.						
11. Unity Township – [illegible] stormwater detention system in [illegible]						
12. [illegible] Township – [illegible] stormwater [illegible] Manor.						
13. [illegible] Township – [illegible]						
14. [illegible] Township – [illegible] Bridge [illegible] Road.						
15. [illegible] Township – [illegible]						
16. Sewickley Township – [illegible] stormwater drainage system along [illegible] Road.						
17. Sewickley Township – [illegible]						
18. Sewickley Township – [illegible] to enhance communications.						
19. Sewickley Township – [illegible]						
20. Sewickley Township – Procure and install a back-up generator into [illegible]						

Existing Mitigation Action	Status: No Progress / Unknown	Status: In Progress / Not Yet Complete	Status: Continuous	Status: Completed	Status: Discontinued	Review Comments
21. Sewickley Township – Procure and install a back-up generator into [illegible] Station 16.						
22. Sewickley Township – Procure and install a back-up generator into [illegible] 14.						
23. Sewickley Township – [illegible]						
24. [illegible] Township – Develop and implement [illegible] plan [illegible]						
25. [illegible] Township – [illegible] install [illegible]						
26. County and all municipalities – Retrofit structures located in hazard-prone areas to protect structures from future damage, with repetitive loss and severe repetitive loss properties as priority. Phase 1: Identify appropriate candidates for retrofitting based on cost-effectiveness versus relocation. Phase 2: Where retrofitting is determined a viable option, work with property owners toward implementation based on available funding from FEMA and local match availability.						

Existing Mitigation Action	Status: No Progress / Unknown	Status: In Progress / Not Yet Complete	Status: Continuous	Status: Completed	Status: Discontinued	Review Comments
[illegible]						
[illegible]						*Has this activity been Integrated into the municipality's normal operations?*
[illegible]						
[illegible]						

Existing Mitigation Action	Status: No Progress / Unknown	Status: In Progress / Not Yet Complete	Status: Continuous	Status: Completed	Status: Discontinued	Review Comments
[illegible]						
[illegible]						
[illegible]						*Has this activity been Integrated into the municipality's normal operations?*
[illegible]						
[illegible]						
[illegible]						*Has this activity been Integrated into the municipality's normal operations?*

Existing Mitigation Action	Status: No Progress / Unknown	Status: In Progress / Not Yet Complete	Status: Continuous	Status: Completed	Status: Discontinued	Review Comments
[illegible]						*Has this activity been Integrated into the municipality's normal operations?*
[illegible]						
[illegible]						*Has this activity been Integrated into the municipality's normal operations?*
[illegible]						*Has this activity been Integrated into the municipality's normal operations?*
[illegible]						*Has this activity been Integrated into the municipality's normal operations?*

Existing Mitigation Action	Status: No Progress / Unknown	Status: In Progress / Not Yet Complete	Status: Continuous	Status: Completed	Status: Discontinued	Review Comments
[illegible]						*Has this activity been Integrated into the municipality's normal operations?*
[illegible]						
[illegible]						*Has this activity been Integrated into the municipality's normal operations?*
[illegible]						*Has this activity been Integrated into the municipality's normal operations?*
[illegible]						*Has this activity been Integrated into the municipality's normal operations?*
[illegible]						
[illegible]						*Has this activity been Integrated into the municipality's normal operations?*

Existing Mitigation Action	Status: No Progress / Unknown	In Progress / Not Yet Complete	Continuous	Completed	Discontinued	Review Comments
[illegible]						Has this activity been Integrated into the municipality's normal operations?
[illegible]						Has this activity been integrated into the municipality's normal operations?

Westmoreland County Hazard Mitigation Plan

Jurisdiction Risk - Sewickley Twp (Municipality)

	Jurisdiction Risk	Westmoreland County Risk
Avalanche	1.0	1.0
Dam Failure	1.3	1.3
Drought	2.2	2.2
Earthquake	1.9	1.9
Environmental Hazards	2.9	2.9
Extreme Temperatures	2.7	2.7
Flood, Flash Flood, and Ice Jam	3.2	3.2
Hailstorm	2.5	2.5
Hurricane and Tropical Storm	2.1	2.1
Illicit Drug Use	3.1	3.1
Landslide	2.5	2.5
Lightning	1.4	1.4
Nuclear Incidents	1.9	1.9
Radon Exposure	2.6	2.6
Structural Fire	2.2	2.2
Subsidence and Sinkholes	1.9	1.9
Terrorism	2.8	2.8
Tornado, Windstorm	3.0	3.0
Transportation Accidents	2.2	2.2
Utility Interruptions	3.0	3.0
Wildfire	2.3	2.3
Winter Storm	3.0	3.0

> Your municipality's risk from this hazard is greater than the County's risk as a whole

< Your municipality's risk from this hazard is less than the County's risk as a whole

= Your municipality's risk from this hazard is about the same as the County's risk as a whole

Hazard Identification and Risk Evaluation Worksheet

Name: Tom HAYNES Title: LOCAL COORDINATOR

Jurisdiction: SMITHTON

PART I

Identified Hazards 2015 HMP	How has the frequency of occurrence, magnitude of impact, and/or geographic extent changed in your community? NC = No Change; I = Increase; D = Decrease (Please provide an explanation for any hazards marked I or D in the "Additional Comments" column)	Additional Comments
Natural Hazards		
Avalanche	NC	
Drought	NC	
Earthquake	NC	
Extreme Temperatures	NC	
Floods, Flash Floods, and Ice Jams	I : GREATER RUN-OFF INTO SULPHUR CREEK eg AUG 2018	
Hailstorm	NC	
Hurricane	NC	
Landslide	NC ALTHOUGH SOILS ARE WETTER NOW	
Lightning	NC	
Radon Exposure	NC	
Subsidence, Sinkhole	NC	
Tornado, Windstorm	NC	
Wildfire	NC	
Winter Storm	NC	

Identified Hazards 2015 HMP	How has the frequency of occurrence, magnitude of impact, and/or geographic extent changed in your community? NC = No Change; I = Increase; D = Decrease (Please provide an explanation for any hazards marked I or D in the "Additional Comments" column)	Additional Comments
Human-made Hazards		
Dam Failure	NC	
Environmental Hazards	NC	
Nuclear Incident	NC	
Structural Fire	NC	
Terrorism	NC	
Transportation Accident	NC	
Utility Interruption	NC	

Tool / Program	Status			Dept./Agency Responsible	Comments
	In Place	Date Adopted or Updated	Under Develop-ment		
Subdivision Regulations					
Comprehensive Land Use Plan (or General, Master or Growth Mgt. Plan)					
Open Space Management Plan (or Parks/Rec or Greenways Plan)					
Stormwater Management Plan / Ordinance					
Natural Resource Protection Plan					
Capital Improvement Plan					
Economic Development Plan					
Historic Preservation Plan					
Farmland Preservation					
Building Code					
Fire Code					
Other					

PART II

Other Hazards:

Do any of these hazards, not previously profiled in the County's hazard mitigation plan, have the potential to affect your municipality significantly? (If so, please check the box)

Natural

- ☐ Coastal Erosion
- ☐ Dust, Sand Storm
- ☐ Expansive Soils
- ☐ Invasive Species
- ☒ Pandemic OPIOID ADDICTION
- ☐ Tsunami
- ☐ Volcano

Human-Caused

- ☐ Building or Structure Collapse
- ☐ Civil Disturbance
- ☐ Disorientation
- ☐ Drowning
- ☐ Levee Failure
- ☐ Mass Food/Animal Feed Contamination
- ☐ War and Criminal Activity
- ☒ GAS PIPELINE DISRUPTIONS

Other Comments:

2. Administrative and Technical Capability: Please indicate whether your jurisdiction maintains the following staff members within its current personnel resources by placing an "X" in the appropriate box. Then, if YES, please identify the department or agency they work under and provide any other comments you may have in the space provided or with attachments.

Staff/Personnel Resources	Yes	No	Department/Agency	Comments
Planners (with land use / land development knowledge)				
Planners or engineers (with natural and/or human caused hazards knowledge)				
Engineers or professionals trained in building and/or infrastructure construction practices (includes building inspectors)				
Emergency Manager	X		TOM HAYNES	
NFIP Floodplain Administrator	X		MAYOR	
Land Surveyors				
Scientists or staff familiar with the hazards of the community				
Personnel skilled in Geographic Information Systems (GIS) and/or FEMA's HAZUS program				
Grant writers or fiscal staff to handle large/complex grants				
Staff with expertise or training in Benefit-Cost Analysis				
Other				

Capability Assessment Survey

Jurisdiction: SMITHTON

Point of Contact Name and Title: TOM HAYNES LOCAL COORDINATOR

Phone: 724 872 8677

Email: HAYNESTHOMAS@MSN.COM

1. Planning and Regulatory Capability: Please indicate whether the following planning or regulatory tools and programs are currently in place or under development for your jurisdiction by placing an "X" in the appropriate box, followed by the date of adoption/update. Then, for each particular item in place, identify the department or agency responsible for its implementation and indicate it's estimated or anticipated effect on hazard loss reduction (Supports, Neutral or Hinders) with the appropriate symbol and also indicate if there has been a change in the ability of the tool/program to result in loss reduction. Finally, please provide additional comments or explanations in the space provided.

Tool / Program	Status			Dept./Agency Responsible	Comments
	In Place	Date Adopted or Updated	Under Develop-ment		
[illegible]	[illegible]	[illegible]		Hazard County EMA	[illegible]
Hazard Mitigation Plan					ADOPTED COUNTY PLAN 2015
Emergency Operations Plan	X	2009			BEING UPDATED NOW
Disaster Recovery Plan					
Evacuation Plan					
Continuity of Operations Plan					
NFIP					NOT SURE ABOUT BOROUGH'S STATUS ON THESE ISSUES
NFIP – Community Rating System					
Floodplain Regulations (spec. NFIP Flood Damage Prevention Ordinance)					
Floodplain Management Plan					
Zoning Regulations					

5. **Self-Assessment of Capability:** Please provide an approximate measure of your jurisdiction's capability to effectively implement hazard mitigation strategies to reduce hazard vulnerabilities. Using the following table, please place an "X" in the box marking the most appropriate degree of capability (Limited, Moderate or High) based upon best available information and the responses provided in Sections 1-5 of this survey. For multi-jurisdictional plans, record the results of this section into the Self-Assessment Capability Matrix in **Section 5**.

Area	Degree of Capability		
	Limited	Moderate	High
Planning and Regulatory Capability			
Administrative and Technical Capability			
Financial Capability			
Education and Outreach			

3. **Financial Capability:** Please indicate whether your jurisdiction has access to or is eligible to use the following local financial resources ***for hazard mitigation purposes*** (including as match funds for State of Federal mitigation grant funds). Then, identify the primary department or agency responsible for its administration or allocation and provide any other comments you may have in the space provided or with attachments.

Financial Resources	Yes	No	Department/Agency	Comments
Capital Improvement Programming				
Community Development Block Grants (CDBG)				
Special Purpose Taxes				
Gas / Electric Utility Fees				
Water / Sewer Fees				
Stormwater Utility Fees				
Development Impact Fees				
General Obligation, Revenue, and/or Special Tax Bonds				
Partnering Arrangements or Intergovernmental Agreements				
Other				

NATIONAL FLOOD INSURANCE PROGRAM (NFIP) SURVEY

MUNICIPALITY: SMITHTON

1. FLOODPLAIN IDENTIFICATION AND MAPPING			
Requirement	*Recommended Action*	*Yes/No*	*Comments*
a. Does the municipality maintain accessible copies of an effective Flood Insurance Rate Map (FIRM)/Digital Flood Insurance Rate Map (DFIRM)? Does the municipality maintain accessible copies of the most recent Flood Insurance Study (FIS)?	Place these documents in the local libraries or make available publicly.	✓	AVAILABLE IN BOROUGH OFFICE
b. Has the municipality adopted the most current DFIRM/FIRM and FIS?	State the date of adoption, if approved.	?	
c. Does the municipality support request for map updates?	If yes, state how.		REQUESTED BY WHOM ?
d. Does the municipality share with Federal Emergency Management Agency (FEMA) any new technical or scientific data that could result in map revisions within 6 months of creation or identification of new data?	If yes, specify how.	?	THE BOROUGH NEITHER GENERATES NOR RECEIVES SUCH DATA
e. Does the municipality provide assistance with local floodplain determinations?	If yes, specify how.	?	ASSISTANCE TO WHOM ?
f. Does the municipality maintain a record of approved Letters of Map Change?	If yes, specify the responsible office.	?	APROVED LETTERS FROM WHOM ?

4. **Education and Outreach:** Identify education and outreach programs and methods already in place that could be used to implement mitigation activities and communicate hazard-related information. Then, identify the primary department or agency responsible for its administration or allocation and provide any other comments you may have in the space provided or with attachments.

Program/Organization	Yes	No	Department/Agency	Comments
Firewise Communities Certification				
StormReady certification				
Natural disaster or safety related school programs				
Ongoing public education or information program (e.g. responsible water use, fire safety, household preparedness, environmental education)				
Public-private partnership initiatives addressing disaster-related issues				
Local citizen groups or nonprofit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.				
Other				

Mitigation Strategy 5-Year Mitigation Plan Review

Name: Tom Haynes Title: Local Coordinator Jurisdiction: Smithton

Purpose: To fulfill requirement that plan maintenance from previous plan has been completed and to obtain early feedback from the planning team to incorporate into the update process.

Instructions: Complete the *Goal and Objective Review Worksheet* and *Mitigation Action Plan Review Worksheet* on the next pages keeping the following questions in mind:

- Do the goals, objectives, and actions address current and expected conditions?
- Go through each goal and objective to determine: Should goal be carried forward into updated plan? Should goal be changed based on current conditions in community? Should goal be discontinued and if so why?
- Progress on actions should be noted. For each action the following questions should be answered: What is status? What progress has been made? Should action be continued in updated plan? Should action be discontinued and if so why?
- Has the nature or magnitude of hazard risk changed?
- Are current resources adequate to implement the Plan?
- Should additional local resources be committed to address identified hazard threats?
- Are there any issues that have limited the current implementation schedule?
- Have the implementation of identified mitigation actions resulted in expected outcomes?
- Has the Mitigation Planning Committee measured the effectiveness of completed hazard mitigation projects in terms of specific dollar losses avoided?
- Did the jurisdictions, agencies and other partners participate in the plan implementation process as proposed?
- Other?

Before completing the worksheets, the group may wish to discuss the above questions in a round robin format, using a flip chart. The questions are standard questions; however it is important to check the existing hazard mitigation plan maintenance section to see if there are additional questions that need to be considered.

Goal and Objective Review Worksheet

Instructions: Write each goal and objective identified in the existing hazard mitigation plan. Use the comment boxes to provide feedback or to suggest modification of any of the proposed goals or objectives. You may suggest additional objectives below each goal, or new goals and objectives on the last page of this exercise.

	Existing Goals and Objectives	Comments
Goal 1	**To minimize the risk to human life associated with natural and non-natural hazards.**	
Goal 2	**To promote hazard avoidance, especially in floodplains, by removing high-risk and repetitive loss structures, and by issuing building restrictions on future development.**	
Goal 3	**To reduce the damage from natural and non-natural hazards to existing and future public and private assets including structures, critical facilities, and infrastructure.**	

2. FLOODPLAIN MANAGEMENT			
Requirement	*Recommended Action*	*Yes/No*	*Comments*
a. Has the municipality adopted a compliant floodplain management ordinance that, at a minimum, regulates the following:	If yes, answer questions (1) through (4) below.	✓	#206 3/14/2011
(1) Does the municipality issue permits for all proposed development in the Special Flood Hazard Areas (SFHAs)?	If yes, specify the office responsible.	✓	Borough Council
(2) Does the municipality obtain, review, and utilize any Base Flood Elevation (BFE) and floodway data, and/or require BFE data for subdivision proposals and other development proposals larger than 50 lots or 5 acres?	If yes, specify the office responsible.	✓	Borough Council
(3) Does the municipality identify measures to keep all new and substantially improved construction reasonably safe from flooding to or above the BFE, including anchoring, using flood-resistant materials, and designing or locating utilities and service facilities to prevent water damage?	If yes, specify the office responsible.	✓	Borough Council
(4) Does the municipality document and maintain records of elevation data that document lowest floor elevation for new or substantially improved structures?	If yes, specify the office responsible.		Permits would include such data, if issued.
b. If a compliant floodplain ordinance was adopted, does the municipality enforce the ordinance by monitoring compliance and taking remedial action to correct violations?	If yes, specify how.	✓	Monitoring and review prior to issuing any permits.

2. FLOODPLAIN MANAGEMENT			
Requirement	*Recommended Action*	*Yes/No*	*Comments*
c. Has the municipality considered adopting activities that extend beyond the minimum requirements? Examples include: • Participation in the Community Rating System • Prohibition of production or storage of chemicals in SFHA • Prohibition of certain types of structures, such as hospitals, nursing homes, and jails in SFHA • Prohibition of certain types of residential housing (manufactured homes) in SFHA • Floodplain ordinances that prohibit any new residential or nonresidential structures in SFHA	If yes, specify activities.	No	

3. FLOOD INSURANCE			
Requirement	*Recommended Action*	*Yes/No*	*Comments*
a. Does the municipality educate community members about the availability and value of flood insurance?	If yes, specify how.	No	
b. Does the municipality inform community property owners about changes to the DFIRM/FIRM that would impact their insurance rates?	If yes, specify how.	No	
c. Does the municipality provide general assistance to community members regarding insurance issues?	If yes, specify how.	?	

Mitigation Action Plan Review Worksheet

Instructions: List each mitigation action from the existing hazard mitigation plan and identify its status as "No Progress / Unknown," "In Progress / Not Yet Complete," "Continuous," "Completed," or "Discontinued." Include review comments for each action.

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress/ Not Yet Complete	Continuous	Completed	Discontinued	
1. Mt. Pleasant Borough - Install additional stormwater runoff pipes and upgrade/replace existing deteriorated pipes.						
2. Hunker Borough - Procure and install a back-up generator into Hunker Borough EOC.						
3. Hunker Borough - Procure and install air conditioning units into community building / community shelter.						
4. Hunker Borough - Retrofit community building to prevent flooding in basement.						
5. Hunker Borough - Pave Bellson Street in Hunker Borough. Install proper drainage to prevent flooding.						
6. Hunker Borough - Implement the redirection of the stormwater catch basin at the intersection of Walnut and Bridge St.						
7. Hunker Borough - Demolition of abandoned home.						
8. Hunker Borough - Install sub-flooring to prevent roadway along Locust St. from sinking.						
9. Hunker Borough - Retrofit Walnut St. Bridge to prevention erosion.						

	Existing Goals and Objectives	Comments
Goal 4	**To protect and restore existing natural resources including wetlands, floodplains, and riparian buffers.**	
Goal 5	**To develop, prioritize and implement cost-effective, long-term actions that will reduce the impacts of natural and non-natural hazards.**	
	FLOOD MANAGEMENT ISSUES EMERGENCY BACKUP GENERATORS FOR BORO BLDG & VFD SOCIAL HALL	
Goal 6	**To enhance planning and emergency response efforts among local, county, state, and federal, emergency management personnel to protect public health and safety.**	
Goal 7	**To promote public awareness on the potential impacts of natural and non-natural hazards, and actions to reduce those impacts.**	

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress/ Not Yet Complete	Continuous	Completed	Discontinued	
10. Unity Township - Construct and install a new culvert in Lloydsville to enhance hydraulic capacity.						
11. Unity Township - Install a stormwater detention system in Lawson Heights.						
12. Allegheny Township - Replace and enhance stormwater runoff pipes in Moreland Manor.						
13. St. Clair Township - Reconstruction of Bridge River Hill Bridge.						
14. St. Clair Township - Reconstruction of Bridge Sugar Run Road.						
15. Fairfield Township - Reconstruction of Patterson Bridge.						
16. Sewickley Township - Install storm water drainage system along Pinewood Road.						
17. Sewickley Township - Procure a skid loader/grab attachment for storm clean up and culvert clean out.						
18. Sewickley Township - Procure remote receive sites to enhance communications.						
19. Sewickley Township - Procure sweeper truck for stormwater management.						
20. Sewickley Township - Procure and install a back-up generator into Hutchinson VFD Station 85.						

	Suggested Additional Goals and/or Objectives	Comments
Goal		
Objective		
Objective		
Objective		

Goal		
Objective		
Objective		
Objective		

Goal		
Objective		
Objective		
Objective		

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress/ Not Yet Complete	Continuous	Completed	Discontinued	
31. All Municipalities - Have designated NFIP Floodplain Administrator (FPA) become a Certified Floodplain Manager through the ASFPM, and pursue relevant continuing education training such as FEMA Benefit-Cost Analysis.						
32. All Municipalities - Participate in the Community Rating System (CRS) to further manage flood risk and reduce flood insurance premiums for NFIP policyholders. This process starts by submitting to FEMA-DHS of Letter of Intent to join CRS, followed by completing and submitting an application to the program once the community's current compliance with the NFIP is established.						
33. County and all municipalities - Continue to support the implementation, monitoring, maintenance, and updating of this Plan, as defined in Section 7.0.						*Has this activity been Integrated into the municipality's normal operations?*
34. County and all municipalities - Complete the ongoing updates of the Comprehensive Plans.						
35. County - Enhance the Westmoreland County Stormwater Management Plan by implementing Phase 2 of the plan.						
36. County and all municipalities - Create/enhance/ maintain mutual aid agreements with neighboring counties / communities for continuity of operations.						*Has this activity been Integrated into the municipality's normal operations?*

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress/ Not Yet Complete	Continuous	Completed	Discontinued	
21. Sewickley Township - Procure and install a back-up generator into Lowber VFD Station 16.						
22. Sewickley Township - Procure and install a back-up generator into Rillton VFD Station 14.						
23. Sewickley Township - Procure skid steer attachment to clear debris around culverts.						
24. Fairfield Township - Develop and implement an action plan to mitigation recurring flooding on Creek Road.						
25. Upper Burrell Township - Procure and install an emergency generator.						
26. County and all municipalities - Retrofit structures located in hazard-prone areas to protect structures from future damage, with repetitive loss and severe repetitive loss properties as priority. Phase 1: Identify appropriate candidates for retrofitting based on cost-effectiveness versus relocation. Phase 2: Where retrofitting is determined a viable option, work with property owners toward implementation based on available funding from FEMA and local match availability.						

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress/ Not Yet Complete	Continuous	Completed	Discontinued	
37. County - Identify and develop agreements with entities that can provide support with FEMA/PEMA paperwork after disasters. Qualified damage assessment personnel should be available for post-disaster efforts, including damage assessment; FEMA/PEMA paperwork compilation, submittals, and record-keeping.						*Has this activity been Integrated into the municipality's normal operations?*
38. County - Work with regional agencies (i.e. Region 13 and PEMA) to develop damage assessment capabilities at the local level through training programs, certification of qualified individuals (e.g. code officials, floodplain managers, engineers).						
39. County and all municipalities - Partner with community groups such as local community organizations, including civic, business, town watch, faith-based, senior, special needs and tenant associations to promote emergency preparedness and mitigation efforts.						*Has this activity been Integrated into the municipality's normal operations?*
40. County and all municipalities - Develop geospatial and analytical tools to support community engagement, policy reform, and county and regional planning efforts.						*Has this activity been Integrated into the municipality's normal operations?*
41. County and all municipalities - Develop a hazard event GIS database to help county and local emergency managers with hazard mitigation and other planning initiatives.						*Has this activity been Integrated into the municipality's normal operations?*

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress/ Not Yet Complete	Continuous	Completed	Discontinued	
27. County and all municipalities - Purchase, or relocate structures located in hazard-prone areas to protect structures from future damage, with repetitive loss and severe repetitive loss properties as priority. Phase 1: Identify appropriate candidates for relocation based on cost-effectiveness versus retrofitting. Phase 2: Where relocation is determined a viable option, work with property owners toward implementation based on available funding from FEMA and local match availability.						
28. All Municipalities - Maintain compliance with and be in 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.						*Has this activity been Integrated into the municipality's normal operations?*
29. All Municipalities - Begin the process to adopt higher regulatory standards to manage flood risk (i.e. increased freeboard, cumulative substantial damage/improvements) and sinkhole risk (e.g. carbonate bedrock standards).						
30. All Municipalities - Determine if a Community Assistance Visit (CAV) or Community Assistance Contact (CAC) is needed, and schedule if needed.						

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress / Not Yet Complete	Continuous	Completed	Discontinued	
42. County and all municipalities - Maintain and exercise continuity of government plan to enable the county government to provide critical services during an interruption of business.						*Has this activity been integrated into the municipality's normal operations?*
43. County and all municipalities - Implement seismic retrofits to vulnerable critical facilities.						*Has this activity been integrated into the municipality's normal operations?*
44. All municipalities - Regulate development to reduce flood losses in vulnerable fluvial areas.						*Has this activity been integrated into the municipality's normal operations?*
45. County - Develop and maintain an outreach program to provide information and guidance to municipalities on their role in flood plain development.						*Has this activity been integrated into the municipality's normal operations?*
46. County and all municipalities - Support and utilize an advanced warning system that provides emergency text and email alerts to the public.						*Has this activity been integrated into the municipality's normal operations?*
47. County and all municipalities - Procure redundant power sources (portable generators).						NEED TO LOOK INTO THIS
48. County and all municipalities - Maintain redundant power sources						*Has this activity been integrated into the municipality's normal operations?*

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress / Not Yet Complete	Continuous	Completed	Discontinued	
49. County and all municipalities - Develop and distribute educational information on hazards, emergency preparedness and fire prevention.						*Has this activity been integrated into the municipality's normal operations?*
50. County and all municipalities - Develop and distribute public outreach materials on water conservation.						*Has this activity been integrated into the municipality's normal operations?*

MITIGATION OF THE BANKS OF SULPHUR CREEK AT THE EAST END OF FIRST STREET.
EMERGENCY GENERATOR FOR BOROUGH BUILDING
EMERGENCY GENERATOR FOR FIRE DEPT SOCIAL HALL TO USE AS A WARMING CENTER DURING POWER OUTAGE
STORMWATER/GROUNDWATER INFLOW OVERWHELMING THE SANITARY SEWER SYSTEM CAUSING BACK-UPS INTO BASEMENTS.

Hazard Identification and Risk Evaluation Worksheet

Name: RALPH EVRIN Title: EMERGENCY MANAGEMENT

Jurisdiction: SOUTH GREENSBURG BOROUGH

PART I

Identified Hazards 2015 HMP	How has the frequency of occurrence, magnitude of impact, and/or geographic extent changed in your community? *NC = No Change; I = Increase; D = Decrease* *(Please provide an explanation for any hazards marked I or D in the "Additional Comments" column)*	Additional Comments
Natural Hazards		
Avalanche	NC	
Drought	NC	
Earthquake	NC	
Extreme Temperatures	NC	
Floods, Flash Floods, and Ice Jams	NC	
Hailstorm	NC	
Hurricane	NC	
Landslide	NC	
Lightning	NC	
Radon Exposure	NC	
Subsidence, Sinkhole	NC	
Tornado, Windstorm	NC	
Wildfire	D	
Winter Storm	NC	

Identified Hazards 2015 HMP	How has the frequency of occurrence, magnitude of impact, and/or geographic extent changed in your community? *NC = No Change; I = Increase; D = Decrease* *(Please provide an explanation for any hazards marked I or D in the "Additional Comments" column)*	Additional Comments
Human-made Hazards		
Dam Failure	N.C	
Environmental Hazards	NC	
Nuclear Incident	N.C	
Structural Fire	NC	
Terrorism	NC	
Transportation Accident	NC	
Utility Interruption	NC	

PART II

Other Hazards:

Do any of these hazards, not previously profiled in the County's hazard mitigation plan; have the potential to affect your municipality significantly? (If so, please check the box)

Natural

- ☐ Coastal Erosion
- ☐ Dust, Sand Storm
- ☐ Expansive Soils
- ☐ Invasive Species
- ☐ Pandemic
- ☐ Tsunami
- ☐ Volcano

Human-Caused

- ☑ Building or Structure Collapse
- ☑ Civil Disturbance
- ☐ Disorientation
- ☐ Drowning
- ☐ Levee Failure
- ☐ Mass Food/Animal Feed Contamination
- ☐ War and Criminal Activity

Other Comments:

Updated Project Timeline and Schedule

Task	Deliverables / Timeline
Task 1 – Organize the Resources	► In-person attendance at monthly HMWG meetings. o HMWG Kickoff Meeting conducted on February 11. o August, September, and October HMWG meetings will be used to discuss applying for FEMA mitigation funding. Grants will likely open in October, and applications will be due in December. o Other topics for discussion at HMWG meetings are included in subsequent tasks. ► Initial Planning Team Meeting conducted on February 28. ► Additional stakeholder and public outreach conducted throughout the planning process.
Task 2 – Assess Capabilities	► Capabilities assessed throughout the planning process as documents are reviewed and Capability Assessment Worksheets are received. ► Capabilities discussed at the April HMWG meeting.
Task 3 – Update the Risk Assessment	► Hazards profiled completed in draft format by the end of April.
Task 4 – Review the Risk Assessment and Capability Assessment	► Risk assessment and capability assessment discussed with the HMWG at the May meeting. ► Public Planning Team Meeting conducted in mid-to-late May.
Task 5 – Develop the Updated Mitigation Strategy	► Existing mitigation strategy analyzed by the end of May. ► Draft goals and objectives developed by early June. ► Draft goals and objectives reviewed and discussed at the June HMWG meeting. ► Mitigation Strategy Workshop conducted in mid-June. ► Mitigation actions identified by early July. ► Mitigation Strategy Review Meeting conducted virtually in mid-July.
Task 6 – Update Plan Maintenance Procedures	► Existing HMP plan maintenance procedures discussed at the March HMWG meeting. ► New plan maintenance procedures developed by the end of April.
Task 7 – Develop the Draft Plan	► Draft plan developed by mid-July.
Task 8 – Review and Finalize the Draft Plan	► Draft reviewed with the HMWG at the July meeting. ► Public comment period from late July to late August. ► Public meeting of the Planning Team to review the draft and receive comments conducted in late August. ► Draft finalized for formal review by the end of August.
Task 9 – Submit the Draft Plan for Review	► Draft HMP submitted to PEMA for review by the end of August. ► PEMA reviews the draft HMP by mid-September. ► Draft plan updated based on PEMA review and submitted to FEMA Region III by late September. ► FEMA Region III reviews the draft HMP by early November. ► FEMA Region III comments on the draft HMP reviewed with the HMWG at the November meeting, if needed.

Task	Deliverables / Timeline
	► Draft HMP updated and resubmitted to FEMA Region III by mid-November, if needed. ► APA status obtained by mid-to-late November.
Task 10 – Facilitate Adoption	► APA-designated HMP presented to the Westmoreland County Commissioners for adoption in late November. ► Adoption resolution submitted to FEMA by the end of November. ► FEMA approval of the HMP immediately following receipt of the adoption resolution. Approval of the HMP will be as of the date of adoption.
Project Management	► Status reports provided at the end of each month, beginning in February. ► Quarterly reports drafted and provided to the County one week prior to the reporting due dates (as stated in the response to questions). ► Invoices provided at the beginning of each month, beginning in March.

HMWG = Hazard Mitigation Working Group

Jurisdiction Risk - SOUTH GREENSBURG (Municipality)

Avalanche	1.0	^
Dam Failure	1.3	^
Drought	2.2	^
Earthquake	1.9	^
Environmental Hazards	2.9	=
Extreme Temperatures	2.7	^
Flood, Flash Flood, and Ice Jam	3.3	^
Hailstorm	2.5	^
Hurricane and Tropical Storm	2.1	^
Illicit Drug Use	3.1	^
Landslide	2.5	^
Lightning	1.4	^
Nuclear Incidents	1.9	^
Radon Exposure	2.6	^
Structural Fire	2.2	^
Subsidence and Sinkholes	1.9	^
Terrorism	2.6	^
Tornado, Windstorm	3.0	^
Transportation Accidents	2.2	^
Utility Interruptions	3.0	^
Wildfire	2.3	^
Winter Storm	3.0	^

^ Your municipality's risk from this hazard is greater than the County's risk as a whole

v Your municipality's risk from this hazard is less than the County's risk as a whole

= Your municipality's risk from this hazard is about the same as the County's risk as a whole

2. **Administrative and Technical Capability:** Please indicate whether your jurisdiction maintains the following staff members within its current personnel resources by placing an "X" in the appropriate box. Then, if YES, please identify the department or agency they work under and provide any other comments you may have in the space provided or with attachments.

Staff/Personnel Resources	Yes	No	Department/Agency	Comments
Planners (with land use / land development knowledge)	X			
Planners or engineers (with natural and/or human caused hazards knowledge)	X			
Engineers or professionals trained in building and/or infrastructure construction practices (includes building inspectors)	X			
Emergency Manager	X			
NFIP Floodplain Administrator		X		
Land Surveyors	X			
Scientists or staff familiar with the hazards of the community	X			
Personnel skilled in Geographic Information Systems (GIS) and/or FEMA's HAZUS program			COUNTY	
Grant writers or fiscal staff to handle large/complex grants			OFFICE	
Staff with expertise or training in Benefit-Cost Analysis	X		AUDITORS	
Other				

Capability Assessment Survey

Jurisdiction: SOUTH GREENSBURG BOROUGH Point of Contact Name and Title: BOROUGH OFFICE

Phone: 724-837-8858 Email: INFO@SOUTHGREENSBURG.ORG

1. **Planning and Regulatory Capability:** Please indicate whether the following planning or regulatory tools and programs are currently in place or under development for your jurisdiction by placing an "X" in the appropriate box, followed by the date of adoption/update. Then, for each particular item in place, identify the department or agency responsible for its implementation and indicate it's estimated or anticipated effect on hazard loss reduction (Supports, Neutral or Hinders) with the appropriate symbol and also indicate if there has been a change in the ability of the tool/program to result in loss reduction. Finally, please provide additional comments or explanations in the space provided.

Tool / Program	Status			Dept./Agency Responsible	Comments
	In Place	Date Adopted or Updated	Under Develop-ment		
[illegible]				Local County EMA	Interim update in 2018 revised mitigation strategy, comprehensive update
Hazard Mitigation Plan			X		
Emergency Operations Plan	X				
Disaster Recovery Plan					
Evacuation Plan	X				
Continuity of Operations Plan	X				
NFIP			X		
NFIP – Community Rating System			X		
Floodplain Regulations (spec. NFIP Flood Damage Prevention Ordinance)	X				
Floodplain Management Plan	X				
Zoning Regulations	X				

3. **Financial Capability:** Please indicate whether your jurisdiction has access to or is eligible to use the following local financial resources ***for hazard mitigation purposes*** (including as match funds for State of Federal mitigation grant funds). Then, identify the primary department or agency responsible for its administration or allocation and provide any other comments you may have in the space provided or with attachments.

Financial Resources	Yes	No	Department/Agency	Comments
Capital Improvement Programming	X			
Community Development Block Grants (CDBG)	X			
Special Purpose Taxes	X			
Gas / Electric Utility Fees		X		
Water / Sewer Fees		X		
Stormwater Utility Fees		X		
Development Impact Fees		X		
General Obligation, Revenue, and/or Special Tax Bonds		X		
Partnering Arrangements or Intergovernmental Agreements		X		
Other				

Tool / Program	Status			Dept./Agency Responsible	Comments
	In Place	Date Adopted or Updated	Under Develop-ment		
Subdivision Regulations	X				
Comprehensive Land Use Plan (or General, Master or Growth Mgt. Plan)			X		
Open Space Management Plan (or Parks/Rec or Greenways Plan)			X		
Stormwater Management Plan / Ordinance			X		
Natural Resource Protection Plan					
Capital Improvement Plan			X		
Economic Development Plan			X		
Historic Preservation Plan					
Farmland Preservation					
Building Code	X				
Fire Code	X				
Other					

NATIONAL FLOOD INSURANCE PROGRAM (NFIP) SURVEY

MUNICIPALITY: So Greensburg Borough

1. FLOODPLAIN IDENTIFICATION AND MAPPING

Requirement	Recommended Action	Yes/No	Comments
a. Does the municipality maintain accessible copies of an effective Flood Insurance Rate Map (FIRM)/Digital Flood Insurance Rate Map (DFIRM)? Does the municipality maintain accessible copies of the most recent Flood Insurance Study (FIS)?	Place these documents in the local libraries or make available publicly.	Yes	
b. Has the municipality adopted the most current DFIRM/FIRM and FIS?	State the date of adoption, if approved.		
c. Does the municipality support request for map updates?	If yes, state how.	Yes	through Emerg. Co-ordinator
c. Does the municipality share with Federal Emergency Management Agency (FEMA) any new technical or scientific data that could result in map revisions within 6 months of creation or identification of new data?	If yes, specify how.	Yes.	
e. Does the municipality provide assistance with local floodplain determinations?	If yes, specify how.		
f. Does the municipality maintain a record of approved Letters of Map Change?	If yes, specify the responsible office.	Yes	

2. FLOODPLAIN MANAGEMENT

Requirement	Recommended Action	Yes/No	Comments
a. Has the municipality adopted a compliant floodplain management ordinance that, at a minimum, regulates the following:	If yes, answer questions (1) through (4) below.	No	
(1) Does the municipality issue permits for all proposed development in the Special Flood Hazard Areas (SFHAs)?	If yes, specify the office responsible.		
(2) Does the municipality obtain, review, and utilize any Base Flood Elevation (BFE) and floodway data, and/or require BFE data for subdivision proposals and other development proposals larger than 50 lots or 5 acres?	If yes, specify the office responsible.		
(3) Does the municipality identify measures to keep all new and substantially improved construction reasonably safe from flooding to or above the BFE, including anchoring, using flood-resistant materials, and designing or locating utilities and service facilities to prevent water damage?	If yes, specify the office responsible.		
(4) Does the municipality document and maintain records of elevation data that document lowest floor elevation for new or substantially improved structures?	If yes, specify the office responsible.		
b. If a compliant floodplain ordinance was adopted, does the municipality enforce the ordinance by monitoring compliance and taking remedial action to correct violations?	If yes, specify how.		

4. **Education and Outreach:** Identify education and outreach programs and methods already in place that could be used to implement mitigation activities and communicate hazard-related information. Then, identify the primary department or agency responsible for its administration or allocation and provide any other comments you may have in the space provided or with attachments.

Program/Organization	Yes	No	Department/Agency	Comments
Firewise Communities Certification		X		
StormReady certification		X		
Natural disaster or safety related school programs				NO SCHOOLS
Ongoing public education or information program (e.g. responsible water use, fire safety, household preparedness, environmental education)	X			
Public-private partnership initiatives addressing disaster-related issues		X		
Local citizen groups or nonprofit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.		X		
Other				

5. **Self-Assessment of Capability:** Please provide an approximate measure of your jurisdiction's capability to effectively implement hazard mitigation strategies to reduce hazard vulnerabilities. Using the following table, please place an "**X**" in the box marking the most appropriate degree of capability (Limited, Moderate or High) based upon best available information and the responses provided in Sections 1-5 of this survey. For multi-jurisdictional plans, record the results of this section into the Self-Assessment Capability Matrix in **Section 5**.

Area	Degree of Capability		
	Limited	Moderate	High
Planning and Regulatory Capability	X		
Administrative and Technical Capability	X		
Financial Capability	X		
Education and Outreach	X		

Goal and Objective Review Worksheet

Instructions: Write each goal and objective identified in the existing hazard mitigation plan. Use the comment boxes to provide feedback or to suggest modification of any of the proposed goals or objectives. You may suggest additional objectives below each goal, or new goals and objectives on the last page of this exercise.

	Existing Goals and Objectives	Comments
Goal 1	To minimize the risk to human life associated with natural and non-natural hazards.	
Goal 2	To promote hazard avoidance, especially in floodplains, by removing high-risk and repetitive loss structures, and by issuing building restrictions on future development.	
Goal 3	To reduce the damage from natural and non-natural hazards to existing and future public and private assets including structures, critical facilities, and infrastructure.	

2. FLOODPLAIN MANAGEMENT

Requirement	*Recommended Action*	*Yes/No*	*Comments*
c. Has the municipality considered adopting activities that extend beyond the minimum requirements? Examples include: • Participation in the Community Rating System • Prohibition of production or storage of chemicals in SFHA • Prohibition of certain types of structures, such as hospitals, nursing homes, and jails in SFHA • Prohibition of certain types of residential housing (manufactured homes) in SFHA • Floodplain ordinances that prohibit any new residential or nonresidential structures in SFHA	If yes, specify activities.	No	

3. FLOOD INSURANCE

Requirement	*Recommended Action*	*Yes/No*	*Comments*
a. Does the municipality educate community members about the availability and value of flood insurance?	If yes, specify how.	Yes	Flood Ordinance
b. Does the municipality inform community property owners about changes to the DFIRM/FIRM that would impact their insurance rates?	If yes, specify how.	Ye	Emergency Management Officials +
c. Does the municipality provide general assistance to community members regarding insurance issues?	If yes, specify how.	Yes	VCC Inquiries

	Existing Goals and Objectives	Comments
Goal 4	To protect and restore existing natural resources including wetlands, floodplains, and riparian buffers.	
Goal 5	To develop, prioritize and implement cost-effective, long-term actions that will reduce the impacts of natural and non-natural hazards.	
Goal 6	To enhance planning and emergency response efforts among local, county, state, and federal, emergency management personnel to protect public health and safety.	
Goal 7	To promote public awareness on the potential impacts of natural and non-natural hazards, and actions to reduce those impacts.	

Mitigation Strategy 5-Year Mitigation Plan Review

Name: RALPH FORIN Title: EMC Jurisdiction: SU. Gr. Borough

Purpose: To fulfill requirement that plan maintenance from previous plan has been completed and to obtain early feedback from the planning team to incorporate into the update process.

Instructions: Complete the *Goal and Objective Review Worksheet* and *Mitigation Action Plan Review Worksheet* on the next pages keeping the following questions in mind:

- Do the goals, objectives, and actions address current and expected conditions?
- Go through each goal and objective to determine: Should goal be carried forward into updated plan? Should goal be changed based on current conditions in community? Should goal be discontinued and if so why?
- Progress on actions should be noted. For each action the following questions should be answered: What is status? What progress has been made? Should action be continued in updated plan? Should action be discontinued and if so why?
- Has the nature or magnitude of hazard risk changed?
- Are current resources adequate to implement the Plan?
- Should additional local resources be committed to address identified hazard threats?
- Are there any issues that have limited the current implementation schedule?
- Have the implementation of identified mitigation actions resulted in expected outcomes?
- Has the Mitigation Planning Committee measured the effectiveness of completed hazard mitigation projects in terms of specific dollar losses avoided?
- Did the jurisdictions, agencies and other partners participate in the plan implementation process as proposed?
- Other?

Before completing the worksheets, the group may wish to discuss the above questions in a round robin format, using a flip chart. The questions are standard questions; however it is important to check the existing hazard mitigation plan maintenance section to see if there are additional questions that need to be considered.

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress/ Not Yet Complete	Continuous	Completed	Discontinued	
10. Unity Township - Construct and install a new culvert in Lloydsville to enhance hydraulic capacity.	✓					
11. Unity Township - Install a stormwater detention system in Lawson Heights.	✓					
12. Allegheny Township - Replace and enhance stormwater runoff pipes in Moreland Manor.	✓					
13. St. Clair Township - Reconstruction of Bridge River Hill Bridge.	✓					
14. St. Clair Township - Reconstruction of Bridge Sugar Run Road.	✓					
15. Fairfield Township - Reconstruction of Patterson Bridge.	✓					
16. Sewickley Township - Install storm water drainage system along Pinewood Road.	✓					
17. Sewickley Township - Procure a skid loader/grab attachment for storm clean up and culvert clean out.	✓					
18. Sewickley Township - Procure remote receive sites to enhance communications.	✓					
19. Sewickley Township - Procure sweeper truck for stormwater management.	✓					
20. Sewickley Township - Procure and install a back-up generator into Hutchinson VFD Station 85.	✓					

Suggested Additional Goals and/or Objectives		Comments
Goal		
Objective		
Objective		
Objective		

Goal		
Objective		
Objective		
Objective		

Goal		
Objective		
Objective		
Objective		

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress/ Not Yet Complete	Continuous	Completed	Discontinued	
21. Sewickley Township - Procure and install a back-up generator into Lowber VFD Station 16.	✓					
22. Sewickley Township - Procure and install a back-up generator into Rillton VFD Station 14.	✓					
23. Sewickley Township - Procure skid steer attachment to clear debris around culverts.	✓					
24. Fairfield Township - Develop and implement an action plan to mitigation recurring flooding on Creek Road.	✓					
25. Upper Burrell Township - Procure and install an emergency generator.						
26. County and all municipalities - Retrofit structures located in hazard-prone areas to protect structures from future damage, with repetitive loss and severe repetitive loss properties as priority. Phase 1: Identify appropriate candidates for retrofitting based on cost-effectiveness versus relocation. Phase 2: Where retrofitting is determined a viable option, work with property owners toward implementation based on available funding from FEMA and local match availability.	✓					

Mitigation Action Plan Review Worksheet

Instructions: List each mitigation action from the existing hazard mitigation plan and identify its status as "No Progress / Unknown," "In Progress / Not Yet Complete," "Continuous," "Completed," or "Discontinued." Include review comments for each action.

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress/ Not Yet Complete	Continuous	Completed	Discontinued	
1. Mt. Pleasant Borough - Install additional stormwater runoff pipes and upgrade/replace existing deteriorated pipes.	✓					
2. Hunker Borough - Procure and install a back-up generator into Hunker Borough EOC.	✓					
3. Hunker Borough - Procure and install air conditioning units into community building / community shelter.	✓					
4. Hunker Borough - Retrofit community building to prevent flooding in basement.	✓					
5. Hunker Borough - Pave Bellson Street in Hunker Borough. Install proper drainage to prevent flooding.	✓					
6. Hunker Borough - Implement the redirection of the stormwater catch basin at the intersection of Walnut and Bridge St.	✓					
7. Hunker Borough - Demolition of abandoned home.	✓					
8. Hunker Borough - Install sub-flooring to prevent roadway along Locust St. from sinking.	✓					
9. Hunker Borough - Retrofit Walnut St. Bridge to prevention erosion.	✓					

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress/ Not Yet Complete	Continuous	Completed	Discontinued	
37. County - Identify and develop agreements with entities that can provide support with FEMA/PEMA paperwork after disasters. Qualified damage assessment personnel should be available for post-disaster efforts, including damage assessment; FEMA/PEMA paperwork compilation, submittals, and record-keeping.	X					*Has this activity been Integrated into the municipality's normal operations?*
38. County - Work with regional agencies (i.e. Region 13 and PEMA) to develop damage assessment capabilities at the local level through training programs, certification of qualified individuals (e.g. code officials, floodplain managers, engineers).	X					
39. County and all municipalities - Partner with community groups such as local community organizations, including civic, business, town watch, faith-based, senior, special needs and tenant associations to promote emergency preparedness and mitigation efforts.	X					*Has this activity been Integrated into the municipality's normal operations?*
40. County and all municipalities - Develop geospatial and analytical tools to support community engagement, policy reform, and county and regional planning efforts.	X					*Has this activity been Integrated into the municipality's normal operations?*
41. County and all municipalities - Develop a hazard event GIS database to help county and local emergency managers with hazard mitigation and other planning initiatives.	X					*Has this activity been Integrated into the municipality's normal operations?*

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress/ Not Yet Complete	Continuous	Completed	Discontinued	
27. County and all municipalities - Purchase, or relocate structures located in hazard-prone areas to protect structures from future damage, with repetitive loss and severe repetitive loss properties as priority. Phase 1: Identify appropriate candidates for relocation based on cost-effectiveness versus retrofitting. Phase 2: Where relocation is determined a viable option, work with property owners toward implementation based on available funding from FEMA and local match availability.	X					
28. All Municipalities - Maintain compliance with and be in 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.	X					*Has this activity been Integrated into the municipality's normal operations?*
29. All Municipalities - Begin the process to adopt higher regulatory standards to manage flood risk (i.e. increased freeboard, cumulative substantial damage/improvements) and sinkhole risk (e.g. carbonate bedrock standards).	X					
30. All Municipalities - Determine if a Community Assistance Visit (CAV) or Community Assistance Contact (CAC) is needed, and schedule if needed.	X					

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress/ Not Yet Complete	Continuous	Completed	Discontinued	
42. County and all municipalities - Maintain and exercise continuity of government plan to enable the county government to provide critical services during an interruption of business.	X					*Has this activity been Integrated into the municipality's normal operations?*
43. County and all municipalities - Implement seismic retrofits to vulnerable critical facilities.	X					
44. All municipalities - Regulate development to reduce flood losses in vulnerable fluvial areas.	X					*Has this activity been Integrated into the municipality's normal operations?*
45. County - Develop and maintain an outreach program to provide information and guidance to municipalities on their role in flood plain development.	X					*Has this activity been Integrated into the municipality's normal operations?*
46. County and all municipalities - Support and utilize an advanced warning system that provides emergency text and email alerts to the public.	X					*Has this activity been Integrated into the municipality's normal operations?*
47. County and all municipalities - Procure redundant power sources (portable generators).	X					
48. County and all municipalities - Maintain redundant power sources	X					*Has this activity been Integrated into the municipality's normal operations?*

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress/ Not Yet Complete	Continuous	Completed	Discontinued	
31. All Municipalities - Have designated NFIP Floodplain Administrator (FPA) become a Certified Floodplain Manager through the ASFPM, and pursue relevant continuing education training such as FEMA Benefit-Cost Analysis.	X					
32. All Municipalities - Participate in the Community Rating System (CRS) to further manage flood risk and reduce flood insurance premiums for NFIP policyholders. This process starts by submitting to FEMA-DHS of Letter of Intent to join CRS, followed by completing and submitting an application to the program once the community's current compliance with the NFIP is established.	X					
33. County and all municipalities - Continue to support the implementation, monitoring, maintenance, and updating of this Plan, as defined in Section 7.0	X					*Has this activity been Integrated into the municipality's normal operations?*
34. County and all municipalities - Complete the ongoing updates of the Comprehensive Plans	X					
35. County - Enhance the Westmoreland County Stormwater Management Plan by implementing Phase 2 of the plan.	X					
36. County and all municipalities - Create/enhance/ maintain mutual aid agreements with neighboring counties / communities for continuity of operations.	X					*Has this activity been Integrated into the municipality's normal operations?*

Existing Mitigation Action	Status: No Progress / Unknown	Status: In Progress/ Not Yet Complete	Status: Continuous	Status: Completed	Status: Discontinued	Review Comments
49. County and all municipalities - Develop and distribute educational information on hazards, emergency preparedness and fire prevention.	X					*Has this activity been integrated into the municipality's normal operations?*
50. County and all municipalities - Develop and distribute public outreach materials on water conservation.	X					*Has this activity been integrated into the municipality's normal operations?*

Hazard Identification and Risk Evaluation Worksheet

Name: Dan Pergola Title: EMC

Jurisdiction: South Huntingdon Twp

PART I

Identified Hazards 2015 HMP	How has the frequency of occurrence, magnitude of impact, and/or geographic extent changed in your community? *NC = No Change; I = Increase; D = Decrease* *(Please provide an explanation for any hazards marked I or D in the "Additional Comments" column)*	Additional Comments
Natural Hazards		
Avalanche	NC	
Drought	NC	
Earthquake	NC	
Extreme Temperatures	NC	
Floods, Flash Floods, and Ice Jams	I	Severe weather increase
Hailstorm	I	" " "
Hurricane	NC	
Landslide	I	" " "
Lightning	NC	
Radon Exposure	NC	
Subsidence, Sinkhole	I	" " "
Tornado, Windstorm	I	" " "
Wildfire	NC	
Winter Storm	NC	

Identified Hazards 2015 HMP	How has the frequency of occurrence, magnitude of impact, and/or geographic extent changed in your community? *NC = No Change; I = Increase; D = Decrease* *(Please provide an explanation for any hazards marked I or D in the "Additional Comments" column)*	Additional Comments
Human-made Hazards		
Dam Failure	NC	
Environmental Hazards	NC	
Nuclear Incident	NC	
Structural Fire	I	
Terrorism	NC	
Transportation Accident	NC	
Utility Interruption	NC	

Westmoreland County Hazard Mitigation Plan

Jurisdiction Risk - South Huntingdon Twp (Municipality)

Avalanche	1.0	"
Dam Failure	1.3	"
Drought	2.2	"
Earthquake	1.9	"
Environmental Hazards	2.9	✓
Extreme Temperatures	2.7	"
Flood, Flash Flood, and Ice Jam	3.2	✓
Hailstorm	2.5	"
Hurricane and Tropical Storm	2.1	"
Illicit Drug Use	3.1	"
Landslide	2.5	✓
Lightning	1.4	"
Nuclear Incidents	1.9	"
Radon Exposure	2.6	"
Structural Fire	2.2	"
Subsidence and Sinkholes	1.9	"
Terrorism	2.8	"
Tornado, Windstorm	3.0	"
Transportation Accidents	2.2	✓
Utility Interruptions	3.0	"
Wildfire	2.3	"
Winter Storm	3.0	"

Your municipality's risk from this hazard is greater than the County's risk as a whole

Your municipality's risk from this hazard is less than the County's risk as a whole

Your municipality's risk from this hazard is about the same as the County's risk as a whole

> < =

Capability Assessment Survey

Jurisdiction: South Huntingdon Township Point of Contact Name and Title: Jaimie Hribar Secretary

Phone: 724-872-5171 Email: southhuntingdontwp@comcast.net

1. **Planning and Regulatory Capability:** Please indicate whether the following planning or regulatory tools and programs are currently in place or under development for your jurisdiction by placing an "X" in the appropriate box, followed by the date of adoption/update. Then, for each particular item in question, identify the department or agency responsible for its implementation and indicate it's estimated or anticipated effect on hazard losses (Reduces Losses, Neutral or Hinders) with the appropriate symbol and also indicate if there has been a change in the ability of the jurisdiction to result in loss reduction. Finally, please provide additional comments or explanations in the space provided.

Tool / Program	Status: In Place	Date Adopted or Updated	Under Development	Dept./Agency Responsible	Comments
[illegible]				Hazard County EMA	Interim update in 2008 revised mitigation strategy; completed one action.
Hazard Mitigation Plan					
Emergency Operations Plan	X	10/2016		Emergency Management Coordinator	An update for this plan will be done this year.
Disaster Recovery Plan					
Evacuation Plan	X	10/2016		Emergency Management Coordinator	This plan is part of the Township's EOP
Continuity of Operations Plan					
NFIP					
NFIP – Community Rating System					
Floodplain Regulations (specify NFIP Flood Damage Prevention Ordinance)	X	2/2011		Floodplain Administrator	

2. **Staff/Personnel Capability:** Please indicate whether your jurisdiction maintains the following staff members within its current personnel resources by placing an "X" in the appropriate box. Then, if YES, please identify the department or agency they work under and provide any other comments you may have in the space provided or with attachments.

Staff/Personnel Resources	Yes	No	Department/Agency	Comments
Planner (with land use and development knowledge)		X		
Planners or engineers (with natural and/or human-caused hazards knowledge)	X		Douglas Regola Victor P. Regola and Associates	
Engineers or professionals trained in building and/or infrastructure construction practices (including building inspectors)	X		Douglas Regola Victor P. Regola and Associates	
Emergency Manager	X		Emergency Management Coordinator	
NFIP Floodplain administrator	X		Douglas Regola Victor P. Regola and Associates	
Land Surveyors		X		
Scientists or Staff familiar with the hazards in the community		X		
Personnel skilled in Geographic Information Systems (GIS) and/or FEMA's HAZUS program		X		
Grant writers or staff time to handle these requirements		X		
Staff with expertise or training in benefit-cost analysis		X		
Other				

Tool / Program	Status: In Place	Date Adopted or Updated	Under Development	Dept./Agency Responsible	Comments
Floodplain Management Plan	X	2/2011		Floodplain Administrator	
Zoning Regulations					South Huntingdon Township does not have zooming.
Subdivision Regulations					
Comprehensive Land Use Plan (or General, Master or Growth Mgt. Plan)					
Open Space Management Plan (or Parks/Rec or Greenways Plan)					
Stormwater Management Plan / Ordinance					South Huntingdon Township has a MS4 waiver.
Natural Resource Protection Plan					
Capital Improvement Plan					
Economic Development Plan					
Historic Preservation Plan					
Farmland Preservation					Many farms in South Huntingdon Township are in Farmland Preservation.
Building Code	X				South Huntingdon Township opted out of the UCC, but we do have an Ordinance regarding some items.
Fire Code					
Other					

3. **Financial Capability:** Please indicate whether your jurisdiction has access to or is eligible to use the following local financial resources ***for hazard mitigation purposes*** (including in-house funds for State or Federal mitigation grant funds). Then, identify the primary department or agency responsible for its administration or allocation and provide any other comments you may have in the space provided or with attachments.

Financial Resources	Yes	No	Department/Agency	Comments
Capital Improvement Programming		X		
Community Development Block Grants (CDBG)	X			
Special Purpose Taxes		X		
Gas / Electric Utility Fees		X		
Water / Sewer Fees		X		
Stormwater Utility Fees		X		
Development Impact Fees		X		
General Obligation Revenue and/or Special Tax Bonds		X		
Partnering Arrangements or Intergovernmental Agreements		X		
Other				

Jurisdiction Risk - SOUTHWEST GREENSBURG **(Municipality)**

Avalanche	Dam Failure	Drought	Earthquake	Environmental Hazards	Extreme Temperatures	Flood, Flash Flood, and Ice Jam	Hailstorm	Hurricane and Tropical Storm	Illicit Drug Use	Landslide	Lightning	Nuclear Incidents	Radon Exposure	Structural Fire	Subsidence and Sinkholes	Terrorism	Tornado, Windstorm	Transportation Accidents	Utility Interruptions	Wildfire	Winter Storm
1.0	1.3	2.2	1.9	2.0	1.7	2.0	2.5	2.1	3.0	2.5	1.4	1.9	2.6	2.2	1.9	2.8	3.0	2.2	3.0	2.3	3.0
<	<	=	=	=	=	=	=	=	<	<	=	<	=	=	=	=	=	>	=	<	=

> Your municipality's risk from this hazard is greater than the County's risk as a whole

< Your municipality's risk from this hazard is less than the County's risk as a whole

= Your municipality's risk from this hazard is about the same as the County's risk as a whole

4. **Education and Outreach:** Identify education and outreach programs and methods already in place that could be used to implement mitigation activities and communicate hazard-related information. Then, identify the primary department or agency responsible for its administration or allocation and provide any other comments you may have in the space provided or with attachments.

Program/Organization	Yes	No	Department/Agency	Comments
Firewise Communities Certification		X		
StormReady certification		X		
Natural [illegible] or safety related school programs		X		
Ongoing public education or information program (e.g. responsible water use, fire safety, household preparedness, environmental education)		X		
Public-private partnership initiatives addressing disaster-related issues		X		
Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.		X		
Other				

Hazard Identification and Risk Evaluation Worksheet

Name: John Elyas Title: EMC

Jurisdiction: Trafford Borough

PART I

Identified Hazards 2015 HMP	How has the frequency of occurrence, magnitude of impact, and/or geographic extent changed in your community? NC = No Change; I = Increase; D = Decrease (Please provide an explanation for any hazards marked I or D in the "Additional Comments" column)	Additional Comments
Natural Hazards		
Avalanche	NC	
Drought	NC	
Earthquake	NC	
Extreme Temperatures	NC	
Floods, Flash Floods, and Ice Jams	I	Especially in South Trafford and near the Trestle
Hailstorm	NC	
Hurricane	NC	
Landslide	NC	
Lightning	NC	
Radon Exposure	NC	
Subsidence, Sinkhole	I	In some roads we have slippage
Tornado, Windstorm	NC	
Wildfire	NC	
Winter Storm	NC	

5. **Self-Assessment of Capability:** Please provide an approximate measure of your jurisdiction's capability to effectively implement hazard mitigation strategies to reduce hazard vulnerabilities. Using the following table, please place an "**X**" in the box marking the most appropriate degree of capability (Limited, Moderate or High) based upon best available information and the responses provided in Sections 1-5 of this survey. For multi-jurisdictional plans, record the results of the section into the Self-Assessment Capability Matrix in **Section 5**.

Area	Degree of Capability		
	Limited	Moderate	High
Planning and Regulatory Capability			
Administrative and Technical Capability			
Financial Capability			
Education and Outreach			

Identified Hazards 2015 HMP	How has the frequency of occurrence, magnitude of impact, and/or geographic extent changed in your community? *NC = No Change; I = Increase; D = Decrease* *(Please provide an explanation for any hazards marked I or D in the "Additional Comments" column)*	Additional Comments
Human-made Hazards		
Dam Failure	NC	
Environmental Hazards	NC	
Nuclear Incident	NC	
Structural Fire	NC	
Terrorism	NC	
Transportation Accident	NC	
Utility Interruption	NC	

PART II

Other Hazards:

Do any of these hazards, not previously profiled in the County's hazard mitigation plan; have the potential to affect your municipality significantly? (If so, please check the box)

Natural

- ☐ Coastal Erosion
- ☐ Dust, Sand Storm
- ☐ Expansive Soils
- ☐ Invasive Species
- ☐ Pandemic
- ☐ Tsunami
- ☐ Volcano

Human-Caused

- ☐ Building or Structure Collapse
- ☐ Civil Disturbance
- ☐ Disorientation
- ☐ Drowning
- ☐ Levee Failure
- ☐ Mass Food/Animal Feed Contamination
- ☐ War and Criminal Activity

Other Comments:

Westmoreland County Planning Team
Mitigation Solutions Workshop

Jurisdiction Risk - Borough of Trafford (Municipality)

Avalanche	1.0	7
Dam Failure	1.3	7
Drought	2.2	7
Earthquake	1.9	11
Environmental Hazards	2.0	11
Extreme Temperatures	2.1	11
Flood, Flash Flood, and Ice Jam	3.2	7
Hailstorm	1.1	11
Hurricane and Tropical Storm	2.1	11
Illicit Drug Use	3.1	11
Landslide	2.2	7
Lightning	1.4	7
Nuclear Incidents	1.9	7
Radon Exposure	2.6	11
Structural Fire	2.2	11
Subsidence and Sinkholes	1.9	7
Terrorism	2.8	11
Tornado, Windstorm	3.0	11
Transportation Accidents	2.2	7
Utility Interruptions	3.0	11
Wildfire	2.3	7
Winter Storm	3.0	11

^ Your municipality's risk from this hazard is greater than the County's risk as a whole

v Your municipality's risk from this hazard is less than the County's risk as a whole

= Your municipality's risk from this hazard is about the same as the County's risk as a whole

1

Hazard Identification and Risk Evaluation Worksheet

Name: Sandra Smythe Title: LEMC

Jurisdiction: Washington Township

PART I

Identified Hazards 2015 HMP	How has the frequency of occurrence, magnitude of impact, and/or geographic extent changed in your community? *NC = No Change; I = Increase; D = Decrease* *(Please provide an explanation for any hazards marked I or D in the "Additional Comments" column)*	Additional Comments
Natural Hazards		
Avalanche		
Drought		
Earthquake		
Extreme Temperatures		
Floods, Flash Floods, and Ice Jams	**Culverts / Roadway increased flooding along Pine Run Watershed**	**Roadway / Culvert washouts – repetitive losses along Watershed**
Hailstorm		
Hurricane		
Landslide	**Increase – currently 3 Roadways closed over extended period due to increased rainfall**	
Lightning		
Radon Exposure		
Subsidence, Sinkhole		
Tornado, Windstorm		
Wildfire		
Winter Storm		

Identified Hazards 2015 HMP	How has the frequency of occurrence, magnitude of impact, and/or geographic extent changed in your community? *NC = No Change; I = Increase; D = Decrease* *(Please provide an explanation for any hazards marked I or D in the "Additional Comments" column)*	Additional Comments
Human-made Hazards		
Dam Failure		
Environmental Hazards	**Increase – due to substantial increase in # of gas well in Twp. (Both Marcellus and Utica)**	**Also little to no maintenance or monitoring of inactive shallow wells throughout twp.**
Nuclear Incident		
Structural Fire		
Terrorism		
Transportation Accident	**Increased- crumbling roadways due to increased traffic and decreased maintenance of state owned local roadways as well as other roadways**	
Utility Interruption		

PART II

Other Hazards:

Do any of these hazards, not previously profiled in the County's hazard mitigation plan; have the potential to affect your municipality significantly? (If so, please check the box)

Natural

- ☐ Coastal Erosion
- ☐ Dust, Sand Storm
- ☐ Expansive Soils
- ☐ Invasive Species
- ☐ Pandemic
- ☐ Tsunami
- ☐ Volcano

Human-Caused

- ☐ Building or Structure Collapse
- ☐ Civil Disturbance
- ☐ Disorientation
- ☐ Drowning
- ☐ Levee Failure
- ☐ Mass Food/Animal Feed Contamination
- ☐ War and Criminal Activity

Other Comments:

Westmoreland County Hazard Mitigation Plan

Jurisdiction Risk - Washington Twp. (Municipality)

Avalanche	1.0	
Dam Failure	1.3	>
Drought	2.2	=
Earthquake	1.9	<
Environmental Hazards	2.9	>
Extreme Temperatures	2.7	=
Flood, Flash Flood, and Ice Jam	3.2	=
Hailstorm	2.5	=
Hurricane and Tropical Storm	2.1	<
Illicit Drug Use	3.1	=
Landslide	2.5	>
Lightning	1.4	>
Nuclear Incidents	1.9	<
Radon Exposure	2.6	=
Structural Fire	2.2	=
Subsidence and Sinkholes	1.9	=
Terrorism	2.8	=
Tornado, Windstorm	3.0	=
Transportation Accidents	2.2	=
Utility Interruptions	3.0	=
Wildfire	2.3	=
Winter Storm	3.0	=

> Your municipality's risk from this hazard is greater than the County's risk as a whole

< Your municipality's risk from this hazard is less than the County's risk as a whole

= Your municipality's risk from this hazard is about the same as the County's risk as a whole

Capability Assessment Survey

Capability Assessment Survey

Jurisdiction: Washington Township Point of Contact Name and Title: Sandra Smythe _ LEMC

Phone: 724-571-7211 Email: ssmythe@washingtontownship.com

1. **Planning and Regulatory Capability:** Please indicate whether the following planning or regulatory tools and programs are currently in place or under development for your jurisdiction by placing an "X" in the appropriate box, followed by the date of adoption/update. Then, for each particular item in place, identify the department or agency responsible for its implementation and indicate it's estimated or anticipated effect on hazard loss reduction (Supports, Neutral or Hinders) with the appropriate symbol and also indicate if there has been a change in the ability of the tool/program to result in loss reduction. Finally, please provide additional comments or explanations in the space provided.

Tool / Program	Status: In Place	Status: Date Adopted or Updated	Status: Under Development	Dept./Agency Responsible	Comments
Hazard Mitigation Plan			X	WCDPS Plan	Will adopt the county plan once approved
Emergency Operations Plan	X	9/13/18		Washington Twp. EMA	
Disaster Recovery Plan					
Evacuation Plan	X				As part of annex in EOP
Continuity of Operations Plan					
NFIP	X				
NFIP – Community Rating System					
Floodplain Regulations (spec. NFIP Flood Damage Prevention Ordinance)					
Floodplain Management Plan		8/10/89			Ordinance 62 / Amendment
Zoning Regulations					

3. **Financial Capability:** Please indicate whether your jurisdiction has access to or is eligible to use the following local financial resources ***for hazard mitigation purposes*** (including as match funds for State of Federal mitigation grant funds). Then, identify the primary department or agency responsible for its administration or allocation and provide any other comments you may have in the space provided or with attachments.

Financial Resources	Yes	No	Department/Agency	Comments
Capital Improvement Programming				
Community Development Block Grants (CDBG)				
Special Purpose Taxes	X		Washington Twp.	1 Mil Fire Tax
Gas / Electric Utility Fees				
Water / Sewer Fees	X		Municipal Authority of Washington Township	
Stormwater Utility Fees				
Development Impact Fees	X			Through Engineering Fees and Roadway Bondings
General Obligation, Revenue, and/or Special Tax Bonds				
Partnering Arrangements or Intergovernmental Agreements	X			
Other				

Tool / Program	Status			Dept./Agency Responsible	Comments
	In Place	Date Adopted or Updated	Under Develop-ment		
Subdivision Regulations	X	01/12/17		Washington Twp.	
Comprehensive Land Use Plan (or General, Master or Growth Mgt. Plan)	X	08/19/89		Washington Twp.	
Open Space Management Plan (or Parks/Rec or Greenways Plan)	X			Washington Twp.	Within Subdivision and Land Use Ordinance
Stormwater Management Plan / Ordinance	X	06/14/18		Washington Twp.	
Natural Resource Protection Plan					
Capital Improvement Plan					
Economic Development Plan					
Historic Preservation Plan					
Farmland Preservation	X	05/08/13			
Building Code	X	4/09/87		Washington Twp. (MDIA)	Act 35 /Act 36 2017 Follow Current UCC Code
Fire Code					
Other					

4. **Education and Outreach:** Identify education and outreach programs and methods already in place that could be used to implement mitigation activities and communicate hazard-related information. Then, identify the primary department or agency responsible for its administration or allocation and provide any other comments you may have in the space provided or with attachments.

Program/Organization	Yes	No	Department/Agency	Comments
Firewise Communities Certification		X		
StormReady certification		X		
Natural disaster or safety related school programs	X		Township EMC / Fire Department	
Ongoing public education or information program (e.g. responsible water use, fire safety, household preparedness, environmental education)	X		Township Office staff / LEMC	Through Social Medica / E-Mail Blasts / Township Newletter
Public-private partnership initiatives addressing disaster-related issues	X			Emergency Pre-planning with LEMC
Local citizen groups or nonprofit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.		X		
Other				

2. **Administrative and Technical Capability:** Please indicate whether your jurisdiction maintains the following staff members within its current personnel resources by placing an "X" in the appropriate box. Then, if YES, please identify the department or agency they work under and provide any other comments you may have in the space provided or with attachments.

Staff/Personnel Resources	Yes	No	Department/Agency	Comments
Planners (with land use / land development knowledge)	X		Washington Township Planning Commission	
Planners or engineers (with natural and/or human caused hazards knowledge)	X		Senate Engineering	
Engineers or professionals trained in building and/or infrastructure construction practices (includes building inspectors)	X		Senate Engineering / MDIA	
Emergency Manager	X		Washington Township LEMC	
NFIP Floodplain Administrator	X		MDIA	
Land Surveyors				
Scientists or staff familiar with the hazards of the community	X		Senate Engineering	
Personnel skilled in Geographic Information Systems (GIS) and/or FEMA's HAZUS program		X		
Grant writers or fiscal staff to handle large/complex grants	X		Township Administrator	
Staff with expertise or training in Benefit-Cost Analysis		X		
Other				

Before completing the worksheets, the group may wish to discuss the above questions in a round robin format, using a flip chart. The questions are standard questions; however it is important to check the existing hazard mitigation plan maintenance section to see if there are additional questions that need to be considered.

5. **Self-Assessment of Capability:** Please provide an approximate measure of your jurisdiction's capability to effectively implement hazard mitigation strategies to reduce hazard vulnerabilities. Using the following table, please place an "X" in the box marking the most appropriate degree of capability (Limited, Moderate or High) based upon best available information and the responses provided in Sections 1-5 of this survey. For multi-jurisdictional plans, record the results of this section into the Self-Assessment Capability Matrix in **Section 5**.

Area	Degree of Capability		
	Limited	Moderate	High
Planning and Regulatory Capability		X	
Administrative and Technical Capability		X	
Financial Capability		X	
Education and Outreach		X	

Goal and Objective Review Worksheet

Instructions: Write each goal and objective identified in the existing hazard mitigation plan. Use the comment boxes to provide feedback or to suggest modification of any of the proposed goals or objectives. You may suggest additional objectives below each goal, or new goals and objectives on the last page of this exercise.

	Existing Goals and Objectives	Comments
Goal 1	**To minimize the risk to human life associated with natural and non-natural hazards.**	
Goal 2	**To promote hazard avoidance, especially in floodplains, by removing high-risk and repetitive loss structures, and by issuing building restrictions on future development.**	
Goal 3	**To reduce the damage from natural and non-natural hazards to existing and future public and private assets including structures, critical facilities, and infrastructure.**	

Mitigation Strategy 5-Year Mitigation Plan Review

Name: Sandra Smythe **Title:** LEMC **Jurisdiction:** Washington Township

Purpose: To fulfill requirement that plan maintenance from previous plan has been completed and to obtain early feedback from the planning team to incorporate into the update process.

Instructions: Complete the *Goal and Objective Review Worksheet* and *Mitigation Action Plan Review Worksheet* on the next pages keeping the following questions in mind:

- Do the goals, objectives, and actions address current and expected conditions?
- Go through each goal and objective to determine: Should goal be carried forward into updated plan? Should goal be changed based on current conditions in community? Should goal be discontinued and if so why?
- Progress on actions should be noted. For each action the following questions should be answered: What is status? What progress has been made? Should action be continued in updated plan? Should action be discontinued and if so why?
- Has the nature or magnitude of hazard risk changed?
- Are current resources adequate to implement the Plan?
- Should additional local resources be committed to address identified hazard threats?
- Are there any issues that have limited the current implementation schedule?
- Have the implementation of identified mitigation actions resulted in expected outcomes?
- Has the Mitigation Planning Committee measured the effectiveness of completed hazard mitigation projects in terms of specific dollar losses avoided?
- Did the jurisdictions, agencies and other partners participate in the plan implementation process as proposed?
- Other?

Mitigation Action Plan Review Worksheet

Instructions: List each mitigation action from the existing hazard mitigation plan and identify its status as "No Progress / Unknown," "In Progress / Not Yet Complete," "Continuous," "Completed," or "Discontinued." Include review comments for each action.

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress/ Not Yet Complete	Continuous	Completed	Discontinued	
1. Mt. Pleasant Borough - Install additional stormwater runoff pipes and upgrade/replace existing deteriorated pipes.						
2. Hunker Borough - Procure and install a back-up generator into Hunker Borough EOC.						
3. Hunker Borough - Procure and install air conditioning units into community building / community shelter.						
4. Hunker Borough - Retrofit community building to prevent flooding in basement.						
5. Hunker Borough - Pave Bellson Street in Hunker Borough. Install proper drainage to prevent flooding.						
6. Hunker Borough - Implement the redirection of the stormwater catch basin at the intersection of Walnut and Bridge St.						
7. Hunker Borough - Demolition of abandoned home.						
8. Hunker Borough - Install sub-flooring to prevent roadway along Locust St. from sinking.						
9. Hunker Borough - Retrofit Walnut St. Bridge to prevention erosion.						

	Existing Goals and Objectives	Comments
Goal 4	To protect and restore existing natural resources including wetlands, floodplains, and riparian buffers.	
Goal 5	To develop, prioritize and implement cost-effective, long-term actions that will reduce the impacts of natural and non-natural hazards.	
Goal 6	To enhance planning and emergency response efforts among local, county, state, and federal, emergency management personnel to protect public health and safety.	
Goal 7	To promote public awareness on the potential impacts of natural and non-natural hazards, and actions to reduce those impacts.	

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress/ Not Yet Complete	Continuous	Completed	Discontinued	
10. Unity Township - Construct and install a new culvert in Loydsville to enhance hydraulic capacity.						
11. Unity Township - Install a stormwater detention system in Lawson Heights.						
12. Allegheny Township - Replace and enhance stormwater runoff pipes in Moreland Manor.						
13. St. Clair Township - Reconstruction of Bridge River Hill Bridge.						
14. St. Clair Township - Reconstruction of Bridge Sugar Run Road.						
15. Fairfield Township - Reconstruction of Patterson Bridge.						
16. Sewickley Township - Install storm water drainage system along Pinewood Road.						
17. Sewickley Township - Procure a skid loader/grab attachment for storm clean up and culvert clean out.						
18. Sewickley Township - Procure remote receive sites to enhance communications.						
19. Sewickley Township - Procure sweeper truck for stormwater management.						
20. Sewickley Township - Procure and install a back-up generator into Hutchinson VFD Station 85.						

	Suggested Additional Goals and/or Objectives	Comments
Goal		
Objective		
Objective		
Objective		

Goal		
Objective		
Objective		
Objective		

Goal		
Objective		
Objective		
Objective		

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress/ Not Yet Complete	Continuous	Completed	Discontinued	
31. All Municipalities - Have designated NFIP Floodplain Administrator (FPA) become a Certified Floodplain Manager through the ASFPM, and pursue relevant continuing education training such as FEMA Benefit-Cost Analysis.		X				***Flood Plain Administrator in place, but not certified through ASFPM***
32. All Municipalities - Participate in the Community Rating System (CRS) to further manage flood risk and reduce flood insurance premiums for NFIP policyholders. This process starts by submitting to FEMA-DHS of Letter of Intent to join CRS, followed by completing and submitting an application to the program once the community's current compliance with the NFIP is established.	X					
33. County and all municipalities - Continue to support the implementation, monitoring, maintenance, and updating of this Plan, as defined in Section 7.0			X			***Continuing Cooperation with WCDPS Plan update***
34. County and all municipalities - Complete the ongoing updates of the Comprehensive Plans			X			***Continuing Cooperation with WCDPS Plan update***
35. County - Enhance the Westmoreland County Stormwater Management Plan by implementing Phase 2 of the plan.						
36. County and all municipalities - Create/enhance/ maintain mutual aid agreements with neighboring counties / communities for continuity of operations.			X			***Through MOUs and Region 13 agreement***

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress/ Not Yet Complete	Continuous	Completed	Discontinued	
21. Sewickley Township - Procure and install a back-up generator into Lowber VFD Station 16.						
22. Sewickley Township - Procure and install a back-up generator into Rillton VFD Station 14.						
23. Sewickley Township - Procure skid steer attachment to clear debris around culverts.						
24. Fairfield Township - Develop and implement an action plan to mitigation recurring flooding on Creek Road.						
25. Upper Burrell Township - Procure and install an emergency generator.						
26. County and all municipalities - Retrofit structures located in hazard-prone areas to protect structures from future damage, with repetitive loss and severe repetitive loss properties as priority. Phase 1: Identify appropriate candidates for retrofitting based on cost-effectiveness versus relocation. Phase 2: Where retrofitting is determined a viable option, work with property owners toward implementation based on available funding from FEMA and local match availability.	NO					

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress/ Not Yet Complete	Continuous	Completed	Discontinued	
37. County - Identify and develop agreements with entities that can provide support with FEMA/PEMA paperwork after disasters. Qualified damage assessment personnel should be available for post-disaster efforts, including damage assessment; FEMA/PEMA paperwork compilation, submittals, and record keeping.		X				
38. County - Work with regional agencies (i.e. Region 13 and PEMA) to develop damage assessment capabilities at the local level through training programs, certification of qualified individuals (e.g. code officials, floodplain managers, engineers).		X				**Education of Township Personnel on damage Assessment is ongoing**
39. County and all municipalities - Partner with community groups such as local community organizations, including civic, business, town watch, faith-based, senior, special needs and tenant associations to promote emergency preparedness and mitigation efforts.		X				
40. County and all municipalities - Develop geospatial and analytical tools to support community engagement, policy reform, and county and regional planning efforts.	X					
41. County and all municipalities - Develop a hazard event GIS database to help county and local emergency managers with hazard mitigation and other planning initiatives.			X			

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress/ Not Yet Complete	Continuous	Completed	Discontinued	
27. County and all municipalities - Purchase, or relocate structures located in hazard-prone areas to protect structures from future damage, with repetitive loss and severe repetitive loss properties as priority. Phase 1: Identify appropriate candidates for relocation based on cost-effectiveness versus retrofitting. Phase 2: Where relocation is determined a viable option, work with property owners toward implementation based on available funding from FEMA and local match availability.	N/A					
28. All Municipalities - Maintain compliance with and be in 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.			X			***Ongoing with Flood Plain Manager***
29. All Municipalities - Begin the process to adopt higher regulatory standards to manage flood risk (i.e. increased freeboard, cumulative substantial damage/improvements) and sinkhole risk (e.g. carbonate bedrock standards).	NO					
30. All Municipalities - Determine if a Community Assistance Visit (CAV) or Community Assistance Contact (CAC) is needed, and schedule if needed.	NO					

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress/ Not Yet Complete	Continuous	Completed	Discontinued	
42. County and all municipalities - Maintain and exercise continuity of government plan to enable the county government to provide critical services during an interruption of business.		X				*Currently evaluating COOP*
43. County and all municipalities - Implement seismic retrofits to vulnerable critical facilities.	X					
44. All municipalities - Regulate development to reduce flood losses in vulnerable fluvial areas.			X			*Through Planning Commission*
45. County - Develop and maintain an outreach program to provide information and guidance to municipalities on their role in flood plain development.						
46. County and all municipalities - Support and utilize an advanced warning system that provides emergency text and email alerts to the public.			X			*Through Social Media / E-Mail Blasts / and Twp. Newsletter*
47. County and all municipalities - Procure redundant power sources (portable generators).			X			**Generator power in place at Township Bldg. and Fire Dept. for continuous power**
48. County and all municipalities - Maintain redundant power sources			X			

Existing Mitigation Action	Status					Review Comments
	No Progress / Unknown	In Progress/ Not Yet Complete	Continuous	Completed	Discontinued	
49. County and all municipalities - Develop and distribute educational information on hazards, emergency preparedness and fire prevention.			X			*Through Social Media / Group E-Mail blasts / Twp. Newsletter*
50. County and all municipalities - Develop and distribute public outreach materials on water conservation.			X			*Through Social Media / Group E-Mail blasts / Twp. Newsletter*

Hazard Identification and Risk Evaluation Worksheet

Name: _Paul C. Williams Title: _ Emergency Manager

Jurisdiction: _West Newton Borough_

PART I

Identified Hazards 2015 HMP	How has the frequency of occurrence, magnitude of impact, and/or geographic extent changed in your community? *NC = No Change; I = Increase; D = Decrease* *(Please provide an explanation for any hazards marked I or D in the "Additional Comments" column)*	Additional Comments
Natural Hazards		
Avalanche	NC	
Drought	NC	
Earthquake	NC	
Extreme Temperatures	I	Experienced both Hot and Cold Extremes in all seasons
Floods, Flash Floods, and Ice Jams	I	Experiencing heavier rains, more water runoff, many natural springs
Hailstorm	NC	
Hurricane	I	Receive the effects of Hurricanes in county with winds and rain
Landslide	I	Heavier rains, ground saturation, more water pooling, erosion
Lightning	NC	
Radon Exposure	NC	
Subsidence, Sinkhole	I	Unseasonal rains created increased sink holes, road subsidence and embankments
Tornado, Windstorm	I	Extreme weather patterns have created increase in high wind storms and cloud & wind bursts

Identified Hazards 2015 HMP	How has the frequency of occurrence, magnitude of impact, and/or geographic extent changed in your community? *NC = No Change; I = Increase; D = Decrease* *(Please provide an explanation for any hazards marked I or D in the "Additional Comments" column)*	Additional Comments
Wildfire	NC	
Winter Storm	NC	

Human-made Hazards		
Dam Failure	NC	
Environmental Hazards	NC	
Nuclear Incident	NC	
Structural Fire	I	Older structures, increase in building fires
Terrorism	NC	
Transportation Accident	I	Vehicles vs vehicles or vehicles vs trains
Utility Interruption	I	Power outages from storm damage. Aging infrastructure

PART II

Other Hazards:

Do any of these hazards, not previously profiled in the County's hazard mitigation plan; have the potential to affect your municipality significantly? (If so, please check the box)

Natural

- ☐ Coastal Erosion
- ☐ Dust, Sand Storm
- ☐ Expansive Soils
- ☐ Invasive Species
- ☐ Pandemic
- ☐ Tsunami
- ☐ Volcano

Human-Caused

- X☐ Building or Structure Collapse
- X☐ Civil Disturbance
- ☐ Disorientation
- X☐ Drowning
- ☐ Levee Failure
- X☐ Mass Food/Animal Feed Contamination
- X☐ War and Criminal Activity

Other Comments:

Natural: No to all as of this report. Some not likely or impossible to occur within the geographical location of our borough.

Human caused: Possible for the checked items to occur, but most are low risk.

Jurisdiction Risk - West Newton Boro **(Municipality)**

Hazard	County Risk	Municipality
Avalanche	1.0	=
Dam Failure	1.3	>
Drought	2.2	=
Earthquake	1.9	=
Environmental Hazards	2.9	>
Extreme Temperatures	2.7	=
Flood, Flash Flood, and Ice Jam	3.2	>
Hailstorm	2.5	=
Hurricane and Tropical Storm	2.1	=
Illicit Drug Use	3.1	=
Landslide	1.5	>
Lightning	1.4	=
Nuclear Incidents	1.9	>
Radon Exposure	2.6	<
Structural Fire	2.2	>
Subsidence and Sinkholes	1.9	>
Terrorism	1.8	=
Tornado, Windstorm	3.0	=
Transportation Accidents	2.2	=
Utility Interruptions	3.0	=
Wildfire	2.3	<
Winter Storm	3.0	=

> Your municipality's risk from this hazard is greater than the County's risk as a whole

< Your municipality's risk from this hazard is less than the County's risk as a whole

= Your municipality's risk from this hazard is about the same as the County's risk as a whole

Capability Assessment Survey

Jurisdiction: West Newton Borough Point of Contact Name and Title: Paul C. Williams, Director of WN Borough Emergency Mgt.

Phone: [illegible] Email: [illegible]

1. **Planning and Regulatory Capability:** Please indicate whether the following planning or regulatory tools and programs are currently in place or under development for your jurisdiction by placing an "X" in the appropriate box, followed by the date of adoption/update. Then, for each particular item in place, identify the department or agency responsible for its implementation and indicate it's estimated or anticipated effect on hazard loss reduction [illegible] with the appropriate symbol and also indicate if there has been a change in the ability of the tool/program to reduce [illegible] please provide additional comments or explanations in the space provided.

Tool / Program	In Place	Date Adopted or Updated	Under Development	Dept./Agency Responsible	Comments
[illegible]		[illegible]		[illegible]azard County EMA	Interim update in 2008 revised mitigation strategy; completed one action.
Hazard Mitigation Plan	X			Westmoreland Co. EMA	Participated and adopted county plan
Emergency Operations Plan	X			West Newton EMA	
Disaster Recovery Plan			X		
Evacuation Plan	X			West Newton EMA	In process of review & revision for updates
Continuity of Operations Plan			X		
NFIP	X				
CRS – Community Rating System	X				
Floodplain Regulations (Flood Damage Prevention Ordinance)	X				
Floodplain Management Plan	X				
Zoning Regulations	X				

Tool / Program	In Place	Date Adopted or Updated	Under Development	Dept./Agency Responsible	Comments
Subdivision Regulations	X				
Comprehensive Land Use Plan (or General, Master, or Growth Mgt. Plan)			X		
Open Space Management Plan (or Parks & Rec/Greenways Plan)			X		
Stormwater Management Plan / Ordinance	X				
Natural Resource Protection Plan			X		
Capital Improvement Plan	X				
Economic Development Plan			X	Downtown West Newton Inc.	
Historic Preservation Plan			X	Downtown West Newton, Inc.	
Farmland Preservation			X		Not Applicable
Building Code	X			West Newton Borough	
Fire Code	X			West Newton Borough	
Other					

4. **Education and Outreach:** Identify education and outreach programs and methods already in place that could be used to implement mitigation activities and communicate hazard-related information. Then, identify the primary department or agency responsible for its administration or allocation and provide any other comments you may have in the space provided or with attachments.

Program/Organization	Yes	No	Department/Agency	Comments
Firewise Communities Certification		X		
StormReady certification		X		
Natural disaster or safety related school programs	X			
Ongoing public education or information program (e.g. responsible water use, fire safety, household pollutants, environmental education)	X			
Public-private partnership initiatives addressing disaster-related issues	X			
Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.	X			
Other				

2. **Administrative and Technical Capability:** Please indicate whether your jurisdiction maintains the following staff members within its current personnel resources by placing an "X" in the appropriate box. Then, if YES, please identify the department or agency they work under and provide any other comments you may have in the space provided or with attachments.

Staff/Personnel Resources	Yes	No	Department/Agency	Comments
Planners with land use / land development knowledge	X		West Newton Borough Westmoreland Co Landbank	Borough participates
Planners or engineers with natural and/or human-caused hazards knowledge	X			
Engineers or professionals trained in building and/or infrastructure construction practices (building inspectors)	X			
Emergency Manager	X			
NFIP floodplain administrator	X		West Newton Borough Codes and Ordinances	Code enforcement & zoning officer
Land Surveyor		X		
Scientists or staff familiar with the hazards of the community		X		
Personnel skilled in Geographic Information Systems (GIS) and/or FEMA's HAZUS program		X	West Newton Borough Engineers Lindside paid consultants	
Grant writers or local staff to handle large/complex grants		X		
Staff with expertise or training in Benefit-Cost Analysis		X	West Newton Borough Secretary-Treasurer	Outside consultant, auditing agency
Other				

5. **Self-Assessment of Capability:** Please provide an approximate measure of your jurisdiction's capability to effectively implement hazard mitigation strategies to reduce hazard vulnerabilities using the following table, please place an "X" in the box marking the most appropriate degree of capability (Limited, Moderate or High) based upon best available information and the responses provided in Sections 1-5 of this survey. For multi-jurisdictional plans, record the results of this section into the Self-Assessment Capability Matrix in **Section 5**.

Area	Degree of Capability		
	Limited	Moderate	High
Planning and Regulatory Capability	X		
Administrative and Technical Capability	X		
Financial Capability	X		
Education and Outreach	X		

3. **Financial Capability:** Then, indicate whether your jurisdiction has access to or is eligible to use the following local financial resources ***for hazard mitigation purposes*** (including as match funds for State or Federal mitigation grant funds). Then, identify the primary department or agency responsible for its administration or allocation and provide any other comments you may have in the space provided or with attachments.

Financial Resources	Yes	No	Department/Agency	Comments
Capital Improvement Programming	X			
Community Development Block Grants (CDBG)	X			
Special Purpose Taxes		X		
Gas/Electric Utility Fees		X		
Water / Sewer Fees	X			Sewer fees only, we have MAWC for water
Stormwater Utility Fees		X		
Development Impact Fees		X		
General Obligation Revenue and/or Special Tax Bonds		X		
Partnering Arrangements or Intergovernmental Agreements		X		
Other				

Mitigation Strategy 5-Year Mitigation Plan Review

Name: __ul Williams Title: __[illegible] Jurisdiction: __West Newton Borough

Purpose: To fulfill requirement that plan maintenance from previous plan has been completed and to obtain early feedback from the planning team to incorporate into the update process.

Instructions: Complete the *Goal and Objective Review Worksheet* and *Mitigation Action Plan Review Worksheet* on the next pages keeping the following questions in mind:

- Do the goals, objectives, and actions address current and expected conditions?
- Go through each goal and objective to determine: Should goal be carried forward into updated plan? Should goal be changed based on current conditions in community? Should goal be discontinued and if so why?
- Progress on actions should be noted. For each action the following questions should be answered: What is status? What progress has been made? Should action be continued in updated plan? Should action be discontinued and if so why?
- Has the nature or magnitude of hazard risk changed?
- Are current resources adequate to implement the Plan?
- Should additional local resources be committed to address identified hazard threats?
- Are there any issues that have limited the current implementation schedule?
- Have the implementation of identified mitigation actions resulted in expected outcomes?
- Has the Mitigation Planning Committee measured the effectiveness of completed hazard mitigation projects in terms of specific dollar losses avoided?
- Did the jurisdictions, agencies and other partners participate in the plan implementation process as proposed?
- Other?

Before completing the worksheets, the group may wish to discuss the above questions in a round robin format, using a flip chart. The questions are standard questions; however it is important to check the existing hazard mitigation plan maintenance section to see if there are additional questions that need to be considered.

Goal and Objective Review Worksheet

Instructions: Write each goal and objective identified in the existing hazard mitigation plan. Use the comment boxes to provide feedback or to suggest modification of any of the proposed goals or objectives. You may suggest additional objectives below each goal, or new goals and objectives on the last page of this exercise.

Existing Goals and Objectives		Comments
Goal 1	To minimize the risk to human life associated with natural and non-natural hazards.	
Goal 2	To promote hazard avoidance, especially in floodplains, by removing high-risk and repetitive loss structures, and by issuing building restrictions on future development.	
Goal 3	To reduce the damage from natural and non-natural hazards to existing and future public and private assets including structural, critical facilities, and infrastructure.	

Existing Goals and Objectives		Comments
Goal 4	To protect and restore existing natural resources including wetlands, floodplains, and riparian buffers.	
Goal 5	To develop, prioritize and implement cost-effective, long-term actions that will reduce the impacts of natural and non-natural hazards.	
Goal 6	To enhance planning and emergency response efforts among local, county, state, and federal, emergency management personnel, to protect public health and safety.	
Goal 7	To promote public awareness on the potential impacts of natural and non-natural hazards, and actions to reduce those impacts.	

Suggested Additional Goals and/or Objectives		Comments
Goal		
Objective	To install additional stormwater runoff lines and upgrade/replace existing deteriorated pipes.	
Objective	To replace combined sewers in downtown area and along flood plain areas, to reduce sewage backup and flooding to structures	
Objective	To address the areas of erosion along the banks of the Yough River to reduce erosion and subsidence of structures along the flood plain.	
Goal		
Objective	Install electronic river gauge on West Newton Bridge to improve flooding prediction for evacuation purposes.	
Objective	Install water catchment/harvesting/storm water detention at slower rates to a holding tank to prevent overflows.	
Objective		
Goal		
Objective		
Objective		
Objective		

Mitigation Action Plan Review Worksheet

Instructions: List each mitigation action from the existing hazard mitigation plan and identify its status as "No Progress / Unknown," "In Progress / Not Yet Complete," "Continuous," "Completed," or "Discontinued." Include review comments for each action.

Existing Mitigation Action	Status: No Progress / Unknown	Status: In Progress / Not Yet Complete	Status: Continuous	Status: Completed	Status: Discontinued	Review Comments
1. Mt. Pleasant Borough – [illegible] stormwater runoff [illegible] existing [illegible] areas.						
2. Hunker Borough – Procure and install a back-up generator [illegible] EOC.						
3. Hunker Borough – [illegible] community building / community shelter.						
4. Hunker Borough – [illegible] community building by [illegible] flooding of basement.						
5. Hunker Borough – [illegible] Hunker Borough [illegible] drainage to prevent flooding.						
6. Hunker Borough – Improve the [illegible] at the intersection of [illegible] and [illegible] St.						
7. Hunker Borough – [illegible] home.						
8. Hunker Borough – Install [illegible] to prevent roadway along Locust St. from [illegible].						
9. Hunker Borough – [illegible] Bridge to prevent [illegible].						

Existing Mitigation Action	Status: No Progress / Unknown	Status: In Progress / Not Yet Complete	Status: Continuous	Status: Completed	Status: Discontinued	Review Comments
10. Unity Township – Construct and install a new culvert in [illegible] to enhance hydraulic capacity.						
11. Unity Township – [illegible] stormwater detention system [illegible].						
12. Allegheny Township – [illegible] Manor.						
13. [illegible] Township – [illegible] Hill [illegible].						
14. [illegible] Township – [illegible] Bridge [illegible] Run Road.						
15. Fairfield Township – [illegible]						
16. Sewickley Township – Install stormwater drainage system along [illegible] Road.						
17. Sewickley Township – [illegible]						
18. Sewickley Township – Procure [illegible] communications.						
19. Sewickley Township – [illegible]						
20. Sewickley Township – Procure and install a back-up generator [illegible]						

Existing Mitigation Action	Status: No Progress / Unknown	Status: In Progress / Not Yet Complete	Status: Continuous	Status: Completed	Status: Discontinued	Review Comments
21. Sewickley Township – Procure and install a back-up generator [illegible] Station 16.						
22. Sewickley Township – Procure and install a back-up generator [illegible] 14.						
23. Sewickley Township – [illegible]						
24. Fairfield Township – [illegible]						
25. [illegible]						
26. County and all municipalities – Retrofit structures located in hazard-prone areas to protect structures from future damage, with repetitive loss and severe repetitive loss properties as priority. Phase 1: Identify appropriate candidates for retrofitting based on cost-effectiveness [illegible]. Phase 2: Where retrofitting is determined a viable option, work with property owners toward implementation based on available funding from FEMA and local match availability.						

Existing Mitigation Action	Status: No Progress / Unknown	Status: In Progress / Not Yet Complete	Status: Continuous	Status: Completed	Status: Discontinued	Review Comments
27. County and all municipalities – [illegible] hazard-prone [illegible] to protect structures from future damage, with repetitive loss and severe repetitive loss properties as priority. Phase 1: Identify appropriate candidates for [illegible]. Phase 2: Where [illegible] work with property owners toward implementation [illegible] funding from FEMA and local match availability.						
28. All Municipalities – [illegible] NFIP, including adoption and enforcement of floodplain management requirements (i.e., regulating all new and substantially improved construction in special hazard flood areas), floodplain identification and mapping, and flood insurance [illegible] community.						*Has this activity been integrated into the municipality's normal operations?*
29. All Municipalities – [illegible]						
30. All Municipalities – [illegible] Community Assistance Visit (CAV) [illegible] Community Assistance Contact (CAC) [illegible]						

Existing Mitigation Action	Status: No Progress / Unknown	Status: In Progress / Not Yet Complete	Status: Continuous	Status: Completed	Status: Discontinued	Review Comments
31. All Municipalities – [illegible] Floodplain Administrator (FPA) [illegible] Certified Floodplain Manager through the ASFPM, and pursue relevant continuing education training such as FEMA Benefit-Cost Analysis.						
32. All Municipalities – Participate in the Community Rating System (CRS) as a further means to manage flood risk and reduce flood insurance premiums for NFIP policyholders. This process starts by submitting to FEMA/DHS a Letter of Interest in CRS, followed by [illegible] and submitting an application to the program once the community's current compliance with the NFIP is established.						
33. County and all municipalities – Continue to support the implementation, monitoring, maintenance, and updating of this Plan, as defined in Section 7.0.						*Has this activity been integrated into the municipality's normal operations?*
34. County and all municipalities – Complete the [illegible] updates of the Comprehensive Plan.						
35. County – Enhance the Westmoreland County Stormwater Management [illegible] implementing Phase 2 of the plan.						
36. County and all municipalities – Create/enhance/maintain mutual aid agreements with neighboring counties / communities for continuity of operations.						*Has this activity been integrated into the municipality's normal operations?*

Existing Mitigation Action	Status: No Progress / Unknown	Status: In Progress / Not Yet Complete	Status: Continuous	Status: Completed	Status: Discontinued	Review Comments
37. County – Identify and develop agreements with entities that can provide support with FEMA/PEMA paperwork after disasters. Qualified damage assessment personnel should be available for [illegible], including damage assessment, FEMA/PEMA paperwork completion [illegible] and record keeping.						*Has this activity been integrated into the municipality's normal operations?*
38. County – Work with regional agencies (i.e. Region 11 and PEMA) to develop damage assessment capabilities at the local level through training programs, certification of qualified individuals (e.g. code officials, floodplain managers, engineers).						
39. County and all municipalities – Partner with community [illegible] community stakeholders, including [illegible], business, [illegible], senior, [illegible] to promote emergency preparedness and mitigation efforts.						*Has this activity been integrated into the municipality's normal operations?*
40. County and all municipalities – Develop geospatial and analytical tools to support community engagement, policy [illegible] county and regional planning efforts.						*Has this activity been integrated into the municipality's normal operations?*
41. County and all municipalities – Develop a [illegible] to help county and local emergency managers with hazard mitigation and [illegible].						*Has this activity been integrated into the municipality's normal operations?*

Existing Mitigation Action	Status: No Progress / Unknown	Status: In Progress / Not Yet Complete	Status: Continuous	Status: Completed	Status: Discontinued	Review Comments
42. County and all municipalities – Maintain and exercise continuity of government plan to enable the county government to provide critical services during an interruption of business.						*Has this activity been integrated into the municipality's normal operations?*
43. County and all municipalities – Implement [illegible]						
44. All municipalities – Regulate development to reduce flood losses in [illegible] areas.						*Has this activity been integrated into the municipality's normal operations?*
45. County – Develop and maintain outreach program to provide information and guidance to municipalities on [illegible] flood [illegible] development.						*Has this activity been integrated into the municipality's normal operations?*
46. County and all municipalities – Support and utilize [illegible] warning system that provides emergency [illegible] alerts to the public.						*Has this activity been integrated into the municipality's normal operations?*
47. County and all municipalities – Provide [illegible] power sources [illegible].						
48. County and all municipalities – Maintain redundant power sources.						*Has this activity been integrated into the municipality's normal operations?*

Existing Mitigation Action	Status: No Progress / Unknown	Status: In Progress / Not Yet Complete	Status: Continuous	Status: Completed	Status: Discontinued	Review Comments
49. County and all municipalities – Develop and distribute educational information on hazards, emergency preparedness and fire prevention.						*Has this activity been integrated into the municipality's normal operations?*
50. County and all municipalities – Develop and distribute public outreach materials on water conservation.						*Has this activity been integrated into the municipality's normal operations?*

Hazard Identification and Risk Evaluation Worksheet

Name: Diane Schaefer Title: Borough Manager

Jurisdiction: Youngwood Borough

PART I

Identified Hazards 2015 HMP	How has the frequency of occurrence, magnitude of impact, and/or geographic extent changed in your community? *NC = No Change; I = Increase; D = Decrease* *(Please provide an explanation for any hazards marked I or D in the "Additional Comments" column)*	Additional Comments
Natural Hazards		
Avalanche	NC	
Drought	NC	
Earthquake	NC	
Extreme Temperatures	NC	
Floods, Flash Floods, and Ice Jams	I	Due to amount of rain Flash Flooding is more frequent
Hailstorm	NC	
Hurricane	NC	
Landslide	NC	
Lightning	NC	
Radon Exposure	NC	
Subsidence, Sinkhole	I	
Tornado, Windstorm	NC	
Wildfire	NC	
Winter Storm	NC	

Identified Hazards 2015 HMP	How has the frequency of occurrence, magnitude of impact, and/or geographic extent changed in your community? *NC = No Change; I = Increase; D = Decrease* *(Please provide an explanation for any hazards marked I or D in the "Additional Comments" column)*	Additional Comments
Human-made Hazards		
Dam Failure	NC	
Environmental Hazards	I	Railcar and transportation vehicles has increased
Nuclear Incident	NC	
Structural Fire	I	Dilapidated structures Abandoned
Terrorism	NC	
Transportation Accident	I	Railcar and transportation vehicles has increased
Utility Interruption	I	Storm, transporation accidents, etc.

PART II

Other Hazards:

Do any of these hazards, not previously profiled in the County's hazard mitigation plan; have the potential to affect your municipality significantly? (If so, please check the box)

Natural

- [ ] Coastal Erosion
- [ ] Dust, Sand Storm
- [ ] Expansive Soils
- [x] Invasive Species
- [ ] Pandemic
- [ ] Tsunami
- [ ] Volcano

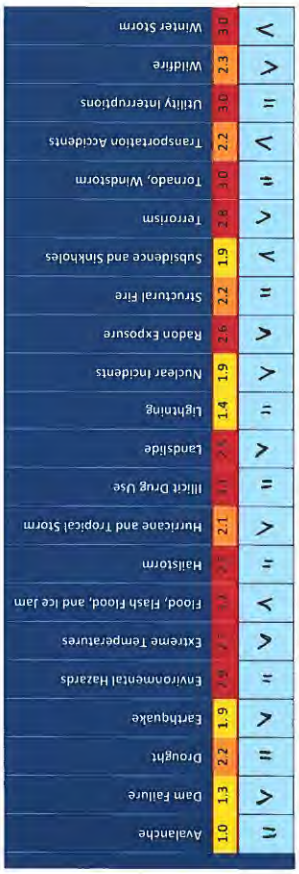
Human-Caused

- [x] Building or Structure Collapse
- [x] Civil Disturbance
- [ ] Disorientation
- [x] Drowning
- [ ] Levee Failure
- [x] Mass Food/Animal Feed Contamination
- [x] War and Criminal Activity

Other Comments:

Westmoreland County Planning Team
Mitigation Solutions Workshop

Jurisdiction Risk - Youngwood Borough (Municipality)



Tool / Program	Status: In Place	Status: Date Adopted or Updated	Status: Under Development	Dept./Agency Responsible	Comments
Subdivision Regulations	X			Westmoreland County Planning Dept	
Comprehensive Land Use Plan (or General, Master or Growth Mgt. Plan)					
Open Space Management Plan (or Parks/Rec or Greenways Plan)					
Stormwater Management Plan / Ordinance	X	2004		Youngwood Borough	Awaiting WCD ordinance to be adopted by municipalities
Natural Resource Protection Plan					
Capital Improvement Plan					
Economic Development Plan					
Historic Preservation Plan					
Farmland Preservation					
Building Code	X	2016		Youngwood Borough	
Fire Code					
Other					

Jurisdiction Risk – Youngwood Borough (Municipality)

Avalanche	Dam Failure	Drought	Earthquake	Environmental Hazards	Extreme Temperatures	Flood, Flash Flood, and Ice Jam	Hailstorm	Hurricane and Tropical Storm	Illicit Drug Use	Landslide	Lightning	Nuclear Incidents	Radon Exposure	Structural Fire	Subsidence and Sinkholes	Terrorism	Tornado, Windstorm	Transportation Accidents	Utility Interruptions	Wildfire	Winter Storm
1.0	1.3	2.2	1.9	2.9	2.7	3.2	2.5	2.1	3.1	2.5	1.4	1.9	2.6	2.2	1.9	2.8	3.0	2.2	3.0	2.3	3.0
<	<	=	=	>	=	>	=	=	>	<	>	>	=	>	=	>	>	>	>	=	>

> Your municipality's risk from this hazard is greater than the County's risk as a whole

< Your municipality's risk from this hazard is less than the County's risk as a whole

= Your municipality's risk from this hazard is about the same as the County's risk as a whole

2. **Administrative and Technical Capability:** Please indicate whether your jurisdiction maintains the following staff members within its current personnel resources by placing an "X" in the appropriate box. Then, if YES, please identify the department or agency they work under and provide any other comments you may have in the space provided or with attachments.

Staff/Personnel Resources	Yes	No	Department/Agency	Comments
Planners (with land use / land development knowledge)	X		WC Planning department	
Planners or engineers (with natural and/or human caused hazards knowledge)		X		
Engineers or professionals trained in building and/or infrastructure construction practices (includes building inspectors)	X		Youngwood Borough - Engineer - Building Inspector	
Emergency Manager		X		
NFIP Floodplain Administrator	X		Youngwood Borough Administration	
Land Surveyors		X		
Scientists or staff familiar with the hazards of the community		X		
Personnel skilled in Geographic Information Systems (GIS) and/or FEMA's HAZUS program		X		
Grant writers or fiscal staff to handle large/complex grants		X		
Staff with expertise or training in Benefit-Cost Analysis		X		
Other				

Capability Assessment Survey

Jurisdiction: Youngwood Borough

Phone: 724-925-3010

Point of Contact Name and Title: Diane Schaefer - Borough Manager

Email: youngwoodborough@comcast.net

1. **Planning and Regulatory Capability:** Please indicate whether the following planning or regulatory tools and programs are currently in place or under development for your jurisdiction by placing an "X" in the appropriate box, followed by the date of adoption/update. Then, for each particular item in place, identify the department or agency responsible for its implementation and indicate it's estimated or anticipated effect on hazard loss reduction (Supports, Neutral or Hinders) with the appropriate symbol and also indicate if there has been a change in the ability of the tool/program to result in loss reduction. Finally, please provide additional comments or explanations in the space provided.

Tool / Program	Status: In Place	Status: Date Adopted or Updated	Status: Under Development	Dept./Agency Responsible	Comments
EXAMPLE: Hazard Mitigation Plan	X	3/1/2008		Hazard County EMA	Interim update in 2008 revised mitigation strategy; completed one action
Hazard Mitigation Plan	X	8/12/2013		Westmoreland County	
Emergency Operations Plan					
Disaster Recovery Plan					
Evacuation Plan					
Continuity of Operations Plan					
NFIP	X	3/17/2011			
NFIP – Community Rating System					
Floodplain Regulations (spec. NFIP Flood Damage Prevention Ordinance)					
Floodplain Management Plan					
Zoning Regulations			X		Youngwood is in the process of creating zoning

5. **Self-Assessment of Capability:** Please provide an approximate measure of your jurisdiction's capability to effectively implement hazard mitigation strategies to reduce hazard vulnerabilities. Using the following table, please place an "**X**" in the box marking the most appropriate degree of capability (Limited, Moderate or High) based upon best available information and the responses provided in Sections 1-5 of this survey. For multi-jurisdictional plans, record the results of this section into the Self-Assessment Capability Matrix in **Section 5**.

Area	Degree of Capability		
	Limited	Moderate	High
Planning and Regulatory Capability	X		
Administrative and Technical Capability	X		
Financial Capability	X		
Education and Outreach	X		

3. **Financial Capability:** Please indicate whether your jurisdiction has access to or is eligible to use the following local financial resources ***for hazard mitigation purposes*** (including as match funds for State of Federal mitigation grant funds). Then, identify the primary department or agency responsible for its administration or allocation and provide any other comments you may have in the space provided or with attachments.

Financial Resources	Yes	No	Department/Agency	Comments
Capital Improvement Programming		X		
Community Development Block Grants (CDBG)	X		Youngwood Borough	
Special Purpose Taxes		X		
Gas / Electric Utility Fees		X		
Water / Sewer Fees		X		
Stormwater Utility Fees		X		
Development Impact Fees		X		
General Obligation, Revenue, and/or Special Tax Bonds	X		Youngwood Borough	
Partnering Arrangements or Intergovernmental Agreements	X		Youngwood Borough	
Other				

NATIONAL FLOOD INSURANCE PROGRAM (NFIP) SURVEY

MUNICIPALITY: Youngwood

1. FLOODPLAIN IDENTIFICATION AND MAPPING			
Requirement	*Recommended Action*	*Yes/No*	*Comments*
a. Does the municipality maintain accessible copies of an effective Flood Insurance Rate Map (FIRM)/Digital Flood Insurance Rate Map (DFIRM)? Does the municipality maintain accessible copies of the most recent Flood Insurance Study (FIS)?	Place these documents in the local libraries or make available publicly.	Yes	Maps are available online and office)
b. Has the municipality adopted the most current DFIRM/FIRM and FIS?	State the date of adoption, if approved.	Yes	2011
c. Does the municipality support request for map updates?	If yes, state how.	Yes	can obtain online
d. Does the municipality share with Federal Emergency Management Agency (FEMA) any new technical or scientific data that could result in map revisions within 6 months of creation or identification of new data?	If yes, specify how.	Yes	Building Permit Process
e. Does the municipality provide assistance with local floodplain determinations?	If yes, specify how.	yes	if requested too
f. Does the municipality maintain a record of approved Letters of Map Change?	If yes, specify the responsible office	Yes	Borough - Administrative

4. **Education and Outreach:** Identify education and outreach programs and methods already in place that could be used to implement mitigation activities and communicate hazard-related information. Then, identify the primary department or agency responsible for its administration or allocation and provide any other comments you may have in the space provided or with attachments.

Program/Organization	Yes	No	Department/Agency	Comments
Firewise Communities Certification		X		
StormReady certification		X		
Natural disaster or safety related school programs		X		
Ongoing public education or information program (e.g. responsible water use, fire safety, household preparedness, environmental education)		X		
Public-private partnership initiatives addressing disaster-related issues		X		
Local citizen groups or nonprofit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.	X		YVFD	
Other				

Mitigation Strategy 5-Year Mitigation Plan Review

Name: [illegible] **Title:** Borough Manager **Jurisdiction:** Youngwood Borough

Purpose: To fulfill requirement that plan maintenance from previous plan has been completed and to obtain early feedback from the planning team to incorporate into the update process.

Instructions: Complete the *Goal and Objective Review Worksheet* and *Mitigation Action Plan Review Worksheet* on the next pages keeping the following questions in mind:

- Do the goals, objectives, and actions address current and expected conditions?
- Go through each goal and objective to determine: Should goal be carried forward into updated plan? Should goal be changed based on current conditions in community? Should goal be discontinued and if so why?
- Progress on actions should be noted. For each action the following questions should be answered: What is status? What progress has been made? Should action be continued in updated plan? Should action be discontinued and if so why?
- Has the nature or magnitude of hazard risk changed?
- Are current resources adequate to implement the Plan?
- Should additional local resources be committed to address identified hazard threats?
- Are there any issues that have limited the current implementation schedule?
- Have the implementation of identified mitigation actions resulted in expected outcomes?
- Has the Mitigation Planning Committee measured the effectiveness of completed hazard mitigation projects in terms of specific dollar losses avoided?
- Did the jurisdictions, agencies and other partners participate in the plan implementation process as proposed?
- Other?

Before completing the worksheets, the group may wish to discuss the above questions in a round robin format, using a flip chart. The questions are standard questions; however it is important to check the existing hazard mitigation plan maintenance section to see if there are additional questions that need to be considered.

2. FLOODPLAIN MANAGEMENT			
Requirement	*Recommended Action*	*Yes/No*	*Comments*
a. Has the municipality adopted a compliant floodplain management ordinance that, at a minimum, regulates the following:	If yes, answer questions (1) through (4) below.	Yes	
(1) Does the municipality issue permits for all proposed development in the Special Flood Hazard Areas (SFHAs)?	If yes, specify the office responsible.	Yes	Administrative
(2) Does the municipality obtain, review, and utilize any Base Flood Elevation (BFE) and floodway data, and/or require BFE data for subdivision proposals and other development proposals larger than 50 lots or 5 acres?	If yes, specify the office responsible.	Yes	WC Planning Dept
(3) Does the municipality identify measures to keep all new and substantially improved construction reasonably safe from flooding to or above the BFE, including anchoring, using flood-resistant materials, and designing or locating utilities and service facilities to prevent water damage?	If yes, specify the office responsible.	yes	Floodplain Administrator
(4) Does the municipality document and maintain records of elevation data that document lowest floor elevation for new or substantially improved structures?	If yes, specify the office responsible.	Yes	Administrative
b. If a compliant floodplain ordinance was adopted, does the municipality enforce the ordinance by monitoring compliance and taking remedial action to correct violations?	If yes, specify how.	Yes	Administrative Letters, Meetings

Goal and Objective Review Worksheet

Instructions: Write each goal and objective identified in the existing hazard mitigation plan. Use the comment boxes to provide feedback or to suggest modification of any of the proposed goals or objectives. You may suggest additional objectives below each goal, or new goals and objectives on the last page of this exercise.

	Existing Goals and Objectives	Comments
Goal 1	**To minimize the risk to human life associated with natural and non-natural hazards.**	
Goal 2	**To promote hazard avoidance, especially in floodplains, by removing high-risk and repetitive loss structures, and by issuing building restrictions on future development.**	
Goal 3	**To reduce the damage from natural and non-natural hazards to existing and future public and private assets including structures, critical facilities, and infrastructure.**	

2. FLOODPLAIN MANAGEMENT			
Requirement	*Recommended Action*	*Yes/No*	*Comments*
c. Has the municipality considered adopting activities that extend beyond the minimum requirements? Examples include: • Participation in the Community Rating System • Prohibition of production or storage of chemicals in SFHA • Prohibition of certain types of structures, such as hospitals, nursing homes, and jails in SFHA • Prohibition of certain types of residential housing (manufactured homes) in SFHA • Floodplain ordinances that prohibit any new residential or nonresidential structures in SFHA	If yes, specify activities.	NO	

3. FLOOD INSURANCE			
Requirement	*Recommended Action*	*Yes/No*	*Comments*
a. Does the municipality educate community members about the availability and value of flood insurance?	If yes, specify how.	Yes	when new ordinance was adopted letters were sent
b. Does the municipality inform community property owners about changes to the DFIRM/FIRM that would impact their insurance rates?	If yes, specify how.	Yes	letters are sent to those in affected areas
c. Does the municipality provide general assistance to community members regarding insurance issues?	If yes, specify how.	No	

	Suggested Additional Goals and/or Objectives	Comments
Goal	Slow traffic through Borough - Route 119	
Objective	Slow traffic to possibly reduce the number accidents	
Objective		
Objective		

Goal	Demolition of dilapidated homes
Objective	deter chance of structural fires
Objective	
Objective	

Goal	
Objective	
Objective	
Objective	

	Existing Goals and Objectives	Comments
Goal 4	To protect and restore existing natural resources including wetlands, floodplains, and riparian buffers.	
Goal 5	To develop, prioritize and implement cost-effective, long-term actions that will reduce the impacts of natural and non-natural hazards.	
Goal 6	To enhance planning and emergency response efforts among local, county, state, and federal, emergency management personnel to protect public health and safety.	
Goal 7	To promote public awareness on the potential impacts of natural and non-natural hazards, and actions to reduce those impacts.	

Emergency Contact

Capability Assessment Survey

Capability Assessment Survey

Company/Jurisdiction: ArcelorMittal Monessen Point of Contact Name and Title: Randy E Shelton Sr Division Manager 7246841005 randy.shelton@arcelormittal.com

Phone: _____ Email: _____

1. **Planning and Regulatory Capability:** Please indicate whether the following planning or regulatory tools and programs are currently in place or under development for your jurisdiction by placing an "X" in the appropriate box, followed by the date of adoption/update. Then, for each particular item in place, identify the department or agency responsible for its implementation and indicate it's estimated or anticipated effect on hazard loss reduction (Supports, Neutral or Hinders) with the appropriate symbol and also indicate if there has been a change in the ability of the tool/program to result in loss reduction. Finally, please provide additional comments or explanations in the space provided.

Tool / Program	Status: In Place	Status: Date Adopted or Updated	Status: Under Development	Dept./Agency Responsible	Comments
[illegible]	[illegible]	[illegible]		Hazard County EMA	Implemented in 2008 hazard mitigation strategy, completed one action
Hazard Mitigation Plan	X				
Emergency Operations Plan	X				
Disaster Recovery Plan					Not Municipality but corporate probably has one
Evacuation Plan	X				
Continuity of Operations Plan	X				
NFIP					
NFIP – Community Rating System					
Floodplain Regulations (spec. NFIP Flood Damage Prevention Ordinance)					
Floodplain Management Plan					
Zoning Regulations					Not Municipality

	Suggested Additional Goals and/or Objectives	Comments
Goal	Install additional stormwater runoff pipes	
Objective	upgrade/replace existing deteriorated pipes To reduce flash flooding causing	- Chestnut Street - Overhead Bridge Rd
Objective	damage to property, etc.	
Objective		

Goal	Upgrade/replace existing pipes installed by private property owners
Objective	reduce flash flooding causing damage to property - Clawson Ave
Objective	alleviate flooding further down the creek, road
Objective	

Goal	Replace Culvert 5th/Hillis
Objective	to alleviate future problems
Objective	
Objective	

Industry / N/A

3. **Financial Capability:** Please indicate whether your jurisdiction has access to or is eligible to use the following local financial resources ***for hazard mitigation purposes*** (including as match funds for State of Federal mitigation grant funds). Then, identify the primary department or agency responsible for its administration or allocation and provide any other comments you may have in the space provided or with attachments.

Financial Resources	Yes	No	Department/Agency	Comments
Capital Improvement Programming				
Community Development Block Grants (CDBG)				
Special Purpose Taxes				
Gas / Electric Utility Fees				
Water / Sewer Fees				
Stormwater Utility Fees				
Development Impact Fees				
General Obligation, Revenue, and/or Special Tax Bonds				
Partnering Arrangements or Intergovernmental Agreements				
Other				

Not a Municipality - Industry

Tool / Program	Status: In Place	Status: Date Adopted or Updated	Status: Under Development	Dept./Agency Responsible	Comments
Subdivision Regulations					
Comprehensive Land Use Plan (or General, Master or Growth Mgt. Plan)					
Open Space Management Plan (or Parks/Rec or Greenways Plan)					
Stormwater Management Plan / Ordinance	X				
Natural Resource Protection Plan					
Capital Improvement Plan	X				
Economic Development Plan					
Historic Preservation Plan					
Farmland Preservation					
Building Code					
Fire Code					
Other					

Industry / N/A

4. **Education and Outreach:** Identify education and outreach programs and methods already in place that could be used to implement mitigation activities and communicate hazard-related information. Then, identify the primary department or agency responsible for its administration or allocation and provide any other comments you may have in the space provided or with attachments.

Program/Organization	Yes	No	Department/Agency	Comments
Firewise Communities Certification				
StormReady certification				
Natural disaster or safety related school programs				
Ongoing public education or information program (e.g. responsible water use, fire safety, household preparedness, environmental education)				
Public-private partnership initiatives addressing disaster-related issues				
Local citizen groups or nonprofit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.				
Other				

Industry

2. **Administrative and Technical Capability:** Please indicate whether your jurisdiction maintains the following staff members within its current personnel resources by placing an "X" in the appropriate box. Then, if YES, please identify the department or agency they work under and provide any other comments you may have in the space provided or with attachments.

Staff/Personnel Resources	Yes	No	Department/Agency	Comments
Planners (with land use / land development knowledge)				
Planners or engineers (with natural and/or human caused hazards knowledge)	X			
Engineers or professionals trained in building and/or infrastructure construction practices (includes building inspectors)				
Emergency Manager	X			
NFIP Floodplain Administrator				
Land Surveyors				
Scientists or staff familiar with the hazards of the community				
Personnel skilled in Geographic Information Systems (GIS) and/or FEMA's HAZUS program				
Grant writers or fiscal staff to handle large/complex grants				
Staff with expertise or training in Benefit-Cost Analysis				
Other				

Industry → N/A

5. **Self-Assessment of Capability:** Please provide an approximate measure of your jurisdiction's capability to effectively implement hazard mitigation strategies to reduce hazard vulnerabilities. Using the following table, please place an "X" in the box marking the most appropriate degree of capability (Limited, Moderate or High) based upon best available information and the responses provided in Sections 1-5 of this survey. For multi-jurisdictional plans, record the results of this section into the Self-Assessment Capability Matrix in **Section 5**.

Area	Degree of Capability: Limited	Moderate	High
Planning and Regulatory Capability			
Administrative and Technical Capability			
Financial Capability			
Education and Outreach			X

Hazard Identification and Risk Evaluation Worksheet

Name: DANIA BOUNTRA Title: AREA COORDINATOR OPERATIONS DOMINION ENERGY

Jurisdiction: WESTMORELAND - DOMINION ENERGY TRANSMISSION INC (DETI) DANIAO@DOMINIONENERGY.COM

PART I

Identified Hazards 2015 HMP	How has the frequency of occurrence, magnitude of impact, and/or geographic extent changed in your community? NC = No Change; I = Increase; D = Decrease (Please provide an explanation for any hazards marked I or D in the "Additional Comments" column)	Additional Comments
Natural Hazards		
Avalanche	NC	
Drought	NC	
Earthquake	NC	
Extreme Temperatures	I	
Floods, Flash Floods, and Ice Jams	I	OUR FACILITY FLOODED ON THE GROUNDS - NOT INTO THE BUILDINGS. THERE IS A STREAM RUNNING THRU IT.
Hailstorm	NC	
Hurricane	NC	
Landslide	I	* (THIS PARTICULAR HAZARD HAS BEEN AN ISSUE FOR US ACROSS OUR COMPANY MORE IN GREEN COUNTY BUT HAS HAPPENED ~~MORE FREQUENTLY~~ BECAUSE OF THE INCREASE IN RAINFALL)
Lightning	NC	
Radon Exposure	NC	
Subsidence, Sinkhole	I	
Tornado, Windstorm	NC	
Wildfire	NC	
Winter Storm	NC	

Identified Hazards 2015 HMP	How has the frequency of occurrence, magnitude of impact, and/or geographic extent changed in your community? NC = No Change; I = Increase; D = Decrease (Please provide an explanation for any hazards marked I or D in the "Additional Comments" column)	Additional Comments
Human-made Hazards		
Dam Failure	NC	
Environmental Hazards	NC	
Nuclear Incident	NC	
Structural Fire	NC	
Terrorism	NC	
Transportation Accident	NC	
Utility Interruption	NC	

PART II

Other Hazards:

Do any of these hazards, not previously profiled in the County's hazard mitigation plan; have the potential to affect your municipality significantly? (If so, please check the box)

Natural

- ☐ Coastal Erosion
- ☐ Dust, Sand Storm
- ☐ Expansive Soils
- ☐ Invasive Species
- ☐ Pandemic
- ☐ Tsunami
- ☐ Volcano

Human-Caused

- ☐ Building or Structure Collapse
- ☐ Civil Disturbance
- ☐ Disorientation
- ☐ Drowning
- ☐ Levee Failure
- ☐ Mass Food/Animal Feed Contamination
- ☐ War and Criminal Activity

Other Comments:

2. **Administrative and Technical Capability:** Please indicate whether your jurisdiction maintains the following staff members within its current personnel resources by placing an "X" in the appropriate box. Then, if YES, please identify the department or agency they work under and provide any other comments you may have in the space provided or with attachments.

Staff/Personnel Resources	Yes	No	Department/Agency	Comments
Planners (with land use / land development knowledge)	✓			
Planners or engineers (with natural and/or human caused hazards knowledge)				
Engineers or professionals trained in building and/or infrastructure construction practices (includes building inspectors)				
Emergency Manager				
NFIP Floodplain Administrator				
Land Surveyors				
Scientists or staff familiar with the hazards of the community				
Personnel skilled in Geographic Information Systems (GIS) and/or FEMA's HAZUS program	✓			
Grant writers or fiscal staff to handle large/complex grants				
Staff with expertise or training in Benefit-Cost Analysis				
Other				

Capability Assessment Survey

Jurisdiction: Dominion Energy

Point of Contact Name and Title: DANIA RUNTREE, AREA COORDINATOR

Phone: 724-457-5169

Email: DANIA01@DOMINIONENERGY.COM

1. **Planning and Regulatory Capability:** Please indicate whether the following planning or regulatory tools and programs are currently in place or under development for your jurisdiction by placing an "X" in the appropriate box, followed by the date of adoption/update. Then, for each particular item in place, identify the department or agency responsible for its implementation and indicate it's estimated or anticipated effect on hazard loss reduction (Supports, Neutral or Hinders) with the appropriate symbol and also indicate if there has been a change in the ability of the tool/program to result in loss reduction. Finally, please provide additional comments or explanations in the space provided.

Tool / Program	Status: In Place	Status: Date Adopted or Updated	Status: Under Development	Dept./Agency Responsible	Comments
[illegible]		[illegible]		Hazard County EMA	[illegible]
Hazard Mitigation Plan	yes				
Emergency Operations Plan	yes				Every facility has one within Dominion energy
Disaster Recovery Plan					
Evacuation Plan	yes				
Continuity of Operations Plan					
NFIP					
NFIP – Community Rating System					
Floodplain Regulations (spec. NFIP Flood Damage Prevention Ordinance)					
Floodplain Management Plan					
Zoning Regulations					

3. **Financial Capability:** Please indicate whether your jurisdiction has access to or is eligible to use the following local financial resources ***for hazard mitigation purposes*** (including as match funds for State of Federal mitigation grant funds). Then, identify the primary department or agency responsible for its administration or allocation and provide any other comments you may have in the space provided or with attachments.

Financial Resources	Yes	No	Department/Agency	Comments
Capital Improvement Programming				
Community Development Block Grants (CDBG)				
Special Purpose Taxes				
Gas / Electric Utility Fees				
Water / Sewer Fees				
Stormwater Utility Fees				
Development Impact Fees				
General Obligation, Revenue, and/or Special Tax Bonds				
Partnering Arrangements or Intergovernmental Agreements				
Other				

Tool / Program	Status: In Place	Status: Date Adopted or Updated	Status: Under Development	Dept./Agency Responsible	Comments
Subdivision Regulations					
Comprehensive Land Use Plan (or General, Master or Growth Mgt. Plan)					
Open Space Management Plan (or Parks/Rec or Greenways Plan)					
Stormwater Management Plan / Ordinance					
Natural Resource Protection Plan					
Capital Improvement Plan					
Economic Development Plan					
Historic Preservation Plan					
Farmland Preservation					
Building Code					
Fire Code					
Other					

4. **Education and Outreach:** Identify education and outreach programs and methods already in place that could be used to implement mitigation activities and communicate hazard-related information. Then, identify the primary department or agency responsible for its administration or allocation and provide any other comments you may have in the space provided or with attachments.

Program/Organization	Yes	No	Department/Agency	Comments
Firewise Communities Certification				
StormReady certification				
Natural disaster or safety related school programs				
Ongoing public education or information program (e.g. responsible water use, fire safety, household preparedness, environmental education)				
Public-private partnership initiatives addressing disaster-related issues				
Local citizen groups or nonprofit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.				
Other				

5. **Self-Assessment of Capability:** Please provide an approximate measure of your jurisdiction's capability to effectively implement hazard mitigation strategies to reduce hazard vulnerabilities. Using the following table, please place an "X" in the box marking the most appropriate degree of capability (Limited, Moderate or High) based upon best available information and the responses provided in Sections 1-5 of this survey. For multi-jurisdictional plans, record the results of this section into the Self-Assessment Capability Matrix in **Section 5**.

Area	Degree of Capability: Limited	Moderate	High
Planning and Regulatory Capability			
Administrative and Technical Capability			
Financial Capability			
Education and Outreach			

Hazard Identification and Risk Evaluation Worksheet

Name: MICHAEL ROSENSTEEL Title: System Manager Emergency Management Services and Security

Jurisdiction: EXCELA Health

(Council Member South Greens Borough AS well)

Identified Hazards 2015 HMP	How has the frequency of occurrence, magnitude of impact, and/or geographic extent changed in your community? NC = No Change; I = Increase; D = Decrease (Please provide an explanation for any hazards marked I or D in the "Additional Comments" column)	Additional Comments
Natural Hazards		
Avalanche	NC	
Drought	D	Increase Rain Totals
Earthquake	NC	
Extreme Temperatures	NC	
Floods, Flash Floods, and Ice Jams	I	Increase in Rain Totals
Hailstorm	NC	
Hurricane	NC	
Landslide	NC	
Lightning	NC	
Radon Exposure	NC	
Subsidence, Sinkhole	NC	
Tornado, Windstorm	I	Seems to have more affect on Power Grid
Wildfire	D	Rain ↑ last (Couple Years)
Winter Storm	D	Mild Winters

Identified Hazards 2015 HMP	How has the frequency of occurrence, magnitude of impact, and/or geographic extent changed in your community? NC = No Change; I = Increase; D = Decrease (Please provide an explanation for any hazards marked I or D in the "Additional Comments" column)	Additional Comments
Human-made Hazards		
Dam Failure	I	Increase Rain
Environmental Hazards	I	Additional Gas wells in Area
Nuclear Incident	NC	
Structural Fire	NC	
Terrorism	NC	
Transportation Accident	NC	
Utility Interruption	I	Windstorms and Rain Increase Interruption

PART II

Other Hazards:

Do any of these hazards, not previously profiled in the County's hazard mitigation plan; have the potential to affect your municipality significantly? (If so, please check the box)

Natural

- ☐ Coastal Erosion
- ☑ Pandemic
- ☐ Dust, Sand Storm
- ☐ Tsunami
- ☐ Expansive Soils
- ☐ Volcano
- ☐ Invasive Species

Human-Caused

- ☐ Building or Structure Collapse
- ☐ Levee Failure
- ☐ Civil Disturbance
- ☐ Mass Food/Animal Feed Contamination
- ☐ Disorientation
- ☐ War and Criminal Activity
- ☐ Drowning

Other Comments: Comments Are For Both Excela Health and South Greensburg Borough
- Roadway Flooding Skidmore ROAD South Greensburg
- Roadway Flooding Keystone street South Greensburg
- Jacks Run Bank Erosion South Greensburg
- [redacted]
- Latrobe Hospital 11.11 subsidence West Ave near Loyalhanna Creek
- NEED Generator For Borough Building Police, Fire, Borough Building All in one Facility (South Greensburg)

Hazard Identification and Risk Evaluation Worksheet

Name: Erin Schmitz Title: EHS Manager

Jurisdiction: ~~Manor / Harrison City~~ - Gabrie / Performance Products

PART I

Identified Hazards 2015 HMP	How has the frequency of occurrence, magnitude of impact, and/or geographic extent changed in your community? *NC = No Change; I = Increase; D = Decrease* *(Please provide an explanation for any hazards marked I or D in the "Additional Comments" column)*	Additional Comments
Natural Hazards		
Avalanche	NC	
Drought	NC	
Earthquake	NC	
Extreme Temperatures	NC	
Floods, Flash Floods, and Ice Jams	I	Facility has flooded on multiple occassions
Hailstorm	NC	
Hurricane	D	
Landslide	I	increase in rain
Lightning	NC	
Radon Exposure	NC	
Subsidence, Sinkhole	NC	
Tornado, Windstorm	NC	
Wildfire	NC	
Winter Storm	NC	

Identified Hazards 2015 HMP	How has the frequency of occurrence, magnitude of impact, and/or geographic extent changed in your community? *NC = No Change; I = Increase; D = Decrease* *(Please provide an explanation for any hazards marked I or D in the "Additional Comments" column)*	Additional Comments
Human-made Hazards		
Dam Failure	NC	
Environmental Hazards	I	store over 30 hazardous chemicals onsite
Nuclear Incident	NC	
Structural Fire	I	store over 30 hazardous chemicals
Terrorism	NC	
Transportation Accident	I	ship hazardous chemicals + products
Utility Interruption	I	

PART II

Other Hazards:

Do any of these hazards, not previously profiled in the County's hazard mitigation plan; have the potential to affect your municipality significantly? (If so, please check the box)

Natural

- ☐ Coastal Erosion
- ☐ Pandemic
- ☐ Dust, Sand Storm
- ☐ Tsunami
- ☐ Expansive Soils
- ☐ Volcano
- ☐ Invasive Species

Human-Caused

- ☐ Building or Structure Collapse
- ☐ Levee Failure
- ☐ Civil Disturbance
- ☐ Mass Food/Animal Feed Contamination
- ☐ Disorientation
- ☐ War and Criminal Activity
- ☐ Drowning

Other Comments:

2. **Administrative and Technical Capability:** Please indicate whether your jurisdiction maintains the following staff members within its current personnel resources by placing an "X" in the appropriate box. Then, if YES, please identify the department or agency they work under and provide any other comments you may have in the space provided or with attachments.

Staff/Personnel Resources	Yes	No	Department/Agency	Comments
Planners (with land use / land development knowledge)		X		
Planners or engineers (with natural and/or human caused hazards knowledge)		X		
Engineers or professionals trained in building and/or infrastructure construction practices (includes building inspectors)		X		
Emergency Manager	X			
NFIP Floodplain Administrator		X		
Land Surveyors		X		
Scientists or staff familiar with the hazards of the community	X			
Personnel skilled in Geographic Information Systems (GIS) and/or FEMA's HAZUS program		X		
Grant writers or fiscal staff to handle large/complex grants		X		
Staff with expertise or training in Benefit-Cost Analysis		X		
Other		X		

Capability Assessment Survey

Jurisdiction: Gabriel Performance Products
Point of Contact Name and Title: Erin Schmitz - EHS Manager
Phone: 724-864-8211
Email: erin.schmitz@gabrielchem.com

1. **Planning and Regulatory Capability:** Please indicate whether the following planning or regulatory tools and programs are currently in place or under development for your jurisdiction by placing an "X" in the appropriate box, followed by the date of adoption/update. Then, for each particular item in place, identify the department or agency responsible for its implementation and indicate it's estimated or anticipated effect on hazard loss reduction (Supports, Neutral or Hinders) with the appropriate symbol and also indicate if there has been a change in the ability of the tool/program to result in loss reduction. Finally, please provide additional comments or explanations in the space provided.

Tool / Program	Status: In Place	Status: Date Adopted or Updated	Status: Under Development	Dept./Agency Responsible	Comments
[illegible]	X	[illegible]		Fayette County EMA	Interim update in 2008 to set mitigation strategy, completed mid-edition
Hazard Mitigation Plan					
Emergency Operations Plan	X				
Disaster Recovery Plan					
Evacuation Plan	X				
Continuity of Operations Plan					
NFIP					
NFIP – Community Rating System					
Floodplain Regulations (spec. NFIP Flood Damage Prevention Ordinance)					
Floodplain Management Plan					
Zoning Regulations					

3. **Financial Capability:** Please indicate whether your jurisdiction has access to or is eligible to use the following local financial resources ***for hazard mitigation purposes*** (including as match funds for State of Federal mitigation grant funds). Then, identify the primary department or agency responsible for its administration or allocation and provide any other comments you may have in the space provided or with attachments.

Financial Resources	Yes	No	Department/Agency	Comments
Capital Improvement Programming	X			
Community Development Block Grants (CDBG)		X		
Special Purpose Taxes		X		
Gas / Electric Utility Fees	X			
Water / Sewer Fees	X			
Stormwater Utility Fees	X		PADEP	
Development Impact Fees		X		
General Obligation, Revenue, and/or Special Tax Bonds		X		
Partnering Arrangements or Intergovernmental Agreements		X		
Other		X		

Tool / Program	Status: In Place	Status: Date Adopted or Updated	Status: Under Development	Dept./Agency Responsible	Comments
Subdivision Regulations					
Comprehensive Land Use Plan (or General, Master or Growth Mgt. Plan)					
Open Space Management Plan (or Parks/Rec or Greenways Plan)					
Stormwater Management Plan / Ordinance	X			PADEP	NPDES Permit
Natural Resource Protection Plan	X			PADEP	NPDES permit, Air permit, Title II (OMA)
Capital Improvement Plan					
Economic Development Plan					
Historic Preservation Plan					
Farmland Preservation					
Building Code					
Fire Code					
Other					

4. **Education and Outreach:** Identify education and outreach programs and methods already in place that could be used to implement mitigation activities and communicate hazard-related information. Then, identify the primary department or agency responsible for its administration or allocation and provide any other comments you may have in the space provided or with attachments.

Program/Organization	Yes	No	Department/Agency	Comments
Firewise Communities Certification		X		
StormReady certification		X		
Natural disaster or safety related school programs		X		
Ongoing public education or information program (e.g. responsible water use, fire safety, household preparedness, environmental education)		X		
Public-private partnership initiatives addressing disaster-related issues		X		
Local citizen groups or nonprofit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.		X		
Other		X		

5. **Self-Assessment of Capability:** Please provide an approximate measure of your jurisdiction's capability to effectively implement hazard mitigation strategies to reduce hazard vulnerabilities. Using the following table, please place an "X" in the box marking the most appropriate degree of capability (Limited, Moderate or High) based upon best available information and the responses provided in Sections 1-5 of this survey. For multi-jurisdictional plans, record the results of this section into the Self-Assessment Capability Matrix in **Section 5**.

Area	Degree of Capability: Limited	Moderate	High
Planning and Regulatory Capability			X
Administrative and Technical Capability	X		
Financial Capability		X	
Education and Outreach			X

Hazard Identification and Risk Evaluation Worksheet

Name: Chris Suppa Title: Coord. Tech V Trans.

Jurisdiction: Greensburg Salem S.D.

PART I

Identified Hazards 2015 HMP	How has the frequency of occurrence, magnitude of impact, and/or geographic extent changed in your community? *NC = No Change; I = Increase; D = Decrease* *(Please provide an explanation for any hazards marked I or D in the "Additional Comments" column)*	Additional Comments
Natural Hazards		
Avalanche	D	Not a concern low probability
Drought	D	" "
Earthquake	D	" "
Extreme Temperatures	I	Env. changes
Floods, Flash Floods, and Ice Jams	I	More severe & increased rain
Hailstorm	N/C	
Hurricane	D	Hurricane bi-products are the danger(rain, wind)
Landslide	I	Extreme rainfall increases prob.
Lightning	N/C	
Radon Exposure	N/C	
Subsidence, Sinkhole	N/C	
Tornado, Windstorm	N/C	
Wildfire	N/C	
Winter Storm	N/C	

Identified Hazards 2015 HMP	How has the frequency of occurrence, magnitude of impact, and/or geographic extent changed in your community? *NC = No Change; I = Increase; D = Decrease* *(Please provide an explanation for any hazards marked I or D in the "Additional Comments" column)*	Additional Comments
Human-made Hazards		
Dam Failure	N/C	
Environmental Hazards	N/C	
Nuclear Incident	N/C	
Structural Fire	N/C	
Terrorism	I	Domestic terrorism incidents national
Transportation Accident	I	Aging infrastructure
Utility Interruption	I	Violent storms

Capability Assessment Survey

Jurisdiction: GREENSBURG SALEM S. D. Point of Contact Name and Title: CHRIS SUPPO / COORD. TECH.

Phone: 724-832-2983 Email: CHRIS.SUPPO@GSLIONS.NET

1. **Planning and Regulatory Capability:** Please indicate whether the following planning or regulatory tools and programs are currently in place or under development for your jurisdiction by placing an "X" in the appropriate box, followed by the date of adoption/update. Then, for each particular item in place, identify the department or agency responsible for its implementation and indicate it's estimated or anticipated effect on hazard loss reduction (Supports, Neutral or Hinders) with the appropriate symbol and also indicate if there has been a change in the ability of the tool/program to result in loss reduction. Finally, please provide additional comments or explanations in the space provided.

Tool / Program	Status: In Place	Status: Date Adopted or Updated	Status: Under Development	Dept./Agency Responsible	Comments
Hazard Mitigation Plan	X			DIST ADMIN	
Emergency Operations Plan	X			DIST. ADMIN	
Disaster Recovery Plan					
Evacuation Plan	X			DIST. ADMIN	
Continuity of Operations Plan					
NFIP					
NFIP – Community Rating System					
Floodplain Regulations (spec. NFIP Flood Damage Prevention Ordinance)					
Floodplain Management Plan					
Zoning Regulations					

N/A

Tool / Program	Status: In Place	Status: Date Adopted or Updated	Status: Under Development	Dept./Agency Responsible	Comments
Subdivision Regulations					
Comprehensive Land Use Plan (or General, Master or Growth Mgt. Plan)					
Open Space Management Plan (or Parks/Rec or Greenways Plan)					
Stormwater Management Plan / Ordinance					
Natural Resource Protection Plan					
Capital Improvement Plan					
Economic Development Plan					
Historic Preservation Plan					
Farmland Preservation					
Building Code					
Fire Code					
Other					

2. **Administrative and Technical Capability:** Please indicate whether your jurisdiction maintains the following staff members within its current personnel resources by placing an "X" in the appropriate box. Then, if YES, please identify the department or agency they work under and provide any other comments you may have in the space provided or with attachments.

Staff/Personnel Resources	Yes	No	Department/Agency	Comments
Planners (with land use / land development knowledge)				
Planners or engineers (with natural and/or human caused hazards knowledge)				
Engineers or professionals trained in building and/or infrastructure construction practices (includes building inspectors)				
Emergency Manager				
NFIP Floodplain Administrator				
Land Surveyors				
Scientists or staff familiar with the hazards of the community				
Personnel skilled in Geographic Information Systems (GIS) and/or FEMA's HAZUS program				
Grant writers or fiscal staff to handle large/complex grants				
Staff with expertise or training in Benefit-Cost Analysis				
Other				

PART II

Other Hazards:

Do any of these hazards, not previously profiled in the County's hazard mitigation plan; have the potential to affect your municipality significantly? (If so, please check the box)

Natural

- ☐ Coastal Erosion
- ☐ Dust, Sand Storm
- ☐ Expansive Soils
- ☐ Invasive Species
- ☐ Pandemic
- ☐ Tsunami
- ☐ Volcano

Human-Caused

- ☐ Building or Structure Collapse
- ☐ Civil Disturbance
- ☐ Disorientation
- ☐ Drowning
- ☐ Levee Failure
- ☐ Mass Food/Animal Feed Contamination
- ☐ War and Criminal Activity

Other Comments:

PROJ. IDEA. HOW ABOUT MOLD & AIR QUALITY? MANY SCHOOLS HAVE OR WILL EXPERIENCE THIS PROBLEM. WET/HUMID SUMMERS COMBINED W/OLD BUILDINGS. BLDG'S NOT AIR CONDITIONED & OR THAT DON'T INCLUDE DE-HUMIDIFICATION.

PROJ. IDEA. FUNDING FOR SCHOOLS TO UPDATE BUILDINGS TO ENSURE SECURE ENTRY POINTS.

3. **Financial Capability:** Please indicate whether your jurisdiction has access to or is eligible to use the following local financial resources ***for hazard mitigation purposes*** (including as match funds for State of Federal mitigation grant funds). Then, identify the primary department or agency responsible for its administration or allocation and provide any other comments you may have in the space provided or with attachments.

Financial Resources	Yes	No	Department/Agency	Comments
Capital Improvement Programming				
Community Development Block Grants (CDBG)				
Special Purpose Taxes				
Gas / Electric Utility Fees				
Water / Sewer Fees				
Stormwater Utility Fees				
Development Impact Fees				
General Obligation, Revenue, and/or Special Tax Bonds				
Partnering Arrangements or Intergovernmental Agreements				
Other				

4. **Education and Outreach:** Identify education and outreach programs and methods already in place that could be used to implement mitigation activities and communicate hazard-related information. Then, identify the primary department or agency responsible for its administration or allocation and provide any other comments you may have in the space provided or with attachments.

Program/Organization	Yes	No	Department/Agency	Comments
Firewise Communities Certification				
StormReady certification				
Natural disaster or safety related school programs				
Ongoing public education or information program (e.g. responsible water use, fire safety, household preparedness, environmental education)				
Public-private partnership initiatives addressing disaster-related issues				
Local citizen groups or nonprofit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.				
Other				

5. **Self-Assessment of Capability:** Please provide an approximate measure of your jurisdiction's capability to effectively implement hazard mitigation strategies to reduce hazard vulnerabilities. Using the following table, please place an "**X**" in the box marking the most appropriate degree of capability (Limited, Moderate or High) based upon best available information and the responses provided in Sections 1-5 of this survey. For multi-jurisdictional plans, record the results of this section into the Self-Assessment Capability Matrix in **Section 5**.

Area	Degree of Capability		
	Limited	Moderate	High
Planning and Regulatory Capability			
Administrative and Technical Capability			
Financial Capability			
Education and Outreach			

Hazard Identification and Risk Evaluation Worksheet

Name: Dan Skolnekovich Title: Chemical Engineer

Jurisdiction: Mansson Coke Plant

PART I

Identified Hazards 2015 HMP	How has the frequency of occurrence, magnitude of impact, and/or geographic extent changed in your community? NC = No Change; I = Increase; D = Decrease (Please provide an explanation for any hazards marked I or D in the "Additional Comments" column)	Additional Comments
Natural Hazards		
Avalanche	NC	
Drought	NC	
Earthquake	NC	
Extreme Temperatures	NC	
Floods, Flash Floods, and Ice Jams	NC - flood 1x in 90's	Monongahela River, but was only
Hailstorm	NC	
Hurricane	NC	
Landslide	NC	
Lightning	NC - can wipe out utilities	
Radon Exposure	NC	
Subsidence, Sinkhole	NC	
Tornado, Windstorm	NC	
Wildfire	NC	
Winter Storm	I→ More weather stings - pipe freeze risk. Need power to machines - no backup, if all 3 power supplies go by Wed boilers & pumps dump power outages to prevent	

Identified Hazards 2015 HMP	How has the frequency of occurrence, magnitude of impact, and/or geographic extent changed in your community? NC = No Change; I = Increase; D = Decrease (Please provide an explanation for any hazards marked I or D in the "Additional Comments" column)	Additional Comments
Human-made Hazards		
Dam Failure	NC	
Environmental Hazards	NC but our facility is high Risk, we have	
Nuclear Incident	NC controls in place	
Structural Fire	NC	
Terrorism	NC	
Transportation Accident	NC	
Utility Interruption	I → high winds caused power outages that other caused or can cause environmental hazards, can also cause safety hazards We have safety precautions in place, but sometimes mother nature has other plans.	

→ Did not happen to our facility but USSteel had a structural fire Christmas eve - burnt down control Room & are having environmental exceedances as a Result → But, it can happen to anyone

→ Could lose machines, if pressure is not maintained, can cause other safety issues

PART II

Other Hazards:

Do any of these hazards, not previously profiled in the County's hazard mitigation plan; have the potential to affect your municipality significantly? (If so, please check the box)

Natural

- ☐ Coastal Erosion
- ☐ Dust, Sand Storm
- ☒ Expansive Soils - Coal Roads - Machines sinking
- ☐ Invasive Species
- ☐ Pandemic
- ☐ Tsunami
- ☐ Volcano

Human-Caused

- ☒ Building or Structure Collapse - depending on what building - house controls systems
- ☐ Civil Disturbance
- ☐ Disorientation
- ☐ Drowning
- ☒ Levee Failure - Could flood plant right on River
- ☐ Mass Food/Animal Feed Contamination
- ☐ War and Criminal Activity

old buildings built in 1940's

Other Comments:

Hazard Identification and Risk Evaluation Worksheet

Name: Jen Hood/Tom Stephanic | Elle Specher Title: _____

Jurisdiction: PennWest Industrial Truck, LLC
Mt. Pleasant PA Westmoreland Tech. Park 1
East Huntingdon Twsp / Westmoreland County

PART I

Identified Hazards 2015 HMP	How has the frequency of occurrence, magnitude of impact, and/or geographic extent changed in your community? NC = No Change; I = Increase; D = Decrease (Please provide an explanation for any hazards marked I or D in the "Additional Comments" column)	Additional Comments
Natural Hazards		
Avalanche		
Drought		
Earthquake		
Extreme Temperatures		
Floods, Flash Floods, and Ice Jams	I	
Hailstorm		
Hurricane		
Landslide		
Lightning		
Radon Exposure		
Subsidence, Sinkhole		
Tornado, Windstorm	I	
Wildfire		
Winter Storm		

Identified Hazards 2015 HMP	How has the frequency of occurrence, magnitude of impact, and/or geographic extent changed in your community? NC = No Change; I = Increase; D = Decrease (Please provide an explanation for any hazards marked I or D in the "Additional Comments" column)	Additional Comments
Human-made Hazards		
Dam Failure		
Environmental Hazards		
Nuclear Incident		
Structural Fire		
Terrorism		
Transportation Accident	I	
Utility Interruption	I (also phone systems)	3-4 annual events that disrupt power for 4+ hrs during business hrs (8a-5p M-F)

2018 - there was a structural repair made to the water electrical supply connection. It was scheduled during normal business hours and expected to take 8-10 hrs. this affected 44 sites/businesses. After businesses expressed concern, they were offered a weekend repair if they paid $10K to overtime. (eventually was completed on weekend at no cost to businesses)

PART II

Other Hazards:

Do any of these hazards, not previously profiled in the County's hazard mitigation plan; have the potential to affect your municipality significantly? (If so, please check the box)

Natural

- ☐ Coastal Erosion
- ☐ Dust, Sand Storm
- ☐ Expansive Soils
- ☐ Invasive Species
- ☐ Pandemic
- ☐ Tsunami
- ☐ Volcano

Human-Caused

- ☐ Building or Structure Collapse
- ☐ Civil Disturbance
- ☐ Disorientation
- ☐ Drowning
- ☐ Levee Failure
- ☐ Mass Food/Animal Feed Contamination
- ☐ War and Criminal Activity

Other Comments: DCN - PennWest related

- To tag on to Manor Boro's Ranbur comments → over 15 homes on Hillcrest (Harrison City) are flooded during storms - homes can not even be sold without flood insurance now
- Is mine subsidence covered? Notices are being sent in Penn Township recommending mine insurance, yet education/information is not being provided for home/business owners

Hazard Identification and Risk Evaluation Worksheet

Name: JARRED SLATER Title: SGT

Jurisdiction: PA STATE POLICE, GBG

PART I

Identified Hazards 2015 HMP	How has the frequency of occurrence, magnitude of impact, and/or geographic extent changed in your community? NC = No Change; I = Increase; D = Decrease (Please provide an explanation for any hazards marked I or D in the "Additional Comments" column)	Additional Comments
Natural Hazards		
Avalanche	NC	
Drought	NC	
Earthquake	NC	
Extreme Temperatures	I	CYCLICAL HI/LOW TEMPS
Floods, Flash Floods, and Ice Jams	I	HI RAIN IN 2018
Hailstorm	NC	
Hurricane	NC	
Landslide	I	PAIRED W/HI RAIN
Lightning	NC	
Radon Exposure	NC	
Subsidence, Sinkhole	NC	
Tornado, Windstorm	NC	
Wildfire	NC	USUALLY ARSON IN THIS AREA
Winter Storm	NC	INTERMITTENT

Identified Hazards 2015 HMP	How has the frequency of occurrence, magnitude of impact, and/or geographic extent changed in your community? NC = No Change; I = Increase; D = Decrease (Please provide an explanation for any hazards marked I or D in the "Additional Comments" column)	Additional Comments
Human-made Hazards		
Dam Failure	NC	
Environmental Hazards	I	GAS DRILLING & TRANSPORT VEH. IMPACT INCIDENTS
Nuclear Incident	NC	
Structural Fire	NC	
Terrorism	I	CONSIDER CRIME/DRUG GANG VIOLENCE - PANDEMIC
Transportation Accident	~~NC~~ I	COMMERCIAL VEH. SERIOUS ACCIDENTS
Utility Interruption	NC	

PART II

Other Hazards:

Do any of these hazards, not previously profiled in the County's hazard mitigation plan; have the potential to affect your municipality significantly? (If so, please check the box) – MEDICATION FOR PANDEMIC DISTRIBUTION POINTS SHOULD HAVE BACKUP POWER SOURCES

Natural

- ☐ Coastal Erosion
- ☒ Pandemic
- ☐ Dust, Sand Storm
- ☐ Tsunami
- ☐ Expansive Soils
- ☐ Volcano
- ☒ Invasive Species TICKS/LYME DISEASE

Human-Caused

- ☐ Building or Structure Collapse
- ☐ Levee Failure
- ☒ Civil Disturbance
- ☐ Mass Food/Animal Feed Contamination
- ☐ Disorientation
- ☒ War and Criminal Activity
- ☐ Drowning

Other Comments:

HEMPFIELD TWP HAS ESTABLISHED A MAJ CASINO AT WESTMORELAND MALL. CRIME IN AND SURROUNDING AREA IS ANTICIPATED TO INCREASE. ARRESTS & CRIMES WILL INCREASE.
- WESTMORELAND CO. BORDERS ALLEGHENY CO. THERE SERIOUS CRIME & DRUG SALES DIRECTLY IMPACT WESTMORELAND CO.
- LARGE AMOUNT OF PUBLIC SCHOOLS/UNIVERSITIES ARE POTENTIAL TARGETS OF MASS CASUALTY INCIDENTS. MOST ARE PREPARED WELL. SOME ARE NOT PREPARED AT ALL.

Hazard Identification and Risk Evaluation Worksheet

Name: William Hardy for Jeff Thomas Title: Safety Engineer

Jurisdiction: Westinghouse Waltz Mill (Industry)

PART I

Identified Hazards 2015 HMP	How has the frequency of occurrence, magnitude of impact, and/or geographic extent changed in your community? NC = No Change; I = Increase; D = Decrease (Please provide an explanation for any hazards marked I or D in the "Additional Comments" column)	Additional Comments
Natural Hazards		
Avalanche	D	Site on flat land, will not be a threat
Drought	NC	
Earthquake	NC	
Extreme Temperatures	NC	
Floods, Flash Floods, and Ice Jams	I	Flash flooding closed site last year due to roadway flooding and loss of sewage treatment (Sep. 2018) Calloys Run Creek
Hailstorm	NC	
Hurricane	NC	
Landslide	NC	
Lightning	NC	
Radon Exposure	NC	
Subsidence, Sinkhole	NC	
Tornado, Windstorm	NC	
Wildfire	NC	
Winter Storm	NC	

Identified Hazards 2015 HMP	How has the frequency of occurrence, magnitude of impact, and/or geographic extent changed in your community? NC = No Change; I = Increase; D = Decrease (Please provide an explanation for any hazards marked I or D in the "Additional Comments" column)	Additional Comments
Human-made Hazards		
Dam Failure	D	No dams in area
Environmental Hazards	NC	
Nuclear Incident	NC	Site does handle radioactive material
Structural Fire	NC	
Terrorism	NC	
Transportation Accident	NC	
Utility Interruption	I	Has occurred twice in last year (2018)

PART II

Other Hazards:

Do any of these hazards, not previously profiled in the County's hazard mitigation plan; have the potential to affect your municipality significantly? (If so, please check the box)

Natural

- ☐ Coastal Erosion
- ☐ Dust, Sand Storm
- ☐ Expansive Soils
- ☐ Invasive Species
- ☐ Pandemic
- ☐ Tsunami
- ☐ Volcano

Human-Caused

- ☐ Building or Structure Collapse
- ☐ Civil Disturbance
- ☐ Disorientation
- ☐ Drowning
- ☐ Levee Failure
- ☐ Mass Food/Animal Feed Contamination
- ☐ War and Criminal Activity

Other Comments:

Opioid crisis has not affected site, however, has affected surrounding areas

Capability Assessment Survey

Jurisdiction: Waltz Mill (Westinghouse) (Industry) Point of Contact Name and Title: William Hardy for Jeff Thomas, Safety Eng.

Phone: 724-722-5913 Email: hardywc@westinghouse.com

1. **Planning and Regulatory Capability:** Please indicate whether the following planning or regulatory tools and programs are currently in place or under development for your jurisdiction by placing an "X" in the appropriate box, followed by the date of adoption/update. Then, for each particular item in place, identify the department or agency responsible for its implementation and indicate it's estimated or anticipated effect on hazard loss reduction (Supports, Neutral or Hinders) with the appropriate symbol and also indicate if there has been a change in the ability of the tool/program to result in loss reduction. Finally, please provide additional comments or explanations in the space provided.

Tool / Program	Status: In Place	Status: Date Adopted or Updated	Status: Under Development	Dept./Agency Responsible	Comments
[illegible]		[illegible]		Hazard County EMA	Interim update in 2008 revised mitigation strategy, completed one action
Hazard Mitigation Plan	X	12/2018		Waltz Mill EHS	
Emergency Operations Plan	X	11/2018		Waltz Mill EHS	
Disaster Recovery Plan					
Evacuation Plan					
Continuity of Operations Plan					
NFIP					
NFIP – Community Rating System					
Floodplain Regulations (spec. NFIP Flood Damage Prevention Ordinance)					
Floodplain Management Plan					
Zoning Regulations					

3. **Financial Capability:** Please indicate whether your jurisdiction has access to or is eligible to use the following local financial resources ***for hazard mitigation purposes*** (including as match funds for State of Federal mitigation grant funds). Then, identify the primary department or agency responsible for its administration or allocation and provide any other comments you may have in the space provided or with attachments.

Financial Resources	Yes	No	Department/Agency	Comments
Capital Improvement Programming				
Community Development Block Grants (CDBG)				
Special Purpose Taxes				
Gas / Electric Utility Fees				
Water / Sewer Fees				
Stormwater Utility Fees				
Development Impact Fees				
General Obligation, Revenue, and/or Special Tax Bonds				
Partnering Arrangements or Intergovernmental Agreements				
Other				

Tool / Program	Status			Dept./Agency Responsible	Comments
	In Place	Date Adopted or Updated	Under Develop-ment		
Subdivision Regulations					
Comprehensive Land Use Plan (or General, Master or Growth Mgt. Plan)					
Open Space Management Plan (or Parks/Rec or Greenways Plan)					
Stormwater Management Plan / Ordinance					
Natural Resource Protection Plan					
Capital Improvement Plan					
Economic Development Plan					
Historic Preservation Plan					
Farmland Preservation					
Building Code					
Fire Code					
Other					

4. **Education and Outreach:** Identify education and outreach programs and methods already in place that could be used to implement mitigation activities and communicate hazard-related information. Then, identify the primary department or agency responsible for its administration or allocation and provide any other comments you may have in the space provided or with attachments.

Program/Organization	Yes	No	Department/Agency	Comments
Firewise Communities Certification				
StormReady certification				
Natural disaster or safety related school programs				
Ongoing public education or information program (e.g. responsible water use, fire safety, household preparedness, environmental education)				
Public-private partnership initiatives addressing disaster-related issues				
Local citizen groups or nonprofit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.				
Other				

2. **Administrative and Technical Capability:** Please indicate whether your jurisdiction maintains the following staff members within its current personnel resources by placing an "X" in the appropriate box. Then, if YES, please identify the department or agency they work under and provide any other comments you may have in the space provided or with attachments.

Staff/Personnel Resources	Yes	No	Department/Agency	Comments
Planners (with land use / land development knowledge)				
Planners or engineers (with natural and/or human caused hazards knowledge)				
Engineers or professionals trained in building and/or infrastructure construction practices (includes building inspectors)	X		Westinghouse Facilities Department	
Emergency Manager	X		Waltz Mill EMS	Called "Emergency Mgt. Coord."
NFIP Floodplain Administrator				
Land Surveyors				
Scientists or staff familiar with the hazards of the community	X		Multiple Engineers on site	
Personnel skilled in Geographic Information Systems (GIS) and/or FEMA's HAZUS program				
Grant writers or fiscal staff to handle large/complex grants				
Staff with expertise or training in Benefit-Cost Analysis				
Other				

Capability Assessment Survey

5. **Self-Assessment of Capability:** Please provide an approximate measure of your jurisdiction's capability to effectively implement hazard mitigation strategies to reduce hazard vulnerabilities. Using the following table, please place an "X" in the box marking the most appropriate degree of capability (Limited, Moderate or High) based upon best available information and the responses provided in Sections 1-5 of this survey. For multi-jurisdictional plans, record the results of this section into the Self-Assessment Capability Matrix in **Section 5**.

Area	Degree of Capability		
	Limited	Moderate	High
Planning and Regulatory Capability		X	
Administrative and Technical Capability			X
Financial Capability		X	
Education and Outreach			X

Hazard Identification and Risk Evaluation Worksheet

Name: FRED CECCHINI Title: _____

Jurisdiction: WEST. CO. TRENCH RESCUE / STRUCTURAL COLLAPSE

PART I

Identified Hazards 2015 HMP	How has the frequency of occurrence, magnitude of impact, and/or geographic extent changed in your community? *NC = No Change; I = Increase; D = Decrease* *(Please provide an explanation for any hazards marked I or D in the "Additional Comments" column)*	Additional Comments
Natural Hazards		
Avalanche	D	
Drought	D	
Earthquake	NC	
Extreme Temperatures	NC	
Floods, Flash Floods, and Ice Jams	I	↑ RAINFALL
Hailstorm	NC	
Hurricane	NC	
Landslide	I	RAINFALL ↑
Lightning	NC	
Radon Exposure	NC	
Subsidence, Sinkhole	I	MINES AGING, RAIN ↑
Tornado, Windstorm	NC	
Wildfire	NC	
Winter Storm	NC	

Identified Hazards 2015 HMP	How has the frequency of occurrence, magnitude of impact, and/or geographic extent changed in your community? *NC = No Change; I = Increase; D = Decrease* *(Please provide an explanation for any hazards marked I or D in the "Additional Comments" column)*	Additional Comments
Human-made Hazards		
Dam Failure	I	OLDER INFRASTRUCTURE
Environmental Hazards	I	WELLS, GAS STORAGE (DOMINION)
Nuclear Incident	NC	
Structural Fire	NC	
Terrorism	NC	
Transportation Accident	NC	
Utility Interruption	I	OLDER INFRASTRUCTURE

PART II

Other Hazards:

Do any of these hazards, not previously profiled in the County's hazard mitigation plan; have the potential to affect your municipality significantly? (If so, please check the box)

Natural

- ☐ Coastal Erosion
- ☐ Dust, Sand Storm
- ☐ Expansive Soils
- ☐ Invasive Species
- ☐ Pandemic
- ☐ Tsunami
- ☐ Volcano

Human-Caused

- ☒ Building or Structure Collapse
- ☐ Civil Disturbance
- ☐ Disorientation
- ☒ Drowning
- ☐ Levee Failure
- ☐ Mass Food/Animal Feed Contamination
- ☐ War and Criminal Activity

Other Comments:

- AGING INFRASTRUCTURE / BUILDINGS WITHIN COMMUNITIES
- INCREASED WATER ACTIVITIES ON LOYALHANNA, ETC.

Westmoreland County Multi-Jurisdictional Multi-Hazard Mitigation Plan Workshop
2/19/2019
UPG- Cassell Hall Computer Lab

#	Last Name	First Name	E-Mail	Phone #	Signature
1	Andrews	Jon	johnnya925@gmail.com		
2	Bohinski	Dave	bohinski@verizon.net	724-875-1431	
3	Clark	Mary	msvz@aol.com	724-837-4820	
4	Collins	Marcy	codycourt727@comcast.net	724-882-3286	
5	Cook	Danielle	daniellecook1990@gmail.com	724-261-1792	
5	Curry	Tina	tinamarie4605@gmail.com	724-722-4605	
7	Doherty	Andrew	dohertya706@gmail.com	724-454-6611	
8	Dunmire	Chris	dunmire.chris@yahoo.com	412-377-4312	
9	Funk	Ashley	ashley@mtwatershed.com	724-953-2062	
10	Geiger	Walter	annlg429@yahoo.com	724-600-6266	
11	Gray	Leah	lgray@disabilityoptionsnetwork.org	724-698-1865	
12	Hurt	Jeramy	jeramy43@hotmail.com	812-217-0773	
13	Inks	Becky	inksb1@gmail.com	412-327-3504	
14	Kiefer	Jan	gospillthebeans@gmail.com	724-448-7599	
15	Leeman	Kevin	kkncjb@comcast.net	724-832-3020	
16	Leeman	Kathleen	kkncjb@comcast.net	724-832-3020	
17	Light	Bruce	brucelight303@gmail.com	724-841-4869	
18	Love	Richard	rlovejr4@yahoo.com	724-422-9637	
19	Mayo	Jeff	torgav@yahoo.com	412-558-0456	
20	Payne	Lawrence	larpayne154@gmail.com	760-942-7106	
21	Selip	Steven	sselip@gmail.com	724-309-1168	
22	Smith	Abraham	abe@n3bah.com	412-357-0076	

Westmoreland County Multi-Jurisdictional Multi-Hazard Mitigation Plan Workshop
2/19/2019
UPG- Cassell Hall Computer Lab

#	Last Name	First Name	E-Mail	Phone #	Signature
23	Spisso	Raphelia	jmus32996@aol.com	724-420-5050	Raphelia Spisso
24	Stauffer	Craig	craigstauffer47@hotmail.com	724-309-5062	
25	Stenson	Kimberly	kstenso@gmail.com	724-454-9117	Kim Stenson
26					
27					
28					
29					
30					
31					
32					
33					
34					
35					
Staff	Tantlinger	Christopher	ctantlin@co.westmoreland.pa.us	724 640 6601	
Staff	Snyder	Clyde	Clyde.Snyder@Tetratech.com	724-516-0901	
Staff	Brodkiewicz	Andrew	ABrodkie@co.westmoreland.PA.US	724-600-1234	
Staff	Robb	Michi	mdr62@pitt.edu	202-491-3982	Michi D. Robb
Staff	David	Wester	njd48@pitt.edu	412-613-3011	Wester David
Staff	Jay	Lazzara	JKL42@pitt.edu	412-245-8788	
Staff	~~Lou~~ Pochet	Lou	LFPochet@hotmail.com	724-537 0540	Lou Pochet
Staff	~~Hunter~~ Fishell	Hunter	hrf15@pitt.edu	412-400-7492	
Staff					
Staff					

Subbio, Tony

From: Christopher Tantlinger <CTANTLIN@co.westmoreland.pa.us>
Sent: Monday, March 4, 2019 3:48 PM
To: Andrew L. Rzodkiewicz; Anthony Pologruto; Bud Mertz; Christopher Tantlinger; Christopher Bova; Snyder, Clyde; Cynthia Walter; Darlene Bracken; Dave Knox; Ellen Keefe; Eugene Good; Gene Komondor; Jack Ashton; Jeff Downs; Jim Pilsbury; Lou Pochet; Mary Beth Eslary; Matt Zambelli; Michael Bertolino; Rich Matason; Ron Cramer; Scott Stepanovich; Ted Kopas; William Wright
Cc: tinamarie4605@gmail.com; rlovejr4@yahoo.com; torgav@yahoo.com; jmus32996@aol.com; kstenso@gmail.com; Michelle Permuko; Subbio, Tony
Subject: FW: HMP - March HMWG Meeting
Attachments: Section 7.0 - Plan Maintenance -081414.doc; AGENDA 031119.doc

To all Hazard Mitigation Working Group members and guests:

Next Monday, March 11, 2019 will be the next meeting of the Hazard Mitigation Working Group. The meeting will begin at 9am at the Westmoreland County 9-1-1 and Emergency Operations Center, Training and Conference Room at 911 Public Safety Road, Greensburg PA 15601. Attached is the agenda for the upcoming meeting and the discussion item (plan maintenance procedures) to be reviewed for the upcoming plan update.

Please note that several individuals that expressed an interest at the Citizens Hazard Workshop are cc'd in this meeting notice and are welcome to attend. Thanks

Chris

Christopher Tantlinger
Hazard Mitigation Officer
Westmoreland County Department of Public Safety
911 Public Safety Road
Greensburg, PA 15601
724-600-7349
724-600-7388 fax

From: Subbio, Tony [mailto:Tony.Subbio@tetratech.com]
Sent: Monday, March 04, 2019 3:34 PM
To: Christopher Tantlinger
Cc: Snyder, Clyde
Subject: HMP - March HMWG Meeting

Chris,

At the meeting next week, we will be discussing the plan maintenance procedures- how they worked over the last 5 years, and what they will be over the next 5 years. Could you please share the attached section of the current plan with the rest of the HMWG for review prior to the meeting? Thanks!

Tony Subbio, CEM, CFM, PMP | Emergency Management Specialist
Direct **+1 (717) 839-5654** | Business **+1 (717) 545-3580** | Mobile **+1 (717) 856-4290** | Fax **+1 (717) 545-3062** |
tony.subbio@tetratech.com

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2400 Park Drive, Suite I | Harrisburg, PA 17110 | tetratech.com

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@WestmorelandCountyDPSInformationPage

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Westmoreland County Multi-Jurisdictional Multi-Hazard Mitigation Plan Revision Is Starting!

The Westmoreland County Hazard Mitigation Plan must be reviewed and revised every five (5) years to meet Federal Emergency Management Agency (FEMA) requirements.

We need your help! Where do you see hazards impacting the County? What streams have flooded? Where does water pond on the roads? Where does there always seem to be an accident? Where is the hillside coming down onto the road? What else have you noticed? We want to know!

https://www.co.westmoreland.pa.us/CivicAlerts.aspx?AID=4958

CO.WESTMORELAND.PA.US
Westmoreland County, PA
Westmoreland County Multi-Jurisdictional Multi-Hazard Mitigation Plan - Revision Is Starting!

4.8 **4.8 out of 5** · Based on the opinion of 21 people

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- 5,782 people follow this
- **Robert Gerlach** and **4 other friends** like this or have checked in

About See All

911 Public Safety Rd
Greensburg, Pennsylvania 15601

Subbio, Tony

From: Christopher Tantlinger <CTANTLIN@co.westmoreland.pa.us>
Sent: Tuesday, March 5, 2019 2:05 PM
To: Adamsburgs John Kihl; Andrew L. Rzodkiewicz; ARONA BORO-WALTER GEIGER; AVONMORE BOROUGH; BELL TWP-JEFFREY DUFFNER; BOLIVAR BORO - BJ BRETT; CITY OF ARNOLD-JOHN TEDORSKI; City of Greensburg _ Deputy Mark Seighman; CITY OF GREENSBURG-LES HARVEY; CITY OF JEANNETTE - CITY CLERK MICHELLE LANGDON; CITY OF JEANNETTE-RYAN HIGHLANDS; CITY OF LATROBE-CARL BOLLINGER; CITY OF LOWER BURRLL - JOHN ROCKWELL (emc@cityoflowerburrell.com); CITY OF MONESSEN-DR WILLIAM HESS III; CITY OF NEW KENSINGTON-KYLE FRIEBERG; COOK TWP-JOSHUA UMBAUGH; Christopher Tantlinger; DELMONT BORO - DAVE WEBER; DERRY BORO-STEPHEN KOZAR; DERRY TWP-TERRY GIANNINI; DERRY TWP-TERRY GIANNINI (H); DONEGAL BORO; DONEGAL TWP; EAST HUNNTINGDON TWP DEPUTY-MONICA LUGO; EAST HUNTINGDON TWP - JAMES KING; EAST HUNTINGDON TWP-JAMES KING; EAST VANDERGRIFT BOROUGH - ROBERT BAUSTERT; Eugene Good; FAIRFIELD TWP-DANIEL SOWERS; HEMPFIELD TOWNSHIP - GEORGE REESE; HEMPFIELD TWP - DEPUTY DIRECTOR BRYAN SHABE; HEMPFIELD TWP ASSIST. COORDINATOR - GREG SAUNDERS II; HUNKER BORO-DANIEL MCKAY; HYDE PARK BORO-NATHAN BAKER; IRWIN BORO-CHRISTIAN KOURY; IRWIN BORO-ROBERT LEUTHOLD; JAMES SHAW - HEMPFIELD TWP ; LAUREL MOUNTAIN BORO-SUSAN CROUSE; LIGONIER BORO-CHRIS STOUFFER; LIGONIER TWP-JOHN BEAUFORT; LOYALHANNA TWP; LOYALHANNA TWP - DONALD KELLY; MADISON BORO-DARREN ACHTZEN; MANOR BORO-JEREMY DIXON; Mary Beth Eslary; MT PLEASANT BORO-GERALD LUCIA; MT PLEASANT TWP - DUANE HUTTER; MUNICIPALITY OF MURRYSVILLE/EXPORT BORO-WILLIAM YANT; Murrysville - Chuck Tappe ; Murrysville staff - Jenn Smith ; Murrysville Staff- Nicole LeMaster ; MURRYSVILLE/EXPORT - DEPUTY RUPNIK; MURRYSVILLE/EXPORT-BARRY DELLISSIO ; NEW ALEXANDRIA BORO; NEW ALEXANDRIA BORO-RONALD CRAMER; NEW FLORENCE BORO-KIETH BORING; NEW STANTON BORR-RICHARD CAMMARATA; NORTH BELLE VERNON BORO-MICHAEL PARZYNSKI; NORTH BELLE VERNON DEPUTY-JOHN GARBER; NORTH HUNTINGDON TWP-GENE KOMONDOR; NORTH HUNTINGTON TWP - GENE KOMONDOR (H); NORTH IRWIN-KYLE BRYAN; OKLAHOMA BORO; OKLAHOMA BORO - ADAM LOCKHART; PENN BORO-RANDY DREISTADT; PENN TWP - DEPUTY MARK KURISKO; PENN TWP - PAUL WERSING; Bud Mertz; ROSTRAVER TWP-RONALD OLSCHON; SAINT CLAIR TWP/SEWARD BORO-PHILLIP FERRIS; SALEM TWP-ROBERT ROSATTI; Scott Stepanovich; SCOTTDALE - DEPUTY MARK CASTIN; SCOTTDALE - WILLIAM "BUZZ" MYERS; SEWICKLEY TWP DEPUTY-JASON RITCHIE; SEWICKLEY TWP-GLENN WEES; SMITHTON BORO-THOMAS HAYNES; SOUTH GREENSBURG-RALPH FURIN; SOUTH HUNTINGDON TWP-DAN PERGOLA; SOUTHWEST GBG-TODD BRANT; SUTERSVILLE BORO- GEORGE NEAT; TONY KOVACIC - HEMPFIELD TOWNSHIP ; TRAFFORD - JOHN ELIYAS; UNITY TWP/YOUNGSTOWN BORO-PETE TENEROWICZ; UPPER BURRELL TWP-DAVID KNOX; VANDERGRIFT BORO - STEPHEN POTOKA IV; WASHINGTON TWP-SANDY SMYTH (H); WASHINGTON TWP-SANDY SMYTHE; WEST LEECHBURG-GARY CLINE; WEST NEWTON BORO-PAUL WILLIAMS; WEST NEWTON BORO-PAUL WILLIAMS (H); YOUNGWOOD - BOB COLETTA
Cc: Snyder, Clyde; Subbio, Tony; Michelle Permuko
Subject: FW: HMP - worksheet mailing - municipalities NFIP SURVEY - SPECIAL ATTENTION
Attachments: Capability Assessment Survey.docx; Evaluation of Identified Hazards and Risk.docx; Mitigation Strategy Review Worksheet.docx; NFIP Survey.docx

Importance: High

*****SPECIAL ATTENTION***** ALL LOCAL EMEERGENCY MANAGEMENT COORDINATORS:

PLEASE FORWARD THIS TO YOUR ELECTED OFFFCIALS – March 22, 2019 deadline.

You have received an email with 3 worksheets prior to this email. However, this email INCLUDES these worksheets and the NFIP survey to send up to your elected officials so that they ensure the completion of the 3 page NFIP 3 survey.

Thank you for your attention to these very important requests for information.

Christopher Tantlinger
Hazard Mitigation Officer
Westmoreland County Department of Public Safety
911 Public Safety Road
Greensburg, PA 15601
724-600-7349
724-600-7388 fax

From: Subbio, Tony [mailto:Tony.Subbio@tetratech.com]
Sent: Sunday, March 03, 2019 9:52 AM
To: Christopher Tantlinger
Cc: Snyder, Clyde
Subject: HMP - worksheet mailing - municipalities

Dear Planning Team/Borough Council/Township Supervisors/City Council/EMCs,

Hello! As you may know, we kicked off the planning process to update the Westmoreland County Hazard Mitigation Plan (HMP) on February 28. At this meeting, we distributed a set of four information collection worksheets for each municipality to complete and return as part of the planning process:

- **Evaluation of Identified Hazards and Risks** – to report how the municipality's risk from different hazards has changed over the last few years. Please note how your municipality's vulnerability has changed, and identify any additional hazards you think we should examine.
- **Capability Assessment Survey** – to report what plan, regulations, staff, financial, and other capabilities the municipality has to implement hazard mitigation. Please identify the resources you have available.

- **NFIP Survey** – to report on your municipal floodplain management program and compliance with the National Flood Insurance Program.
- **Mitigation Strategy 5-Year Mitigation Plan Review** – to comment on the HMP's goals and objectives, and report progress on the mitigation actions identified in the 2015 HMP. Please provide comments on the goals and objectives, and provide an update on the countywide mitigation actions (the ones that start with "all municipalities" or "County and all municipalities") and the actions for your specific municipality (if any).

These worksheets should be completed by a team of municipal officials, such as your manager, zoning officer, code enforcement officer, public works director, and emergency management coordinator. Please provide as much information as you can.

I have attached the four worksheets to this email. Please complete them and return them via mail, fax, or email as soon as possible. We would like to have all worksheets completed and submitted by Friday, March 22nd. ***Completion of these worksheets is required to fully participate in the planning process and remain eligible for state and federal mitigation funding.*** If you have any questions about the HMP, the planning process, or the worksheets, please let me know, or contact our consultant, Mr. Tony Subbio of Tetra Tech, Inc., at 717-545-3580 or tony.subbio@tetratech.com.

Thank you for your participation in this important planning process.
*****

Tony Subbio, CEM, CFM, PMP | Emergency Management Specialist
Direct **+1 (717) 839-5654** | Business **+1 (717) 545-3580** | Mobile **+1 (717) 856-4290** | Fax **+1 (717) 545-3062** |
tony.subbio@tetratech.com

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2400 Park Drive, Suite I | Harrisburg, PA 17110 | tetratech.com

Subbio, Tony

From: Christopher Tantlinger <CTANTLIN@co.westmoreland.pa.us>
Sent: Tuesday, March 5, 2019 11:26 AM
To: Christopher Tantlinger; Mary Beth Eslary; Michael Rosensteel - Excela Health
Cc: Andrew L. Rzodkiewicz; Subbio, Tony; Michelle Permuko; Snyder, Clyde
Subject: Hazard Mitigation Information Request
Attachments: Mitigation Strategy Review Worksheet.docx; Capability Assessment Survey.docx; Evaluation of Identified Hazards and Risk.docx

Dear Hazard Mitigation Stakeholders/Planning Team Members,

Hello! As you may know, we kicked off the planning process to update the Westmoreland County Hazard Mitigation Plan (HMP) on February 28. At this meeting, we distributed a set of information collection worksheets for our stakeholders to complete and return as part of the planning process. Three of those worksheets are as follows:

- **Evaluation of Identified Hazards and Risks** – to report how your organization's/facility's risk from different hazards has changed over the last few years. Please note how your organization's/facility's vulnerability has changed, and identify any additional hazards you think we should examine.
- **Capability Assessment Survey** – to report what plan, regulations, staff, financial, and other capabilities your organization has to implement hazard mitigation. Please identify the resources you have available. This worksheet was designed to be completed by municipalities, so many of the items may not apply to your organization. Please complete it as best you can.
- **Mitigation Strategy 5-Year Mitigation Plan Review** – to comment on the HMP's goals and objectives, and report progress on the mitigation actions identified in the 2015 HMP. Please provide comments on the goals and objectives, and provide an update on any actions that would affect your organization (such as #39, on whether partnerships have been established).

I have attached these worksheets to this email. Please complete them and return them via mail, fax, or email as soon as possible. We would like to have all worksheets completed and submitted by Friday, March 22nd. If you have any questions about the HMP, the planning process, or the worksheets, please let me know, or contact our consultant, Mr. Tony Subbio of Tetra Tech, Inc., at 717-545-3580 or tony.subbio@tetratech.com.

Thank you for your participation in this important planning process.
*****

Christopher Tantlinger
Hazard Mitigation Officer
Westmoreland County Department of Public Safety
911 Public Safety Road
Greensburg, PA 15601
724-600-7349
724-600-7388 fax

From: Christopher Tantlinger
Sent: Thursday, February 28, 2019 8:53 AM
To: Mary Beth Eslary; Michael Rosensteel - Excela Health
Cc: Andrew L. Rzodkiewicz; tony.subbio@tetratech.com
Subject: NOTICE: *****CHANGE OF MEETING LOCATION*****HAZARD MITIGATION PLAN UPDATE KICK OFF MEETING RE: Hazard Mitigation Plan

NOTICE: ******CHANGE OF MEETING LOCATION*****HAZARD MITIGATION PLAN UPDATE KICK OFF MEETING*

THE KICKOFF MEETING FOR THE WESTMORELAND COUNTY HAZARD MITGATION PLAN UPDATE HAS BEEN MOVED TO THE WESTMORELAND INTERMEDIATE UNIT (IU) AT **102 EQUITY DRIVE, GREENSBURG PA 15601**. THIS IS LOCATED ¼ MILE WEST OF THE ORIGINAL LOCATION OFF OF DONOHOE ROAD.

THE MEETING WILL BE FROM 2PM TO 4PM, WE WILL ALLOW A FEW EXTRA MINUTES TO ALLOW EERYONE TO REACH THE NEW LOCATION

PLEASE ENTER THROUGH THE MAIN ENTRANCE AND CHECK IN. YOU WILL THEN BE DIRECTED TO THE MEETING LOCATION ON THE LEFT.

Chris Tantlinger

NEW MEETING LOCATION, 102 EQUITY DRIVE, GREENSBURG PA 15601


WIU

From: Mary Beth Eslary
Sent: Tuesday, February 12, 2019 9:50 AM
To: Michael Rosensteel - Excela Health
Cc: Christopher Tantlinger; Andrew L. Rzodkiewicz; tony.subbio@tetratech.com
Subject: Hazard Mitigation Plan

Good Morning! Could you please forward this kick off meeting to all the hospital contacts that you believe would be essential to this.

Thank you!

Mary Beth Eslary
Westmoreland CountyDepartment of Public Safety
Public Information Officer
Community Outreach Coordinator
(724) 600-7305 Work
(724) 600-9539 Cell

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https://twitter.com/WCDPS911

https://www.instagram.com/westmoco911/

Westmoreland County DPS PIO

https://www.flickr.com/photos/155069971@N05/

Call 2-1-1 for Social Services. Help Starts Here.

Call 2-1-1 for Social Services. Help Starts Here.
Call 2-1-1 for Social Services. Help Starts Here.

Subbio, Tony

From: Christopher Tantlinger <CTANTLIN@co.westmoreland.pa.us>
Sent: Tuesday, March 5, 2019 1:30 PM
To: Christopher Tantlinger; Michelle Permuko; mikew@wchaonline.com; pbarker@pa.gov; spavlekovs@pa.gov; Corey.Demuro@fema.dhs.gov; lrp.webinquiries@usace.army.mil
Cc: Subbio, Tony; Andrew L. Rzodkiewicz; Mary Beth Eslary; Andrew L. Rzodkiewicz; Michelle Permuko
Subject: Hazard Mitigation Information Request

Dear Hazard Mitigation Stakeholders/Planning Team Members,

RE: Hazard Mitigation Information Request

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Thank you for your participation in this important planning process.
*****

Christopher Tantlinger
Hazard Mitigation Officer
Westmoreland County Department of Public Safety
911 Public Safety Road
Greensburg, PA 15601
724-600-7349
724-600-7388 fax

From: Christopher Tantlinger
Sent: Thursday, February 28, 2019 9:07 AM
To: Michelle Permuko; mikew@wchaonline.com; pbarker@pa.gov; spavlekovs@pa.gov; Corey.Demuro@fema.dhs.gov; lrp.webinquiries@usace.army.mil
Cc: tony.subbio@tetratech.com; Andrew L. Rzodkiewicz; Mary Beth Eslary
Subject: NOTICE: *****CHANGE OF MEETING LOCATION*****HAZARD MITIGATION PLAN UPDATE KICK OFF MEETING RE: Hazard Mitigation Meeting

NOTICE: *****CHANGE OF MEETING LOCATION*****HAZARD MITIGATION PLAN UPDATE KICK OFF MEETING*

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Chris Tantlinger

NEW MEETING LOCATION, 102 EQUITY DRIVE, GREENSBURG PA 15601


WIU

From: Michelle Permuko
Sent: Tuesday, February 12, 2019 11:37 AM
To: mikew@wchaonline.com; pbarker@pa.gov; spavlekovs@pa.gov; Corey.Demuro@fema.dhs.gov; lrp.webinquiries@usace.army.mil
Cc: Christopher Tantlinger; tony.subbio@tetratech.com; Andrew L. Rzodkiewicz; Mary Beth Eslary
Subject: Hazard Mitigation Meeting

Good Morning,

Please see attached document.

Thank you,

Michelle Permuko

Administrative Assistant/
Deputy Public Information Officer
Westmoreland County Department of Public Safety
911 Public Safety Road
Greensburg Pa 15601
Office # (724) 600-7303
Fax # (724) 600-7388
mpermuko@co.westmoreland.pa.us

https://www.facebook.com/WestmorelandCountyDpsInformationPage/

https://twitter.com/WCDPS911

https://www.instagram.com/westmoco911/

Commissioner

Westi

DEPARTMENT OF PUBLIC SAFETY
724-600-7300
Roland "Bud" Mertz
Director
724-600-7301

February 4, 2019

RE: Westmoreland County Hazar

Dear Westmoreland County Planning S

The Westmoreland County Hazard Mi
impact Westmoreland County; describ
to those hazards; and includes a set of
reduce the likelihood and/or severity o
and adopted by the County Commissio
early 2020, so we have begun our 5-ye

We will be conducting a kickoff meeti
The meeting will be held at the Westm
Safety Road, Greensburg, PA from 2:0
planning process, timeline, municipal
participation. I would appreciate it if s
and participate in the planning process

Thank you for your support, and we lo
Meeting. Please contact me if you hav

Mary Beth Eslary
Westmoreland CountyDepartment of Public Safety
Public Information Officer
Community Outreach Coordinator
(724) 600-7305 Work
(724) 600-9539 Cell

https://www.facebook.com/WestmorelandCountyDpsInformationPage/

https://twitter.com/WCDPS911

https://www.instagram.com/westmoco911/

Westmoreland County DPS PIO

https://www.flickr.com/photos/155069971@N05/

Call 2-1-1 for Social Services. Help Starts Here.

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Call 2-1-1 for Social Services. Help Starts Here.

Subbio, Tony

From: Christopher Tantlinger <CTANTLIN@co.westmoreland.pa.us>
Sent: Tuesday, March 5, 2019 1:27 PM
To: Christopher Tantlinger; Mary Beth Eslary; domatic@firstenergycorp.com
Cc: Andrew L. Rzodkiewicz; Subbio, Tony
Subject: Hazard Mitigation Information Request
Attachments: Mitigation Strategy Review Worksheet.docx; Capability Assessment Survey.docx; Evaluation of Identified Hazards and Risk.docx

Dear Hazard Mitigation Stakeholders/Planning Team Members,

RE: Hazard Mitigation Information Request

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Thank you for your participation in this important planning process.
*****

Christopher Tantlinger
Hazard Mitigation Officer
Westmoreland County Department of Public Safety
911 Public Safety Road
Greensburg, PA 15601
724-600-7349
724-600-7388 fax

From: Christopher Tantlinger
Sent: Thursday, February 28, 2019 9:05 AM
To: Mary Beth Eslary; domatic@firstenergycorp.com
Cc: Andrew L. Rzodkiewicz; tony.subbio@tetratech.com
Subject: NOTICE: *****CHANGE OF MEETING LOCATION*****HAZARD MITIGATION PLAN UPDATE KICK OFF MEETING RE: Hazard Mitigation Meeting

NOTICE: *****CHANGE OF MEETING LOCATION*****HAZARD MITIGATION PLAN UPDATE KICK OFF MEETING*

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PLEASE ENTER THROUGH THE MAIN ENTRANCE AND CHECK IN. YOU WILL THEN BE DIRECTED TO THE MEETING LOCATION ON THE LEFT.

Chris Tantlinger

NEW MEETING LOCATION, 102 EQUITY DRIVE, GREENSBURG PA 15601


WIU

From: Mary Beth Eslary
Sent: Tuesday, February 12, 2019 11:17 AM
To: domatic@firstenergycorp.com
Cc: Christopher Tantlinger; Andrew L. Rzodkiewicz; tony.subbio@tetratech.com
Subject: Hazard Mitigation Meeting

Mary Beth Eslary
Westmoreland CountyDepartment of Public Safety
Public Information Officer
Community Outreach Coordinator
(724) 600-7305 Work
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https://www.facebook.com/WestmorelandCountyDpsInformationPage/

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Westmoreland County DPS PIO

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Call 2-1-1 for Social Services. Help Starts Here.

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Call 2-1-1 for Social Services. Help Starts Here.

Subbio, Tony

From: Christopher Tantlinger <CTANTLIN@co.westmoreland.pa.us>
Sent: Tuesday, March 5, 2019 1:29 PM
To: Christopher Tantlinger; Mary Beth Eslary; JBrown@haponline.org
Cc: Andrew L. Rzodkiewicz; Subbio, Tony
Subject: Hazard Mitigation Information Request

Dear Hazard Mitigation Stakeholders/Planning Team Members,

RE: Hazard Mitigation Information Request

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Westmoreland County Department of Public Safety
911 Public Safety Road
Greensburg, PA 15601
724-600-7349
724-600-7388 fax

From: Christopher Tantlinger
Sent: Thursday, February 28, 2019 9:06 AM
To: Mary Beth Eslary; JBrown@haponline.org
Cc: Andrew L. Rzodkiewicz; tony.subbio@tetratech.com
Subject: NOTICE: *****CHANGE OF MEETING LOCATION*****HAZARD MITIGATION PLAN UPDATE KICK OFF MEETING RE: Hazard Mitigation Meeting

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To: JBrown@haponline.org
Cc: Christopher Tantlinger; Andrew L. Rzodkiewicz; tony.subbio@tetratech.com
Subject: Hazard Mitigation Meeting

Westmoreland County Department of Public Safety would like to invite you to our kickoff meeting!

Mary Beth Eslary
Westmoreland CountyDepartment of Public Safety
Public Information Officer
Community Outreach Coordinator
(724) 600-7305 Work
(724) 600-9539 Cell

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https://www.flickr.com/photos/155069971@N05/

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From: Christopher Tantlinger <CTANTLIN@co.westmoreland.pa.us>
Sent: Tuesday, March 5, 2019 11:29 AM
To: Christopher Tantlinger; Mary Beth Eslary; Eric S. Vaughan
Cc: Andrew L. Rzodkiewicz; Subbio, Tony
Subject: Hazard Mitigation Information Request
Attachments: Mitigation Strategy Review Worksheet.docx; Capability Assessment Survey.docx; Evaluation of Identified Hazards and Risk.docx

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Hazard Mitigation Officer
Westmoreland County Department of Public Safety
911 Public Safety Road
Greensburg, PA 15601
724-600-7349
724-600-7388 fax

From: Christopher Tantlinger
Sent: Thursday, February 28, 2019 8:55 AM
To: Mary Beth Eslary; Eric S. Vaughan
Cc: Andrew L. Rzodkiewicz; tony.subbio@tetratech.com
Subject: NOTICE: *****CHANGE OF MEETING LOCATION*****HAZARD MITIGATION PLAN UPDATE KICK OFF MEETING RE: Hazard Mitigation Meeting

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Chris Tantlinger

NEW MEETING LOCATION, 102 EQUITY DRIVE, GREENSBURG PA 15601


WIU

From: Mary Beth Eslary
Sent: Tuesday, February 12, 2019 9:52 AM
To: Eric S. Vaughan
Cc: Christopher Tantlinger; Andrew L. Rzodkiewicz; tony.subbio@tetratech.com
Subject: Hazard Mitigation Meeting

Good Morning Eric, Could you please push this out to all the school districts. Thank you!

Mary Beth Eslary
Westmoreland CountyDepartment of Public Safety
Public Information Officer
Community Outreach Coordinator
(724) 600-7305 Work
(724) 600-9539 Cell

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Subbio, Tony

From: Christopher Tantlinger <CTANTLIN@co.westmoreland.pa.us>
Sent: Tuesday, March 5, 2019 1:20 PM
To: Christopher Tantlinger; Mary Beth Eslary; Amy Fauth Bulletin; B.Hoke #4; chuck biedka; Dow Carnahan - WCNS-1480 (NBC Updates); Joe Mandak - AP News; jonathon silver; Kiley Fischer ; M. Gillespie @ wxpi ; Paul Pierce - Tribune Review; Pittsburgh Post Gazette; Renatta Signorini; Rich Cholodofsky ; Ross Guidotti - KDKA-TV CBS Pittsburgh; Steve Kittey - Latrobe Bulletin; Steve Limani - PSP Troop A PIO; Valley News Dispatch; wcns
Cc: Andrew L. Rzodkiewicz; Subbio, Tony; Michelle Permuko; Snyder, Clyde
Subject: Hazard Mitigation Information Request

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911 Public Safety Road
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724-600-7388 fax

From: Christopher Tantlinger
Sent: Thursday, February 28, 2019 8:58 AM
To: Mary Beth Eslary; Amy Fauth Bulletin; B.Hoke #4; chuck biedka; Dow Carnahan - WCNS-1480 (NBC Updates); Joe Mandak - AP News; jonathon silver; Kiley Fischer ; M. Gillespie @ wxpi ; Paul Pierce - Tribune Review; Pittsburgh Post Gazette; Renatta Signorini; Rich Cholodofsky ; Ross Guidotti - KDKA-TV CBS Pittsburgh; Steve Kittey - Latrobe Bulletin; Steve Limani - PSP Troop A PIO; Valley News Dispatch; wcns
Cc: Andrew L. Rzodkiewicz; tony.subbio@tetratech.com
Subject: NOTICE: *****CHANGE OF MEETING LOCATION*****HAZARD MITIGATION PLAN UPDATE KICK OFF MEETING RE: Hazard Mitigation Meeting

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Chris Tantlinger

NEW MEETING LOCATION, 102 EQUITY DRIVE, GREENSBURG PA 15601


WIU

From: Mary Beth Eslary
Sent: Tuesday, February 12, 2019 10:02 AM
To: Amy Fauth Bulletin; B.Hoke #4; chuck biedka; Dow Carnahan - WCNS-1480 (NBC Updates); Joe Mandak - AP News; jonathon silver; Kiley Fischer ; M. Gillespie @ wxpi ; Paul Pierce - Tribune Review; Pittsburgh Post Gazette; Renatta Signorini; Rich Cholodofsky ; Ross Guidotti - KDKA-TV CBS Pittsburgh; Steve Kittey - Latrobe Bulletin; Steve Limani - PSP Troop A PIO; Valley News Dispatch; wcns
Cc: Christopher Tantlinger; Andrew L. Rzodkiewicz; tony.subbio@tetratech.com
Subject: Hazard Mitigation Meeting

Ted Kopas
Commissioner

Westi

DEPARTMENT OF PUBLIC SAFETY
724-600-7300
Roland "Bud" Mertz
Director
724-600-7301

February 4, 2019

RE: Westmoreland County Hazar

Dear Westmoreland County Planning

The Westmoreland County Hazard Mi
impact Westmoreland County; describ
to those hazards; and includes a set of
reduce the likelihood and/or severity o
and adopted by the County Commissio
early 2020, so we have begun our 5-ye

We will be conducting a kickoff meeti
The meeting will be held at the Westm
Safety Road, Greensburg, PA from 2:0
planning process, timeline, municipal
participation. I would appreciate it if
and participate in the planning process

Mary Beth Eslary
Westmoreland CountyDepartment of Public Safety
Public Information Officer
Community Outreach Coordinator
(724) 600-7305 Work
(724) 600-9539 Cell

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Westmoreland County DPS PIO

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Subbio, Tony

From: Christopher Tantlinger <CTANTLIN@co.westmoreland.pa.us>
Sent: Tuesday, March 5, 2019 1:23 PM
To: Christopher Tantlinger; Mary Beth Eslary; 121-ARNOLD PALMER AIRPORT-MOE HASS ; 79-CITY OF GREENSBURG-TOM BELL (tbell@greensburgpa.org); Barry Banker; Brian Edmiston; Brian Feist; chief800; Chief Chad Zucco; Chuck McCandless; Don Ferrante; Fred Nincke; Jerry Lucia; lharvey@greensburgpa.org; lharvey7958@gmail.com; Michael Rosensteel (mrosensteel@excelahealth.org); Ryan Haywood; Sandra Smythe; Scot Graham - MAAS - scgraham379@aol.com; Scott Stepanovich; Steve Ramer; Ted Kopas; Thomas, Jeffrey P; Traci Self; William Krulac; William Wright; wimalia@pa.gov
Cc: Andrew L. Rzodkiewicz; Subbio, Tony; Michelle Permuko; Snyder, Clyde
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724-600-7349
724-600-7388 fax

From: Christopher Tantlinger
Sent: Thursday, February 28, 2019 9:03 AM
To: Mary Beth Eslary; 121-ARNOLD PALMER AIRPORT-MOE HASS ; 79-CITY OF GREENSBURG-TOM BELL (tbell@greensburgpa.org); Barry Banker; Brian Edmiston; Brian Feist; chief800; Chief Chad Zucco; Chuck McCandless; Don Ferrante; Fred Nincke; Jerry Lucia; lharvey@greensburgpa.org; lharvey7958@gmail.com; Michael Rosensteel (mrosensteel@excelahealth.org); Ryan Haywood; Sandra Smythe; Scot Graham - MAAS - scgraham379@aol.com; Scott Stepanovich; Steve Ramer; Ted Kopas; Thomas, Jeffrey P; Traci Self; William Krulac; William Wright; wimalia@pa.gov
Cc: Andrew L. Rzodkiewicz; tony.subbio@tetratech.com
Subject: NOTICE: *****CHANGE OF MEETING LOCATION*****HAZARD MITIGATION PLAN UPDATE KICK OFF MEETING RE: Hazard Mitigation Meeting

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Chris Tantlinger

NEW MEETING LOCATION, 102 EQUITY DRIVE, GREENSBURG PA 15601


WIU

From: Mary Beth Eslary
Sent: Tuesday, February 12, 2019 11:11 AM
To: 121-ARNOLD PALMER AIRPORT-MOE HASS ; 79-CITY OF GREENSBURG-TOM BELL (tbell@greensburgpa.org); Barry Banker; Brian Edmiston; Brian Feist; chief800; Chief Chad Zucco; Chuck McCandless; Don Ferrante; Fred Nincke; Jerry Lucia; lharvey@greensburgpa.org; lharvey7958@gmail.com; Michael Rosensteel (mrosensteel@excelahealth.org); Ryan Haywood; Sandra Smythe; Scot Graham - MAAS - scgraham379@aol.com; Scott Stepanovich; Steve Ramer; Ted Kopas; Thomas, Jeffrey P; Traci Self; William Krulac; William Wright; wimalia@pa.gov
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From: Christopher Tantlinger <CTANTLIN@co.westmoreland.pa.us>
Sent: Tuesday, March 5, 2019 1:24 PM
To: Christopher Tantlinger; Michelle Permuko; AAA; matsond@westmoreland.swsix.com; greg@wcdpa.com; Jason Rigone; Gregory McCloskey; Mary Beth Eslary; Daniel Carpenter; Brian Lawrence; Gregory McCloskey; April Kopas; Vaughn Neill; ablahovec@westmorelandtransit.com; tleiss@paturnpike.com; kxc22@psu.edu; terry.anderson@stvincent.edu; admit@setonhill.edu.; clg100@pitt.edu; metzd@westmoreland.edu
Cc: Andrew L. Rzodkiewicz; Subbio, Tony; Michelle Permuko; Snyder, Clyde
Subject: Hazard Mitigation Information Request

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Greensburg, PA 15601
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724-600-7388 fax

From: Christopher Tantlinger
Sent: Thursday, February 28, 2019 9:04 AM
To: Michelle Permuko; AAA; matsond@westmoreland.swsix.com; greg@wcdpa.com; Jason Rigone; Gregory McCloskey; Mary Beth Eslary; Daniel Carpenter; Brian Lawrence; Gregory McCloskey; April Kopas; Vaughn Neill; ablahovec@westmorelandtransit.com; tleiss@paturnpike.com; kxc22@psu.edu; terry.anderson@stvincent.edu; admit@setonhill.edu.; clg100@pitt.edu; metzd@westmoreland.edu
Cc: Andrew L. Rzodkiewicz; tony.subbio@tetratech.com
Subject: NOTICE: *****CHANGE OF MEETING LOCATION*****HAZARD MITIGATION PLAN UPDATE KICK OFF MEETING RE: Hazard Mitigation Metting

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Chris Tantlinger

NEW MEETING LOCATION, 102 EQUITY DRIVE, GREENSBURG PA 15601


WIU

From: Michelle Permuko
Sent: Tuesday, February 12, 2019 11:14 AM
To: AAA; matsond@westmoreland.swsix.com; greg@wcdpa.com; Jason Rigone; Gregory McCloskey; Mary Beth Eslary; Daniel Carpenter; Brian Lawrence; Gregory McCloskey; April Kopas; Vaughn Neill; ablahovec@westmorelandtransit.com; tleiss@paturnpike.com; kxc22@psu.edu; terry.anderson@stvincent.edu; admit@setonhill.edu.; clg100@pitt.edu; metzd@westmoreland.edu
Cc: Christopher Tantlinger; Andrew L. Rzodkiewicz; tony.subbio@tetratech.com
Subject: Hazard Mitigation Metting

Good Morning,

Please see attached document.

Thank you,

Michelle Permuko

Administrative Assistant/
Deputy Public Information Officer
Westmoreland County Department of Public Safety
911 Public Safety Road
Greensburg Pa 15601
Office # (724) 600-7303
Fax # (724) 600-7388
mpermuko@co.westmoreland.pa.us

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https://twitter.com/WCDPS911

https://www.instagram.com/westmoco911/

Commissioner

Westi

DEPARTMENT OF PUBLIC SAFETY
724-600-7300
Roland "Bud" Mertz
Director
724-600-7301

February 4, 2019

RE: Westmoreland County Hazar

Dear Westmoreland County Planning

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Westmoreland CountyDepartment of Public Safety
Public Information Officer
Community Outreach Coordinator
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(724) 600-9539 Cell

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Call 2-1-1 for Social Services. Help Starts Here.

Subbio, Tony

From: Christopher Tantlinger <CTANTLIN@co.westmoreland.pa.us>
Sent: Tuesday, March 5, 2019 1:55 PM
To: Christopher Tantlinger; Michelle Permuko; soconnell@spcregion.org; pbocan@mawc.org
Cc: Mary Beth Eslary; Andrew L. Rzodkiewicz; Subbio, Tony
Subject: Hazard Mitigation Information Request

Dear Hazard Mitigation Stakeholders/Planning Team Members,

RE: Hazard Mitigation Information Request

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Thank you for your participation in this important planning process.
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Christopher Tantlinger
Hazard Mitigation Officer
Westmoreland County Department of Public Safety
911 Public Safety Road
Greensburg, PA 15601
724-600-7349
724-600-7388 fax

From: Christopher Tantlinger
Sent: Thursday, February 28, 2019 9:08 AM
To: Michelle Permuko; soconnell@spcregion.org; pbocan@mawc.org
Cc: Mary Beth Eslary; Andrew L. Rzodkiewicz; tony.subbio@tetratech.com
Subject: NOTICE: *****CHANGE OF MEETING LOCATION*****HAZARD MITIGATION PLAN UPDATE KICK OFF MEETING RE: Hazard Mitigation Meeting

NOTICE: *****CHANGE OF MEETING LOCATION*****HAZARD MITIGATION PLAN UPDATE KICK OFF MEETING*

THE KICKOFF MEETING FOR THE WESTMORELAND COUNTY HAZARD MITGATION PLAN UPDATE HAS BEEN MOVED TO THE WESTMORELAND INTERMEDIATE UNIT (IU) AT **102 EQUITY DRIVE, GREENSBURG PA 15601**. THIS IS LOCATED ¼ MILE WEST OF THE ORIGINAL LOCATION OFF OF DONOHOE ROAD.

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Chris Tantlinger

NEW MEETING LOCATION, 102 EQUITY DRIVE, GREENSBURG PA 15601


WIU

From: Michelle Permuko
Sent: Tuesday, February 12, 2019 11:47 AM
To: soconnell@spcregion.org; pbocan@mawc.org
Cc: Christopher Tantlinger; Mary Beth Eslary; Andrew L. Rzodkiewicz; tony.subbio@tetratech.com
Subject: Hazard Mitigation Meeting

Good Morning,

Please see attached document.

Thank you,

Michelle Permuko

Administrative Assistant/
Deputy Public Information Officer
Westmoreland County Department of Public Safety
911 Public Safety Road
Greensburg Pa 15601
Office # (724) 600-7303
Fax # (724) 600-7388
mpermuko@co.westmoreland.pa.us

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Sincerely,

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Mary Beth Eslary
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Subbio, Tony

From: Christopher Tantlinger <CTANTLIN@co.westmoreland.pa.us>
Sent: Tuesday, March 5, 2019 11:30 AM
To: Christopher Tantlinger; Mary Beth Eslary; Adventist Community Services; American Cancer Society; AAA; Catholic Charities - Raymond E. Riffle; Children's Disaster Services; Church of the Brethen; Civic Groups; Civil Air Patrol; County Animal Response Team (CART); County Behavioral Health ~ Renee ; Funeral Home Directors (PFDA); Girl Scouts of Westmoreland; Goodwill Industries; Hagan, Donna; Humane Society of Westmoreland County (hswcgbg@aol.com); Jewish Community Services (info@jfcspgh.org); Lions Club - 14-E District Governor - Lance Remic; Luthern Disaster Response; Luthern Disaster Response (jmenzo@libertylutheran.org); Massage Therapy Groups (AMTA); Mennonite Disaster Services ; National Association of Social Workers; Salvation Army - David Rhodes; society of St. Vincent DePaul; United Church of Christ; United Methodist Committee on Relief (umcor@gbgm-umc.org); Westmoreland Assoc. of Volunteer Administrators - Louise Wilhelm; Westmoreland County Food Bank - Kevin Povich; Westmoreland-Fayette Council, B.S.A.; Al Checca (CART); Barbara Christner (access abilities); Brian Dembroske (Area of Aging) ; Bud Mertz (Director WCDPS); Darlene Bracken (PEMA) ; Eugene Good; Joleen Chiaverini (DCORT); Karen Evans (Blackburn Center); Karen Horchak (united Way); Lori Mozina (cart); Louise Wilhelm (WAVA) ; Michelle Permuko; Paul Williams (west newton EMA) ; Ralph furin (S. Greensburg EMA); Robert Buckingham ; Salvation Army - Angie Davies; Salvation Army Capt Christopher Blessing ; Salvation Army - Lt Phillips; Salvation Army - Major Earnest Fullwood ; Salvation Army - Robert Myers ; Salvation Army Shirley Hlafcsak; Salvation Army Major Charles Balcom; Scott Stepanovich; Eugene Good; WCCC- Amy Halula; William Hobaugh
Cc: Andrew L. Rzodkiewicz; Subbio, Tony; Michelle Permuko; Snyder, Clyde
Subject: Hazard Mitigation Information Request

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Christopher Tantlinger
Hazard Mitigation Officer
Westmoreland County Department of Public Safety
911 Public Safety Road
Greensburg, PA 15601
724-600-7349
724-600-7388 fax

From: Christopher Tantlinger
Sent: Thursday, February 28, 2019 8:56 AM
To: Mary Beth Eslary; Adventist Community Services; American Cancer Society; AAA; Catholic Charities - Raymond E. Riffle; Children's Disaster Services; Church of the Brethen; Civic Groups; Civil Air Patrol; County Animal Response Team (CART); County Behavioral Health ~ Renee ; Funeral Home Directors (PFDA); Girl Scouts of Westmoreland; Goodwill Industries; Hagan, Donna; Humane Society of Westmoreland County (hswcgbg@aol.com); Jewish Community Services (info@jfcspgh.org); Lions Club - 14-E District Governor - Lance Remic; Luthern Disaster Response; Luthern Disaster Response (jmenzo@libertylutheran.org); Massage Therapy Groups (AMTA); Mennonite Disaster Services ; National Association of Social Workers; Salvation Army - David Rhodes; society of St. Vincent DePaul; United Church of Christ; United Methodist Committee on Relief (umcor@gbgm-umc.org); Westmoreland Assoc. of Volunteer Administrators - Louise Wilhelm; Westmoreland County Food Bank - Kevin Povich; Westmoreland-Fayette Council, B.S.A.; Al Checca (CART); Barbara Christner (access abilities); Brian Dembroske (Area of Aging) ; Bud Mertz (Director WCDPS); Darlene Bracken (PEMA) ; Eugene Good; Joleen Chiaverini (DCORT); Karen Evans (Blackburn Center); Karen Horchak (united Way); Lori Mozina (cart); Louise Wilhelm (WAVA) ; Michelle Permuko; Paul Williams (west newton EMA) ; Ralph furin (S. Greensburg EMA); Robert Buckingham ; Salvation Army - Angie Davies; Salvation Army Capt Christopher Blessing ; Salvation Army - Lt Phillips; Salvation Army - Major Earnest Fullwood ; Salvation Army - Robert Myers ; Salvation Army Shirley Hlafcsak; Salvation Army Major Charles Balcom; Scott Stepanovich; Eugene Good; WCCC- Amy Halula; William Hobaugh
Cc: Andrew L. Rzodkiewicz; tony.subbio@tetratech.com
Subject: NOTICE: *****CHANGE OF MEETING LOCATION*****HAZARD MITIGATION PLAN UPDATE KICK OFF MEETING RE: Hazard Mitigation Metting

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Chris Tantlinger

NEW MEETING LOCATION, 102 EQUITY DRIVE, GREENSBURG PA 15601

From: Mary Beth Eslary
Sent: Tuesday, February 12, 2019 9:58 AM
To: Adventist Community Services; American Cancer Society; AAA; Catholic Charities - Raymond E. Riffle; Children's Disaster Services; Church of the Brethen; Civic Groups; Civil Air Patrol; County Animal Response Team (CART); County Behavioral Health ~ Renee ; Funeral Home Directors (PFDA); Girl Scouts of Westmoreland; Goodwill Industries; Hagan, Donna; Humane Society of Westmoreland County (hswcgbg@aol.com); Jewish Community Services (info@jfcspgh.org); Lions Club - 14-E District Governor - Lance Remic; Luthern Disaster Response; Luthern Disaster Response (jmenzo@libertylutheran.org); Massage Therapy Groups (AMTA); Mennonite Disaster Services ; National Association of Social Workers; Salvation Army - David Rhodes; society of St. Vincent DePaul; United Church of Christ; United Methodist Committee on Relief (umcor@gbgm-umc.org); Westmoreland Assoc. of Volunteer Administrators - Louise Wilhelm; Westmoreland County Food Bank - Kevin Povich; Westmoreland-Fayette Council, B.S.A.; Al Checca (CART); Barbara Christner (access abilities); Brian Dembroske (Area of Aging) ; Bud Mertz (Director WCDPS); Christopher Tantlinger; Darlene Bracken (PEMA) ; Eugene Good; Joleen Chiaverini (DCORT); Karen Evans (Blackburn Center); Karen Horchak (united Way); Lori Mozina (cart); Louise Wilhelm (WAVA) ; Mary Beth Eslary; Michelle Permuko; Paul Williams (west newton EMA) ; Ralph furin (S. Greensburg EMA); Robert Buckingham ; Salvation Army - Angie Davies; Salvation Army Capt Christopher Blessing ; Salvation Army - Lt Phillips; Salvation Army - Major Earnest Fullwood ; Salvation Army - Robert Myers ; Salvation Army Shirley Hlafcsak; Salvation Army Major Charles Balcom; Scott Stepanovich; Eugene Good; WCCC- Amy Halula; William Hobaugh
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Subbio, Tony

From: Christopher Tantlinger <CTANTLIN@co.westmoreland.pa.us>
Sent: Tuesday, March 5, 2019 1:26 PM
To: Christopher Tantlinger; Mary Beth Eslary; John Walton
Cc: Andrew L. Rzodkiewicz; Subbio, Tony; Michelle Permuko; Snyder, Clyde
Subject: Hazard Mitigation Information Request

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Christopher Tantlinger
Hazard Mitigation Officer
Westmoreland County Department of Public Safety
911 Public Safety Road
Greensburg, PA 15601
724-600-7349
724-600-7388 fax

From: Christopher Tantlinger
Sent: Thursday, February 28, 2019 9:04 AM
To: Mary Beth Eslary; John Walton
Cc: Andrew L. Rzodkiewicz; tony.subbio@tetratech.com
Subject: NOTICE: *****CHANGE OF MEETING LOCATION*****HAZARD MITIGATION PLAN UPDATE KICK OFF MEETING RE: Hazard Mitigation Meeting Prison

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Chris Tantlinger

NEW MEETING LOCATION, 102 EQUITY DRIVE, GREENSBURG PA 15601


WIU

From: Mary Beth Eslary
Sent: Tuesday, February 12, 2019 11:15 AM
To: John Walton
Cc: Christopher Tantlinger; Andrew L. Rzodkiewicz; tony.subbio@tetratech.com
Subject: Hazard Mitigation Meeting Prison

Mary Beth Eslary
Westmoreland CountyDepartment of Public Safety
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From: Christopher Tantlinger <CTANTLIN@co.westmoreland.pa.us>
Sent: Tuesday, March 5, 2019 1:21 PM
To: Christopher Tantlinger; Mary Beth Eslary; yatesj@co.washington.pa.us; landisj@co.somerset.pa.us; TStutzman@indianacounty.org; rshipley@fcema.org; amartynuska@co.cambria.pa.us; sbicehou@co.butler.pa.us; wahamilton@co.armstrong.pa.us; Matthew.Brown@AlleghenyCounty.US
Cc: Andrew L. Rzodkiewicz; Subbio, Tony; Michelle Permuko; Snyder, Clyde
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Westmoreland County Department of Public Safety
911 Public Safety Road
Greensburg, PA 15601
724-600-7349
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From: Christopher Tantlinger
Sent: Thursday, February 28, 2019 9:02 AM
To: Mary Beth Eslary; yatesj@co.washington.pa.us; landisj@co.somerset.pa.us; TStutzman@indianacounty.org; rshipley@fcema.org; amartynuska@co.cambria.pa.us; sbicehou@co.butler.pa.us; wahamilton@co.armstrong.pa.us; Matthew.Brown@AlleghenyCounty.US
Cc: Andrew L. Rzodkiewicz; tony.subbio@tetratech.com
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WIU

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Sent: Tuesday, February 12, 2019 11:08 AM
To: yatesj@co.washington.pa.us; landisj@co.somerset.pa.us; TStutzman@indianacounty.org; rshipley@fcema.org; amartynuska@co.cambria.pa.us; sbicehou@co.butler.pa.us; wahamilton@co.armstrong.pa.us; Matthew.Brown@AlleghenyCounty.US
Cc: Christopher Tantlinger; Andrew L. Rzodkiewicz; tony.subbio@tetratech.com
Subject: Hazard Mitigation Meeting

Good Morning Directors, Westmoreland County Department of Public Safety would like to invite you along with your planning team to our kickoff Hazard Mitigation meeting. Please feel free to contact myself for any questions.
Have a Great Day!

Mary Beth Eslary
Westmoreland CountyDepartment of Public Safety
Public Information Officer
Community Outreach Coordinator
(724) 600-7305 Work
(724) 600-9539 Cell

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From: Christopher Tantlinger <CTANTLIN@co.westmoreland.pa.us>
Sent: Tuesday, March 5, 2019 1:41 PM
To: Christopher Tantlinger; Mary Beth Eslary; lynda@akstrong.com; grcoc1@comcast.net; info@gllv.org; info@westmorelandchamber.com; mlcc@lhtot.com
Cc: Andrew L. Rzodkiewicz; Subbio, Tony; Michelle Permuko; Snyder, Clyde
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911 Public Safety Road
Greensburg, PA 15601
724-600-7349
724-600-7388 fax

From: Christopher Tantlinger
Sent: Thursday, February 28, 2019 9:08 AM
To: Mary Beth Eslary; lynda@akstrong.com; grcoc1@comcast.net; info@gllv.org; info@westmorelandchamber.com; mlcc@lhtot.com
Cc: Andrew L. Rzodkiewicz; tony.subbio@tetratech.com
Subject: NOTICE: *****CHANGE OF MEETING LOCATION*****HAZARD MITIGATION PLAN UPDATE KICK OFF MEETING RE: Hazard Mitigation Meeting

NOTICE: *****CHANGE OF MEETING LOCATION*****HAZARD MITIGATION PLAN UPDATE KICK OFF MEETING*

THE KICKOFF MEETING FOR THE WESTMORELAND COUNTY HAZARD MITGATION PLAN UPDATE HAS BEEN MOVED TO THE WESTMORELAND INTERMEDIATE UNIT (IU) AT **102 EQUITY DRIVE, GREENSBURG PA 15601**. THIS IS LOCATED ¼ MILE WEST OF THE ORIGINAL LOCATION OFF OF DONOHOE ROAD.

THE MEETING WILL BE FROM 2PM TO 4PM, WE WILL ALLOW A FEW EXTRA MINUTES TO ALLOW EERYONE TO REACH THE NEW LOCATION

PLEASE ENTER THROUGH THE MAIN ENTRANCE AND CHECK IN. YOU WILL THEN BE DIRECTED TO THE MEETING LOCATION ON THE LEFT.

Chris Tantlinger

NEW MEETING LOCATION, 102 EQUITY DRIVE, GREENSBURG PA 15601


WIU

From: Mary Beth Eslary
Sent: Tuesday, February 12, 2019 11:42 AM
To: lynda@akstrong.com; grcoc1@comcast.net; info@gllv.org; info@westmorelandchamber.com; mlcc@lhtot.com
Cc: Christopher Tantlinger; Andrew L. Rzodkiewicz; tony.subbio@tetratech.com
Subject: Hazard Mitigation Meeting

Mary Beth Eslary
Westmoreland CountyDepartment of Public Safety
Public Information Officer
Community Outreach Coordinator
(724) 600-7305 Work
(724) 600-9539 Cell

https://www.facebook.com/WestmorelandCountyDpsInformationPage/

https://twitter.com/WCDPS911

https://www.instagram.com/westmoco911/

Westmoreland County DPS PIO

https://www.flickr.com/photos/155069971@N05/

Call 2-1-1 for Social Services. Help Starts Here.

Call 2-1-1 for Social Services. Help Starts Here.
Call 2-1-1 for Social Services. Help Starts Here.

Subbio, Tony

From: Christopher Tantlinger <CTANTLIN@co.westmoreland.pa.us>
Sent: Tuesday, March 5, 2019 11:31 AM
To: Christopher Tantlinger; Mary Beth Eslary; Burnett Oil Co. - Kay Thomas ; Chevron - Brent Robinson; Sean Kertes; Donald OBrien; Dante DeCario; Consol Energy - Tom Andreassi; Consol Energy - Craig Hunter ; Eugene Good; Local EMC - Gene Komondor; Local EMC - Pete Tenerowicz ; Mutual Aid Ambulance Services - Scot Graham; North Huntingdon Twp - Michael Turley; Pa State Police - Stephen Eberle; Scott Stepanovich; Eugene Good; Washington township LEMC - Sandy Smythe; Marc Taylor; Michael Burke; William Hobaugh; Bud Mertz; Westmoreland County Chief of Police - John Fontaine; Westmoreland County Fire Chief's Assoc. - Peter Calabrese; Westmoreland County Fire Chief's Assoc.- Mark Piantine; Westmoreland County Firemen's assoc. - David Klingler; Westmoreland County Firemen's Assoc. - Justin Calisti; Westmoreland County Firemen's Assoc. - Nick Dreistadt; Westmoreland County Firemen's Assoc. - Richard McNaughton ; Westmoreland County GIS - Anthony Pologruto; Chris Bova; Jonathan Held; Scott Pfeifer; Denyel Obrien; Westmoreland County Technical Rescue Team - Chuck Miller ; Westmoreland County Trench Team - Fred Cecchini; Westmoreland EMS Council - Darrick Gerano; Westmoreland EMS Council - Jeff Tirpak ; WPX Energy - Chuck McCandless
Cc: Andrew L. Rzodkiewicz; Subbio, Tony; Michelle Permuko; Snyder, Clyde
Subject: Hazard Mitigation Information Request

Dear Hazard Mitigation Stakeholders/Planning Team Members,

RE: Hazard Mitigation Information Request

Hello! As you may know, we kicked off the planning process to update the Westmoreland County Hazard Mitigation Plan (HMP) on February 28. At this meeting, we distributed a set of information collection worksheets for our stakeholders to complete and return as part of the planning process. Three of those worksheets are as follows:

- **Evaluation of Identified Hazards and Risks** – to report how your organization's/facility's risk from different hazards has changed over the last few years. Please note how your organization's/facility's vulnerability has changed, and identify any additional hazards you think we should examine.
- **Capability Assessment Survey** – to report what plan, regulations, staff, financial, and other capabilities your organization has to implement hazard mitigation. Please identify the resources you have available. This worksheet was designed to be completed by municipalities, so many of the items may not apply to your organization. Please complete it as best you can.
- **Mitigation Strategy 5-Year Mitigation Plan Review** – to comment on the HMP's goals and objectives, and report progress on the mitigation actions identified in the 2015 HMP. Please provide comments on the goals and objectives, and provide an update on any actions that would affect your organization (such as #39, on whether partnerships have been established).

I have attached these worksheets to this email. Please complete them and return them via mail, fax, or email as soon as possible. We would like to have all worksheets completed and submitted by Friday, March 22nd. If you have any questions about the HMP, the planning process, or the worksheets, please let me know, or contact our consultant, Mr. Tony Subbio of Tetra Tech, Inc., at 717-545-3580 or tony.subbio@tetratech.com.

Thank you for your participation in this important planning process.
*****

Christopher Tantlinger
Hazard Mitigation Officer
Westmoreland County Department of Public Safety
911 Public Safety Road
Greensburg, PA 15601
724-600-7349
724-600-7388 fax

From: Christopher Tantlinger
Sent: Thursday, February 28, 2019 8:58 AM
To: Mary Beth Eslary; Burnett Oil Co. - Kay Thomas ; Chevron - Brent Robinson; Sean Kertes; Donald OBrien; Dante DeCario; Consol Energy - Tom Andreassi; Consol Energy - Craig Hunter ; Eugene Good; Local EMC - Gene Komondor; Local EMC - Pete Tenerowicz ; Mutual Aid Ambulance Services - Scot Graham; North Huntingdon Twp - Michael Turley; Pa State Police - Stephen Eberle; Scott Stepanovich; Eugene Good; Washington township LEMC - Sandy Smythe; Marc Taylor; Michael Burke; William Hobaugh; Bud Mertz; Westmoreland County Chief of Police - John Fontaine; Westmoreland County Fire Chief's Assoc. - Peter Calabrese; Westmoreland County Fire Chief's Assoc.- Mark Piantine; Westmoreland County Firemen's assoc. - David Klingler; Westmoreland County Firemen's Assoc. - Justin Calisti; Westmoreland County Firemen's Assoc. - Nick Dreistadt; Westmoreland County Firemen's Assoc. - Richard McNaughton ; Westmoreland County GIS - Anthony Pologruto; Chris Bova; Jonathan Held; Scott Pfeifer; Denyel Obrien; Westmoreland County Technical Rescue Team - Chuck Miller ; Westmoreland County Trench Team - Fred Cecchini; Westmoreland EMS Council - Darrick Gerano; Westmoreland EMS Council - Jeff Tirpak ; WPX Energy - Chuck McCandless
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PLEASE ENTER THROUGH THE MAIN ENTRANCE AND CHECK IN. YOU WILL THEN BE DIRECTED TO THE MEETING LOCATION ON THE LEFT.

Chris Tantlinger

NEW MEETING LOCATION, 102 EQUITY DRIVE, GREENSBURG PA 15601


WIU

From: Mary Beth Eslary
Sent: Tuesday, February 12, 2019 9:59 AM
To: Burnett Oil Co. - Kay Thomas ; Chevron - Brent Robinson; Sean Kertes; Donald OBrien; Dante DeCario; Consol Energy - Tom Andreassi; Consol Energy - Craig Hunter ; Eugene Good; Local EMC - Gene Komondor; Local EMC - Pete Tenerowicz ; Mary Beth Eslary; Mutual Aid Ambulance Services - Scot Graham; North Huntingdon Twp - Michael Turley; Pa State Police - Stephen Eberle; Scott Stepanovich; Eugene Good; Washington township LEMC - Sandy Smythe; Christopher Tantlinger; Marc Taylor; Michael Burke; William Hobaugh; Bud Mertz; Westmoreland County Chief of Police - John Fontaine; Westmoreland County Fire Chief's Assoc. - Peter Calabrese; Westmoreland County Fire Chief's Assoc.- Mark Piantine; Westmoreland County Firemen's assoc. - David Klingler; Westmoreland County Firemen's Assoc. - Justin Calisti; Westmoreland County Firemen's Assoc. - Nick Dreistadt; Westmoreland County Firemen's Assoc. - Richard McNaughton ; Westmoreland County GIS - Anthony Pologruto; Chris Bova; Jonathan Held; Scott Pfeifer; Denyel Obrien; Westmoreland County Technical Rescue Team - Chuck Miller ; Westmoreland County Trench Team - Fred Cecchini; Westmoreland EMS Council - Darrick Gerano; Westmoreland EMS Council - Jeff Tirpak ; WPX Energy - Chuck McCandless
Cc: Christopher Tantlinger; Andrew L. Rzodkiewicz; tony.subbio@tetratech.com
Subject: Hazard Mitigation Meeting

Ted Kopas
Commissioner

Westi

DEPARTMENT OF PUBLIC SAFETY
724-600-7300
Roland "Bud" Mertz
Director
724-600-7301

February 4, 2019

RE: Westmoreland County Hazar

Dear Westmoreland County Planning

The Westmoreland County Hazard Mi
impact Westmoreland County; describ
to those hazards; and includes a set of
reduce the likelihood and/or severity o
and adopted by the County Commissio
early 2020, so we have begun our 5-ye

We will be conducting a kickoff meeti
The meeting will be held at the Westm
Safety Road, Greensburg, PA from 2:0
planning process, timeline, municipal
participation. I would appreciate it if
and participate in the planning process

Mary Beth Eslary
Westmoreland CountyDepartment of Public Safety
Public Information Officer
Community Outreach Coordinator
(724) 600-7305 Work
(724) 600-9539 Cell

https://www.facebook.com/WestmorelandCountyDpsInformationPage/

https://twitter.com/WCDPS911

https://www.instagram.com/westmoco911/

Westmoreland County DPS PIO

https://www.flickr.com/photos/155069971@N05/

Call 2-1-1 for Social Services. Help Starts Here.

Call 2-1-1 for Social Services. Help Starts Here.
Call 2-1-1 for Social Services. Help Starts Here.

Subbio, Tony

From: Christopher Tantlinger <CTANTLIN@co.westmoreland.pa.us>
Sent: Wednesday, March 6, 2019 1:16 PM
To: Andrew L. Rzodkiewicz; Anthony Pologruto; Bud Mertz; Christopher Tantlinger; Christopher Bova; Snyder, Clyde; Cynthia Walter; Darlene Bracken; Dave Knox; Ellen Keefe; Eugene Good; Gene Komondor; Jack Ashton; Jeff Downs; Jim Pilsbury; Lou Pochet; Mary Beth Eslary; Matt Zambelli; Michael Bertolino; Rich Matason; Ron Cramer; Scott Stepanovich; Ted Kopas; William Wright
Cc: tinamarie4605@gmail.com; rlovejr4@yahoo.com; torgav@yahoo.com; jmus32996@aol.com; kstenso@gmail.com; Kimberly Shuster; Janaye Albright; Subbio, Tony
Subject: FW: Mitigation Minute for March 6, 2019

To all Hazard Mitigation Working Group members and guests:

Mitigation works!

To learn more, visit the Granite Falls story map, 'Journey to Resilience.'

Christopher Tantlinger
Hazard Mitigation Officer
Westmoreland County Department of Public Safety
911 Public Safety Road
Greensburg, PA 15601
724-600-7349
724-600-7388 fax

From: FEMA (Federal Emergency Management Agency) [mailto:fema@service.govdelivery.com]
Sent: Wednesday, March 06, 2019 10:02 AM
To: Christopher Tantlinger
Subject: Mitigation Minute for March 6, 2019

FEMA

Mitigation Minute

HMA Hazard Mitigation Assistance

March 6, 2019 - Subscribe

To learn more, visit the Granite Falls story map, 'Journey to Resilience.'

To view previous editions of the Mitigation Minute, visit the HMA Communications webpage and select “Mitigation Minute” from the drop down menu.

Disclaimer:

About “Mitigation Minute”

This series is provided by FEMA’s Hazard Mitigation Assistance Division. The “Mitigation Minute” contains a weekly fact about grants and resources provided across the country to reduce or eliminate long-term risk to people and property from natural hazards and does not endorse any non-government organizations, entities or services.

Comments or questions? Contact a FEMA Hazard Mitigation Specialist for your region. Download the FEMA app today for weather alerts, safety tips, and recovery center locations.

FEMA

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Westmoreland County Multi-Jurisdictional Multi-Hazard Mitigation Plan Workshop
3/19/2019
UPG- Cassell Hall Computer Lab

#	Last Name	First Name	E-Mail	Phone #	Signature
2	Cunningham	Tricia	coachtricia@gmail.com	724-974-0572	
1	Driggers EHS Maine	Ronald	Rondriggers46@gmail.com	724-681-9737	
3	Edson NAVY	Stephen	sredson3@gmail.com	757-642-4350	
4	Helkowski	Gregory	koby@zoominternet.net	412-582-1408	
5	Johnson RED CROSS	Margaret	mgtjhsn@aol.com	724-834-8128	
6	Krynock	Eileen	eikrynock@gmail.com	724-472-7786	
7	LeCuyer	Ann	Ann@protectpt.org	724-392-7023	
8	Leslie	Darlene	darleneleslie3@gmail.com	412-849-0749	
9	Markle	Paul	pcmthree06@gmail.com	724-516-4226	
10	Murtland RED CROSS	Jane	janem9@msn.com	412-610-0779	
11	Pyle	Kenneth	kcp71@msn.com	724-600-0901	
12	Sedlacko	Marion	msedlacko@comcast.net	724-837-0691	
13	Stahl	Bryon	lutheranchick@rocketmail.com	724-561-7601	
14	Stahl	Christine	lutheranchick@rocketmail.com	724-651-7601	
15	Pochet	Dorothy	dapochet@hotmail.com	724-837-0540	
16	TANTLINGER	Christopher	ctantlin@co.westmoreland.pa.us	724-600-7349	
17	Graber	Gillian	gillian.graber@gmail.com	412-215-2967	
18	~~Nestor~~ David	Nestor	nrd43@pitt.edu		
19	[redacted] F. Shill	Hunter Lou	hrf15@pitt.edu		
20	Pochet E.		LFPochet@hotmail.com	7248370540	
21					
22					

March 21, 2019 Crabtree Creek Issues Stakeholder Program

Introduction – Bud Mertz

Representative Eric Nelson, 3 municipalities have the same problem. We are here to discuss about the problem. Looking to see how to work to get together. That is our Goal Sewage and flooding are the main concerns.

Commissioner Cerilli, welcome

Chris Tantlinger- describing the flood mapping describing special hazard areas. The map is a guide. It does not show for debris clogging the creek bed.

Identify the problem.

Crabtree fire chief Watkins 5 to 7 years we get hammered the past 5 years 2 to 3 times a year. Same areas everytime. Seems to be a bigger area. Damages basement floodings garages sheds etc, shut dow the roadways on pretty consistent basis. A day or two of rain it will cause the problem.

Forbes Road fire chief and Salem Twp LEMC agrees with Chief Watkins.

Chief Fordyce Hannastown fire chief. 1972 showed problems from removing the Hannastown Dam.

Pete 2 ½ in 48 hour period to begin to cause problems, with fire response because of flooded roadways.

Conservation District Cathy, Obstructions, railroad crossings and are backing up water, eroding stream banks are adding to the problem. Contain the smaller storms can help. Would have to work with DEP. It will require some engineering, clean out gravel bars to remove obstructions. Conservation District can work through some of these problems. Can't really say that we have a problem, the emergency management people are getting the complaints but not many from here. Export is probably the most recent mitigation work that has occurred, Jacobs Creek in Scottdale, Bridgeport and Greenlick Dam help.

A local farmer is the water is getting worse because we are urbanizing and have large parking lots, this is what is making the problem.

Pete Tenerowicz Unity LEMC said 4,000 gallons per minute and up to 6,000 to 7,000 gallons a minute from mine drainage and a bottleneck behind the Crabtree Firehall.

Discussion about the USACE may have more information that can add to the discussion and that maybe this is part of the Loyalhanna flood control.

Need to identify some of the problems to create action items. Maybe each community can work on the specific areas. If we could clean a mile in each direction. 1992 the USACE came in and did some clearing.

Municipalities are allowed to clean underneath their right of ways and 50 feet in each direction.to keep their right of way clean. But you must work within the permit rules.

Phil Barker PEMA Equipment cannot be in the stream, there are mitigation programs.

Discussion on Hazard Mitigation Plan form. Sewage is an issue with the flooding as well. October 2005 the Crabtree Authority with the conservancy along with sewage plants and organc waste management and worked out for two years but then the funding dried up. So only maybe one out of three may be able to take advantage of that current funding. There was once a prison work release program that

could do labor. `USACE caused some coordination problems previously and didn't even show up to meeting with DEP on our side to discuss this issue. Senate Wards office was proposed a program to discuss and it didn't lead anywhere. Could we use the combat army units were once used to do the time of work through the National guard, maybe just feed them and pay for the fuel. Integrated storm water plan being developed with the county and could help illustrate some of the problems.

Action Items:

- General clearing/cleaning of streams
- Hazard mitigation project submission for some of the areas.
- Cooperative agreement among the communities.
- Develop a plan to come together
- Develop a task force with one individual from each municipality to work on the issues
- 2 locations for PennDOT to be addressed, per Unity Township

AGENDA **CRABTREE CREEK ISSUES**

WELCOME – Director Bud Mertz

OVERVIEW OF AREA / MAP Westmoreland County Department of Public Safety

DESCRIPTION AND HISTORY OF THE CRABTREE CREEK AND LITTLE CRABTREE CREEK

STATE OFFICIALS INTRODUCTION

- SENATORIAL DISTRICT – Honorable Kim Ward
- STATE REPRESENTATIVES – Representatives Eric Nelson & Mike Reese

WESTMORELAND CONSERVATION DISTRICT

- HYDROLOGICAL ENGINEER – James Pillsbury

CRABTREE AREA SEWAGE AUTHORITY

- Bob Wright
- Jerry DeFabo Jr.

STATE AGENCIES

- PEMA- Western Area Office – Director Phil Barker

MUNCIPALITIES AFFECTED

- UNITY TOWNSHIP – Director Pete Tenerowicz
- SALEM TOWNSHIP-Director Robert Rosatti (Forbes Road Fire Chief
- HEMPFIELD TOWNSHIP-Director Tony Kovacic

EMERGENCY RESPONDERS

- CRABTREE FIRE DEPARTMENT – Chief Bill Watkins
- HANNASTOWN FIRE DEPARTMENT – Chief Doug Fordyce
- FORBES ROAD FIRE DEPARTMENT – Chief Robert Rosatti
- Jerry DeFabo Jr.

WESTMORELAND COUNTY DEPARTMENT OF PUBLIC SAFETY

- PLANNING AND HAZARD MITIGATION SECTION – Chris Tantlinger & Rocky Rzodkiewicz
- PUBLIC INFORMATION OFFICER COMMUNITY OUTREACH COORDINATOR-Mary Beth Eslary

Rizzo's Malabar Inn, Crabtree PA **Thursday March 21, 2019 3:00pm**

AGENDA **CRABTREE CREEK ISSUES**

NOTES

Crabtree Creek Issues Stakeholder Meeting
03/20/2019

Last Name	First Name	Title	ORG	E-Mail	Phone #	Signature
TANTLINGER	CHRISTOPHER	DEMC	WCOPS	ctantlin@co.westmoreland.pa.us	724 600 7349	
Steppanovich	Scott	Dep Dir	WCOPS	stepano@co.westmore	600 7302	
Rzodkiewicz	Andrew	All Haz Plan	WCOPS	Arzodkie @co.westmorelandpa.us	724-600-7314	
ECCO	GENE	911 CHIEF	WCPPS	ECCO@co.westmoreland.pa.us	724-600-7306	
Walker	Chelsea	Watershed Spec.	WCD	Chelsea@wcdpa.com	724-837-5271	
Hamilton	Kathy	Landsc Arch.	WCD	kathyh@wcdpa.com	724-837-5271	
Griffith	Daniel	Ag Tech	WCD	dan@wcdpa.com	724 837-5271	
Rosati	Robert	ForbesRoad VFD	Fire Chief	RR55ROSA@AOL.com	724 834-0170	
Nelson	Eric	StateHouse	State	enelsonepahousegop	724 834-6400	
Frei	Jordan	Legaide	State Rep Mike Reese	JFREI@PAHOUSEGOP.com	724 423-6503	
Winters	Jason	Twp Manager	Hempfield	jwinters@hempfieldtwp.org	724-834-7232	
Kovacic	Anthony	EMC	Hempfield	akovacic@hempfield.org	8142549070	
Shuster	Kim	GIS/CAD	WCOPS			KShuster

Crabtree Creek Issues Stakeholder Meeting
03/20/2019

Last Name	First Name	Title	ORG	E-Mail	Phone #	Signature
MANGINI	JOEY	Resident			724-433-6597	[signature]
Cerilli	GINA	Commissioner			724-493-6250	[signature]
BARKER	PHILIP	Western Director	PEMA	pbarker@pa.gov	724-357-2990	[signature]
Ritson	Rob	Chief of Staff	Sen Ward	rritson@pasen.gov	724 600 7002	[signature]
FORDYCE	Doug	Fire Chief		CAT4DYCE@ [illegible] DOT COM	724 8370079	[signature]
Rosatti	Robert	Salem EMC	Forbes Road VFD	RRSSROSA@AOL.COM	724834-0170	[signature]
DeFab	Jerry	CAMA		jerryjr [illegible]	724-433-1747	[signature]
D'Aurora	Tim	CAMA	Salem Twp Rep	gambletd@earthlink.net	724-6688319	[signature]
ROHRBACHER	BARRIE	CAMA	HEMPFIELD	LBJJ32@HOTMAIL.COM	724-640-5771	[signature]
HEINNICKEL	Alquin	Crabtree	Ag. Hempfield		724 837-9254	[signature]
Tinerowicz	Pete	E.M.A. Director	Unity Twp	dinoll@comcast.net	724-787-1264	[signature]
WATKINS	WILLIAM	CRABTREE VFD CHIEF	CRABTREE VFD	wwatkins3409@gmail.com	724-875-0571	[signature]
Davis	Robert	Crabtree VFD FF	Crabtree VFD	[illegible]	724-771-5524	[signature]
[illegible]	John	[illegible]	[illegible]		724 879 8744	[signature]
Wright	Robert	CAMA	CAMA	rdwright [illegible] @gmail.com	724-837-8737	[signature]
[illegible]	Robert	CAMA		[illegible]	724-[illegible]-2511	[signature]
Jobe	Kerry	Supervisor	Salem	kjobe [illegible] @gmail.com	724-454-3425	[signature]
FALATOVICH	Gary	Solicitor	Salem/Unity	gafalatovich@gmail.com	724-834-7080	[signature]
POPONICK	ED	SUPERVISOR	UNITY TWP	epoponick@unitytownship.org	724-539-2546 X4017	[signature]
Mylant	John	Supervisor	Unity Twp	JMylant@unitytownship.org	724-539-2546	[signature]
SCHMITT	DAN	ENGINEER	GIBSON-THOMAS	DAN.SCHMITT@GIBSON-THOMAS.COM	724 244-1832	[signature]

DRAFT DRAFT

Seminar Agenda

Local Elected Officials Seminar 2019
Commissioners Hall

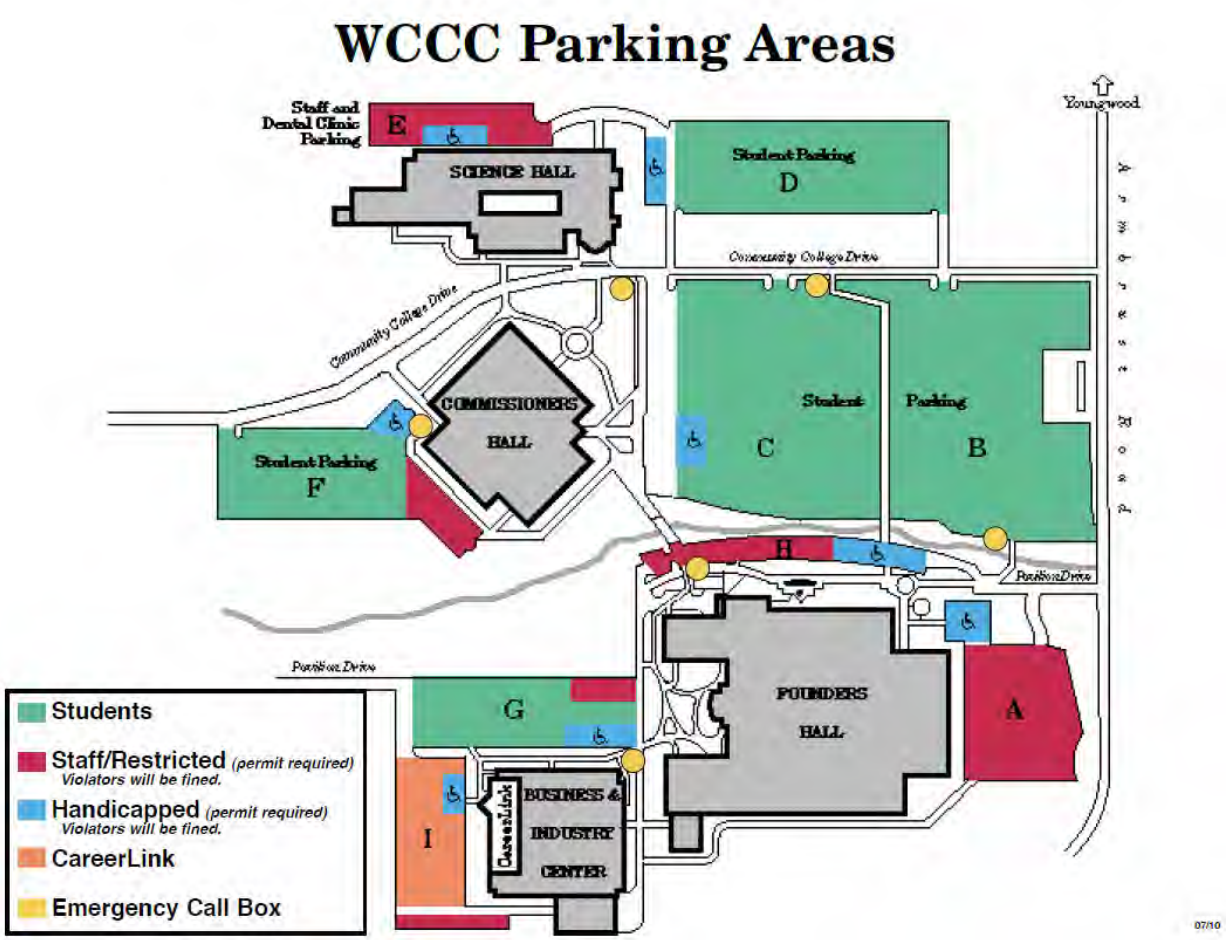
Title 35 Emergency Management
Department of Public Safety Seminar
Wednesday, May 22, 2019

Morning Track

8:30 am – 9:00 am		**Registration -** Continental Breakfast - **Registration** DPS Staff
9:00 am – 9:05 am	Presentations	**Welcome - Westmoreland County Commissioners** **Department of Public Safety Director, Roland "Bud" Mertz**
9:05 am - 10:00am		***Multi-Hazard Multi-Jurisdiction Hazard Mitigation Plan Update*** **Clyde Snyder, Chris Tantlinger -TetraTech Inc. / WCDPS HMO** **http://www.westmorelandcountyhmp.com (plan website)**
10:00 am – 11:00 am		***Salem Pipeline Explosion*** **Bob Rosatti - Fire Chief / Local Emergency Management Coordinator** **https://bit.ly/2UjKSCz**
11:00 am -11:10 am		**Break-Network**

Mid-Morning Track

11:10 am – 12:00 pm		***9-1-1 Emergency Call Taking Protocols*** **Tanya Polinsky - WCDPS QA Instructor** **www.wcdps.gov**
12:00 pm – 1:00 pm		**LUNCH Break**
1:00 pm – 1:45 pm		***9-1-1 Response Plans in your Jurisdiction*** **Bud Mertz, Gene Good - WCDPS Director & 9-1-1 Operations Chief** **www.wcdps.gov**
1:45 pm – 2:50 pm		***SBA Overview and Exercise*** **William Spencer - PEMA WAO Assistant Director** **readypa.gov**
2:50 pm – 3:00 pm		**Break-Network**
3:00 pm – 4:00 pm		**Tabletop Exercise "Fire Loss"**
4:00 pm		**SUMMIT CLOSE**



Address: 145 Pavilion Lane Youngwood, PA 15697

From Greensburg and Route 30

1. Take Route 119 South into Youngwood
2. At the second traffic light (Depot Street), turn left
3. Proceed 1 mile to the college located on the right

From the New Stanton Interchange of the Pennsylvania Turnpike (Exit 75)

1. Take Route 119 North into Youngwood
2. At the fourth traffic light (Depot Street), turn right
3. Proceed 1 mile to the college located on the right

Interactive Map: **Click here for Alternate Routes**

Google Map: **View Larger Map**

How can your community prepare for disasters? --- Summer 2019 Action Alert

In Summer 2019 the Westmoreland County Public Safety department is building a new plan to prepare for disasters. The plan is called “Westmoreland County Hazard Mitigation Plan.”

Why help with the Plan?

State and federal agencies are more likely to help communities that participate in planning. This means money for you after a disaster and sometimes you can get money to avert a disaster.

How can You Help?

1. Contact the Emergency Coordinator for your municipality.
   (Ask town manager or use Westmoreland Co. web site-Public Safety-Emergency Management-Emergency Management Coordinator list)
2. Ask that person to complete a survey from the Hazard Mitigation Planning Team.
   (Note: Clyde Snyder will help the coordinator complete this form clyde.snyder@tetratech.com).
3. Encourage your elected officials to adopt the new Westmoreland County Hazard Mitigation Plan by Dec. 2019.
4. Enjoy knowing your community is better prepared for natural disasters (e.g., flood) and man-made problems (e.g., industrial leak)

What is Hazard Mitigation and How Can it Benefit You?

From http://www.westmorelandcountyhmp.com/Pages/mitigation.aspx

National Benefit-Cost Ratio (BCR) Per Peril *BCR numbers in this study have been rounded	Beyond Code Requirements	Federally Funded
Overall Hazard Benefit-Cost Ratio	$4:1	$6:1
Riverine Flood	$5:1	$7:1
Hurricane Surge	$7:1	Too few grants
Wind	$5:1	$5:1
Earthquake	$4:1	$3:1
Wildland-Urban Interface Fire	$4:1	$3:1

The term "hazard mitigation" describes actions that can help reduce or eliminate long-term risks caused by hazards, or disasters, such as floods, hurricanes, wildfires, landslides, tornadoes, earthquakes, or dam failures. As the costs of disasters continue to rise, governments and citizens must find ways to reduce hazard risks to communities. Efforts made to reduce hazard risks should be compatible with other community goals; safer communities are more attractive to employers as well as residents. As communities plan for new development and improvements to existing infrastructure, mitigation can and should be an important component of the planning effort.

While mitigation activities can and should be taken before a disaster occurs, hazard mitigation is essential. Often after disasters, repairs and reconstruction are completed in such a way as to simply restore damaged property to pre-disaster conditions. The implementation of such hazard mitigation actions leads to building stronger, safer, and smarter communities that are better able to reduce future injuries and damage.

Hazard Mitigation Breaks the Cycle
When recurrent disasters, such as riverine flooding, take place, repeated damage and reconstruction can occur. This recurrent reconstruction becomes more expensive as the years go by. Hazard mitigation breaks this expensive cycle of recurrent damage and increasing reconstruction costs by taking a long-term view of rebuilding and recovering from disasters.

What Are the Benefits?

- Reduces the loss of life, property, essential services, critical facilities and economic hardship
- Reduces short-term and long-term recovery and reconstruction costs
- Increases cooperation and communication within the community through the planning process
- Increases potential for state and federal funding for recovery and reconstruction project

Four Types of Mitigation Techniques:

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

Common mitigation actions:

- Enforcement of building codes, floodplain management codes, and environmental regulations
- Public safety measures such as continual maintenance of roadways, culverts, and dams
- Acquisition or relocation of structures, such as purchasing buildings located in a floodplain
- Acquisition of hazard prone lands in their undeveloped state to ensure they remain so
- Retrofitting structures and design of new construction such as elevating a home or building
- Protecting critical facilities and infrastructure from future hazard events
- Mitigation, disaster recovery, and Continuity of Operations (COOP) planning
- Development and distribution of outreach materials related to hazard mitigation
- Deployment of warning systems
- Drainage system upgrades

For more information on Hazard Mitigation Planning in Westmoreland County see
http://www.westmorelandcountyhmp.com/Pages/default.aspx

For more information on how your community can get funds before a disaster occurs, see
PEMA and FEMA web sites, e.g., the BRIC program (Building Resilience in Communities)

Subbio, Tony

From: Christopher Tantlinger <CTANTLIN@co.westmoreland.pa.us>
Sent: Monday, July 15, 2019 10:42 AM
To: Adamsburgs John Kihl; Andrew L. Rzodkiewicz; ARONA BORO-WALTER GEIGER; AVONMORE BOROUGH; BELL TWP-JEFFREY DUFFNER; BOLIVAR BORO - BJ BRETT; CITY OF ARNOLD-JOHN TEDORSKI; City of Greensburg _ Deputy Mark Seighman; CITY OF GREENSBURG-LES HARVEY; CITY OF JEANNETTE - CITY CLERK MICHELLE LANGDON; CITY OF JEANNETTE-RYAN HIGHLANDS; CITY OF LATROBE-CARL BOLLINGER; CITY OF LOWER BURRLL - JOHN ROCKWELL (emc@cityoflowerburrell.com); CITY OF MONESSEN-DR WILLIAM HESS III; CITY OF NEW KENSINGTON-KYLE FRIEBERG; COOK TWP-JOSHUA UMBAUGH; Christopher Tantlinger; DELMONT BORO - DAVE WEBER; DERRY BORO-STEPHEN KOZAR; DERRY TWP-TERRY GIANNINI; DERRY TWP-TERRY GIANNINI (H); DONEGAL BORO; DONEGAL TWP; EAST HUNNTINGDON TWP DEPUTY-MONICA LUGO; EAST HUNTINGDON TWP - JAMES KING; EAST HUNTINGDON TWP-JAMES KING; EAST VANDERGRIFT BOROUGH - ROBERT BAUSTERT; Eugene Good; FAIRFIELD TWP-DANIEL SOWERS; HEMPFIELD TOWNSHIP - GEORGE REESE; HEMPFIELD TWP - DEPUTY DIRECTOR BRYAN SHABE; HEMPFIELD TWP ASSIST. COORDINATOR - GREG SAUNDERS II; HUNKER BORO-DANIEL MCKAY; HYDE PARK BORO-NATHAN BAKER; IRWIN BORO-CHRISTIAN KOURY; IRWIN BORO-ROBERT LEUTHOLD; JAMES SHAW - HEMPFIELD TWP ; Laurel Mountain Boro - Susan Crouse; LIGONIER BORO-CHRIS STOUFFER; LIGONIER TWP-JOHN BEAUFORT; LOYALHANNA TWP; LOYALHANNA TWP - DONALD KELLY; MADISON BORO-DARREN ACHTZEN; Manor Boro Manager - Joseph Lapia ; MANOR BORO-JEREMY DIXON; Mary Beth Eslary; MT PLEASANT BORO-GERALD LUCIA; MT PLEASANT TWP - DUANE HUTTER; MUNICIPALITY OF MURRYSVILLE/EXPORT BORO-WILLIAM YANT; Murrysville - Chuck Tappe ; Murrysville staff - Jenn Smith ; Murrysville Staff- Nicole LeMaster ; MURRYSVILLE/EXPORT - DEPUTY RUPNIK; MURRYSVILLE/EXPORT-BARRY DELLISSIO ; NEW ALEXANDRIA BORO; NEW ALEXANDRIA BORO-RONALD CRAMER; NEW FLORENCE BORO-KIETH BORING; NEW STANTON BORR-RICHARD CAMMARATA; NORTH BELLE VERNON DEPUTY-JOHN GARBER; NORTH HUNTINGDON TWP-GENE KOMONDOR; NORTH HUNTINGTON TWP - GENE KOMONDOR (H); NORTH IRWIN-KYLE BRYAN; OKLAHOMA BORO; OKLAHOMA BORO - ADAM LOCKHART; PENN BORO-RANDY DREISTADT; PENN TWP - DEPUTY MARK KURISKO; PENN TWP - PAUL WERSING; Bud Mertz; ROSTRAVER TWP-RONALD OLSCHON; SAINT CLAIR TWP/SEWARD BORO-PHILLIP FERRIS; SALEM TWP-ROBERT ROSATTI; Scott Stepanovich; SCOTTDALE - DEPUTY MARK CASTIN; SCOTTDALE - WILLIAM "BUZZ" MYERS; SEWICKLEY TWP DEPUTY-JASON RITCHIE; SEWICKLEY TWP-GLENN WEES; SMITHTON BORO-THOMAS HAYNES; SOUTH GREENSBURG-RALPH FURIN; SOUTH HUNTINGDON TWP-DAN PERGOLA; SOUTHWEST GBG-TODD BRANT; SUTERSVILLE BORO- GEORGE NEAT; TONY KOVACIC - HEMPFIELD TOWNSHIP ; TRAFFORD - JOHN ELIYAS; UNITY TWP/YOUNGSTOWN BORO-PETE TENEROWICZ; UPPER BURRELL TWP-DAVID KNOX; VANDERGRIFT BORO - STEPHEN POTOKA IV; WASHINGTON TWP-SANDY SMYTH (H); WASHINGTON TWP-SANDY SMYTHE; WEST LEECHBURG-GARY CLINE; WEST NEWTON BORO-PAUL WILLIAMS; WEST NEWTON BORO-PAUL WILLIAMS (H); YOUNGWOOD - BOB COLETTA
Cc: Subbio, Tony; Snyder, Clyde; Bud Mertz; Scott Stepanovich; Andrew L. Rzodkiewicz; Mary Beth Eslary
Subject: DEADLINE*TIME SENSITIVE* HMP - worksheet mailing - municipalities
Attachments: Capability Assessment Survey.docx; Evaluation of Identified Hazards and Risk.docx; Mitigation Strategy Review Worksheet.docx; NFIP Survey.docx

Importance: High

****

DEADLINE OF FRIDAY JULY 19, 2019 – TIME SENSITIVE

PLEASE COMPLETE THE FOLLOWING TO THE BEST OF YOUR ABILITY.

IF YOUR MUNICIPALITY DOES NOT PARTICIPATE IN THIS COLLECTION OF INFORMATION IT COULD JEOPARDIZE DISASTER MITIGATION FUNDING.

PLEASE PROVIDE THE ADDRESS OF YOUR MUNICPAL OWNED BUILDINGS, INCLUDING YOUR PUBLIC WORKS BUILDING, OFFICES AND EOC.

****

Dear Planning Team/Borough Council/Township Supervisors/City Council/EMCs,

Hello! As you may know, we kicked off the planning process to update the Westmoreland County Hazard Mitigation Plan (HMP) on February 28. At this meeting, we distributed a set of four information collection worksheets for each municipality to complete and return as part of the planning process:

- **Evaluation of Identified Hazards and Risks** – to report how the municipality's risk from different hazards has changed over the last few years. Please note how your municipality's vulnerability has changed, and identify any additional hazards you think we should examine.
- **Capability Assessment Survey** – to report what plan, regulations, staff, financial, and other capabilities the municipality has to implement hazard mitigation. Please identify the resources you have available.
- **NFIP Survey** – to report on your municipal floodplain management program and compliance with the National Flood Insurance Program.
- **Mitigation Strategy 5-Year Mitigation Plan Review** – to comment on the HMP's goals and objectives, and report progress on the mitigation actions identified in the 2015 HMP. Please provide comments on the goals and objectives, and provide an update on the countywide mitigation actions (the ones that start with "all municipalities" or "County and all municipalities") and the actions for your specific municipality (if any).

These worksheets should be completed by a team of municipal officials, such as your manager, zoning officer, code enforcement officer, public works director, and emergency management coordinator. Please provide as much information as you can.

I have attached the four worksheets to this email. Please complete them and return them via mail, fax, or email as soon as possible. We would like to have all worksheets completed and submitted by Friday, March 22nd. ***Completion of these worksheets is required to fully participate in the planning process and remain eligible for state and federal mitigation funding.*** If you have any questions about the HMP, the planning process, or the worksheets, please let me know, or contact our consultant, Mr. Tony Subbio of Tetra Tech, Inc., at 717-545-3580 or tony.subbio@tetratech.com.

Thank you for your participation in this important planning process.

*****

Tony Subbio, CEM, CFM, PMP | Emergency Management Specialist
Direct **+1 (717) 839-5654** | Business **+1 (717) 545-3580** | Mobile **+1 (717) 856-4290** | Fax **+1 (717) 545-3062** |
tony.subbio@tetratech.com

Tetra Tech | Complex World, Clear Solutions™ |
2400 Park Drive, Suite I | Harrisburg, PA 17110 | tetratech.com

Christopher Tantlinger
Deputy Emergency Management Coordinator
Westmoreland County Department of Public Safety
911 Public Safety Road
Greensburg, PA 15601
724-600-7349
724-600-7388 fax

Call 2-1-1 for Social Services. Help Starts Here.

Subbio, Tony

From: Andrew L. Rzodkiewicz <ARZODKIE@co.westmoreland.pa.us>
Sent: Wednesday, August 14, 2019 2:52 PM
To: Subbio, Tony
Subject: FW: Survey Participation

From: Andrew L. Rzodkiewicz
Sent: Wednesday, August 14, 2019 14:42
To: HUNKER BORO-DANIEL MCKAY <paintdan85@hotmail.com>; DERRY TWP-TERRY GIANNINI <tgiannini@derrytownship.com>; DERRY TWP-TERRY GIANNINI (H) <tagiannini@comcast.net>; EAST VANDERGRIFT BOROUGH - ROBERT BAUSTERT <ff102bobbyb@yahoo.com>; TRAFFORD - JOHN ELIYAS <eliyasj@comcast.net>
Cc: Christopher Tantlinger <CTANTLIN@co.westmoreland.pa.us>; Mary Beth Eslary <MESLARY@co.westmoreland.pa.us>
Subject: Survey Participation

Coordinators,

I want to thank you for your submission of the Hazard Evaluation Survey. We appreciate the participation. We are in need of 3 additional surveys to be completed. I have attached those for you to complete and return. This is again a time sensitive matter.

Thank you

Andrew "Rocky" Rzodkiewicz
All Hazards Planner
Westmoreland County Department of Public Safety
911 Public Safety Road
Greensburg, PA 15601
Office # 724-600-7314
Cell #724-309-7234
arzodkie@co.westmoreland.pa.us

Subbio, Tony

From: Andrew L. Rzodkiewicz <ARZODKIE@co.westmoreland.pa.us>
Sent: Wednesday, August 14, 2019 2:52 PM
To: Subbio, Tony
Subject: FW: Survey Participation

Tony,

Here is another attempt to obtain the survey's from municipalities. I will be forwarding the other emails I have sent as well.

Rocky

From: Andrew L. Rzodkiewicz
Sent: Wednesday, August 14, 2019 14:35
To: ADAMSBURG - RON THOMPSON <EMAdirector@AdamsburgEMA.com>; Adamsburgs John Kihl <DeputyEMAdirector@adamsburgEMA.com>; ALLEGHENY TOWNSHIP-LEE SHUMAKER <schumaker@twp.allegheny.pa.us>; CITY OF ARNOLD-JOHN TEDORSKI <john.tedorski@gmail.com>; ARONA boro - Walter Geiger <wgeiger2@gmail.com>; AVONMORE BOROUGH <avonmoreboro3@yahoo.com>; BELL TWP-JEFFREY DUFFNER <jduffner@horizonstables.net>; BOLIVAR BORO - BJ BRETT <beejbrett@gmail.com>; COOK TWP-JOSHUA UMBAUGH <jmu826@yahoo.com>; DELMONT BORO - DAVE WEBER <dweber174@comcast.net>; DERRY BORO-STEPHEN KOZAR <kozar41@verizon.net>; DONEGAL BORO <donegalboro@gmail.com>; EAST HUNTINGDON TWP-JAMES KING <kingff74@yahoo.com>; EAST HUNTINGDON TWP - JAMES KING <ehuntingdonema@yahoo.com>; EAST HUNNTINGDON TWP DEPUTY-MONICA LUGO <monicalugo1@gmail.com>; FAIRFIELD TWP-DANIEL SOWERS <dsowers@fairfieldtwp.com>; City of Greensburg _ Deputy Mark Seighman <ms79748@gmail.com>; CITY OF GREENSBURG-LES HARVEY <lharvey@greensburgpa.org>; HYDE PARK BORO-NATHAN BAKER <nbaker@lowerkiskiems.org>; LIGONIER BORO-CHRIS STOUFFER <castouffer@yahoo.com>; CITY OF LOWER BURRLL - JOHN ROCKWELL (emc@cityoflowerburrell.com) <emc@cityoflowerburrell.com>; CITY OF LOWER BURRLL - JOHN ROCKWELL <arockwell@cityoflowerburrell.com>; LOYALHANNA TWP - DONALD KELLY <yeknod1969@yahoo.com>; MADISON BORO-DARREN ACHTZEN <madboro@comcast.net>; CITY OF MONESSEN-DR WILLIAM HESS III <chief516@comcast.net>; MT PLEASANT BORO-GERALD LUCIA <glucia45@icloud.com>; NEW ALEXANDRIA BORO-RONALD CRAMER (navfd@hotmail.com) <navfd@hotmail.com>; NEW FLORENCE BORO-KIETH BORING <nf46chief@hotmail.com>; CITY OF NEW KENSINGTON-KYLE FRIEBERG <kwfreiberg@comcast.net>; NEW STANTON BORR-RICHARD CAMMARATA <rcammarata@myproscape.com>; NORTH BELLE VERNON DEPUTY-JOHN GARBER <chiefbennyjk@aol.com>; NORTH IRWIN-KYLE BRYAN <kyle.bryan@verizon.net>; PENN BORO-RANDY DREISTADT <sixdreistadts@aol.com>; ROSTRAVER TWP-RONALD OLSCHON <olschon@verizon.net>; SAINT CLAIR TWP/SEWARD BORO-PHILLIP FERRIS <pferrisemc@msn.com>; SEWICKLEY TWP-GLENN WEES <emadirector@sewickleytownship.org>; SEWICKLEY TWP DEPUTY-JASON RITCHIE <emadeputy@sewickleytownship.org>; SUTERSVILLE BORO-GEORGE NEAT <georgeneat12@gmail.com>; UNITY TWP/YOUNGSTOWN BORO-PETE TENEROWICZ <dir061@comcast.net>; UPPER BURRELL TWP-DAVID KNOX (emcupperburrelltwp@gmail.com) <emcupperburrelltwp@gmail.com>; VANDERGRIFT BORO - STEPHEN POTOKA IV <potoka@comcast.net>; WEST LEECHBURG-GARY CLINE <garycline417@gmail.com>; YOUNGWOOD - BOB COLETTA <boocoletta@hotmail.com>
Cc: Christopher Tantlinger <CTANTLIN@co.westmoreland.pa.us>; Mary Beth Eslary <MESLARY@co.westmoreland.pa.us>
Subject: Survey Participation

Coordinators,

We are awaiting your participation in the Surveys that have been sent out. Please participate in these surveys as no participation will jeopardize your municipalities opportunity to apply for future Hazard Mitigation related funding. FEMA will not allow a municipality to adopt the Westmoreland County Hazard Mitigation Plan with-out participation. Please find the time to sit down and fill these out to the best of your ability or with a municipal official who would be able to assist.

ORIGINAL EMAIL BELOW
****

Dear Planning Team/Borough Council/Township Supervisors/City Council/EMCs,

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I have attached the four worksheets to this email. Please complete them and return them via mail, fax, or email as soon as possible. We would like to have all worksheets completed and submitted by Friday, March 22nd. ***Completion of these worksheets is required to fully participate in the planning process and remain eligible for state and federal mitigation funding.*** If you have any questions about the HMP, the planning process, or the worksheets, please let me know, or contact our consultant, Mr. Tony Subbio of Tetra Tech, Inc., at 717-545-3580 or tony.subbio@tetratech.com.

Thank you for your participation in this important planning process.
*****

Andrew "Rocky" Rzodkiewicz
All Hazards Planner
Westmoreland County Department of Public Safety
911 Public Safety Road
Greensburg, PA 15601
Office # 724-600-7314
Cell #724-309-7234
arzodkie@co.westmoreland.pa.us

Confidentiality Statement - Westmoreland County Department of Public Safety

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This email may be subject to Act 3 of 2008 Public Open Records Right to Know Law.

Subbio, Tony

From: Andrew L. Rzodkiewicz <ARZODKIE@co.westmoreland.pa.us>
Sent: Wednesday, August 14, 2019 2:53 PM
To: Subbio, Tony
Subject: FW: Survey Participation
Attachments: NFIP Survey.docx; Mitigation Strategy Review Worksheet.docx; Capability Assessment Survey.docx

---

From: Andrew L. Rzodkiewicz
Sent: Wednesday, August 14, 2019 14:51
To: MUNICIPALITY OF MURRYSVILLE-CHUCK TAPPE <ctappe@murrysvillegov.org>
Cc: Christopher Tantlinger <CTANTLIN@co.westmoreland.pa.us>; Mary Beth Eslary <MESLARY@co.westmoreland.pa.us>
Subject: Survey Participation

Good Afternoon Chuck,

Going over the Survey Participation, we are in need of the Mitigation Strategy Survey for Murrysville and the Capability Assessment Survey, Mitigation Strategy Survey, and the NFIP Survey for Export. If you could complete these and return as soon as possible, it would be appreciated.

Thank you

Andrew "Rocky" Rzodkiewicz
All Hazards Planner
Westmoreland County Department of Public Safety
911 Public Safety Road
Greensburg, PA 15601
Office # 724-600-7314
Cell #724-309-7234
arzodkie@co.westmoreland.pa.us

Subbio, Tony

From: Andrew L. Rzodkiewicz <ARZODKIE@co.westmoreland.pa.us>
Sent: Wednesday, August 14, 2019 2:52 PM
To: Subbio, Tony
Subject: FW: Survey Participation

From: Andrew L. Rzodkiewicz
Sent: Wednesday, August 14, 2019 14:44
To: OKLAHOMA BORO <oklaboro@verizon.net>; OKLAHOMA BORO - ADAM LOCKHART <hookturnr@aol.com>
Cc: Christopher Tantlinger <CTANTLIN@co.westmoreland.pa.us>; Mary Beth Eslary <MESLARY@co.westmoreland.pa.us>
Subject: Survey Participation

Coordinators,

I want to thank you for your submission of the Hazard Evaluation Survey. We appreciate the participation. We are in need of 3 additional surveys to be completed. I have attached those for you to complete and return. This is again a time sensitive matter.

Thank you

Andrew "Rocky" Rzodkiewicz
All Hazards Planner
Westmoreland County Department of Public Safety
911 Public Safety Road
Greensburg, PA 15601
Office # 724-600-7314
Cell #724-309-7234
arzodkie@co.westmoreland.pa.us

Subbio, Tony

From: Andrew L. Rzodkiewicz <ARZODKIE@co.westmoreland.pa.us>
Sent: Wednesday, August 14, 2019 2:53 PM
To: Subbio, Tony
Subject: FW: Survey Participation
Attachments: Mitigation Strategy Review Worksheet.docx; NFIP Survey.docx

From: Andrew L. Rzodkiewicz
Sent: Wednesday, August 14, 2019 14:48
To: SOUTH HUNTINGDON TWP-DAN PERGOLA <shuntingdontwpemc@yahoo.com>
Cc: Christopher Tantlinger <CTANTLIN@co.westmoreland.pa.us>; Mary Beth Eslary <MESLARY@co.westmoreland.pa.us>
Subject: Survey Participation

Coordinators,

We want to thank you for your submission of the Hazard Evaluation Survey and the Capability Assessment Survey. We appreciate the participation. We are in need of 2 additional surveys to be completed. We have attached those for you to complete and return. This is again a time sensitive matter.

Thank you

Andrew "Rocky" Rzodkiewicz
All Hazards Planner
Westmoreland County Department of Public Safety
911 Public Safety Road
Greensburg, PA 15601
Office # 724-600-7314
Cell #724-309-7234
arzodkie@co.westmoreland.pa.us

Subbio, Tony

From: Andrew L. Rzodkiewicz <ARZODKIE@co.westmoreland.pa.us>
Sent: Wednesday, August 14, 2019 2:53 PM
To: Subbio, Tony
Subject: FW: Survey Participation

From: Andrew L. Rzodkiewicz
Sent: Wednesday, August 14, 2019 14:47
To: MT PLEASANT TWP - DUANE HUTTER <mptduane@zoominternet.net>; LIGONIER TWP-JOHN BEAUFORT <john@beaufortservices.com>
Subject: Survey Participation

Coordinators,

We want to thank you for your submission of the Hazard Evaluation Survey, Capability Assessment Survey and the NFIP Survey. We appreciate the participation. We are in need of 1 additional surveys to be completed. We have attached those for you to complete and return. This is again a time sensitive matter.

Thank you

Andrew "Rocky" Rzodkiewicz
All Hazards Planner
Westmoreland County Department of Public Safety
911 Public Safety Road
Greensburg, PA 15601
Office # 724-600-7314
Cell #724-309-7234
arzodkie@co.westmoreland.pa.us

Crabtree Creek Issues Stakeholders Meeting
08/21/2019
Rizzo's Malabar

Last Name	First Name	Enitity	E-MAIL	PHONE NUMBER
Rzodkiewicz	Andrew	WCOPS	arzodkie@co.westmoreland.PA.US	724-600-7314
MERTZ	Bud	WCDFS	rmertz@co.westmoreland.PA.US	724-600-7316
Eslary	MaryBeth	WCDFS	MEslary@co.westmorel.Pa.US	724 600 7305
PORTER	ELLIOTT	USACE	elliott.porter@usace.army.mil	412-395-7479
Pritts	Jarred	USACE	jarred.n.pritts@usace.army.mil	412 395 7251
Nelson	Eric	State House	enelson@pahousegop.com	724-834-6400
Frei	Jordan	State House (said)	jfrei@pahousegop.com	724-423-6503
SKovarsky	Rick	Municipal Servs.	rskovarsky@pa.gov	724-323-6549
Boyle	J Thomas	12-5 Penndot	thomboyle@pa.gov	724-832-5387
Rosatti	Robcart	Salem Twp	RRSSROSA@AOL.com	7248340170
Mangini	Vince	Crabtree	Vmangini@comcast.net	4129792377
WATKINS	WILLIAM	CRABTREE VFD	wwatkins3409@gmail.com	724-875-0571
Penatzer	Josh	LLWA	josh@layalwater.com	724-238-7560 x 2##
Dean	Robb	PennDOT	robdean@pa.gov	724-439-7254
Sleznak	Matt	USACE	matthew.sleznak@usace.army.mil	814 233-0333
KOVACIC	Anthony	Hempfield	AKovacic@Hempfieldtwp.org	724-254-9070
Hamilton	Kathy	westmoreland cons. District	kathyh@wcdpa.com	724-837-5271
Wright	Robert	CAMA	rdwrightpeccm@gmail.com	724-837-8737
TANTLINGER	Christopher	WCOPS	ctantlin@co.westmoreland.pa.us	724-600-7349

Subbio, Tony

From: Christopher Tantlinger <CTANTLIN@co.westmoreland.pa.us>
Sent: Monday, September 9, 2019 3:26 PM
To: Amy Fauth Bulletin; B.Hoke #4; chuck biedka; Dow Carnahan - WCNS-1480 (NBC Updates); Joe Mandak - AP News; jonathon silver; Kiley Fischer ; M. Gillespie @ wxpi ; Paul Pierce - Tribune Review; Pittsburgh Post Gazette; Renatta Signorini; Rich Cholodofsky ; Ross Guidotti - KDKA-TV CBS Pittsburgh; Steve Kittey - Latrobe Bulletin; Steve Limani - PSP Troop A PIO; Valley News Dispatch; wcns
Cc: Andrew L. Rzodkiewicz; Mary Beth Eslary; Subbio, Tony; Snyder, Clyde; Bud Mertz; Scott Stepanovich
Subject: FW: New Event Hazard Mitigation Update Public Meeting Sept 30

FOR IMMEDIATE RELEASE

Hazard Mitigation Plan Risk Assessment Public Meeting (see below link)

September 30, 2019

400 Kilo Lane

Latrobe PA 15650

Christopher Tantlinger
Deputy Emergency Management Coordinator
Westmoreland County Department of Public Safety
911 Public Safety Road
Greensburg, PA 15601
724-600-7349
724-600-7388 fax

From: 1. County Calendar [mailto:listserv@civicplus.com]
Sent: Friday, September 06, 2019 11:36 AM
To: Christopher Tantlinger
Subject: New Event Hazard Mitigation Update Public Meeting Sept 30

WARNING:

View this in your browser

September 30, 2019 09:30 AM

Hazard Mitigation Update

The 2020 Westmoreland County HMP Update Planning Team is conducting a public meeting discussing results of the risk assessment process for 5 year review of the..... Read on

Date	September 30, 2019
Time	9:30 AM
Location	Westmoreland County Special Operations Center, Unity Township 400 Kilo Lane Latrobe, PA 15650
Cost	

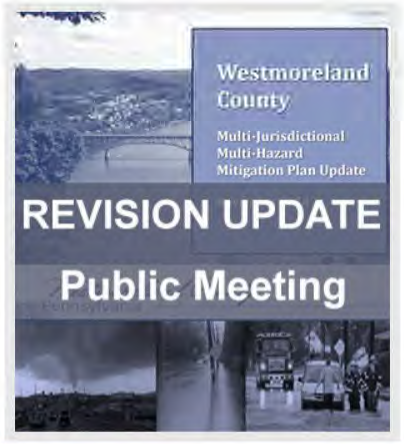
* * * * * * *

Hazard Mitigation Update

Monday, September 30, 2019

The 2020 Westmoreland County HMP Update Planning Team is conducting a public meeting discussing results of the risk assessment process for 5 year review of the County's multi-jurisdictional multi-hazard mitigation planning project. The assessment has been developed from data available from federal, state and local sources and will guide the mitigation strategies and help develop goals and objectives moving forward. Please consider being a part of this process to help us prioritize these efforts in making our vision to mitigate disasters as cohesive as possible. Questions, contact Andrew "Rocky" Rzodkiewicz, All Hazards Planner, Westmoreland County Department of Public Safety at arzodkie@co.westmoreland.pa.us or 724-600-7314

Date:	September 30, 2019
Time:	9:30 AM
Location:	Westmoreland County Special Operations Center, Unity Township
Address:	400 Kilo Lane Latrobe, PA 15650
Link:	Visit HMP website



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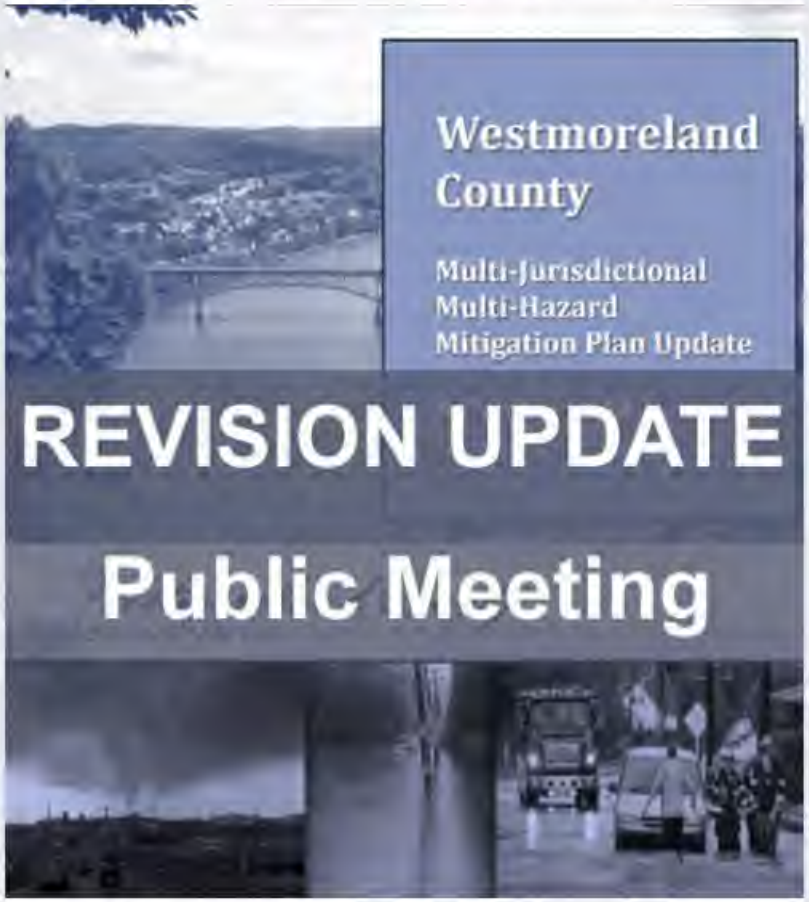
September 6 at 11:43 AM ·

September 30, 9:30 am. Consider being a part of the process prioritizing efforts mitigating disasters in our county. http://ow.ly/Kpru50vZqxM



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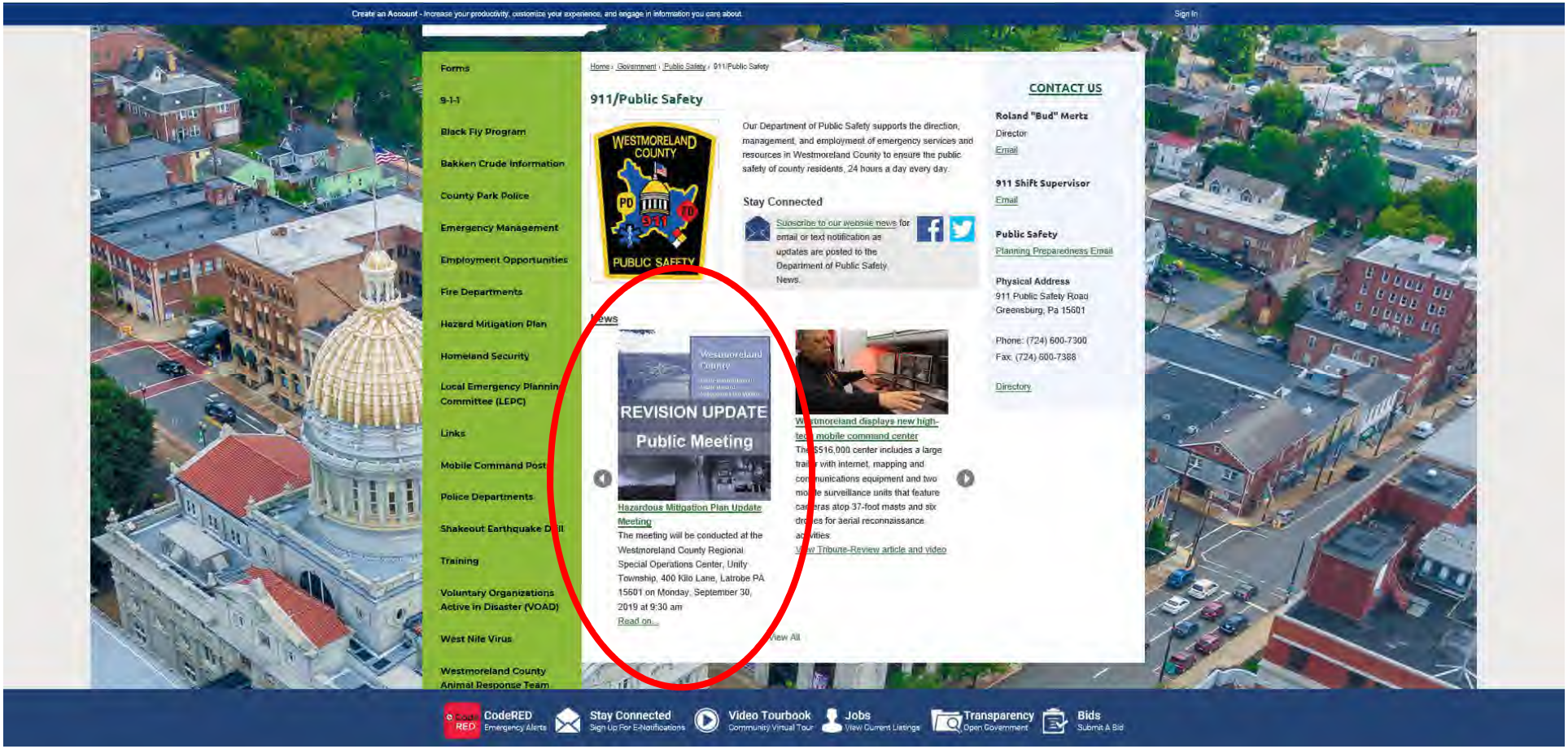
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Emergency Management
Employment Opportunities
Fire Departments
Hazard Mitigation Plan
Homeland Security
Local Emergency Planning Committee (LEPC)
Links
Mobile Command Post
Police Departments
Shakeout Earthquake Drill
Training
Voluntary Organizations Active in Disaster (VOAD)
West Nile Virus
Westmoreland County Animal Response Team
Home › Government › Public Safety › 911/Public Safety
911/Public Safety
WESTMORELAND COUNTY
PD
911
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PUBLIC SAFETY
Our Department of Public Safety supports the direction, management, and employment of emergency services and resources in Westmoreland County to ensure the public safety of county residents, 24 hours a day every day.
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News
Westmoreland County
REVISION UPDATE
Public Meeting
Hazardous Mitigation Plan Update Meeting
The meeting will be conducted at the Westmoreland County Regional Special Operations Center, Unity Township, 400 Kilo Lane, Latrobe PA 15601 on Monday, September 30, 2019 at 9:30 am
Read on...
Westmoreland displays new high-tech mobile command center
The $516,000 center includes a large trailer with internet, mapping and communications equipment and two mobile surveillance units that feature cameras atop 37-foot masts and six drones for aerial reconnaissance activities.
View Tribune-Review article and video
View All
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Roland "Bud" Mertz
Director
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911 Shift Supervisor
Email
Public Safety
Planning Preparedness Email
Physical Address
911 Public Safety Road
Greensburg, Pa 15601
Phone: (724) 600-7300
Fax: (724) 600-7388
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Sign Up For E-Notifications
Video Tourbook
Community Virtual Tour
Jobs
View Current Listings
Transparency
Open Government
Bids
Submit A Bid

ACTIVITY LOG (ICS 214)

1. Incident Name:	Great Northeast ShAkEoUt 2019 - COMEX DA	**2. Operational Period:**	Date From:	Date To:	
Incident Number:	101712		Time From:	Time To:	

Activity Log

Activity Date	Event	Status	Type		Major Events	Entered By
					PA DCNR History of Earthquakes FELT in Pennsylvania In 1998, the largest earthquake ever recorded in Pennsylvania occurred in the region of Pymatuning Lake in the northwestern part of the state. The 5.2 -magnitude earthquake caused minor structural damage but had significant effects on the local groundwater system. The 5.8-magnitude central Virginia earthquake of 2011 was widely felt in Pennsylvania, though damages here were minor. It was the largest recorded quake in the central and eastern United States since 1944. Smaller earthquakes with epicenters in adjoining states have also been felt in Pennsylvania. The Earthquake Catalog and Epicenter Map of Pennsylvania, published by the Pennsylvania Geological Survey, contains detailed information on historic seismic events from 1724 to July 31, 2003.	
10/18/19 10:05	101712 - Great Northeast ShAkEoUt 2019 - COMEX DA	Manual	PLANS	*	Director 39 Acknowledges the Great Shake Out Exercise and COMEX DA. Email response sent to planningpreparedness@co.westmoreland.pa.us earlier in the day @ 1210 hours.	Tantlinger, Christopher (PSC PS4)
10/17/19 19:27	101712 - Great Northeast ShAkEoUt 2019 - COMEX DA	SITREP	ESF05	*	EMC Pager had a positive activation @ 1915 hours. 800 Radio was Loud & Clear on the Radio Roll Call @ 1915 hours.	Williams, Paul (Emergency Management Coordinator (DIRECTOR 39))

- Denotes log from a child incident

					(U) *Warning: This document is* UNCLASSIFIED//FOR OFFICIAL USE ONLY (U//FOUO). *It contains information that may be exempt from public release under the Freedom of Information Act (5 U.S.C. 552). It is to be controlled, stored, handled, transmitted, distributed, and disposed of in accordance with appropriate policy relating to FOUO information and is not to be released to the public, the media, or other personnel who do not have a valid need to know without prior approval of an authorized official.*	
10/17/19 16:19	101712 - Great Northeast ShAkEoUt 2019 - COMEX DA	Manual	OTHER	*		Rzodkiewicz, Andrew (All Hazards Planner)
10/17/19 16:06	101799 - Great North East Shakeout	Closed	CMD	-	Event information updated - Incident Closed	Leuthold, Robert (NHEMS/ Rescue Operations Supervisor/ Irwin EMC)
10/17/19 15:10	101712 - Great Northeast ShAkEoUt 2019 - COMEX DA	SITREP	ESF14	*	After reviewing the 2020 HMP draft link for the Risk Assessment of earthquake in the link provided in the previous log entry #609817 goto table 4.3.3-9 Estimated Building Value, find your municipality and report the Total Replacement Value (Building and Contents) in a log entry. Ex. Westmoreland County $72,828,451,000 (that's right, 72 Billion dollars!) [Modified]	Tantlinger, Christopher (PSC PS4)
10/17/19 15:01	101712 - Great Northeast ShAkEoUt 2019 - COMEX DA	Manual	PLANS	*	View the 2020 Hazard Mitigation Plan DRAFT Document for Earthquake hazard here... http://www.westmorelandcountyhmp.com/Draft%20Documents%20for%20Review/Section%204.3.3%20-%20Earthquake%20DRAFT%20091619.pdf	Tantlinger, Christopher (PSC PS4)
10/17/19 14:58	101788 - Great Shakeout - Washington Twp	Closed	CMD	-	Event information updated - Incident Closed	Smythe, Sandra (LEMC)
10/17/19 14:58	101788 - Great Shakeout - Washington Twp	Manual	OTHER	-	Endex Endex Endex	Smythe, Sandra (LEMC)

Earthquakes Still Surprise Us, Even with All the Science

None of the detection equipment or computer-generated models helped geologists predict the 4.5 magnitude earthquake that rolled through Pleasant Hill, Calif., Monday night. The fault shook 70,000 people in the

- Denotes log from a child incident

TRIBUNE-REVIEW

Ward to lead workshop on flooding emergencies

Senator wants to provide tools municipalities can turn to when rains cause damage

BY RENATTA SIGNORINI

Flooding can cause problems for property owners, infrastructure and municipal budgets.

State Sen. Kim Ward wants municipal leaders to have tools they need to prevent those issues and respond to them after heavy rains, which have become more common during the past couple of years.

"When flooding happens, municipalities are caught in an emergency situation many times," said Ward, R-Hempfield.

She is planning a workshop Nov. 20 open to elected officials, managers and emergency management at the municipal and county levels. Offering resources will be officials from PennDOT, Pennsylvania Emergency Management Agency, the state Department of Environmental Protection, Pennsylvania Infrastructure Investment Authority (PennVEST), the Westmoreland Conservation District and others who do grant-writing work with the state Senate.

Officials in several Westmoreland County municipalities scrambled as rain pounded the region on multiple occasions last year, pushing streams over their banks, causing sinkholes and damaging roads. Emergency responders rescued residents from their homes and closed roads until water subsided.

"When we get these heavy rains, there are problems everywhere," Ward said.

Homes along Brush Creek in North Huntingdon and Irwin were swamped by floodwaters in July when 3.43 inches of rain was recorded at the Penn Township Sewage Authority in Level Green. Nine people were rescued from homes in Penn Borough during the same storm, which caused sewage backups in Jeannette homes.

North Huntingdon has been hit hard in the past couple of years with repair costs for roads damaged by rushing water. Flooding of Sewickley Creek in Lower forced residents to be rescued from their homes in 2018 as the remnants of Tropical Storm Gordon dumped more than 6 inches of rain on the region.

Ward visited Jeannette in July after the storm and said that "put more urgency on" having the workshop.

"It's scary when you have a budget and all of a sudden" municipalities need money to make repairs, she said.

About 50 people are registered for the workshop, which will be video recorded and posted on Ward's website. Municipal leaders should register at senatorward.com/municipal-leaders-workshop.

The workshop is set for 6 p.m. Nov. 20 at Westmoreland County Community College's Science Hall Theater, 145 Pavilion Lane, Hempfield, near Youngwood. For more information, contact Ward's office at 724-600-7002.

Renatta Signorini is a Tribune-Review staff writer. You can contact Renatta at 724-837-5374, rsignorini@tribweb.com or via Twitter @byrenatta.

These marriage licens
land County Register of
Jonathan Andrew R
er, both of Alverton.
John James Sposato

Subbio, Tony

From: Andrew L. Rzodkiewicz <ARZODKIE@co.westmoreland.pa.us>
Sent: Wednesday, November 13, 2019 2:00 PM
To: Andrew L. Rzodkiewicz
Cc: Christopher Tantlinger; Subbio, Tony; Snyder, Clyde; Mary Beth Eslary
Subject: Up Coming Hazard Mitigation Hazard Vulnerability Meeting Opportunities

Hello! As you may know, Westmoreland County is currently working to update our Hazard Mitigation Plan (HMP). The HMP is designed to make our communities more resistant to losses from natural and man-made disasters, and to enable the county and municipalities to be eligible for federal funding for qualifying mitigation projects. By having an approved HMP, your municipality is eligible for ***federal funding that could pay for 75% or more of your mitigation project costs***. For the HMP to be approved for your municipality, your municipality must fully participate in the planning process. Participation includes providing information to be included in the plan (such as by completing the worksheets that have been distributed a few times this year) and attending at least one of our planning meetings. We held a kickoff meeting in February, a meeting to review the results of the risk assessment in September, and another meeting to identify mitigation projects in October. Unfortunately, only about half of our municipalities have been represented at a planning meeting so far.

To provide another opportunity for your municipality to participate in the planning process, we will be conducting two identical stakeholder meetings next week. During these meetings, we will discuss the hazards that affect our communities, and what can be done to reduce vulnerability to those hazards. The meetings are scheduled for the following times/locations:

- 11/19/2019 from 6pm-8pm at Washington Township Municipal Building, 285 Pine Church Run Road, Apollo, PA 15613
- 11/21/2019 from 6pm-8pm at Scottdale Fireman's Social Hall Fountain Mills Event Center, 1020 Water Street, Scottdale, PA, 15683

This will be your last opportunity to identify projects for inclusion in the HMP. To help ensure that your projects are eligible for federal funding, please attend one of these meetings. Thank you.

For any questions, please reach out to our Project Manager Tony Subbio of Tetra Tech.

Tony Subbio, CEM, CFM, PMP | Emergency Management Specialist
Direct **+1 (717) 839-5654** | Business **+1 (717) 545-3580** | Fax **+1 (717) 545-3062** | tony.subbio@tetratech.com

Tetra Tech | Complex World, Clear Solutions™ |
2400 Park Drive, Suite I | Harrisburg, PA 17110 | tetratech.com

Andrew "Rocky" Rzodkiewicz, *All Hazards Planner*
Westmoreland County Department of Public Safety
911 Public Safety Road
Greensburg, PA 15601
Office # 724-600-7314
Cell #724-309-7234

arzodkie@co.westmoreland.pa.us

Call 2-1-1 for Social Services. Help Starts Here.

Westmoreland County Department of Public Safety Tweet 2/19/20

westmoco911
@WCDPS911

Tweets	Following	Followers
473	180	367

Trends for you · Change

#AppleCard
A card unlike any other.
Promoted by Apple Card

Pop Smoke
266K Tweets

#WednesdayWisdom
NTSB and PA Department of Drug & Alcohol Programs are Tweeting about this

Wizard of Oz
4,704 Tweets

The Birds
35.3K Tweets

#WednesdayThoughts
25.9K Tweets

#DemDebate
NBC News is Tweeting about this

#morningJoe
3,978 Tweets

Jaws
9,934 Tweets

What's happening?

See 8 new Tweets

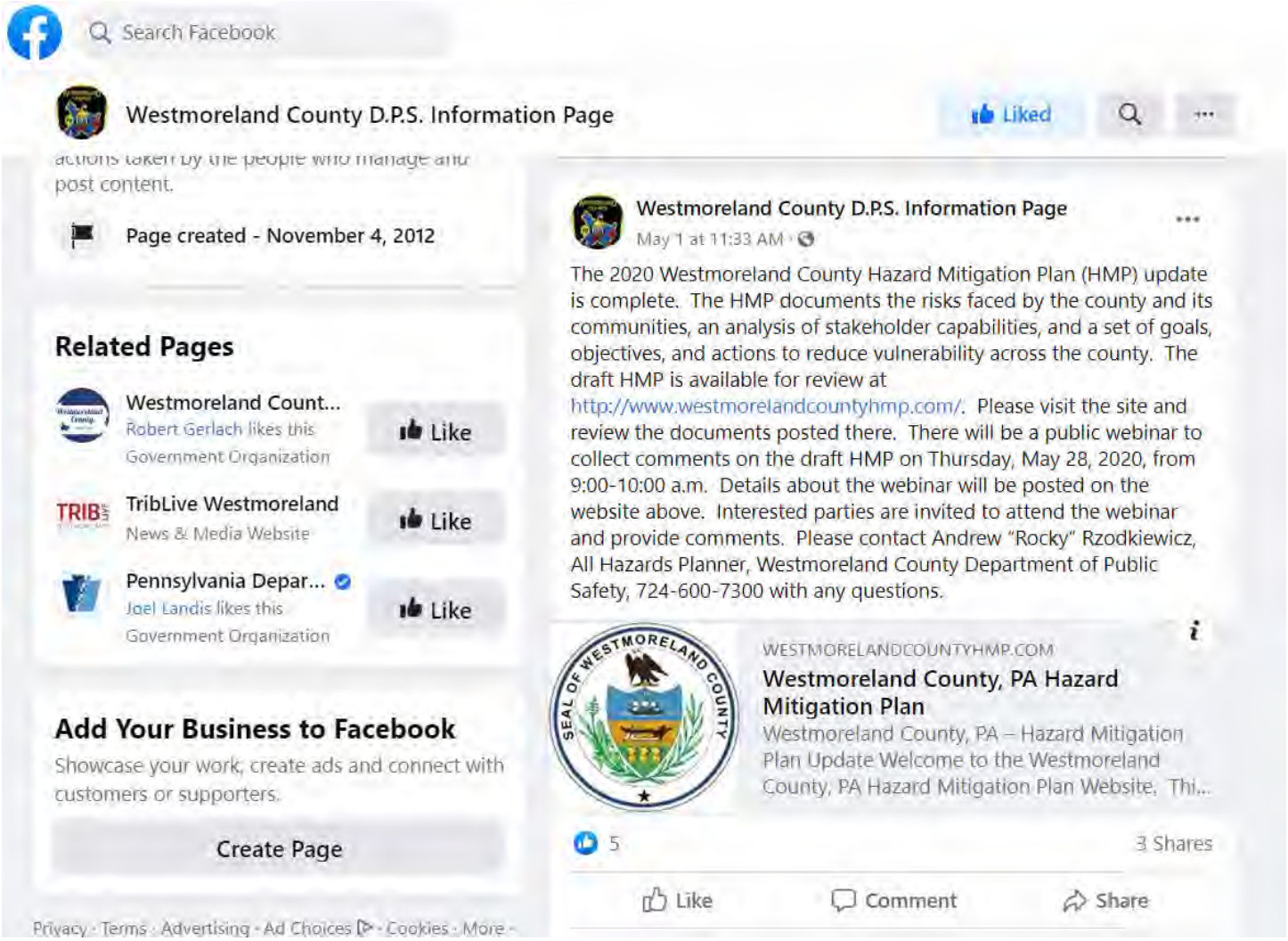
westmoco911 @WCDPS911 · 9m

Check out the draft documents for hazards identified in the Westmoreland County Hazard Mitigation Plan update at westmorelandcountyhmp.com This will be our third major update since 2000. See our previous plans at co.westmoreland.pa.us/1853/Hazard-Mi...

#AppleCard is trending

Apple Card @AppleCard · 17h

Apple Card has no fees.
Not Apple Card has every possible fee.
So if your credit card is not Apple Card, maybe it should be.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actions taken by the people who manage and post content.
Page created - November 4, 2012
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Robert Gerlach likes this
Government Organization
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News & Media Website
Like
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Add Your Business to Facebook
Showcase your work, create ads and connect with customers or supporters.
Create Page
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Westmoreland County D.P.S. Information Page
May 1 at 11:33 AM
The 2020 Westmoreland County Hazard Mitigation Plan (HMP) update is complete. The HMP documents the risks faced by the county and its communities, an analysis of stakeholder capabilities, and a set of goals, objectives, and actions to reduce vulnerability across the county. The draft HMP is available for review at http://www.westmorelandcountyhmp.com/. Please visit the site and review the documents posted there. There will be a public webinar to collect comments on the draft HMP on Thursday, May 28, 2020, from 9:00-10:00 a.m. Details about the webinar will be posted on the website above. Interested parties are invited to attend the webinar and provide comments. Please contact Andrew "Rocky" Rzodkiewicz, All Hazards Planner, Westmoreland County Department of Public Safety, 724-600-7300 with any questions.
WESTMORELANDCOUNTYHMP.COM
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Westmoreland County Hazard Mitigation Plan Update - Citizen Survey

Westmoreland County Residents,

This survey aims to gather feedback from local citizens about natural and human-caused disaster issues and gather information about areas vulnerable to disaster. The information you provide will help us coordinate activities to reduce the risk of future injury or property damage for you and others.

Hazard mitigation is any action taken to reduce the loss of life and property by lessening the impact of disasters (natural, technological, and man-made). These include flooding, severe storms, severe winter storms, extreme temperatures and others. Westmoreland County municipalities, with the support of county, regional, and state agencies and stakeholders, are working together to address disasters that may occur in Westmoreland County and develop strategies to mitigate impacts to the community. To identify and plan for future disasters, the hazard mitigation Planning Team needs your input.

This survey consists of 35 questions and will take about 15 minutes to complete.

The Westmoreland County Hazard Mitigation Working Group thanks you for your time in this effort.

Westmoreland County Hazard Mitigation Plan Update - Citizen Survey

Hazard Information

In this section, we are looking for your input on the types of hazards that impact Westmoreland County and its residents. Please answer the following questions to help us understand the concerns throughout the county.

1. In the past 10 years, which of the following natural hazard events have you experienced in Westmoreland County? Check all that apply.

- ☐ Climate Change
- ☐ Dam / Levee Failure
- ☐ Drought
- ☐ Earthquake
- ☐ Extreme Temperatures
- ☐ Flooding – Street/Property
- ☐ Flooding – Basement
- ☐ Flooding – 1st floor or above
- ☐ Ground Failure (landslide, sinkholes)
- ☐ Other (please specify)
- ☐ Hurricanes / Tropical Storms
- ☐ Infestation
- ☐ Invasive Species
- ☐ Nor'Easter
- ☐ Severe Storm (wind, lightning, hail)
- ☐ Severe Winter Storms (blizzard, heavy snow, ice)
- ☐ Tornado
- ☐ Wildfire
- ☐ None

2. How concerned are you about the following natural hazards in Westmoreland County? Please check one for each hazard.

	Not Concerned	Somewhat Concerned	Concerned	Very Concerned	Extremely Concerned
Avalanche	☐	☐	☐	☐	☐
Climate Change	☐	☐	☐	☐	☐
Dam / Levee Failure	☐	☐	☐	☐	☐
Drought	☐	☐	☐	☐	☐
Earthquake	☐	☐	☐	☐	☐

	Not Concerned	Somewhat Concerned	Concerned	Very Concerned	Extremely Concerned
Extreme Temperatures	☐	☐	☐	☐	☐
Flooding – Street/Property	☐	☐	☐	☐	☐
Flooding – Basement	☐	☐	☐	☐	☐
Flooding – 1st floor or above	☐	☐	☐	☐	☐
Ground Failure (landslide, sinkholes)	☐	☐	☐	☐	☐
Hurricanes / Tropical Storms	☐	☐	☐	☐	☐
Infestation	☐	☐	☐	☐	☐
Invasive Species	☐	☐	☐	☐	☐
Nor'Easter	☐	☐	☐	☐	☐
Radon Exposure	☐	☐	☐	☐	☐
Severe Storm (wind, lightning, hail)	☐	☐	☐	☐	☐
Severe Winter Storms (blizzard, heavy snow, ice)	☐	☐	☐	☐	☐
Tornado	☐	☐	☐	☐	☐
Wildfire	☐	☐	☐	☐	☐
Other Natural Hazard	☐	☐	☐	☐	☐

Other (please specify)

3. How concerned are you about the following non-natural hazards in Westmoreland County? Please check one for each hazard.

	Not Concerned	Somewhat Concerned	Concerned	Very Concerned	Extremely Concerned
Active Shooter	☐	☐	☐	☐	☐
Cyber Threats	☐	☐	☐	☐	☐
Disease Epidemics	☐	☐	☐	☐	☐
Environmental Hazards	☐	☐	☐	☐	☐
Hazardous Material Release	☐	☐	☐	☐	☐
Major Structural Fires	☐	☐	☐	☐	☐
Nuclear Incidents	☐	☐	☐	☐	☐
Terrorism	☐	☐	☐	☐	☐
Transportation Accidents	☐	☐	☐	☐	☐
Utility / Power Failures	☐	☐	☐	☐	☐
Opioid Epidemic	☐	☐	☐	☐	☐

Other (please specify)

4. In the last 10 years, were you evacuated from your home as a result of a disaster (i.e. flooding, utility outages, etc.)? If so, how long were you displaced? Did you go to a shelter?

5. Please rank how prepared you feel and your household are for disaster events likely to occur within your community. Rank on a scale of 1 to 5, with 5 representing the most prepared.

1 (least) 3 5 (most)

6. How prepared is your household to get along without electricity or natural gas for one to five days?

- [ ] Not at all prepared
- [ ] Somewhat prepared
- [ ] Very prepared

7. How do you receive your information concerning a disaster? Check all that apply.

- [ ] County Website
- [ ] Municipal Websites
- [ ] Newspaper
- [ ] Town/Village E-Mail
- [ ] Police, Fire, EMS, 9-1-1
- [ ] Telephone Book
- [ ] Informational Brochures
- [ ] Public Meetings, Workshops, Public Awareness Events
- [ ] Schools
- [ ] TV News
- [ ] TV Advertising
- [ ] Other (please specify)

- [ ] Radio News
- [ ] Radio Advertisements
- [ ] Outdoor Advertisements
- [ ] Internet
- [ ] Chamber of Commerce
- [ ] Academic Institutions
- [ ] Books
- [ ] Public Library
- [ ] Facebook
- [ ] Twitter
- [ ] Instagram

8. Of the answers you provided above, what are the top three methods you use?

9. Which of the following steps has your household taken to prepare for a local hazard event? Check all that apply.

- [ ] Received first aid/CPR training
- [ ] Made an emergency plan
- [ ] Designed a meeting place
- [ ] Identified utility shutoffs
- [ ] Prepared a disaster supply kit
- [ ] Installed smoke detectors on each level of the house
- [ ] Stored food and water
- [ ] Stored flashlights and batteries
- [ ] Stored a battery-operated radio
- [ ] Stored a fire extingusher
- [ ] Stored medical supplies (first aid kit, medications)
- [ ] Registered to receive emergency alerts
- [ ] Purchased additional insurance to cover losses (i.e. flood insurance)
- [ ] Identified the location of the nearest emergency shelter
- [ ] Received emergency preparedness information from a government source
- [ ] Other (please specify)

10. In the past, has your home been damaged by hazard events? For example, the basement of your home flooded and your hot water heater was damaged.

- ( ) Yes
- ( ) No
- ( ) Other (please specify)

11. If you answered yes above, did you report the damages to your local police or fire departments or emergency management agency?

- ( ) Yes
- ( ) No
- ( ) Other (please specify)

12. If you answered no above, why did you not report the damages?

13. Please explain the damage your structure sustained and when it occurred.

14. What areas in Westmoreland County are most likely to flood? Please list street names and other specific identifiers, if possible.

Westmoreland County Hazard Mitigation Plan Update - Citizen Survey

Hazard Mitigation

As defined by FEMA, mitigation is the effort to reduce loss of life and property by lessening the impact of disasters. In order for mitigation to be effective, we need to take action now - before the next disaster - to reduce human and financial consequences later.

Effective mitigation requires that we all understand local risks, address the hard choices, and invest in long-term community well-being. Without mitigation actions, we jeopardize our safety, financial security and self-reliance.

In this section of the survey, we want to hear from you how Westmoreland County can help mitigate the county and become more resilient before the next storm strikes.

15. What types of projects do you believe Local, County, State, or Federal Government agencies could be doing to reduce the damage and disruption of disasters in Westmoreland County? Select your top three choices.

- [ ] Retrofit and strengthen essential facilities such as police, schools, and hospitals
- [ ] Retrofit infrastructure, such as elevating roadways and improving drainage systems
- [ ] Work on improving the damage resistance of utilities (electricity, communications, water/wastewater facilities etc.)
- [ ] Install or improve protective structures, such as floodwalls, levees, bulkheads, and firebreaks
- [ ] Enhance stream maintenance programs/projects
- [ ] Replace inadequate or vulnerable bridges and causeways
- [ ] Strengthen codes, ordinances and plans to require higher hazard risk management standards and/or provide greater control over development in high hazard areas
- [ ] Buy out flood prone properties and maintain as open space
- [ ] Inform property owners of ways they can mitigate damage to their properties
- [ ] Improve access to information about hazard risks and high-hazard areas
- [ ] Assist vulnerable property owners with securing funding to mitigate their properties
- [ ] Create a stream gage and weather monitoring program to provide more accurate data and warnings
- [ ] Other (please specify)

16. Do you feel that your municipality is doing enough towards flood prevention and mitigation or other types of prevention/mitigation from hazards?

- ◯ Yes
- ◯ No

Please provide details for your answer.

17. If your property were located in a designated high-hazard area (for example, NFIP flood zone) or had received repeated damages from a natural disaster event, would you consider any of the following options?

If your response is dependent on certain factors, such as the funding source, please indicate those factors in the following question.

	Yes	No	Unsure
Having your property bought out	◯	◯	◯
Moving your structure to another property or a less risky part of your property	◯	◯	◯
Elevating your structure	◯	◯	◯

18. Please select the factor(s) that would influence your decision on the options listed above (buyout/acquisition, relocation, or elevation).

- ☐ Cost
- ☐ Unaware of available programs
- ☐ Do not have the means to move/relocate
- ☐ Length of process
- ☐ Other (please specify)

19. If you have already had to spend money to mitigate your property, how much have you spent and on what measures?

20. Which (if any) incentives would motivate you to spend money on protecting your home from the possible impacts of a disaster? Such as lower interest rates, grant funding, waivers, etc.

21. Please list any additional types of projects you believe local, county, state or federal government agencies could be doing to reduce the damage and disruption in Westmoreland County.

22. Do you have any other comments, questions, or concerns regarding hazard mitigation in Westmoreland County?

Westmoreland County Hazard Mitigation Plan Update - Citizen Survey

General Household Information

The answers provided in this section will be treated as CONFIDENTIAL and will be used solely for the purpose of preparing this plan. Please note that individual answers will not be published in the plan.

23. Please indicate the municipality in which you live:

- Borough of Adamsburg
- Township of Allegheny
- City of Arnold
- Borough of Arona
- Borough of Avonmore
- Township of Bell
- Borough of Bolivar
- Township of Cook
- Borough of Delmont
- Borough of Derry
- Township of Derry
- Borough of Donegal
- Township of Donegal
- East Huntingdon
- Borough of East Vandergrift
- Borough of Export
- Township of Fairfield
- City of Greensburg
- Township of Hempfield
- Borough of Hunker
- Borough of Hyde Park
- Township of Mount Pleasant
- Borough of Murrysville
- Borough of New Alexandria
- Borough of New Florence
- City of New Kensington
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- Township of Rostraver
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- Borough of Seward
- Township of Sewickley
- Borough of Smithton
- Borough of South Greensburg
- South Huntingdon
- Borough of Southwest Greensburg

- ○ Borough of Irwin
- ○ City of Jeannette
- ○ City of Latrobe
- ○ Borough of Laurel Mountain
- ○ Borough of Ligonier
- ○ Township of Ligonier
- ○ City of Lower Burrell
- ○ Township of Loyalhanna
- ○ Borough of Madison
- ○ Borough of Manor
- ○ City of Monessen
- ○ Borough of Mount Pleasant
- ○ Township of St. Clair
- ○ Borough of Sutersville
- ○ Borough of Trafford
- ○ Township of Unity
- ○ Township of Upper Burrell
- ○ Borough of Vandergrift
- ○ Township of Washington
- ○ Borough of West Leechburg
- ○ Borough of West Newton
- ○ Borough of Youngstown
- ○ Borough of Youngwood
- ○ Other (please specify)

24. How long have you lived here?

- ○ Less than 1 year
- ○ 1 to 5 years
- ○ 6 to 9 years
- ○ 10 to 19 years
- ○ 20 years or more

25. Do you own or rent your place of residence?

- ○ Own
- ○ Rent

26. What type of residence do you live in?

- ○ Single-family detached
- ○ Multi-family detached
- ○ Town Home
- ○ Condominium
- ○ Apartment Complex
- ○ Commercial
- ○ Mobile Home
- ○ RV
- ○ Other (please specify)

27. What street is your property on? (optional, will be kept confidential – only used to identify hazard areas such as flooding)

28. If you received real estate disclosure information when you moved into your current residence, did your real estate agent or landlord explain the implications of living in a hazard risk zone and did you understand the information presented?

- ○ Yes
- ○ No

29. To the best of your knowledge, is your property located in a designated floodplain? If you do not know, click here to find out.

- ○ Yes
- ○ No

30. Do you have flood insurance?

- ○ Yes
- ○ No

31. If you do NOT have flood insurance, what is the primary reason?

- ○ I don't need it/my property has never flooded
- ○ Don't need it/located on high ground
- ○ It is too expensive
- ○ Not familiar with it/don't know about it
- ○ Insurance company will not provide
- ○ I believe that my homeowners insurance will cover me
- ○ Other (please specify)

32. Do you or did you have problems getting homeowners/renters insurance due to risks from hazards?

- ○ Yes
- ○ No

33. If you answered "Yes" to the previous question, please identify the hazard risk that caused you to have problems obtaining homeowners/renters insurance.

34. Which of the following digital media outlets do you use and/or subscribe to receive general news and information about Westmoreland County? Check all that apply.

- [ ] Facebook
- [ ] Twitter
- [ ] Reverse 911
- [ ] Email and/or text messages
- [ ] Other (please specify)
- [ ] Nixle
- [ ] Ready PA
- [ ] Local News

35. Please indicate your age range:

- ( ) 18 to 30
- ( ) 31 to 40
- ( ) 41 to 50
- ( ) 51 to 60
- ( ) 60 or over

Timestamp	Name	Address	Municipality	Phone	Email	Are you a member of Protect PT?
11/12/2019 0:11:49	Anonymous	Anonymous	Penn Township	Anonymous	Anonymous	No
11/12/2019 9:29:47	Anonymous	Anonymous	Greensburg	Anonymous	Anonymous	No

What properties in your community are you aware of that are most at risk from flood events and would have the greatest need for retrofitting or other flood hazard mitigation measures? All repetitive loss and severe repetitive loss properties should be included. Specific property addresses need not be listed (to ensure residential privacy), but names of streets or neighborhoods can be included.	Which roads in your community would benefit from mitigation or structural projects to reduce vulnerability to flood or stormwater incidents? Also, please specify the types of projects that would most help a high-risk road (for example, new/expanded culvert, road elevation, repaving, etc.), if this information is available.	What areas in your community are in need of stormwater rehabilitation and upgrades?
.	Fallen in catch basin at corner of Rose and Pamela, causing undue damage to vehicle tires and suspension. Fix existing catch basin. No catch basin at 375 Rose ave. Rose Ave. ponds ice/water and overflows into driveway. Potential for slip/trip/fall hazard to pedestrians. Signs of cement driveway becoming undermined. Fixed by tying into storm drain on other side of the street, bringing road and curb to grade with the rest of the street.	Rose Acres
The bottom of Catherine St. All the water drains down the hill and freezes. When you try to stop, you skid on ice into oncoming traffic. By Spino's tires in Greensburg.	Road elevation, Culvert	Highland St. Leaves not being taken care of by Church. Clogging up drainage

Which areas of your community concern you regarding hazardous materials (HazMat) releases, whether from a fixed facility, pipeline, natural gas wells, or transportation accident?	Which roads in your community would benefit from mitigation or structural projects to reduce vulnerability to HazMat incidents? Also, please specify the types of projects that would most help a high-risk road (for example, lower speed limits), if this information is available.	What areas of your community have undergone landslides, or are you worried that landslides will happen? What structures or infrastructure are under threat from this?	Where in your community have land subsidence or sinkholes occurred? What facilities or infrastructure is under threat from this?
Not aware of any at this time.	Not aware of any at this time.	Not aware of any at this time.	Pleasant valley road
None	Speed bump on Belmont by daycare. They hit second gear going downhill after dropping their kids off.	Nonenone	None

What roads or intersections in your community do you consider high-risk and would benefit from improved design, routing, and traffic control functions? To which hazards (if any) are these roads most vulnerable?	What critical facilities (facilities that provide services and functions essential to a community, especially during and after a disaster) would benefit from a backup generator or redundant power supply?	What are some stormwater problems that could be addressed by the new comprehensive plan?	What are some roadway deficiencies that could be addressed by the new plan?	What are some constraints to development that could be addressed by the new plan?
The lights in Harrison City need to be studied for a more efficient timing. Also, intersections without a designated left turn lane need to have "no left turn" signs posted for rush hours.	This should be purchased by the business. Its the cost of doing business and should not be a burden to the taxpayer.	The infrastrucrure has not kept up the growth of the township. A plan needs created and funds allocated to bridge that gap and plan for the future.	Many resedential roads have not been paved in decades (Rose acres, parts of Level Green, Sunrise). Sidewalks need to be installed in communities. Major roadways (rte 130, Pleasant valley, Senor, Hyland)are insufficient for the amount of traffic.	You need the money and the labor to facilitate development. Make room in the budget and hire more public works people.
None	None			

What are some land development and code issues that could be addressed by the new plan?	Are there areas that the Township could improve infrastructure?	Are there areas that the Township could improve public safety?	Are there areas that the Township could improve regulation effectiveness?
	Yes. Plenty of them. The taxpayers held up their end of the deal its time we start seeing the money put to good use and used for its intended purpose.		
For the City of Greensburg to enforce it's code ordinances. My neighbor had rats and nothing was done. He NEVER mows his grass and complaints were filed by various homeowners in the neighborhood. Nothing has been done. His house(as are many) in disrepair and affecting my property values. There is a specific protocol for this and it's not being followed.			

Do you have suggestions for prioritizing projects that you have identified?	With the goals of; protecting personal property, improving public safety, growing the non-residential tax base, and improving regulation effectiveness, what are some things the Township could do to accomplish these goals?	Would you prefer for us to keep your comments anonymous or do you mind if we share your information with the local and county agencies working on these projects?	Would you like us to add your email to our e-newsletter for future notifications?
Rose Acres has been negleted for quite some time. Other areas close by have gotten improvements. It would be in the best intrest for the township to invest in that part of the community. N		No, I would prefer if my comments were kept anonymous.	No
Have a complete overhaul of offices that don't follow up with complaints.	Get a cab company.	No, I would prefer if my comments were kept anonymous.	No

Mitigation Action Worksheet

Municipality(ies):	**Action**
Action Number:	
Location (address, lat/long)	
Mitigation Technique Category	
Hazard(s) Addressed	
Priority (High, Medium, Low)	
Estimated Cost	
Potential Funding Streams	
Timeline	
Lead Agency/Department	
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Technique 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 (1) modifying existing structures and infrastructure to protect them from a hazard, or (2) removing 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 includes projects to construct manmade structures to reduce the impact of hazards.
- Natural Systems Protection (NSP) – These are actions that minimize damage and losses, and also preserve or restore the functions of natural systems.
- Education and Awareness Programs (EAP) – These are actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. These actions may also include participation in national programs, such as StormReady and Firewise Communities.

Costs:

If an estimated cost is known, please provide or use the following ranges:

Low = < $10,000 *Medium* = $10,000 to $100,000 *High* = > $100,000

If costs have not been estimated, please use the following categories:

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.

Timeline: Short = 1 to 5 years Long-Term = 5 years or greater

OG = On-going program DOF = Depending on funding

Mitigation Action Worksheet

Municipality(ies):	**Action**
Adamsburg (B), Allegheny (T), Arnold (C), Arona (B), Avonmore (B), Bell (T), Bolivar (B), Cook (T), Delmont (B), Derry (B), Derry (T), Donegal (B), Donegal (T), East Huntingdon (T), East Vandergrift (B), Export (B), Fairfield (T), Greensburg (C), Hempfield (T), Hunker (B), Hyde Park (B), Irwin (B), Jeannette (C), Latrobe (C), Ligonier (B), Ligonier (T), Lower Burrell (C), Loyalhanna (T), Madison (B), Manor (B), Monessen (C), Mount Pleasant (B), Mount Pleasant (T), Murrysville (B),New Alexandria (B), New Florence (B), New Kensington (C), New Stanton (B), North Belle Vernon (B), North Huntingdon (T), North Irwin (B), Oklahoma (B), Penn (B), Penn (T), Rostraver (T), Saint Clair (T), Salem (T), Scottdale (B), Seward (B), Sewickley (T), Smithton (B), South Greensburg (B), South Huntingdon (T), Southwest Greensburg (B), Sutersville (T), Trafford (B), Unity (T), Upper Burrell (T), Vandergrift (B), Washington (T), West Leechburg (B), West Newton (B), Youngstown (B),Youngwood (B)	Develop a task force with one individual from each municipality to work on the issues.
Action Number:	
WestmorelandC-1	

Location (address, lat/long)	N/A
Mitigation Technique Category	Local Plans and Regulations (LPR)
Hazard(s) Addressed	All hazards
Priority (High, Medium, Low)	Medium
Estimated Cost	Low
Potential Funding Streams	Operating Budget
Timeline	Short
Lead Agency/Department	HMWG
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Adamsburg (B), Allegheny (T), Arnold (C), Arona (B), Avonmore (B), Bell (T), Bolivar (B), Cook (T), Delmont (B), Derry (B), Derry (T), Donegal (B), Donegal (T), East Huntingdon (T), East Vandergrift (B), Export (B), Fairfield (T), Greensburg (C), Hempfield (T), Hunker (B), Hyde Park (B), Irwin (B), Jeannette (C), Latrobe (C), Ligonier (B), Ligonier (T), Lower Burrell (C), Loyalhanna (T), Madison (B), Manor (B), Monessen (C), Mount Pleasant (B), Mount Pleasant (T), Murrysville (B),New Alexandria (B), New Florence (B), New Kensington (C), New Stanton (B), North Belle Vernon (B), North Huntingdon (T), North Irwin (B), Oklahoma (B), Penn (B), Penn (T), Rostraver (T), Saint Clair (T), Salem (T), Scottdale (B), Seward (B), Sewickley (T), Smithton (B), South Greensburg (B), South Huntingdon (T), Southwest Greensburg (B), Sutersville (T), Trafford (B), Unity (T), Upper Burrell (T), Vandergrift (B), Washington (T), West Leechburg (B), West Newton (B), Youngstown (B),Youngwood (B)	Acquire vacant, abandoned, or unsafe structures, especially those in hazard areas, and turn into open space.
Action Number:	
WestmorelandC-2	

Location (address, lat/long)	County and all municipalities
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams; Landslide; Subsidence and Sinkholes; Wildfire; Dam Failure; Environmental Hazards
Priority (High, Medium, Low)	Medium
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP
Timeline	Long
Lead Agency/Department	DPS
Support Agency(ies)/ Department(s)	Municipal EMCs
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Adamsburg (B), Allegheny (T), Arnold (C), Arona (B), Avonmore (B), Bell (T), Bolivar (B), Cook (T), Delmont (B), Derry (B), Derry (T), Donegal (B), Donegal (T), East Huntingdon (T), East Vandergrift (B), Export (B), Fairfield (T), Greensburg (C), Hempfield (T), Hunker (B), Hyde Park (B), Irwin (B), Jeannette (C), Latrobe (C), Ligonier (B), Ligonier (T), Lower Burrell (C), Loyalhanna (T), Madison (B), Manor (B), Monessen (C), Mount Pleasant (B), Mount Pleasant (T), Murrysville (B),New Alexandria (B), New Florence (B), New Kensington (C), New Stanton (B), North Belle Vernon (B), North Huntingdon (T), North Irwin (B), Oklahoma (B), Penn (B), Penn (T), Rostraver (T), Saint Clair (T), Salem (T), Scottdale (B), Seward (B), Sewickley (T), Smithton (B), South Greensburg (B), South Huntingdon (T), Southwest Greensburg (B), Sutersville (T), Trafford (B), Unity (T), Upper Burrell (T), Vandergrift (B), Washington (T), West Leechburg (B), West Newton (B), Youngstown (B),Youngwood (B)	Assess all roads and truck routes used by natural gas operators to prevent accidents and spills from hazardous waste trucks.
Action Number:	
WestmorelandC-3	

Location (address, lat/long)	Westmoreland County (multiple locations)
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Environmental Hazards; Transportation Accidents
Priority (High, Medium, Low)	Low
Estimated Cost	Low
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Operating Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Adamsburg (B), Allegheny (T), Arnold (C), Arona (B), Avonmore (B), Bell (T), Bolivar (B), Cook (T), Delmont (B), Derry (B), Derry (T), Donegal (B), Donegal (T), East Huntingdon (T), East Vandergrift (B), Export (B), Fairfield (T), Greensburg (C), Hempfield (T), Hunker (B), Hyde Park (B), Irwin (B), Jeannette (C), Latrobe (C), Ligonier (B), Ligonier (T), Lower Burrell (C), Loyalhanna (T), Madison (B), Manor (B), Monessen (C), Mount Pleasant (B), Mount Pleasant (T), Murrysville (B),New Alexandria (B), New Florence (B), New Kensington (C), New Stanton (B), North Belle Vernon (B), North Huntingdon (T), North Irwin (B), Oklahoma (B), Penn (B), Penn (T), Rostraver (T), Saint Clair (T), Salem (T), Scottdale (B), Seward (B), Sewickley (T), Smithton (B), South Greensburg (B), South Huntingdon (T), Southwest Greensburg (B), Sutersville (T), Trafford (B), Unity (T), Upper Burrell (T), Vandergrift (B), Washington (T), West Leechburg (B), West Newton (B), Youngstown (B),Youngwood (B)	Work with hazmat facilities to inform them of the hazards they face and ensure emergency plans are current.
Action Number:	
WestmorelandC-4	

Location (address, lat/long)	Westmoreland County (multiple locations)
Mitigation Technique Category	Local Plans and Regulations (LPR)
Hazard(s) Addressed	All hazards
Priority (High, Medium, Low)	High
Estimated Cost	Medium
Potential Funding Streams	Act 165 Funds
Timeline	Short
Lead Agency/Department	LEPC
Support Agency(ies)/ Department(s)	County DPS and Municipal EMCs
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Adamsburg (B), Allegheny (T), Arnold (C), Arona (B), Avonmore (B), Bell (T), Bolivar (B), Cook (T), Delmont (B), Derry (B), Derry (T), Donegal (B), Donegal (T), East Huntingdon (T), East Vandergrift (B), Export (B), Fairfield (T), Greensburg (C), Hempfield (T), Hunker (B), Hyde Park (B), Irwin (B), Jeannette (C), Latrobe (C), Ligonier (B), Ligonier (T), Lower Burrell (C), Loyalhanna (T), Madison (B), Manor (B), Monessen (C), Mount Pleasant (B), Mount Pleasant (T), Murrysville (B),New Alexandria (B), New Florence (B), New Kensington (C), New Stanton (B), North Belle Vernon (B), North Huntingdon (T), North Irwin (B), Oklahoma (B), Penn (B), Penn (T), Rostraver (T), Saint Clair (T), Salem (T), Scottdale (B), Seward (B), Sewickley (T), Smithton (B), South Greensburg (B), South Huntingdon (T), Southwest Greensburg (B), Sutersville (T), Trafford (B), Unity (T), Upper Burrell (T), Vandergrift (B), Washington (T), West Leechburg (B), West Newton (B), Youngstown (B),Youngwood (B)	Work with police departments in each municipality to ensure their emergency plans are updated, and inform them of the hazard areas in which they are located.
Action Number:	
WestmorelandC-5	

Location (address, lat/long)	N/A
Mitigation Technique Category	Local Plans and Regulations (LPR)
Hazard(s) Addressed	All hazards
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	Operating Budget
Timeline	Short
Lead Agency/Department	DPS
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Adamsburg (B), Allegheny (T), Arnold (C), Arona (B), Avonmore (B), Bell (T), Bolivar (B), Cook (T), Delmont (B), Derry (B), Derry (T), Donegal (B), Donegal (T), East Huntingdon (T), East Vandergrift (B), Export (B), Fairfield (T), Greensburg (C), Hempfield (T), Hunker (B), Hyde Park (B), Irwin (B), Jeannette (C), Latrobe (C), Ligonier (B), Ligonier (T), Lower Burrell (C), Loyalhanna (T), Madison (B), Manor (B), Monessen (C), Mount Pleasant (B), Mount Pleasant (T), Murrysville (B),New Alexandria (B), New Florence (B), New Kensington (C), New Stanton (B), North Belle Vernon (B), North Huntingdon (T), North Irwin (B), Oklahoma (B), Penn (B), Penn (T), Rostraver (T), Saint Clair (T), Salem (T), Scottdale (B), Seward (B), Sewickley (T), Smithton (B), South Greensburg (B), South Huntingdon (T), Southwest Greensburg (B), Sutersville (T), Trafford (B), Unity (T), Upper Burrell (T), Vandergrift (B), Washington (T), West Leechburg (B), West Newton (B), Youngstown (B),Youngwood (B)	Work with daycare owners/operators in each municipality to ensure their emergency plans are updated, and inform them of the hazard areas in which they are located.
Action Number:	
WestmorelandC-6	

Location (address, lat/long)	Westmoreland County (multiple locations)
Mitigation Technique Category	Local Plans and Regulations (LPR)
Hazard(s) Addressed	All hazards
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	Operating Budget
Timeline	Short
Lead Agency/Department	Municipal EMCs
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Westmoreland County	Update County COOP/COG Plan.
Action Number:	
WestmorelandC-7	
Location (address, lat/long)	N/A
Mitigation Technique Category	Local Plans and Regulations (LPR)
Hazard(s) Addressed	All hazards
Priority (High, Medium, Low)	High
Estimated Cost	Medium
Potential Funding Streams	Region 13 Funding
Timeline	Short
Lead Agency/Department	DPS
Support Agency(ies)/ Department(s)	All departments
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Allegheny (T), Derry (B), Derry (T), Donegal (T), Hempfield (T), Ligonier (T), Mount Pleasant (T), North Huntingdon (T), Penn (T), South Huntingdon (T), St. Clair (T), Unity (T), Washington (T)	Work with dam owners and operators to ensure EAPs are current for all -1 and -2 dams.
Action Number:	
WestmorelandC-8	
Location (address, lat/long)	Westmoreland County (multiple locations)
Mitigation Technique Category	Local Plans and Regulations (LPR)
Hazard(s) Addressed	All hazards
Priority (High, Medium, Low)	High
Estimated Cost	Medium
Potential Funding Streams	Operating Budget
Timeline	Short
Lead Agency/Department	DPS
Support Agency(ies)/ Department(s)	Municipal EMCs and engineers
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Derry (B), East Huntingdon (T), Greensburg (C), Hempfield (T), Jeannette (C), Latrobe (B), Ligonier (B), Lower Burrell (C), Monessen (C), Mount Pleasant (T), Murrysville (B), New Kensington (C), New Stanton (B), North Huntingdon (T), Penn (T), Rostraver (T), Salem (T), Sewickley (T), Trafford (B), Vandergrift (B)	Work with schools and school districts to inform them of the hazards they face and ensure emergency plans are current.
Action Number:	
WestmorelandC-9	
Location (address, lat/long)	Westmoreland County (multiple locations)
Mitigation Technique Category	Local Plans and Regulations (LPR)
Hazard(s) Addressed	All hazards
Priority (High, Medium, Low)	High
Estimated Cost	Medium
Potential Funding Streams	Operating Budget
Timeline	Short
Lead Agency/Department	DPS
Support Agency(ies)/ Department(s)	Municipal EMCs
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Adamsburg (B), Allegheny (T), Arnold (C), Arona (B), Avonmore (B), Bell (T), Bolivar (B), Cook (T), Delmont (B), Derry (B), Derry (T), Donegal (B), Donegal (T), East Huntingdon (T), East Vandergrift (B), Export (B), Fairfield (T), Greensburg (C), Hempfield (T), Hunker (B), Hyde Park (B), Irwin (B), Jeannette (C), Latrobe (C), Ligonier (B), Ligonier (T), Lower Burrell (C), Loyalhanna (T), Madison (B), Manor (B), Monessen (C), Mount Pleasant (B), Mount Pleasant (T), Murrysville (B),New Alexandria (B), New Florence (B), New Kensington (C), New Stanton (B), North Belle Vernon (B), North Huntingdon (T), North Irwin (B), Oklahoma (B), Penn (B), Penn (T), Rostraver (T), Saint Clair (T), Salem (T), Scottdale (B), Seward (B), Sewickley (T), Smithton (B), South Greensburg (B), South Huntingdon (T), Southwest Greensburg (B), Sutersville (T), Trafford (B), Unity (T), Upper Burrell (T), Vandergrift (B), Washington (T), West Leechburg (B), West Newton (B), Youngstown (B),Youngwood (B)	Begin the process to adopt higher regulatory standards to manage flood risk and sinkhole risk.
Action Number:	
WestmorelandC-10	

Location (address, lat/long)	N/A
Mitigation Technique Category	Local Plans and Regulations (LPR)
Hazard(s) Addressed	Flood, flash flood, and ice jams; subsidence/sinkholes
Priority (High, Medium, Low)	Low
Estimated Cost	Low
Potential Funding Streams	Operating Budget
Timeline	Long
Lead Agency/Department	Municipality
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Adamsburg (B), Allegheny (T), Arnold (C), Arona (B), Avonmore (B), Bell (T), Bolivar (B), Cook (T), Delmont (B), Derry (B), Derry (T), Donegal (B), Donegal (T), East Huntingdon (T), East Vandergrift (B), Export (B), Fairfield (T), Greensburg (C), Hempfield (T), Hunker (B), Hyde Park (B), Irwin (B), Jeannette (C), Latrobe (C), Ligonier (B), Ligonier (T), Lower Burrell (C), Loyalhanna (T), Madison (B), Manor (B), Monessen (C), Mount Pleasant (B), Mount Pleasant (T), Murrysville (B),New Alexandria (B), New Florence (B), New Kensington (C), New Stanton (B), North Belle Vernon (B), North Huntingdon (T), North Irwin (B), Oklahoma (B), Penn (B), Penn (T), Rostraver (T), Saint Clair (T), Salem (T), Scottdale (B), Seward (B), Sewickley (T), Smithton (B), South Greensburg (B), South Huntingdon (T), Southwest Greensburg (B), Sutersville (T), Trafford (B), Unity (T), Upper Burrell (T), Vandergrift (B), Washington (T), West Leechburg (B), West Newton (B), Youngstown (B),Youngwood (B)	Complete the ongoing updates of the Comprehensive Plans.
Action Number:	
WestmorelandC-11	

Location (address, lat/long)	N/A
Mitigation Technique Category	Local Plans and Regulations (LPR)
Hazard(s) Addressed	All hazards
Priority (High, Medium, Low)	Medium
Estimated Cost	Low
Potential Funding Streams	Operating Budget
Timeline	Short
Lead Agency/Department	Municipality
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Adamsburg (B), Allegheny (T), Arnold (C), Arona (B), Avonmore (B), Bell (T), Bolivar (B), Cook (T), Delmont (B), Derry (B), Derry (T), Donegal (B), Donegal (T), East Huntingdon (T), East Vandergrift (B), Export (B), Fairfield (T), Greensburg (C), Hempfield (T), Hunker (B), Hyde Park (B), Irwin (B), Jeannette (C), Latrobe (C), Ligonier (B), Ligonier (T), Lower Burrell (C), Loyalhanna (T), Madison (B), Manor (B), Monessen (C), Mount Pleasant (B), Mount Pleasant (T), Murrysville (B),New Alexandria (B), New Florence (B), New Kensington (C), New Stanton (B), North Belle Vernon (B), North Huntingdon (T), North Irwin (B), Oklahoma (B), Penn (B), Penn (T), Rostraver (T), Saint Clair (T), Salem (T), Scottdale (B), Seward (B), Sewickley (T), Smithton (B), South Greensburg (B), South Huntingdon (T), Southwest Greensburg (B), Sutersville (T), Trafford (B), Unity (T), Upper Burrell (T), Vandergrift (B), Washington (T), West Leechburg (B), West Newton (B), Youngstown (B),Youngwood (B)	Create/enhance/maintain mutual aid agreements with neighboring counties/communities for continuity of operations.
Action Number:	
WestmorelandC-12	

Location (address, lat/long)	N/A
Mitigation Technique Category	Local Plans and Regulations (LPR)
Hazard(s) Addressed	All hazards
Priority (High, Medium, Low)	Medium
Estimated Cost	Low
Potential Funding Streams	Operating Budget
Timeline	Short
Lead Agency/Department	Municipality
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Adamsburg (B), Allegheny (T), Arnold (C), Arona (B), Avonmore (B), Bell (T), Bolivar (B), Cook (T), Delmont (B), Derry (B), Derry (T), Donegal (B), Donegal (T), East Huntingdon (T), East Vandergrift (B), Export (B), Fairfield (T), Greensburg (C), Hempfield (T), Hunker (B), Hyde Park (B), Irwin (B), Jeannette (C), Latrobe (C), Ligonier (B), Ligonier (T), Lower Burrell (C), Loyalhanna (T), Madison (B), Manor (B), Monessen (C), Mount Pleasant (B), Mount Pleasant (T), Murrysville (B),New Alexandria (B), New Florence (B), New Kensington (C), New Stanton (B), North Belle Vernon (B), North Huntingdon (T), North Irwin (B), Oklahoma (B), Penn (B), Penn (T), Rostraver (T), Saint Clair (T), Salem (T), Scottdale (B), Seward (B), Sewickley (T), Smithton (B), South Greensburg (B), South Huntingdon (T), Southwest Greensburg (B), Sutersville (T), Trafford (B), Unity (T), Upper Burrell (T), Vandergrift (B), Washington (T), West Leechburg (B), West Newton (B), Youngstown (B),Youngwood (B)	Develop a hazard event GIS database to help county and local emergency managers with hazard mitigation and other planning initiatives.
Action Number:	
WestmorelandC-13	

Location (address, lat/long)	N/A
Mitigation Technique Category	Local Plans and Regulations (LPR)
Hazard(s) Addressed	All hazards
Priority (High, Medium, Low)	Medium
Estimated Cost	Low
Potential Funding Streams	Operating Budget
Timeline	Short
Lead Agency/Department	Municipality
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Adamsburg (B), Allegheny (T), Arnold (C), Arona (B), Avonmore (B), Bell (T), Bolivar (B), Cook (T), Delmont (B), Derry (B), Derry (T), Donegal (B), Donegal (T), East Huntingdon (T), East Vandergrift (B), Export (B), Fairfield (T), Greensburg (C), Hempfield (T), Hunker (B), Hyde Park (B), Irwin (B), Jeannette (C), Latrobe (C), Ligonier (B), Ligonier (T), Lower Burrell (C), Loyalhanna (T), Madison (B), Manor (B), Monessen (C), Mount Pleasant (B), Mount Pleasant (T), Murrysville (B),New Alexandria (B), New Florence (B), New Kensington (C), New Stanton (B), North Belle Vernon (B), North Huntingdon (T), North Irwin (B), Oklahoma (B), Penn (B), Penn (T), Rostraver (T), Saint Clair (T), Salem (T), Scottdale (B), Seward (B), Sewickley (T), Smithton (B), South Greensburg (B), South Huntingdon (T), Southwest Greensburg (B), Sutersville (T), Trafford (B), Unity (T), Upper Burrell (T), Vandergrift (B), Washington (T), West Leechburg (B), West Newton (B), Youngstown (B),Youngwood (B)	Develop and distribute educational information on hazards, emergency preparedness, and fire prevention.
Action Number:	
WestmorelandC-14	

Location (address, lat/long)	N/A
Mitigation Technique Category	Local Plans and Regulations (LPR)
Hazard(s) Addressed	All hazards
Priority (High, Medium, Low)	Medium
Estimated Cost	Low
Potential Funding Streams	Operating Budget
Timeline	Short
Lead Agency/Department	Municipality
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Adamsburg (B), Allegheny (T), Arnold (C), Arona (B), Avonmore (B), Bell (T), Bolivar (B), Cook (T), Delmont (B), Derry (B), Derry (T), Donegal (B), Donegal (T), East Huntingdon (T), East Vandergrift (B), Export (B), Fairfield (T), Greensburg (C), Hempfield (T), Hunker (B), Hyde Park (B), Irwin (B), Jeannette (C), Latrobe (C), Ligonier (B), Ligonier (T), Lower Burrell (C), Loyalhanna (T), Madison (B), Manor (B), Monessen (C), Mount Pleasant (B), Mount Pleasant (T), Murrysville (B),New Alexandria (B), New Florence (B), New Kensington (C), New Stanton (B), North Belle Vernon (B), North Huntingdon (T), North Irwin (B), Oklahoma (B), Penn (B), Penn (T), Rostraver (T), Saint Clair (T), Salem (T), Scottdale (B), Seward (B), Sewickley (T), Smithton (B), South Greensburg (B), South Huntingdon (T), Southwest Greensburg (B), Sutersville (T), Trafford (B), Unity (T), Upper Burrell (T), Vandergrift (B), Washington (T), West Leechburg (B), West Newton (B), Youngstown (B),Youngwood (B)	Develop and distribute public outreach materials on water conservation.
Action Number:	
WestmorelandC-15	

Location (address, lat/long)	County and all municipalities
Mitigation Technique Category	Education and Awareness Programs (EAP)
Hazard(s) Addressed	Environmental Hazards
Priority (High, Medium, Low)	Medium
Estimated Cost	Low
Potential Funding Streams	Operating Budget
Timeline	Short
Lead Agency/Department	MAWC
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Adamsburg (B), Allegheny (T), Arnold (C), Arona (B), Avonmore (B), Bell (T), Bolivar (B), Cook (T), Delmont (B), Derry (B), Derry (T), Donegal (B), Donegal (T), East Huntingdon (T), East Vandergrift (B), Export (B), Fairfield (T), Greensburg (C), Hempfield (T), Hunker (B), Hyde Park (B), Irwin (B), Jeannette (C), Latrobe (C), Ligonier (B), Ligonier (T), Lower Burrell (C), Loyalhanna (T), Madison (B), Manor (B), Monessen (C), Mount Pleasant (B), Mount Pleasant (T), Murrysville (B),New Alexandria (B), New Florence (B), New Kensington (C), New Stanton (B), North Belle Vernon (B), North Huntingdon (T), North Irwin (B), Oklahoma (B), Penn (B), Penn (T), Rostraver (T), Saint Clair (T), Salem (T), Scottdale (B), Seward (B), Sewickley (T), Smithton (B), South Greensburg (B), South Huntingdon (T), Southwest Greensburg (B), Sutersville (T), Trafford (B), Unity (T), Upper Burrell (T), Vandergrift (B), Washington (T), West Leechburg (B), West Newton (B), Youngstown (B),Youngwood (B)	Develop and maintain an outreach program to provide information and guidance to municipalities on their role in floodplain management.
Action Number:	
WestmorelandC-16	

Location (address, lat/long)	N/A
Mitigation Technique Category	Education and Awareness Programs (EAP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Medium
Estimated Cost	Low
Potential Funding Streams	Operating Budget
Timeline	Short
Lead Agency/Department	HMWG
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Adamsburg (B), Allegheny (T), Arnold (C), Arona (B), Avonmore (B), Bell (T), Bolivar (B), Cook (T), Delmont (B), Derry (B), Derry (T), Donegal (B), Donegal (T), East Huntingdon (T), East Vandergrift (B), Export (B), Fairfield (T), Greensburg (C), Hempfield (T), Hunker (B), Hyde Park (B), Irwin (B), Jeannette (C), Latrobe (C), Ligonier (B), Ligonier (T), Lower Burrell (C), Loyalhanna (T), Madison (B), Manor (B), Monessen (C), Mount Pleasant (B), Mount Pleasant (T), Murrysville (B),New Alexandria (B), New Florence (B), New Kensington (C), New Stanton (B), North Belle Vernon (B), North Huntingdon (T), North Irwin (B), Oklahoma (B), Penn (B), Penn (T), Rostraver (T), Saint Clair (T), Salem (T), Scottdale (B), Seward (B), Sewickley (T), Smithton (B), South Greensburg (B), South Huntingdon (T), Southwest Greensburg (B), Sutersville (T), Trafford (B), Unity (T), Upper Burrell (T), Vandergrift (B), Washington (T), West Leechburg (B), West Newton (B), Youngstown (B),Youngwood (B)	Develop geospatial and analytical tools to support community engagement, policy reform, and county and regional planning efforts.
Action Number:	
WestmorelandC-17	

Location (address, lat/long)	N/A
Mitigation Technique Category	Local Plans and Regulations (LPR)
Hazard(s) Addressed	All hazards
Priority (High, Medium, Low)	Medium
Estimated Cost	Low
Potential Funding Streams	Operating Budget
Timeline	Short
Lead Agency/Department	Municipality
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Adamsburg (B), Allegheny (T), Arnold (C), Arona (B), Avonmore (B), Bell (T), Bolivar (B), Cook (T), Delmont (B), Derry (B), Derry (T), Donegal (B), Donegal (T), East Huntingdon (T), East Vandergrift (B), Export (B), Fairfield (T), Greensburg (C), Hempfield (T), Hunker (B), Hyde Park (B), Irwin (B), Jeannette (C), Latrobe (C), Ligonier (B), Ligonier (T), Lower Burrell (C), Loyalhanna (T), Madison (B), Manor (B), Monessen (C), Mount Pleasant (B), Mount Pleasant (T), Murrysville (B),New Alexandria (B), New Florence (B), New Kensington (C), New Stanton (B), North Belle Vernon (B), North Huntingdon (T), North Irwin (B), Oklahoma (B), Penn (B), Penn (T), Rostraver (T), Saint Clair (T), Salem (T), Scottdale (B), Seward (B), Sewickley (T), Smithton (B), South Greensburg (B), South Huntingdon (T), Southwest Greensburg (B), Sutersville (T), Trafford (B), Unity (T), Upper Burrell (T), Vandergrift (B), Washington (T), West Leechburg (B), West Newton (B), Youngstown (B),Youngwood (B)	Enhance the Westmoreland County Stormwater Management Plan by implementing Phase 2 of the plan.
Action Number:	
WestmorelandC-18	

Location (address, lat/long)	N/A
Mitigation Technique Category	Local Plans and Regulations (LPR)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Medium
Estimated Cost	Low
Potential Funding Streams	Operating Budget
Timeline	Short
Lead Agency/Department	Planning
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Adamsburg (B), Allegheny (T), Arnold (C), Arona (B), Avonmore (B), Bell (T), Bolivar (B), Cook (T), Delmont (B), Derry (B), Derry (T), Donegal (B), Donegal (T), East Huntingdon (T), East Vandergrift (B), Export (B), Fairfield (T), Greensburg (C), Hempfield (T), Hunker (B), Hyde Park (B), Irwin (B), Jeannette (C), Latrobe (C), Ligonier (B), Ligonier (T), Lower Burrell (C), Loyalhanna (T), Madison (B), Manor (B), Monessen (C), Mount Pleasant (B), Mount Pleasant (T), Murrysville (B),New Alexandria (B), New Florence (B), New Kensington (C), New Stanton (B), North Belle Vernon (B), North Huntingdon (T), North Irwin (B), Oklahoma (B), Penn (B), Penn (T), Rostraver (T), Saint Clair (T), Salem (T), Scottdale (B), Seward (B), Sewickley (T), Smithton (B), South Greensburg (B), South Huntingdon (T), Southwest Greensburg (B), Sutersville (T), Trafford (B), Unity (T), Upper Burrell (T), Vandergrift (B), Washington (T), West Leechburg (B), West Newton (B), Youngstown (B),Youngwood (B)	Have designated NFIP Floodplain Administrator become a Certified Floodplain Manager through the ASFPM, and pursue relevant continuing education training such as FEMA Benefit-Cost Analysis.
Action Number:	
WestmorelandC-19	

Location (address, lat/long)	N/A
Mitigation Technique Category	Local Plans and Regulations (LPR)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Low
Potential Funding Streams	Operating Budget
Timeline	Short
Lead Agency/Department	Municipal FPA
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Adamsburg (B), Allegheny (T), Arnold (C), Arona (B), Avonmore (B), Bell (T), Bolivar (B), Cook (T), Delmont (B), Derry (B), Derry (T), Donegal (B), Donegal (T), East Huntingdon (T), East Vandergrift (B), Export (B), Fairfield (T), Greensburg (C), Hempfield (T), Hunker (B), Hyde Park (B), Irwin (B), Jeannette (C), Latrobe (C), Ligonier (B), Ligonier (T), Lower Burrell (C), Loyalhanna (T), Madison (B), Manor (B), Monessen (C), Mount Pleasant (B), Mount Pleasant (T), Murrysville (B),New Alexandria (B), New Florence (B), New Kensington (C), New Stanton (B), North Belle Vernon (B), North Huntingdon (T), North Irwin (B), Oklahoma (B), Penn (B), Penn (T), Rostraver (T), Saint Clair (T), Salem (T), Scottdale (B), Seward (B), Sewickley (T), Smithton (B), South Greensburg (B), South Huntingdon (T), Southwest Greensburg (B), Sutersville (T), Trafford (B), Unity (T), Upper Burrell (T), Vandergrift (B), Washington (T), West Leechburg (B), West Newton (B), Youngstown (B),Youngwood (B)	Identify and develop agreements with entities that can provide support with FEMA/PEMA paperwork after disasters.
Action Number:	
WestmorelandC-20	

Location (address, lat/long)	N/A
Mitigation Technique Category	Local Plans and Regulations (LPR)
Hazard(s) Addressed	All hazards
Priority (High, Medium, Low)	Medium
Estimated Cost	Low
Potential Funding Streams	Operating Budget
Timeline	Short
Lead Agency/Department	DPS
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Adamsburg (B), Allegheny (T), Arnold (C), Arona (B), Avonmore (B), Bell (T), Bolivar (B), Cook (T), Delmont (B), Derry (B), Derry (T), Donegal (B), Donegal (T), East Huntingdon (T), East Vandergrift (B), Export (B), Fairfield (T), Greensburg (C), Hempfield (T), Hunker (B), Hyde Park (B), Irwin (B), Jeannette (C), Latrobe (C), Ligonier (B), Ligonier (T), Lower Burrell (C), Loyalhanna (T), Madison (B), Manor (B), Monessen (C), Mount Pleasant (B), Mount Pleasant (T), Murrysville (B),New Alexandria (B), New Florence (B), New Kensington (C), New Stanton (B), North Belle Vernon (B), North Huntingdon (T), North Irwin (B), Oklahoma (B), Penn (B), Penn (T), Rostraver (T), Saint Clair (T), Salem (T), Scottdale (B), Seward (B), Sewickley (T), Smithton (B), South Greensburg (B), South Huntingdon (T), Southwest Greensburg (B), Sutersville (T), Trafford (B), Unity (T), Upper Burrell (T), Vandergrift (B), Washington (T), West Leechburg (B), West Newton (B), Youngstown (B),Youngwood (B)	Implement seismic retrofits to vulnerable critical facilities.
Action Number:	
WestmorelandC-21	

Location (address, lat/long)	County and all municipalities
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	All hazards
Priority (High, Medium, Low)	High
Estimated Cost	High
Potential Funding Streams	FEMA, PEMA
Timeline	Long
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Adamsburg (B), Allegheny (T), Arnold (C), Arona (B), Avonmore (B), Bell (T), Bolivar (B), Cook (T), Delmont (B), Derry (B), Derry (T), Donegal (B), Donegal (T), East Huntingdon (T), East Vandergrift (B), Export (B), Fairfield (T), Greensburg (C), Hempfield (T), Hunker (B), Hyde Park (B), Irwin (B), Jeannette (C), Latrobe (C), Ligonier (B), Ligonier (T), Lower Burrell (C), Loyalhanna (T), Madison (B), Manor (B), Monessen (C), Mount Pleasant (B), Mount Pleasant (T), Murrysville (B),New Alexandria (B), New Florence (B), New Kensington (C), New Stanton (B), North Belle Vernon (B), North Huntingdon (T), North Irwin (B), Oklahoma (B), Penn (B), Penn (T), Rostraver (T), Saint Clair (T), Salem (T), Scottdale (B), Seward (B), Sewickley (T), Smithton (B), South Greensburg (B), South Huntingdon (T), Southwest Greensburg (B), Sutersville (T), Trafford (B), Unity (T), Upper Burrell (T), Vandergrift (B), Washington (T), West Leechburg (B), West Newton (B), Youngstown (B),Youngwood (B)	Maintain and exercise continuity of government plan to enable the government to provide critical services during the interruption of business.
Action Number:	
WestmorelandC-22	

Location (address, lat/long)	N/A
Mitigation Technique Category	Local Plans and Regulations (LPR)
Hazard(s) Addressed	All hazards
Priority (High, Medium, Low)	Medium
Estimated Cost	Low
Potential Funding Streams	Region 13 Funding
Timeline	Short
Lead Agency/Department	Municipal EMCs
Support Agency(ies)/ Department(s)	County DPS
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Adamsburg (B), Allegheny (T), Arnold (C), Arona (B), Avonmore (B), Bell (T), Bolivar (B), Cook (T), Delmont (B), Derry (B), Derry (T), Donegal (B), Donegal (T), East Huntingdon (T), East Vandergrift (B), Export (B), Fairfield (T), Greensburg (C), Hempfield (T), Hunker (B), Hyde Park (B), Irwin (B), Jeannette (C), Latrobe (C), Ligonier (B), Ligonier (T), Lower Burrell (C), Loyalhanna (T), Madison (B), Manor (B), Monessen (C), Mount Pleasant (B), Mount Pleasant (T), Murrysville (B),New Alexandria (B), New Florence (B), New Kensington (C), New Stanton (B), North Belle Vernon (B), North Huntingdon (T), North Irwin (B), Oklahoma (B), Penn (B), Penn (T), Rostraver (T), Saint Clair (T), Salem (T), Scottdale (B), Seward (B), Sewickley (T), Smithton (B), South Greensburg (B), South Huntingdon (T), Southwest Greensburg (B), Sutersville (T), Trafford (B), Unity (T), Upper Burrell (T), Vandergrift (B), Washington (T), West Leechburg (B), West Newton (B), Youngstown (B),Youngwood (B)	Maintain compliance with and be in good standing in the NFIP, including adoption and enforcement of floodplain management requirements, floodplain identification and mapping, and flood insurance outreach to the community.
Action Number:	
WestmorelandC-23	

Location (address, lat/long)	N/A
Mitigation Technique Category	Local Plans and Regulations (LPR)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	High
Estimated Cost	Low
Potential Funding Streams	Operating Budget
Timeline	Short
Lead Agency/Department	Municipal FPA
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Adamsburg (B), Allegheny (T), Arnold (C), Arona (B), Avonmore (B), Bell (T), Bolivar (B), Cook (T), Delmont (B), Derry (B), Derry (T), Donegal (B), Donegal (T), East Huntingdon (T), East Vandergrift (B), Export (B), Fairfield (T), Greensburg (C), Hempfield (T), Hunker (B), Hyde Park (B), Irwin (B), Jeannette (C), Latrobe (C), Ligonier (B), Ligonier (T), Lower Burrell (C), Loyalhanna (T), Madison (B), Manor (B), Monessen (C), Mount Pleasant (B), Mount Pleasant (T), Murrysville (B),New Alexandria (B), New Florence (B), New Kensington (C), New Stanton (B), North Belle Vernon (B), North Huntingdon (T), North Irwin (B), Oklahoma (B), Penn (B), Penn (T), Rostraver (T), Saint Clair (T), Salem (T), Scottdale (B), Seward (B), Sewickley (T), Smithton (B), South Greensburg (B), South Huntingdon (T), Southwest Greensburg (B), Sutersville (T), Trafford (B), Unity (T), Upper Burrell (T), Vandergrift (B), Washington (T), West Leechburg (B), West Newton (B), Youngstown (B),Youngwood (B)	Participate in the Community Rating System (CRS) to further manage flood risk and reduce flood insurance premiums for NFIP policyholders.
Action Number:	
WestmorelandC-24	

Location (address, lat/long)	N/A
Mitigation Technique Category	Local Plans and Regulations (LPR)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Medium
Estimated Cost	Low
Potential Funding Streams	Operating Budget
Timeline	Short
Lead Agency/Department	Municipal FPA
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Adamsburg (B), Allegheny (T), Arnold (C), Arona (B), Avonmore (B), Bell (T), Bolivar (B), Cook (T), Delmont (B), Derry (B), Derry (T), Donegal (B), Donegal (T), East Huntingdon (T), East Vandergrift (B), Export (B), Fairfield (T), Greensburg (C), Hempfield (T), Hunker (B), Hyde Park (B), Irwin (B), Jeannette (C), Latrobe (C), Ligonier (B), Ligonier (T), Lower Burrell (C), Loyalhanna (T), Madison (B), Manor (B), Monessen (C), Mount Pleasant (B), Mount Pleasant (T), Murrysville (B),New Alexandria (B), New Florence (B), New Kensington (C), New Stanton (B), North Belle Vernon (B), North Huntingdon (T), North Irwin (B), Oklahoma (B), Penn (B), Penn (T), Rostraver (T), Saint Clair (T), Salem (T), Scottdale (B), Seward (B), Sewickley (T), Smithton (B), South Greensburg (B), South Huntingdon (T), Southwest Greensburg (B), Sutersville (T), Trafford (B), Unity (T), Upper Burrell (T), Vandergrift (B), Washington (T), West Leechburg (B), West Newton (B), Youngstown (B),Youngwood (B)	Partner with community groups and local organizations, including civic, business, town watch, faith-based, senior, special needs and tenant associations, to promote emergency preparedness and mitigation efforts.
Action Number:	
WestmorelandC-25	

Location (address, lat/long)	County and all municipalities
Mitigation Technique Category	Education and Awareness Programs (EAP)
Hazard(s) Addressed	All hazards
Priority (High, Medium, Low)	Medium
Estimated Cost	Low
Potential Funding Streams	Operating Budget
Timeline	Short
Lead Agency/Department	County DPS
Support Agency(ies)/ Department(s)	Municipal EMCs
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Adamsburg (B), Allegheny (T), Arnold (C), Arona (B), Avonmore (B), Bell (T), Bolivar (B), Cook (T), Delmont (B), Derry (B), Derry (T), Donegal (B), Donegal (T), East Huntingdon (T), East Vandergrift (B), Export (B), Fairfield (T), Greensburg (C), Hempfield (T), Hunker (B), Hyde Park (B), Irwin (B), Jeannette (C), Latrobe (C), Ligonier (B), Ligonier (T), Lower Burrell (C), Loyalhanna (T), Madison (B), Manor (B), Monessen (C), Mount Pleasant (B), Mount Pleasant (T), Murrysville (B),New Alexandria (B), New Florence (B), New Kensington (C), New Stanton (B), North Belle Vernon (B), North Huntingdon (T), North Irwin (B), Oklahoma (B), Penn (B), Penn (T), Rostraver (T), Saint Clair (T), Salem (T), Scottdale (B), Seward (B), Sewickley (T), Smithton (B), South Greensburg (B), South Huntingdon (T), Southwest Greensburg (B), Sutersville (T), Trafford (B), Unity (T), Upper Burrell (T), Vandergrift (B), Washington (T), West Leechburg (B), West Newton (B), Youngstown (B),Youngwood (B)	Procure and maintain redundant power sources (portable generators).
Action Number:	
WestmorelandC-26	

Location (address, lat/long)	County and all municipalities
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Utility Interruption
Priority (High, Medium, Low)	Medium
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM; RACP
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Adamsburg (B), Allegheny (T), Arnold (C), Arona (B), Avonmore (B), Bell (T), Bolivar (B), Cook (T), Delmont (B), Derry (B), Derry (T), Donegal (B), Donegal (T), East Huntingdon (T), East Vandergrift (B), Export (B), Fairfield (T), Greensburg (C), Hempfield (T), Hunker (B), Hyde Park (B), Irwin (B), Jeannette (C), Latrobe (C), Ligonier (B), Ligonier (T), Lower Burrell (C), Loyalhanna (T), Madison (B), Manor (B), Monessen (C), Mount Pleasant (B), Mount Pleasant (T), Murrysville (B),New Alexandria (B), New Florence (B), New Kensington (C), New Stanton (B), North Belle Vernon (B), North Huntingdon (T), North Irwin (B), Oklahoma (B), Penn (B), Penn (T), Rostraver (T), Saint Clair (T), Salem (T), Scottdale (B), Seward (B), Sewickley (T), Smithton (B), South Greensburg (B), South Huntingdon (T), Southwest Greensburg (B), Sutersville (T), Trafford (B), Unity (T), Upper Burrell (T), Vandergrift (B), Washington (T), West Leechburg (B), West Newton (B), Youngstown (B),Youngwood (B)	Purchase or relocate structures located in hazard-prone areas to protect structures from future damage, with repetitive loss properties as a priority.
Action Number:	
WestmorelandC-27	

Location (address, lat/long)	County and all municipalities
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	All hazards
Priority (High, Medium, Low)	High
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM; RACP
Timeline	Long
Lead Agency/Department	Municipal CEO
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Adamsburg (B), Allegheny (T), Arnold (C), Arona (B), Avonmore (B), Bell (T), Bolivar (B), Cook (T), Delmont (B), Derry (B), Derry (T), Donegal (B), Donegal (T), East Huntingdon (T), East Vandergrift (B), Export (B), Fairfield (T), Greensburg (C), Hempfield (T), Hunker (B), Hyde Park (B), Irwin (B), Jeannette (C), Latrobe (C), Ligonier (B), Ligonier (T), Lower Burrell (C), Loyalhanna (T), Madison (B), Manor (B), Monessen (C), Mount Pleasant (B), Mount Pleasant (T), Murrysville (B),New Alexandria (B), New Florence (B), New Kensington (C), New Stanton (B), North Belle Vernon (B), North Huntingdon (T), North Irwin (B), Oklahoma (B), Penn (B), Penn (T), Rostraver (T), Saint Clair (T), Salem (T), Scottdale (B), Seward (B), Sewickley (T), Smithton (B), South Greensburg (B), South Huntingdon (T), Southwest Greensburg (B), Sutersville (T), Trafford (B), Unity (T), Upper Burrell (T), Vandergrift (B), Washington (T), West Leechburg (B), West Newton (B), Youngstown (B),Youngwood (B)	Regulate development to reduce flood losses in vulnerable fluvial areas.
Action Number:	
WestmorelandC-28	

Location (address, lat/long)	N/A
Mitigation Technique Category	Local Plans and Regulations (LPR)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Medium
Estimated Cost	Low
Potential Funding Streams	Operating Budget
Timeline	Short
Lead Agency/Department	Planning
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Adamsburg (B), Allegheny (T), Arnold (C), Arona (B), Avonmore (B), Bell (T), Bolivar (B), Cook (T), Delmont (B), Derry (B), Derry (T), Donegal (B), Donegal (T), East Huntingdon (T), East Vandergrift (B), Export (B), Fairfield (T), Greensburg (C), Hempfield (T), Hunker (B), Hyde Park (B), Irwin (B), Jeannette (C), Latrobe (C), Ligonier (B), Ligonier (T), Lower Burrell (C), Loyalhanna (T), Madison (B), Manor (B), Monessen (C), Mount Pleasant (B), Mount Pleasant (T), Murrysville (B),New Alexandria (B), New Florence (B), New Kensington (C), New Stanton (B), North Belle Vernon (B), North Huntingdon (T), North Irwin (B), Oklahoma (B), Penn (B), Penn (T), Rostraver (T), Saint Clair (T), Salem (T), Scottdale (B), Seward (B), Sewickley (T), Smithton (B), South Greensburg (B), South Huntingdon (T), Southwest Greensburg (B), Sutersville (T), Trafford (B), Unity (T), Upper Burrell (T), Vandergrift (B), Washington (T), West Leechburg (B), West Newton (B), Youngstown (B),Youngwood (B)	Retrofit structures located in hazard-prone areas to protect structures from future damage, with repetitive loss and severe repetitive loss properties as priority.
Action Number:	
WestmorelandC-29	

Location (address, lat/long)	County and all municipalities
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	All hazards
Priority (High, Medium, Low)	High
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM; RACP
Timeline	Long
Lead Agency/Department	Municipal CEO
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Adamsburg (B), Allegheny (T), Arnold (C), Arona (B), Avonmore (B), Bell (T), Bolivar (B), Cook (T), Delmont (B), Derry (B), Derry (T), Donegal (B), Donegal (T), East Huntingdon (T), East Vandergrift (B), Export (B), Fairfield (T), Greensburg (C), Hempfield (T), Hunker (B), Hyde Park (B), Irwin (B), Jeannette (C), Latrobe (C), Ligonier (B), Ligonier (T), Lower Burrell (C), Loyalhanna (T), Madison (B), Manor (B), Monessen (C), Mount Pleasant (B), Mount Pleasant (T), Murrysville (B),New Alexandria (B), New Florence (B), New Kensington (C), New Stanton (B), North Belle Vernon (B), North Huntingdon (T), North Irwin (B), Oklahoma (B), Penn (B), Penn (T), Rostraver (T), Saint Clair (T), Salem (T), Scottdale (B), Seward (B), Sewickley (T), Smithton (B), South Greensburg (B), South Huntingdon (T), Southwest Greensburg (B), Sutersville (T), Trafford (B), Unity (T), Upper Burrell (T), Vandergrift (B), Washington (T), West Leechburg (B), West Newton (B), Youngstown (B),Youngwood (B)	Support and utilize an advanced warning system that provides emergency text and email alerts to the public.
Action Number:	
WestmorelandC-30	

Location (address, lat/long)	County and all municipalities
Mitigation Technique Category	Local Plans and Regulations (LPR)
Hazard(s) Addressed	All hazards
Priority (High, Medium, Low)	Medium
Estimated Cost	Low
Potential Funding Streams	Region 13 Funding
Timeline	Short
Lead Agency/Department	DPS
Support Agency(ies)/ Department(s)	Municipal EMCs
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Adamsburg (B), Allegheny (T), Arnold (C), Arona (B), Avonmore (B), Bell (T), Bolivar (B), Cook (T), Delmont (B), Derry (B), Derry (T), Donegal (B), Donegal (T), East Huntingdon (T), East Vandergrift (B), Export (B), Fairfield (T), Greensburg (C), Hempfield (T), Hunker (B), Hyde Park (B), Irwin (B), Jeannette (C), Latrobe (C), Ligonier (B), Ligonier (T), Lower Burrell (C), Loyalhanna (T), Madison (B), Manor (B), Monessen (C), Mount Pleasant (B), Mount Pleasant (T), Murrysville (B),New Alexandria (B), New Florence (B), New Kensington (C), New Stanton (B), North Belle Vernon (B), North Huntingdon (T), North Irwin (B), Oklahoma (B), Penn (B), Penn (T), Rostraver (T), Saint Clair (T), Salem (T), Scottdale (B), Seward (B), Sewickley (T), Smithton (B), South Greensburg (B), South Huntingdon (T), Southwest Greensburg (B), Sutersville (T), Trafford (B), Unity (T), Upper Burrell (T), Vandergrift (B), Washington (T), West Leechburg (B), West Newton (B), Youngstown (B),Youngwood (B)	Work with regional agencies to develop damage assessment capabilities at the local level through training programs and certification of qualified individuals.
Action Number:	
WestmorelandC-31	

Location (address, lat/long)	County and all municipalities
Mitigation Technique Category	Local Plans and Regulations (LPR)
Hazard(s) Addressed	All hazards
Priority (High, Medium, Low)	Medium
Estimated Cost	Low
Potential Funding Streams	Operating Budget
Timeline	Short
Lead Agency/Department	DPS
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Salem Township, Hempfield, and Unity	Identify mitigation or structural projects to reduce vulnerability to stormwater flooding incidents from Crabtree Creek dividing Hempfield, Unity, and Salem Townships.
Action Number:	
WestmorelandC-32	
Location (address, lat/long)	Village of Crabtree
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Medium
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM
Timeline	Long
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	Municipal DPWs
Project Point of Contact	
Name	Fred Cecchini
Title	
Agency/Department	
Phone	
E-mail	cecchini34@gmail.com

Mitigation Action Worksheet

Municipality(ies):	**Action**
Westmoreland County; Allegheny (T), Derry (B), Donegal (T), Hempfield (T), Mount Pleasant (T), North Huntingdon (T), Penn (T), St. Clair (T)	Work with dam operators to protect C-1 and C-2 dams to the 0.2% annual chance flood level.
Action Number:	
WestmorelandC-33	
Location (address, lat/long)	Westmoreland County (multiple locations)
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Medium
Estimated Cost	High
Potential Funding Streams	Operating Budget
Timeline	Long
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	Dam Operators
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Westmoreland County; Allegheny (T), Arnold (C), Avonmore (B), Bell (T), Delmont (B), Derry (B), Greensburg (C), Hempfield (T), Hyde Park (B), Irwin (B), Jeannette (C), Latrobe (B), Ligonier (B), Lower Burrell (C), Manor (B), Monessen (C), Mount Pleasant (B), Murrysville (B), New Florence (B), New Kensington (C), New Stanton (B), North Belle Vernon (B), North Huntingdon (T), Penn (B), Penn (T), Rostraver (T), Scottdale (B), Seward (B), Smithton (B), South Greensburg (B), St. Clair (T), Trafford (B), Upper Burrell (T), Vandergrift (B), Washington (T), West Leechburg (B), West Newton (B)	Educate Mariner East Pipeline well operators, compressor station operators, truck drivers and residents of hazardous materials, spills, well blowouts, exposure, etc.
Action Number:	
WestmorelandC-34	

Location (address, lat/long)	Westmoreland County (multiple locations)
Mitigation Technique Category	Education and Awareness Programs (EAP)
Hazard(s) Addressed	Environmental Hazards; Transportation Accidents
Priority (High, Medium, Low)	Medium
Estimated Cost	Low
Potential Funding Streams	Operating Budget
Timeline	Short
Lead Agency/Department	LEPC
Support Agency(ies)/ Department(s)	DPS
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Westmoreland County; Allegheny (T), Arnold (C), Avonmore (B), Bell (T), Delmont (B), Derry (B), Greensburg (C), Hempfield (T), Hyde Park (B), Irwin (B), Jeannette (C), Latrobe (B), Ligonier (B), Lower Burrell (C), Manor (B), Monessen (C), Mount Pleasant (B), Murrysville (B), New Florence (B), New Kensington (C), New Stanton (B), North Belle Vernon (B), North Huntingdon (T), Penn (B), Penn (T), Rostraver (T), Scottdale (B), Seward (B), Smithton (B), South Greensburg (B), St. Clair (T), Trafford (B), Upper Burrell (T), Vandergrift (B), Washington (T), West Leechburg (B), West Newton (B)	Encourage homeowners to install appropriate devices to alleviate radon concentrations within homes.
Action Number:	
WestmorelandC-35	

Location (address, lat/long)	Westmoreland County (multiple locations)
Mitigation Technique Category	Education and Awareness Programs (EAP)
Hazard(s) Addressed	Radon Exposure
Priority (High, Medium, Low)	Low
Estimated Cost	Low
Potential Funding Streams	Operating Budget
Timeline	Short
Lead Agency/Department	DPS
Support Agency(ies)/ Department(s)	Municipal CEOs, EMCs
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Westmoreland County	Work with PennDOT to improve drainage on Route 993 between Trafford and Irwin to prevent flooding.
Action Number:	
WestmorelandC-36	
Location (address, lat/long)	Route 993
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Operating Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	Trafford Borough and Irwin Borough DPWs
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Westmoreland County	Conduct analysis of the high-hazard potential dams in Westmoreland County to meet the requirements of FEMA's HHPD Grant Program.
Action Number:	
WestmorelandC-37	
Location (address, lat/long)	N/A
Mitigation Technique Category	Local Plans and Regulations (LPR)
Hazard(s) Addressed	Dam Failure
Priority (High, Medium, Low)	Medium
Estimated Cost	Low
Potential Funding Streams	Operating Budget
Timeline	Short
Lead Agency/Department	DPS
Support Agency(ies)/ Department(s)	DPW
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Aliquippa City	Identify mitigation or structural projects to reduce vulnerability to stormwater flooding incidents in Aliquippa.
Action Number:	
AliquippaC-1	
Location (address, lat/long)	Aliquippa, PA
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Medium
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM; Operating Budget
Timeline	Long
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Allegheny Township	Assess and determine best action to prevent further erosion along Pine Run.
Action Number:	
AlleghenyT-1	
Location (address, lat/long)	Pine Run
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Allegheny Township	Improve drainage along Lower Tunnel Hill.
Action Number:	
AlleghenyT-2	
Location (address, lat/long)	Lower Allen Hill
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Allegheny Township	Improve drainage in Brookview residential area.
Action Number:	
AlleghenyT-3	
Location (address, lat/long)	Brookview
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Allegheny Township	Improve stormwater runoff and sewage at High Meadows Mobile Home Park.
Action Number:	
AlleghenyT-4	
Location (address, lat/long)	Garvers Ferry Rd
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	High
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP, Sewer Grant; Sewer Fees
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	FPA, Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Allegheny Township	Protect AMD and Pine Run from pollution.
Action Number:	
AlleghenyT-5	
Location (address, lat/long)	AMD and Pine Run
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Allegheny Township	Remove stone from washout on Alter Road.
Action Number:	
AlleghenyT-6	
Location (address, lat/long)	Alter Road
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Medium
Estimated Cost	Low
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Allegheny Township	Replace and enhance stormwater runoff pipes in Moreland Manor.
Action Number:	
AlleghenyT-7	
Location (address, lat/long)	Moreland Manor
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Medium
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Allegheny Township	Work with Kiski Valley Water Pollution Control Authority to protect its facility to the 0.2% annual chance flood level.
Action Number:	
AlleghenyT-8	
Location (address, lat/long)	40.61083, -79.58583, 1361 School Rd
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	High
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Sewer Fees
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	FPA, Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Arnold City	Improve infrastructure along Thomas Blvd, Woodmont Ave, Ivy-Pine-Cherry Alleys, and Norne Boulevard
Action Number:	
ArnoldC-1	
Location (address, lat/long)	Thomas Blvd, Woodmont Ave, Ivy-Pine-Cherry Alleys, and Norne Blvd
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Arona Borough	Protect the post office to the 0.2% annual chance flood level.
Action Number:	
AronaB-1	
Location (address, lat/long)	
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	High
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM; Operating Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	USPS; Municipal FPA
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Arona Borough	Protect the structures in Arona Park to the 0.2% annual chance flood level.
Action Number:	
AronaB-2	
Location (address, lat/long)	
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Medium
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM; Operating Budget
Timeline	Short
Lead Agency/Department	Parks and Recreation
Support Agency(ies)/ Department(s)	DPW, Municipal EMC, PEMA
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Avonmore Borough	Assess and determine best action to prevent erosion at Indiana Avenue Extension.
Action Number:	
AvonmoreB-1	
Location (address, lat/long)	Indiana Avenue
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Avonmore Borough	Assess and determine best action to prevent further erosion at Westmoreland Avenue.
Action Number:	
AvonmoreB-2	
Location (address, lat/long)	Westmoreland Avenue
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Avonmore Borough	Protect Avonmore Borough STP to the 0.2% annual chance flood level.
Action Number:	
AvonmoreB-3	
Location (address, lat/long)	40.529299, -79.474242
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	High
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP, Sewer Grant; Sewer Fees
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	FPA, Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Avonmore Borough	Work with Avonmore Borough hazmat facility owner to protect it to the 0.2% chance flood level.
Action Number:	
AvonmoreB-4	
Location (address, lat/long)	40.529157, -79.474097, First Street Extension
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	High
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Sewer Fees
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	FPA, Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Bell Township	Assess and determine best action to prevent further erosion in Salina.
Action Number:	
BellT-1	
Location (address, lat/long)	Salina
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Bell Township	Protect AMD near Wolford Run from pollution.
Action Number:	
BellT-2	
Location (address, lat/long)	Wolford Run
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Bolivar Borough	Improve drainage infrastructure in Bolivar Borough.
Action Number:	
BolivarB-1	
Location (address, lat/long)	Bolivar Borough
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Cook Township	Assess and determine the best action to prevent further erosion on Weaver Mill Road.
Action Number:	
CookT-1	
Location (address, lat/long)	Weaver Mill Road
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Cook Township	Work with General Carbide Corp/Plant 1 facility owner to protect it to the 0.2% annual chance flood level.
Action Number:	
CookT-2	
Location (address, lat/long)	40.200000, -73.330000, 1172 Garden St
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	High
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Sewer Fees
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	FPA, Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Cook Township	Work with General Carbide Corp/Plant 3 facility owner to protect it to the 0.2% chance flood level.
Action Number:	
CookT-3	
Location (address, lat/long)	40.2000000, -79.330000, 1151 Garden St
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	High
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Sewer Fees
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	FPA, Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Delmont Borough	Assess and determine best action to prevent erosion on Christie Road.
Action Number:	
DelmontB-1	
Location (address, lat/long)	Christie Road
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Delmont Borough	Improve drainage at Rose Court.
Action Number:	
DelmontB-2	
Location (address, lat/long)	Rose Court
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Delmont Borough	Improve drainage infrastructure on Pittsburgh Street.
Action Number:	
DelmontB-3	
Location (address, lat/long)	Pittsburgh Street
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Derry Borough	Improve drainage on 2nd Avenue
Action Number:	
DerryB-1	
Location (address, lat/long)	2nd Ave
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Derry Borough	Improve infrastructure on Shade Street
Action Number:	
DerryB-2	
Location (address, lat/long)	Shade St
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Derry Borough	Protect McGee Run from habitat loss and prevent further erosion.
Action Number:	
DerryB-3	
Location (address, lat/long)	McGee Run
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Derry Borough	Protect Police Station 420 Derry Borough to the 0.2% annual chance flood level.
Action Number:	
DerryB-4	
Location (address, lat/long)	40.333027, -79.29862, 114 2nd Ave
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Medium
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP, Sewer Grant; Sewer Fees
Timeline	Short
Lead Agency/Department	Derry Borough PD
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Derry Borough	Work with Verizon Derry Co facility owner to protect it to the 0.2% annual chance flood level.
Action Number:	
DerryB-5	
Location (address, lat/long)	40.334400, -79.301700, 107 W Second St
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	High
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Sewer Fees
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	FPA, Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Derry Township	Protect Fire station 92-1 facility to the 0.2% annual chance flood level.
Action Number:	
DerryT-1	
Location (address, lat/long)	40.356281, -79.277455, 1426 Route 217
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	High
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM; Operating Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	FPA, Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Derry Township	Assess and determine best action to prevent further erosion on Millwood Road.
Action Number:	
DerryT-2	
Location (address, lat/long)	Millwood Road
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Derry Township	Assess and determine the best action to prevent further sedimentation of Conemaugh dam upstream.
Action Number:	
DerryT-3	
Location (address, lat/long)	Conemaugh dam
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Derry Township	Improve drainage infrastructure along Redcut Lodge Road.
Action Number:	
DerryT-4	
Location (address, lat/long)	Redcut Lodge Road
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Derry Township	Improve drainage infrastructure in residential areas.
Action Number:	
DerryT-5	
Location (address, lat/long)	Derry Township
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Derry Township	Improve drainage on Green Thumb Road.
Action Number:	
DerryT-6	
Location (address, lat/long)	Green Thumb Road
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Derry Township	Improve drainage on Saxman Run.
Action Number:	
DerryT-7	
Location (address, lat/long)	Saxman Run
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Derry Township	Improve infrastructure on Brenizer.
Action Number:	
DerryT-8	
Location (address, lat/long)	Brenizer
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Derry Township	Protect Saxman Run and AMD from pollution.
Action Number:	
DerryT-9	
Location (address, lat/long)	Saxman Run and AMD
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Derry Township	Work with Derry Township Hazmat facility owner to protect it to the 0.2% annual chance flood level.
Action Number:	
DerryT-10	
Location (address, lat/long)	113 Pittsburgh Street
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	High
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Sewer Fees
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	FPA, Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Donegal Township	Assess and determine best action to mitigate sedimentation of Donegal Lake.
Action Number:	
DonegalT-1	
Location (address, lat/long)	Donegal Lake
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Donegal Township	Assess and determine best action to prevent further erosion of Rock Canyon Road.
Action Number:	
DonegalT-2	
Location (address, lat/long)	Rock Canyon Road
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Donegal Township	Assess and determine best action to prevent further erosion of Skyview Road.
Action Number:	
DonegalT-3	
Location (address, lat/long)	Skyview Road
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Donegal Township	Improve drainage infrastructure on Route 381.
Action Number:	
DonegalT-4	
Location (address, lat/long)	Route 381
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
East Huntingdon Township	Improve drainage on Central Street
Action Number:	
EastHuntingdonT-1	
Location (address, lat/long)	Central
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
East Huntingdon Township	Improve drainage on Ruffsdale.
Action Number:	
EastHuntingdonT-2	
Location (address, lat/long)	Ruffsdale
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
East Huntingdon Township	Improve drainage; larger piping on Route 119 Smouse Road.
Action Number:	
EastHuntingdonT-3	
Location (address, lat/long)	Route 119 Smouse Rd
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
East Huntingdon Township	Protect Buffalo Run AMD from pollution.
Action Number:	
EastHuntingdonT-4	
Location (address, lat/long)	Buffalo Run
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
East Huntingdon Township	Protect Southmoreland High School from the 0.2% annual chance flood level.
Action Number:	
EastHuntingdonT-5	
Location (address, lat/long)	2351 PA-981
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	High
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM; Operating Budget
Timeline	Long
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	FPA, Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
East Huntingdon Township	Upgrade the culvert along Preacher Street with one with higher capacity.
Action Number:	
EastHuntingdonT-6	
Location (address, lat/long)	Preacher St
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
East Huntingdon Township	Work with Suburban Propane LP facility owner to protect it to the 0.2% annual chance flood level.
Action Number:	
EastHuntingdonT-7	
Location (address, lat/long)	40.125090, -79.557350, 129 Smouse Rd
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	High
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Sewer Fees
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	FPA, Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
East Huntingdon Township	Work with Westmoreland / Fayette Municipal Sewage Authority facility owner to protect it to the 0.2% annual chance flood level.
Action Number:	
EastHuntingdonT-8	
Location (address, lat/long)	40.084754, -79.598556, 172 Mill Lane
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	High
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Sewer Fees
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	FPA, Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Export Borough	Assess and determine best action to prevent further erosion of Italy Road.
Action Number:	
ExportB-1	
Location (address, lat/long)	Italy Road
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Export Borough	Assess and determine best action to prevent further erosion on Puckety Drive.
Action Number:	
ExportB-2	
Location (address, lat/long)	Puckety Drive
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Export Borough	Protect the MDJ facility to the 0.2% annual chance flood level.
Action Number:	
ExportB-3	
Location (address, lat/long)	40.416833, -79.624212
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	High
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM; Operating Budget
Timeline	Long
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	FPA, Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Export Borough	Protect the Municipal Office to the 0.2% chance annual flood level.
Action Number:	
ExportB-4	
Location (address, lat/long)	40.415863, -79.621320
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	High
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP, Sewer Grant; Sewer Fees
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	FPA, Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Export Borough	Protect Turtle Creek/Kennedy Avenue from urban impacts, pollution, habitat loss, and sedimentation.
Action Number:	
ExportB-5	
Location (address, lat/long)	Turtle Creek/Kennedy Ave
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Fairfield Township	Improve drainage along Love Hollow Road and Richmond Farm Lane.
Action Number:	
FairfieldT-1	
Location (address, lat/long)	Love Hollow Road, Richmond Farm Lane
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Fairfield Township	Reconstruction of Patterson Bridge.
Action Number:	
FairfieldT-2	
Location (address, lat/long)	Patterson Bridge
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Operating Budget
Timeline	Long
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Fairfield Township	Assess and determine best action to prevent further erosion of Beaufords Road.
Action Number:	
FairfieldT-3	
Location (address, lat/long)	Beaufords Road
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Fairfield Township	Assess and determine best action to prevent further erosion of Bridges Road.
Action Number:	
FairfieldT-4	
Location (address, lat/long)	Bridges Road
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Fairfield Township	Assess and determine the best action to prevent further erosions for Zufall Road.
Action Number:	
FairfieldT-5	
Location (address, lat/long)	Zufall Road
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Fairfield Township	Develop and implement an action plan to mitigate recurring flooding on Creek Road.
Action Number:	
FairfieldT-6	
Location (address, lat/long)	Creek Road
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Medium
Estimated Cost	Low
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Medium
Lead Agency/Department	Fairfield Township
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Greensburg City	Assess and determine best action to prevent further erosion and pollution of Zellers Run.
Action Number:	
GreensburgC-1	
Location (address, lat/long)	Zellers Run
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Greensburg City	Elevate road or install a culvert along Catherine Street near Spino's Tires.
Action Number:	
GreensburgC-2	
Location (address, lat/long)	Catherine Street
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	High
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Greensburg City	Enforce code ordinances to raise property values and prevent houses from falling into disrepair.
Action Number:	
GreensburgC-3	
Location (address, lat/long)	Greensburg City
Mitigation Technique Category	Local Plans and Regulations (LPR)
Hazard(s) Addressed	All hazards
Priority (High, Medium, Low)	Medium
Estimated Cost	Medium
Potential Funding Streams	Operating Budget
Timeline	Short
Lead Agency/Department	DPS
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Greensburg City	Get a cab company for the city.
Action Number:	
GreensburgC-4	
Location (address, lat/long)	Greensburg City
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Transportation Accident
Priority (High, Medium, Low)	Low
Estimated Cost	Low
Potential Funding Streams	Operating Budget
Timeline	Short
Lead Agency/Department	Transportation
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Greensburg City	Improve drainage on Highland Street; remove leaves from Church.
Action Number:	
GreensburgC-5	
Location (address, lat/long)	Highland Street
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Low
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Greensburg City	Improve drainage in Lynch Field.
Action Number:	
GreensburgC-6	
Location (address, lat/long)	Lynch Field
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Greensburg City	Improve drainage on Dornin Street.
Action Number:	
GreensburgC-7	
Location (address, lat/long)	Dornin Street
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Greensburg City	Improve drainage pipe along Coal Tar Run.
Action Number:	
GreensburgC-8	
Location (address, lat/long)	Coal Tar Run
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Greensburg City	Improve infrastructure at Northmont.
Action Number:	
GreensburgC-9	
Location (address, lat/long)	Northmont
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Greensburg City	Improve stormwater drainage infrastructure in Saybrook Village.
Action Number:	
GreensburgC-10	
Location (address, lat/long)	Saybrook Village
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	High
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP, Sewer Grant; Sewer Fees
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	FPA, Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Greensburg City	Install speed bump on Belmont Street by daycare.
Action Number:	
GreensburgC-11	
Location (address, lat/long)	Belmont Street
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Low
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Greensburg City	Assess and determine the action to fix the stream walls along Jacks Run.
Action Number:	
GreensburgC-12	
Location (address, lat/long)	Jacks Run
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Medium
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Harrison City	Improve drainage on Route 130 between Harrison City and Trafford to prevent flooding.
Action Number:	
HarrisonC-1	
Location (address, lat/long)	Route 130
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Operating Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Harrison City	Install back-up generators at Penn-Trafford High School.
Action Number:	
HarrisonC-2	
Location (address, lat/long)	3381 PA-130
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Utility Interruption
Priority (High, Medium, Low)	Medium
Estimated Cost	Low
Potential Funding Streams	Hazard Mitigation grants
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Harrison City	Install back-up generators at Trafford Elementary School.
Action Number:	
HarrisonC-3	
Location (address, lat/long)	100 E Brinton Ave, Trafford PA
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Utility Interruption
Priority (High, Medium, Low)	Medium
Estimated Cost	Low
Potential Funding Streams	Hazard Mitigation grants
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Harrison City	Install back-up generators at Level Green Elementary School.
Action Number:	
HarrisonC-4	
Location (address, lat/long)	650 Cypress Ct, Trafford, PA
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Utility Interruption
Priority (High, Medium, Low)	Medium
Estimated Cost	Low
Potential Funding Streams	Hazard Mitigation grants
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Harrison City	Install back-up generators at Penn Trafford Middle School.
Action Number:	
HarrisonC-5	
Location (address, lat/long)	100 E . Brinton Ave, Trafford, PA
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Utility Interruption
Priority (High, Medium, Low)	Medium
Estimated Cost	Low
Potential Funding Streams	Hazard Mitigation grants
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Hempfield Township	Work with UPitt Greensburg to ensure they know what hazard areas they arere in, and develop/update emergency plans.
Action Number:	
HempfieldT-1	
Location (address, lat/long)	40.274918 , -79.529347
Mitigation Technique Category	Local Plans and Regulations (LPR)
Hazard(s) Addressed	All hazards
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	Operating Budget
Timeline	Short
Lead Agency/Department	Hempfield T EMC
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Hempfield Township	Assess and determine best action to prevent further erosion along Dunn Road.
Action Number:	
HempfieldT-2	
Location (address, lat/long)	Dunn Road
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Hempfield Township	Assess and determine best action to prevent further erosion at Little Sewickley Creek at Crib Station.
Action Number:	
HempfieldT-3	
Location (address, lat/long)	Little Sewickley Creek
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP, Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Hempfield Township	Assess and determine best action to prevent further erosion in Fort Allen neighborhood.
Action Number:	
HempfieldT-4	
Location (address, lat/long)	Fort Allen
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Hempfield Township	Assess and determine best action to prevent further erosion/habitat loss on Sells Lane.
Action Number:	
HempfieldT-5	
Location (address, lat/long)	Sells Lane
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Hempfield Township	Improve drainage at West Hempfield residential area.
Action Number:	
HempfieldT-6	
Location (address, lat/long)	West Hempfield
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Hempfield Township	Improve drainage infrastructure at Stamford Dr. to Green Valley in West Point.
Action Number:	
HempfieldT-7	
Location (address, lat/long)	Stamford Dr to Green Valley
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Hempfield Township	Improve drainage infrastructure on Holly Drive.
Action Number:	
HempfieldT-8	
Location (address, lat/long)	Holly Dr
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Hempfield Township	Improve drainage on Carbon Road at Red Onion.
Action Number:	
HempfieldT-9	
Location (address, lat/long)	Carbon Rd
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Hempfield Township	Improve drainage on Hillis Street and Jacks Run.
Action Number:	
HempfieldT-10	
Location (address, lat/long)	Hillis Rd and Jacks Run
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Hempfield Township	Improve drainage on Oakford Park route 130.
Action Number:	
HempfieldT-11	
Location (address, lat/long)	Oakford Park Route 130
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Hempfield Township	Improve drainage within the 119 commercial area.
Action Number:	
HempfieldT-12	
Location (address, lat/long)	119 commercial area
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Hempfield Township	Improve infrastructure on Brookside Dr.
Action Number:	
HempfieldT-13	
Location (address, lat/long)	Brookside Dr
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Hempfield Township	Protect Fire station 75 and USPS Hannastown 15635 facility to the 0.2% annual chance flood level.
Action Number:	
HempfieldT-14	
Location (address, lat/long)	40.352815, -79.497351, 189 Front St
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	High
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM; Operating Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	FPA, Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Hempfield Township	Protect New Stanton STP to the 0.2% annual chance flood level.
Action Number:	
HempfieldT-15	
Location (address, lat/long)	40.20292, -79.627495
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	High
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP, Sewer Grant; Sewer Fees
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	FPA, Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Hempfield Township	Replace the bridge over Slate Creek with a larger opening.
Action Number:	
HempfieldT-16	
Location (address, lat/long)	Slate Creek
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Operating Budget
Timeline	Long
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Hempfield Township	Work with First Student, Inc #25067 facility owner to protect it to the 0.2% annual chance flood level.
Action Number:	
HempfieldT-17	
Location (address, lat/long)	40.330391, -79.656120, 138 Penn Manor Rd
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	High
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Sewer Fees
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	FPA, Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Hempfield Township	Work with Seton Hill to ensure they know what hazard areas they are in, and develop/update emergency plans.
Action Number:	
HempfieldT-18	
Location (address, lat/long)	40.317617, -79.558525
Mitigation Technique Category	Local Plans and Regulations (LPR)
Hazard(s) Addressed	All hazards
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	Operating Budget
Timeline	Short
Lead Agency/Department	County DPS
Support Agency(ies)/ Department(s)	Greensburg C and Hempfield T EMCs
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Hempfield Township	Work with Westmoreland Community College to ensure they know what hazard areas they are in, and develop/update emergency plans.
Action Number:	
HempfieldT-19	
Location (address, lat/long)	40.235197, -79.565256
Mitigation Technique Category	Local Plans and Regulations (LPR)
Hazard(s) Addressed	All hazards
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	Operating Budget
Timeline	Short
Lead Agency/Department	County DPS
Support Agency(ies)/ Department(s)	Hempfield T and Penn T EMCs
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Hunker Borough	Conduct demolition of abandoned home.
Action Number:	
HunkerB-1	
Location (address, lat/long)	Hunker Borough
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Environmental Hazards; Transportation Accidents
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	PEMA, FEMA
Timeline	Long
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Hunker Borough	Implement the redirection of the stormwater catch basin at the intersection of Walnut and Bridge Street.
Action Number:	
HunkerB-2	
Location (address, lat/long)	Walnut and Bridge Street intersection
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Hunker Borough	Improve infrastructure on Alexander Avenue.
Action Number:	
HunkerB-3	
Location (address, lat/long)	Alexander Borough
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Hunker Borough	Install sub-flooring to prevent roadway along Locust Street from sinking.
Action Number:	
HunkerB-4	
Location (address, lat/long)	Locust Street
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Subsidence/sinkholes
Priority (High, Medium, Low)	Medium
Estimated Cost	High
Potential Funding Streams	Operating Budget
Timeline	Long
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Hunker Borough	Pave Bellson Street and install proper drainage to prevent flooding.
Action Number:	
HunkerB-5	
Location (address, lat/long)	Bellson Street
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Hunker Borough	Procure and install a back-up generator into Hunker Borough EOC.
Action Number:	
HunkerB-6	
Location (address, lat/long)	Hunker Borough EOC
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Utility Interruption
Priority (High, Medium, Low)	Medium
Estimated Cost	Low
Potential Funding Streams	Hazard Mitigation grants
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Hunker Borough	Procure and install air conditioning units into community building/community shelter.
Action Number:	
HunkerB-7	
Location (address, lat/long)	Hunker Borough community shelter
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Utility Interruption
Priority (High, Medium, Low)	Low
Estimated Cost	Low
Potential Funding Streams	PEMA, FEMA
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Hunker Borough	Repair small sinkhole in front of fire department.
Action Number:	
HunkerB-8	
Location (address, lat/long)	461 Walnut St, Hunker, PA
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Subsidence/sinkholes
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM; Operating Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	Daniel McKay
Title	
Agency/Department	
Phone	
E-mail	Paintdan85@hotmail.com

Mitigation Action Worksheet

Municipality(ies):	**Action**
Hunker Borough	Retrofit community building to prevent flooding in basement.
Action Number:	
HunkerB-9	
Location (address, lat/long)	Hunker Borough community building
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	PA CDBG, PEMA, FEMA
Timeline	Medium
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Hunker Borough	Retrofit Walnut Street Bridge to prevent erosion.
Action Number:	
HunkerB-10	
Location (address, lat/long)	Walnut St Bridge
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Medium
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Irwin Borough	Improve drainage between Ash and Poplar Streets.
Action Number:	
IrwinB-1	
Location (address, lat/long)	Ash and Poplar Streets
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Irwin Borough	Improve drainage between Cypress and Elm Streets.
Action Number:	
IrwinB-2	
Location (address, lat/long)	Cypress and Elm Streets
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Irwin Borough	Improve drainage infrastructure along Conley Drive.
Action Number:	
IrwinB-3	
Location (address, lat/long)	Conley Dr
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Irwin Borough	Prevent further habitat loss along Route 30 from commercial development.
Action Number:	
IrwinB-4	
Location (address, lat/long)	Route 30
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Irwin Borough	Protect AMD and Tinkers Run from pollution from Rt 30.
Action Number:	
IrwinB-5	
Location (address, lat/long)	Tinkers Run
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Irwin Borough	Protect Norwin Public Library to the 0.2% annual chance flood level.
Action Number:	
IrwinB-6	
Location (address, lat/long)	40.322189, -79.698819, 100 Caruthers Lane
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Medium
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP, Sewer Grant; Sewer Fees
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	FPA, Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Jeannette, City of	Assess and determine the best action to further prevent erosion on Bull Run.
Action Number:	
JeannetteC-1	
Location (address, lat/long)	Bull Run
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Jeannette, City of	Assess and determine the best action to prevent further erosion of 12th Street.
Action Number:	
JeannetteC-2	
Location (address, lat/long)	12th Street
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Jeannette, City of	Improve drainage on 4th Street.
Action Number:	
JeannetteC-3	
Location (address, lat/long)	4th Street
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Jeannette, City of	Improve drainage on Locust Street.
Action Number:	
JeannetteC-4	
Location (address, lat/long)	Locust Street
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Jeannette, City of	Improve stormwater drainage at Agnew Road at bottom of hill.
Action Number:	
JeannetteC-5	
Location (address, lat/long)	Agnew Rd curve bottom of hill
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Jeannette, City of	Improve the design of intersection on Route 130.
Action Number:	
JeannetteC-6	
Location (address, lat/long)	Route 130
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Transportation Accident
Priority (High, Medium, Low)	Medium
Estimated Cost	High
Potential Funding Streams	TIP; PENNDOT
Timeline	Long
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	PENNDOT
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Jeannette, City of	Improve the design of merging lanes on Route 130 before Jeannette.
Action Number:	
JeannetteC-7	
Location (address, lat/long)	Before City of Jeannette, Route 130 merging lanes
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Transportation Accident
Priority (High, Medium, Low)	Medium
Estimated Cost	High
Potential Funding Streams	TIP; PENNDOT
Timeline	Long
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	PENNDOT
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Jeannette, City of	Improve the design of Western Ave by adding guardrails along the creek.
Action Number:	
JeannetteC-8	
Location (address, lat/long)	Route 130
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Transportation Accident
Priority (High, Medium, Low)	Medium
Estimated Cost	High
Potential Funding Streams	TIP; PENNDOT
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	PENNDOT
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Jeannette, City of	Prevent habitat loss along Brush Creek and Down Run.
Action Number:	
JeannetteC-9	
Location (address, lat/long)	Brush Creek and Down Run
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP, DEP
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Jeannette, City of	Protect Jeannette WPCP to the 0.2% annual chance flood level.
Action Number:	
JeannetteC-10	
Location (address, lat/long)	40.32785, -79.648015
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	High
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP, Sewer Grant; Sewer Fees
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	FPA, Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Jeannette, City of	Remove high risk/deficient structurally unsound dam that pose a flooding threat to the community.
Action Number:	
JeannetteC-11	
Location (address, lat/long)	City of Jeannette
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Dam Failure
Priority (High, Medium, Low)	Low
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Operating Budget
Timeline	Short
Lead Agency/Department	PEMA
Support Agency(ies)/ Department(s)	DPW, Municipal EMCs, PA DEP Dam Safety
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Latrobe Borough	Assess and determine best action to prevent further habitat loss/pollution of the Loyalhanna channel.
Action Number:	
LatrobeB-1	
Location (address, lat/long)	Loyalhanna channel
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Latrobe Borough	Improve drainage at Sulfur Run and Raymond Avenue.
Action Number:	
LatrobeB-2	
Location (address, lat/long)	Sulfur Run and Raymond Ave
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Laurel Mountain Borough	Replace bridge over Nature Run Road with a larger opening.
Action Number:	
LaurelMountainB-1	
Location (address, lat/long)	Nature Run Road
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Operating Budget
Timeline	Long
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Ligonier Borough	Improve drainage on Loyalhanna Street
Action Number:	
LigonierB-1	
Location (address, lat/long)	Loyalhanna St
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Ligonier Borough	Protect Ligonier Valley School District office to the 0.2% annual chance flood level.
Action Number:	
LigonierB-2	
Location (address, lat/long)	40.245898, -79.242525, 339 w Main St
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	High
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM; Operating Budget
Timeline	Long
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	FPA, Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Ligonier Borough	Remove debris from Loyalhanna Creek and Mill Creek to improve drainage.
Action Number:	
LigonierB-3	
Location (address, lat/long)	
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Ligonier Township	Assess and determine best action to prevent further erosion of Betz Road.
Action Number:	
LigonierT-1	
Location (address, lat/long)	Betz Road
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Ligonier Township	Assess and determine best action to prevent further erosion of Peoples Road.
Action Number:	
LigonierT-2	
Location (address, lat/long)	Peoples Road
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Operating Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Ligonier Township	Assess and determine best action to prevent further erosion of Tunnelton Road.
Action Number:	
LigonierT-3	
Location (address, lat/long)	Tunnelton Road
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Ligonier Township	Assess and determine best action to prevent further erosion of unnamed trib to Hannas Run.
Action Number:	
LigonierT-4	
Location (address, lat/long)	Hannas Run
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Ligonier Township	Conduct a detailed flood study of Loyalhanna Creek.
Action Number:	
LigonierT-5	
Location (address, lat/long)	Loyalhanna Creek
Mitigation Technique Category	Local Plans and Regulations (LPR)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Medium
Estimated Cost	Medium
Potential Funding Streams	FEMA RiskMap; Private Developers
Timeline	Short
Lead Agency/Department	Municipal FPA
Support Agency(ies)/ Department(s)	Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Ligonier Township	Improve drainage in Red Rock residential neighborhood.
Action Number:	
LigonierT-6	
Location (address, lat/long)	Red Rock
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Operating Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Ligonier Township	Improve drainage infrastructure on Rector Road.
Action Number:	
LigonierT-7	
Location (address, lat/long)	Rector Road
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Operating Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Ligonier Township	Improve drainage on Baltic Road.
Action Number:	
LigonierT-8	
Location (address, lat/long)	Baltic Road
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Operating Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Ligonier Township	Improve infrastructure on Hidden Valley Road.
Action Number:	
LigonierT-9	
Location (address, lat/long)	Hidden Valley Road
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Operating Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Ligonier Township	Protect Ligonier WPCP to the 0.2% annual chance flood level.
Action Number:	
LigonierT-10	
Location (address, lat/long)	40.2477844, -79.248607
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	High
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP, Sewer Grant; Sewer Fees
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	FPA, Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Ligonier Township	Retrofit road across the street from 162 Nature Run, Laughlintown to prevent future erosion.
Action Number:	
LigonierT-11	
Location (address, lat/long)	Ligonier Township
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Medium
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Ligonier Township	Work with Ligonier Construction Company facility owner to protect it to the 0.2% annual chance flood level.
Action Number:	
LigonierT-12	
Location (address, lat/long)	40.210588, -79.197321, 1350 Route 30E
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	High
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Sewer Fees
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	FPA, Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Lower Burrell City	Work with Braeburn Alloy Steel facility owner to protect it to the 0.2% annual chance flood level.
Action Number:	
LowerBurrellC-1	
Location (address, lat/long)	40.613174, -79.715231, 101 Braeburn Rd
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	High
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Sewer Fees
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	FPA, Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Lower Burrell City	Work with Hazmat facility owner to protect it to the 0.2% annual chance flood level.
Action Number:	
LowerBurrellC-2	
Location (address, lat/long)	40.551898, -79.759566, intersection of Route 909 and Industrial Blvd
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	High
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Sewer Fees
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	FPA, Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Lower Burrell City	Assess and determine best action to prevent further erosion on Edge Cliff Road.
Action Number:	
LowerBurrellC-3	
Location (address, lat/long)	Edge Cliff Road
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Lower Burrell City	Assess and determine best action to prevent further erosion on Route 56, Little Pucketa Creek.
Action Number:	
LowerBurrellC-4	
Location (address, lat/long)	Route 56, Little Pucketa Creek
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Lower Burrell City	Assess and determine the best action to prevent further erosion of Pucketa Creek, Wildlife Lodge Road.
Action Number:	
LowerBurrellC-5	
Location (address, lat/long)	Pucketa Creek, Wildlife Lodge Road
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Lower Burrell City	Assess and determine the best action to prevent sedimentation on Watters Road/Burrell Lake Park Entrance.
Action Number:	
LowerBurrellC-6	
Location (address, lat/long)	Watters Road
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Lower Burrell City	Improve drainage in Kinlock.
Action Number:	
LowerBurrellC-7	
Location (address, lat/long)	Kinlock
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Loyalhanna Township	Assess and determine best action to mitigate further pollution on Getty Run.
Action Number:	
LoyalhannaT-1	
Location (address, lat/long)	Getty Run
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Loyalhanna Township	Assess and determine best solution to prevent further erosion on Route 981 Loyalhanna Tributary.
Action Number:	
LoyalhannaT-2	
Location (address, lat/long)	Route 981 Loyalhanna Tributary
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Manor Borough	Assess and determine best action for Rowe Road to prevent further erosion.
Action Number:	
ManorB-1	
Location (address, lat/long)	Rowe Road
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Medium
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Long
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Manor Borough	Assess and determine the best action to prevent further erosion from urban impacts along Bushy Run.
Action Number:	
ManorB-2	
Location (address, lat/long)	Bushy Run
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Manor Borough	Improve drainage infrastructure to prevent flooding at Ranbar Electrical and Materials.
Action Number:	
ManorB-3	
Location (address, lat/long)	Off of Manor Harrison City Rd
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Manor Borough	Protect Cameron Drive and Brandywine Residential area to the 0.2% annual chance flood level.
Action Number:	
ManorB-4	
Location (address, lat/long)	Cameron Drive
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Medium
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP, Sewer Grant; Sewer Fees
Timeline	Short
Lead Agency/Department	Municipal FPA
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Manor Borough	Protect Police Station 121 Manor to the 0.2% annual chance flood level.
Action Number:	
ManorB-5	
Location (address, lat/long)	40.331392, -79.666512, 511 Brust Creek Rd
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice JamsS96H95:V95H95:Z95B219H95:R96H95:AB95H95:AE95B219HH95:X96
Priority (High, Medium, Low)	Medium
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP, Sewer Grant; Sewer Fees
Timeline	Short
Lead Agency/Department	Manor Borough PD
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Manor Borough	Protect the Municipal Office to the 0.2% chance annual flood level.
Action Number:	
ManorB-6	
Location (address, lat/long)	40.332943, -79.670781
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	High
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP, Sewer Grant; Sewer Fees
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	FPA, Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Monessen City	Add storm drainage facilities to resolve flooding near the intersection of Grand Boulevard and State Road.
Action Number:	
MonessenC-1	
Location (address, lat/long)	Intersection of Grand Boulevard and State Rd
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Monessen City	Add storm drainage facilities to resolve flooding on Cemetery Street.
Action Number:	
MonessenC-2	
Location (address, lat/long)	Cemetery Street
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Monessen City	Add storm drainage facilities to resolve flooding on Spring Drive.
Action Number:	
MonessenC-3	
Location (address, lat/long)	Spring Drive
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Monessen City	Add storm drainage facilities to resolve the icing condition on State Road near the pump station.
Action Number:	
MonessenC-4	
Location (address, lat/long)	State Road near pump station
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Monessen City	Assess and determine best action for Parente Boulevard to prevent future erosion.
Action Number:	
MonessenC-5	
Location (address, lat/long)	Parente Blvd
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Medium
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Long
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Monessen City	Assess and determine the best action for Tyrol Boulevard to prevent further erosion.
Action Number:	
MonessenC-6	
Location (address, lat/long)	Tyrol Blvd
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Medium
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Long
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Monessen City	Improve storm drainage facilities to resolve icing condition on Grand Boulevard at Pleasant Drive.
Action Number:	
MonessenC-7	
Location (address, lat/long)	Grand Boulevard at Pleasant Drive
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Monessen City	Mine subsidence on Coolidge Avenue
Action Number:	
MonessenC-8	
Location (address, lat/long)	Coolidge Ave
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Environmental Hazards; Transportation Accidents
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP
Timeline	Medium
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Monessen City	Open mine vents.
Action Number:	
MonessenC-9	
Location (address, lat/long)	Monessen City
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Environmental Hazards; Transportation Accidents
Priority (High, Medium, Low)	Low
Estimated Cost	Low
Potential Funding Streams	FEMA HMGP
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Monessen City	Protect city from future landslides.
Action Number:	
MonessenC-10	
Location (address, lat/long)	Monessen City
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Environmental Hazards; Transportation Accidents
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	PA CDBG, PA DEP, PEMA
Timeline	Medium
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Monessen City	Protect Monessen City Park, stream bank from future erosion and habitat loss.
Action Number:	
MonessenC-11	
Location (address, lat/long)	Monessen City Park, Grand Blvd
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Medium
Estimated Cost	Low
Potential Funding Streams	FEMA PA DEP
Timeline	Short
Lead Agency/Department	DEP
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Monessen City	Protect Monessen Public Library to the 0.2% annual chance flood level.
Action Number:	
MonessenC-12	
Location (address, lat/long)	40.161211, -79.883497, 326 Donner Ave
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Medium
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP, Sewer Grant; Sewer Fees
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	FPA, Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Monessen City	Protect Police Station 071 Monessen to the 0.2% annual chance flood level.
Action Number:	
MonessenC-13	
Location (address, lat/long)	40.161214, -79.881229, 239 Donner Ave
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Medium
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP, Sewer Grant; Sewer Fees
Timeline	Short
Lead Agency/Department	Monessen City PD
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Monessen City	Protect SPHS Child Learning Center Monessen Site to the 0.2% annual chance flood level.
Action Number:	
MonessenC-14	
Location (address, lat/long)	40.161589, -79.88392, 301 Donner Ave
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Medium
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP, Sewer Grant; Sewer Fees
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	FPA, Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Monessen City	Protect the Municipal Office to the 0.2% chance annual flood level.
Action Number:	
MonessenC-15	
Location (address, lat/long)	40.159865, -79.875088
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	High
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP, Sewer Grant; Sewer Fees
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	FPA, Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Monessen City	Rehabilitate 48" brick combination sewer interceptor in 12th Street from Reservoir Avenue to Schoonmaker Avenue
Action Number:	
MonessenC-16	
Location (address, lat/long)	Reservoir Ave to Schoonmaker Ave
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams; Utility Interruption
Priority (High, Medium, Low)	Medium
Estimated Cost	High
Potential Funding Streams	PA CDBG, PA DEP, PEMA
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Monessen City	Rehabilitate 48" brick combination sewer interceptor in 9th Street from Vine Street to Schoonmaker Avenue
Action Number:	
MonessenC-17	
Location (address, lat/long)	9th St from Vine St to Schoonmaker Ave
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams; Utility Interruption
Priority (High, Medium, Low)	Medium
Estimated Cost	High
Potential Funding Streams	PA CDBG, PA DEP, PEMA
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Monessen City	Rehabilitate 7'x5' brick combination sewer interceptor in the alley between Schoonmaker Avenue and Donner Avenue from 8th Street to 12th Street
Action Number:	
MonessenC-18	
Location (address, lat/long)	Alley between Schoonmaker Ave and Donner Ave
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams; Utility Interruption
Priority (High, Medium, Low)	Medium
Estimated Cost	High
Potential Funding Streams	PA CDBG, PA DEP, PEMA
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Monessen City	Rehabilitate 84" tin whistle storm sewer for entire length of Parente Boulevard
Action Number:	
MonessenC-19	
Location (address, lat/long)	Parente Blvd
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams; Utility Interruption
Priority (High, Medium, Low)	Medium
Estimated Cost	High
Potential Funding Streams	PA CDBG, PA DEP, PEMA
Timeline	Medium
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Monessen City	Rehabilitate the 48" brick combination sewer interceptor for the entire length of 3rd Street.
Action Number:	
MonessenC-20	
Location (address, lat/long)	3rd Street
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams; Utility Interruption
Priority (High, Medium, Low)	Medium
Estimated Cost	High
Potential Funding Streams	PA CDBG, PA DEP, PEMA
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Monessen City	Replace 42" brick combination sewer interceptor on hillside from Shawnee Park to Parente Boulevard
Action Number:	
MonessenC-21	
Location (address, lat/long)	Shawnee Park to Parente Blvd
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams; Utility Interruption
Priority (High, Medium, Low)	Medium
Estimated Cost	High
Potential Funding Streams	PA CDBG, PA DEP, PEMA
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Monessen City	Replace undersized culvert on Grand Boulevard to eliminate flooding at the intersection of Parente Boulevard and Grand Boulevard
Action Number:	
MonessenC-22	
Location (address, lat/long)	Grand Blvd
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Operating Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Monessen City	Replace washed out subbase and concrete pavement on 12th Street.
Action Number:	
MonessenC-23	
Location (address, lat/long)	12th Street
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams; Utility Interruption
Priority (High, Medium, Low)	Low
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Operating Budget
Timeline	Long
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Monessen City	Replace washed out subbase and concrete pavement on Herron Street.
Action Number:	
MonessenC-24	
Location (address, lat/long)	Herron Street
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams; Utility Interruption
Priority (High, Medium, Low)	Low
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Operating Budget
Timeline	Long
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Monessen City	Replace washed out subbase and concrete pavement on Nash Avenue.
Action Number:	
MonessenC-25	
Location (address, lat/long)	Nash Avenue
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams; Utility Interruption
Priority (High, Medium, Low)	Low
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Operating Budget
Timeline	Long
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Monessen City	Restore UNT-1 to the Monongahela River and add retention pond on Grand Boulevard between Euclid Drive and the gas stations to eliminate flooding at the intersection of Parente Boulevard and Grand Boulevard
Action Number:	
MonessenC-26	
Location (address, lat/long)	Grand Blvd
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Operating Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Monessen City	Work with ArcelorMittal Monessen Coke Plant facility owner to protect it to the 0.2% annual chance flood level.
Action Number:	
MonessenC-27	
Location (address, lat/long)	40.161340, -79.878200, 345 Donner Ave
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	High
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Sewer Fees
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	FPA, Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Monessen City	Work with Steel Fusion Clinical Toxicology Laboratory facility owner to protect it to the 0.2% annual chance flood level.
Action Number:	
MonessenC-28	
Location (address, lat/long)	40.161900, -79.895500
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	High
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Sewer Fees
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	FPA, Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Mount Pleasant Township	Work with Laurelville Church Center facility owner to protect it to the 0.2% annual chance flood level.
Action Number:	
MountpleasantT-1	
Location (address, lat/long)	40.151060, -79.469140, 941 Laurelville Lane
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	High
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Sewer Fees
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	FPA, Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Mount Pleasant Township	Work with MAX Environmental Technologies, Inc./Yukon facility owner to protect it to the 0.2% annual chance flood level.
Action Number:	
MountpleasantT-2	
Location (address, lat/long)	40.124100, -79.414400, 233 MAX Lane
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	High
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Sewer Fees
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	FPA, Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Mount Pleasant Township	Work with Mount Pleasant Township facility owner to protect it to the 0.2% annual chance flood level.
Action Number:	
MountpleasantT-3	
Location (address, lat/long)	40.139436, -79.534168, 360 Clay Ave
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	High
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Sewer Fees
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	FPA, Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Mt. Pleasant Borough	Assess and determine best action to prevent further erosion at Jacobs Creek at Laurelville Mennonite Camp.
Action Number:	
MtPleasantB-1	
Location (address, lat/long)	Jacobs Creek
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Mt. Pleasant Borough	Assess and determine best action to prevent further erosion of Shupe Run.
Action Number:	
MtPleasantB-2	
Location (address, lat/long)	Shupe Run
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Mt. Pleasant Borough	Assess and determine best action to prevent further erosion of Welty Run.
Action Number:	
MtPleasantB-3	
Location (address, lat/long)	Welty Run
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Mt. Pleasant Borough	Assess and determine best action to prevent further sedimentation loss from Brush Run.
Action Number:	
MtPleasantB-4	
Location (address, lat/long)	Brush Run
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Mt. Pleasant Borough	Improve drainage on Eagle Street
Action Number:	
MtPleasantB-5	
Location (address, lat/long)	Eagle St
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Mt. Pleasant Borough	Improve drainage on Warden Street
Action Number:	
MtPleasantB-6	
Location (address, lat/long)	Warden St
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Mt. Pleasant Borough	Improve drainage piping at Ramsey Terrace.
Action Number:	
MtPleasantB-7	
Location (address, lat/long)	Ramsey Terrace
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Mt. Pleasant Borough	Install additional stormwater runoff pipes and upgrade/replace existing deteriorated pipes.
Action Number:	
MtPleasantB-8	
Location (address, lat/long)	Mt. Pleasant Borough
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Murrysville, Municipality of	Assess and determine best action to prevent erosion of Sardis Road/Haymaker Run.
Action Number:	
MurrysvilleM-1	
Location (address, lat/long)	Sardis Road/Haymaker Run
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Murrysville, Municipality of	Assess and determine best action to prevent further erosion of Kistler Road bank.
Action Number:	
MurrysvilleM-2	
Location (address, lat/long)	Kistler Road
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Murrysville, Municipality of	Assess and determine best action to prevent further erosion on the streambanks along Turtle Creek.
Action Number:	
MurrysvilleM-3	
Location (address, lat/long)	Turtle Creek
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Medium
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP
Timeline	Medium
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Murrysville, Municipality of	Assess and determine solutions to mitigate further pollution of Noca Road AMD and Borland Farm Road-AMD.
Action Number:	
MurrysvilleM-4	
Location (address, lat/long)	Noca Road, Borland Farm Road
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Medium
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP
Timeline	Medium
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Murrysville, Municipality of	Assess and determine the best action to prevent further erosion at Bear Hollow Park.
Action Number:	
MurrysvilleM-5	
Location (address, lat/long)	Bear Hollow Park
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Murrysville, Municipality of	Assess and determine the best action to prevent further erosion of Haymaker Run.
Action Number:	
MurrysvilleM-6	
Location (address, lat/long)	Haymaker Run
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Medium
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP
Timeline	Medium
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Murrysville, Municipality of	Assess and determine the best action to prevent further erosion of Trout Haven Drive.
Action Number:	
MurrysvilleM-7	
Location (address, lat/long)	Trout Haven Drive
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Medium
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP
Timeline	Medium
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Murrysville, Municipality of	Conduct a thorough flood study of Turtle Creek.
Action Number:	
MurrysvilleM-8	
Location (address, lat/long)	Turtle Creek
Mitigation Technique Category	Local Plans and Regulations (LPR)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Medium
Estimated Cost	Medium
Potential Funding Streams	FEMA RiskMap; Private Developers
Timeline	Short
Lead Agency/Department	Municipal FPA
Support Agency(ies)/ Department(s)	Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Murrysville, Municipality of	Improve drainage along Forest Ln.
Action Number:	
MurrysvilleM-9	
Location (address, lat/long)	Forest Ln
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Murrysville, Municipality of	Improve drainage on Hill Church Road.
Action Number:	
MurrysvilleM-10	
Location (address, lat/long)	Hill Church Road
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Murrysville, Municipality of	Protect Murrysville Community Library to the 0.2% annual chance flood level.
Action Number:	
MurrysvilleM-11	
Location (address, lat/long)	40.460365, -79.66401, 4130 Sardis Rd
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Medium
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP, Sewer Grant; Sewer Fees
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	FPA, Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
New Florence Borough	Improve drainage infrastructure on Vine, 9th, Chestnut, New Florence Manor, Beech, Penn, 10th Walnut, Cherry Streets.
Action Number:	
NewFlorenceB-1	
Location (address, lat/long)	Vine, 9th, Chestnut, New Florence Manor, Beech, Penn, 10th Walnut, Cherry Streets
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
New Florence Borough	Protect EMS 711 Laurel Valley station to the 0.2% annual chance flood level.
Action Number:	
NewFlorenceB-2	
Location (address, lat/long)	40.378974, -79.0767, 170 13TH ST
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	High
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM; Operating Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	FPA, Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
New Florence Borough	Protect Fire station 46 to the 0.2% annual chance flood level.
Action Number:	
NewFlorenceB-3	
Location (address, lat/long)	40.379396, -79.076134, 177 13th Street
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	High
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM; Operating Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	FPA, Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
New Florence Borough	Protect New Florence Public Library to the 0.2% annual chance flood level.
Action Number:	
NewFlorenceB-4	
Location (address, lat/long)	40.378632, -79.075892, 122 Ligonier St
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Medium
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP, Sewer Grant; Sewer Fees
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	FPA, Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
New Florence Borough	Protect Police Station 048 New Florence to the 0.2% annual chance flood level.
Action Number:	
NewFlorenceB-5	
Location (address, lat/long)	40.382782, -79.075016, 117 Franklin St
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Medium
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP, Sewer Grant; Sewer Fees
Timeline	Short
Lead Agency/Department	New Florence Borough PD
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
New Kensington City	Assess and determine best action to prevent further erosion in Memorial Park.
Action Number:	
NewKensingtonC-1	
Location (address, lat/long)	Memorial Park
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
New Kensington City	Protect New Kensington-Arnold School District office to the 0.2% annual chance flood level.
Action Number:	
NewKensingtonC-2	
Location (address, lat/long)	40.557262, -79.759714, 707 Stevenson Blvd
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	High
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM; Operating Budget
Timeline	Long
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	FPA, Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
New Kensington City	Protect Valley High School to the 0.2% annual chance flood level.
Action Number:	
NewKensingtonC-3	
Location (address, lat/long)	Valley High School
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	High
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM; Operating Budget
Timeline	Long
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	FPA, Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
New Kensington City	Work with Cannon Boiler Works Inc facility owner to protect it to the 0.2% annual chance flood level.
Action Number:	
NewKensingtonC-4	
Location (address, lat/long)	40.560000, -79.760000, 510 Construction Blvd
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	High
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Sewer Fees
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	FPA, Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
New Stanton Borough	Assess and determine best action for New Stanton Park to prevent further erosion.
Action Number:	
NewStantonB-1	
Location (address, lat/long)	New Stanton Park
Mitigation Technique Category	Structure and I+F216:R216nfrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Medium
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Long
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
New Stanton Borough	Assess and determine best action to prevent further erosion from urban impacts along the PA Turnpike.
Action Number:	
NewStantonB-2	
Location (address, lat/long)	PA Turnpike
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Medium
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP
Timeline	Long
Lead Agency/Department	PA Turnpike
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
New Stanton Borough	Protect Center Ave and Chanticleer Residential area to the 0.2% annual chance flood level.
Action Number:	
NewStantonB-3	
Location (address, lat/long)	North Center Ave/Chanticleer Cir
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Medium+S231L23L231:R231
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP, Sewer Grant; Sewer Fees
Timeline	Short
Lead Agency/Department	Municipal FPA
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
North Belle Vernon Borough	Assess and determine best action for PennDOT I-70 to prevent further outfall erosion.
Action Number:	
NorthBelleVernonB-1	
Location (address, lat/long)	I-70
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Medium
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Long
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
North Belle Vernon Borough	Protect the First Baptist Church to the 0.2% annual chance flood level.
Action Number:	
NorthBelleVernonB-2	
Location (address, lat/long)	Short St
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	High
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP, Sewer Grant; Sewer Fees
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	FPA, Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
North Huntingdon Township	Assess and determine best action to prevent further erosion and habitat loss along Adams Dr., Harold Dr., and Roth Dr.
Action Number:	
NorthHuntingdonT-1	
Location (address, lat/long)	Adams Dr, Harold Dr, and Roth Dr
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
North Huntingdon Township	Assess and determine the best action to protect the township from landslides.
Action Number:	
NorthHuntingdonT-2	
Location (address, lat/long)	North Huntingdon Township
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Landslides
Priority (High, Medium, Low)	Low
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Operating Budget
Timeline	Long
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
North Huntingdon Township	Improve drainage along Barnes Lake Road at Clay Pike.
Action Number:	
NorthHuntingdonT-3	
Location (address, lat/long)	Barnes Lake Rd
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
North Huntingdon Township	Improve drainage along McKee Road
Action Number:	
NorthHuntingdonT-4	
Location (address, lat/long)	McKee Rd
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
North Huntingdon Township	Improve drainage infrastructure along Colt Dr. culvert.
Action Number:	
NorthHuntingdonT-5	
Location (address, lat/long)	Colt Dr
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
North Huntingdon Township	Improve drainage infrastructure at the Westmoreland City VFD.
Action Number:	
NorthHuntingdonT-6	
Location (address, lat/long)	Westmoreland City VFD
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
North Huntington Township	Assess and determine best action to prevent further erosion along Long Run at Lincoln Highway.
Action Number:	
NorthHuntingdonT-7	
Location (address, lat/long)	Long Run
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
North Huntington Township	Assess and determine best action to prevent further erosion at Brush Creek ballfields.
Action Number:	
NorthHuntingdonT-8	
Location (address, lat/long)	Brush Creek
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
North Huntington Township	Assess and determine best action to prevent further erosion of channel near Mickanin Road
Action Number:	
NorthHuntingdonT-9	
Location (address, lat/long)	Mickanin Rd
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
North Huntington Township	Assess and determine best action to prevent further habitat loss along Tinkers Run at PA Turnpike.
Action Number:	
NorthHuntingdonT-10	
Location (address, lat/long)	Tinkers Run
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	PA Turnpike
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
North Huntington Township	Improve drainage along Frog Road
Action Number:	
NorthHuntingdonT-11	
Location (address, lat/long)	Frog Rd
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
North Huntington Township	Improve drainage along Park Hill Road
Action Number:	
NorthHuntingdonT-12	
Location (address, lat/long)	Park Hill Rd
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
North Huntington Township	Improve drainage at Turner Valley Soccer Fields along Crawford Run.
Action Number:	
NorthHuntingdonT-13	
Location (address, lat/long)	Crawford Run
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
North Huntington Township	Improve drainage from PennDOT to Browntown Road.
Action Number:	
NorthHuntingdonT-14	
Location (address, lat/long)	PennDOT to Browntown Rd
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
North Huntington Township	Replace the 1st Street Bridge.
Action Number:	
NorthHuntingdonT-15	
Location (address, lat/long)	1st St
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Operating Budget
Timeline	Long
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
North Huntington Township	Work with Cleveland/Price, Inc. facility owner to protect it to the 0.2% annual chance flood level.
Action Number:	
NorthHuntingdonT-16	
Location (address, lat/long)	40.366660, -79.749100, 14000 Route 993
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	High
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Sewer Fees
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	FPA, Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
North Huntington Township	Work with Hazmat facility owner to protect it to the 0.2% annual chance flood level.
Action Number:	
NorthHuntingdonT-17	
Location (address, lat/long)	40.340572, -79.721377, Route 993, South of Larimar
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	High
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Sewer Fees
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	FPA, Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
North Irwin Borough	Improve drainage infrastructure on 4th Street at the park.
Action Number:	
NorthIrwinB-1	
Location (address, lat/long)	4th Street
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
North Irwin Borough	Improve stormwater drainage to mitigate alleyway runoff.
Action Number:	
NorthIrwinB-2	
Location (address, lat/long)	Alley off of 1st St
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Medium
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Long
Lead Agency/Department	Parks and Recreation
Support Agency(ies)/ Department(s)	DPW
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
North Irwin Borough	Install drainage ditches along Coal Run to reduce runoff onto the roadway.
Action Number:	
NorthIrwinB-3	
Location (address, lat/long)	Coal Run
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
North Irwin Borough	Upgrade drainage piping in North Huntingdon Township.
Action Number:	
NorthIrwinB-4	
Location (address, lat/long)	Huntingdon Township
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Penn Township	Install a back-up generator at the Claridge Fire Department.
Action Number:	
PennT-1	
Location (address, lat/long)	2301-2307 Baloh St, Claridge, PA
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Utility Interruption
Priority (High, Medium, Low)	Medium
Estimated Cost	Low
Potential Funding Streams	Hazard Mitigation grants
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Penn Township	A plan needs to be created and funds allocated to address outdated stormwater infrastructure.
Action Number:	
PennT-2	
Location (address, lat/long)	N/A
Mitigation Technique Category	Local Plans and Regulations (LPR)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Penn Township	Conduct a traffic light study in Harrison City for more efficient timing.
Action Number:	
PennT-3	
Location (address, lat/long)	Harrison City
Mitigation Technique Category	Local Plans and Regulations (LPR)
Hazard(s) Addressed	Transportation Accident
Priority (High, Medium, Low)	Low
Estimated Cost	Low
Potential Funding Streams	Operating Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	PENNDOT
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Penn Township	Fix existing catch basin at the corner of Rose and Pamela.
Action Number:	
PennT-4	
Location (address, lat/long)	Corner of Rose and Pamela Streets
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Medium
Estimated Cost	Low
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP, Sewer Grant; Sewer Fees
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Penn Township	Hire more public works employees.
Action Number:	
PennT-5	
Location (address, lat/long)	N/A
Mitigation Technique Category	Local Plans and Regulations (LPR)
Hazard(s) Addressed	All hazards
Priority (High, Medium, Low)	Medium
Estimated Cost	Medium
Potential Funding Streams	Operating Budget
Timeline	Long
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Penn Township	Improve drainage infrastructure at Fawn Lawn and Pheasant Run Road.
Action Number:	
PennT-6	
Location (address, lat/long)	Fawn Lawn and Pheasant Run Road
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Penn Township	Improve drainage infrastructure in Claridge.
Action Number:	
PennT-7	
Location (address, lat/long)	Claridge
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Penn Township	Improve drainage on Concord Dr/4045.
Action Number:	
PennT-8	
Location (address, lat/long)	Concord Dr/4045
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Penn Township	Improve drainage on Denmark/Manor Road to prevent flooding.
Action Number:	
PennT-9	
Location (address, lat/long)	Denmark/Manor Road
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Operating Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Penn Township	Improve infrastructure in Level Green neighborhood.
Action Number:	
PennT-10	
Location (address, lat/long)	Level Green neighborhood
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Penn Township	Improve major highways to accommodate amount of traffic: Route 130, Pleasant Valley, Hyland.
Action Number:	
PennT-11	
Location (address, lat/long)	Penn Township, PA
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Transportation Accident
Priority (High, Medium, Low)	Medium
Estimated Cost	High
Potential Funding Streams	Operating Budget
Timeline	Long
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	PENNDOT
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Penn Township	Improve most roads within the Township to make them safer.
Action Number:	
PennT-12	
Location (address, lat/long)	Penn Township, PA
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Transportation Accident
Priority (High, Medium, Low)	Medium
Estimated Cost	High
Potential Funding Streams	Operating Budget
Timeline	Long
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	PENNDOT
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Penn Township	Install a blinker light at Mullor Road and Claridy Export Road
Action Number:	
PennT-13	
Location (address, lat/long)	Mullor Rd and Clarity Export Rd, Penn Township, PA
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Transportation Accident
Priority (High, Medium, Low)	Low
Estimated Cost	Low
Potential Funding Streams	Operating Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	PENNDOT
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Penn Township	Install a turn restriction for tractor trailers at the traffic light at SR 993/Walnut and SR 130.
Action Number:	
PennT-14	
Location (address, lat/long)	SR 993/Walnut and SR 130 in Penn Township, PA
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Transportation Accident
Priority (High, Medium, Low)	Low
Estimated Cost	Low
Potential Funding Streams	Operating Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	PENNDOT
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Penn Township	Install sidewalks in communities.
Action Number:	
PennT-15	
Location (address, lat/long)	Penn Township, PA
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Transportation Accident
Priority (High, Medium, Low)	Medium
Estimated Cost	Low
Potential Funding Streams	Operating Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Penn Township	Intersections without designated left turn lane need to have "no left turn" sign posted.
Action Number:	
PennT-16	
Location (address, lat/long)	Penn Township, PA
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Transportation Accident
Priority (High, Medium, Low)	Low
Estimated Cost	Low
Potential Funding Streams	Operating Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	PENNDOT
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Penn Township	Pave residential roads: Rose Acres, parts of Level Green Sunrise.
Action Number:	
PennT-17	
Location (address, lat/long)	Penn Township, PA
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Transportation Accident
Priority (High, Medium, Low)	Medium
Estimated Cost	High
Potential Funding Streams	Operating Budget
Timeline	Long
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	PENNDOT
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Penn Township	Prevent further pollution of AMD at Penny Lane.
Action Number:	
PennT-18	
Location (address, lat/long)	Penny Lane
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Medium
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP, Sewer Grant; Sewer Fees
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	FPA, Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Penn Township	Protect AMD at Boxcartown Road from further pollution.
Action Number:	
PennT-19	
Location (address, lat/long)	Boxcartown Road
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Medium
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP, Sewer Grant; Sewer Fees
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	FPA, Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Penn Township	Repair sinkholes on Pleasant Valley Road.
Action Number:	
PennT-20	
Location (address, lat/long)	Pleasant Valley Road
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Subsidence/sinkholes
Priority (High, Medium, Low)	Low
Estimated Cost	Low
Potential Funding Streams	Operating Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Penn Township	Stormwater rehabilitation and upgrade at Rose Acres.
Action Number:	
PennT-21	
Location (address, lat/long)	Rose Acres
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Penn Township	Work with Triumvirate Environmental of Pittsburgh Inc facility owner to protect it to the 0.2% annual chance flood level.
Action Number:	
PennT-22	
Location (address, lat/long)	40.343500, -79.607800, 1092 Claridge Elliot Rd
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	High
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Sewer Fees
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	FPA, Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Penn Township	Install back-up generators at Sunrise Elementary School.
Action Number:	
PennT-23	
Location (address, lat/long)	171 Sunrise Dr, Irwin, PA
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Utility Interruption
Priority (High, Medium, Low)	Medium
Estimated Cost	Low
Potential Funding Streams	Hazard Mitigation grants
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Penn Township	Install back-up generators at McCullough Elementary School.
Action Number:	
PennT-24	
Location (address, lat/long)	213 Watt Rd, Jeannette, PA
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Utility Interruption
Priority (High, Medium, Low)	Medium
Estimated Cost	Low
Potential Funding Streams	Hazard Mitigation grants
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Penn Township	Install back-up generators at Penn Middle School.
Action Number:	
PennT-25	
Location (address, lat/long)	1007 Penn Middle School Way, Jeannette, PA
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Utility Interruption
Priority (High, Medium, Low)	Medium
Estimated Cost	Low
Potential Funding Streams	Hazard Mitigation grants
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Penn Township	Install back-up generators at Harrison Park Elementary School.
Action Number:	
PennT-26	
Location (address, lat/long)	18 Dell Ave, Jeannette, PA
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Utility Interruption
Priority (High, Medium, Low)	Medium
Estimated Cost	Low
Potential Funding Streams	Hazard Mitigation grants
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Rostraver Township	Assess and determine best action for Orr Road to prevent further erosion.
Action Number:	
RostraverT-1	
Location (address, lat/long)	Orr Rd
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Medium
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Rostraver Township	Assess and determine best action for Rankin Road to prevent further erosion.
Action Number:	
RostraverT-2	
Location (address, lat/long)	Rankin Rd
Mitigation Technique Category	Structure and I+F216:R216nfrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Medium
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Long
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Rostraver Township	Assess and determine best action for Webster Hollow to prevent further erosion.
Action Number:	
RostraverT-3	
Location (address, lat/long)	Webster Hollow Rd
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Medium
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Long
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Rostraver Township	Protect Elks Place to the 0.2% annual chance flood level.
Action Number:	
RostraverT-4	
Location (address, lat/long)	Broad Ave
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	High
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP, Sewer Grant; Sewer Fees
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	FPA, Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Rostraver Township	Work with facility owner to protect Farnham and Pfile Rental and Sales to the 0.2% chance annual flood level.
Action Number:	
RostraverT-5	
Location (address, lat/long)	Sylvan Dr
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Medium
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP, Sewer Grant; Sewer Fees
Timeline	Short
Lead Agency/Department	Municipal FPA
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Rostraver Township	Protect Fire station 31 facility to the 0.2% annual chance flood level.
Action Number:	
RostraverT-6	
Location (address, lat/long)	40.18236, -79.848938
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	High
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM; Operating Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	FPA, Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Rostraver Township	Protect Speers Run from urban impacts, habitat loss, and pollution.
Action Number:	
RostraverT-7	
Location (address, lat/long)	Speers Run
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	All hazards
Priority (High, Medium, Low)	High
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP, Sewer Grant; Sewer Fees
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	FPA, Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Rostraver Township	Protect Trailer Court to the 0.2% annual chance flood level.
Action Number:	
RostraverT-8	
Location (address, lat/long)	Marlborough Dr
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Medium
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP, Sewer Grant; Sewer Fees
Timeline	Short
Lead Agency/Department	Municipal FPA
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Rostraver Township	Work with the facility owner to repair sinkhole behind BF Foods Service station.
Action Number:	
RostraverT-9	
Location (address, lat/long)	BF Foods Service Station
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Subsidence/sinkholes
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	Operating Budget
Timeline	Short
Lead Agency/Department	Municipal CEO
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	Debbie Bobin
Title	Office Manager
Agency/Department	T W Scott Enterprise
Phone	724-929-9274
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Rostraver Township	Work with the owner of Pricedale Shopping Center to protect the facility to the 0.2% annual chance flood level.
Action Number:	
RostraverT-10	
Location (address, lat/long)	Finley Road
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	High
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP, Sewer Grant; Sewer Fees
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	FPA, Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Rostraver Township	Work with the property owner to protect of the Rostraver Road shopping center to the 0.2% annual chance flood level.
Action Number:	
RostraverT-11	
Location (address, lat/long)	Rostraver Rd
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Medium
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP, Sewer Grant; Sewer Fees
Timeline	Short
Lead Agency/Department	Municipal CEO
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Salem Township	Assess and determine best action to prevent further erosion and habitat loss along Cloverleaf Road/Route 22.
Action Number:	
SalemT-1	
Location (address, lat/long)	Cloverleaf Road/Route 22.
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Salem Township	Assess and determine best action to prevent further erosion and pollution on Jobe Road/Beaver Run.
Action Number:	
SalemT-2	
Location (address, lat/long)	Jobe Road/Beaver Run
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Salem Township	Flood proof sewage and AMD on Depot Street.
Action Number:	
SalemT-3	
Location (address, lat/long)	Depot Street
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	High
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP, Sewer Grant; Sewer Fees
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	FPA, Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Salem Township	General clearing and cleaning of streams.
Action Number:	
SalemT-4	
Location (address, lat/long)	Village of Crabtree
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Medium
Estimated Cost	Medium
Potential Funding Streams	Operating Budget; PA DEP
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Salem Township	Improve drainage along Crabtree Creek and Hannastown.
Action Number:	
SalemT-5	
Location (address, lat/long)	Crabtree Creek/Hannastown
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Salem Township	Improve drainage on Rock Springs Road.
Action Number:	
SalemT-6	
Location (address, lat/long)	Rock Springs Road
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Salem Township	Improve drainage on Salem Drive bridge from Loyalhanna back up.
Action Number:	
SalemT-7	
Location (address, lat/long)	Salem Drive bridge
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Salem Township	Improve infrastructure on Garden Way.
Action Number:	
SalemT-8	
Location (address, lat/long)	Garden Way
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Salem Township	Prevent further habitat loss in Shieldsburg.
Action Number:	
SalemT-9	
Location (address, lat/long)	Shieldsburg
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Salem Township	Protect Salem Township EOC facility to the 0.2% annual chance flood level.
Action Number:	
SalemT-10	
Location (address, lat/long)	40.356738, -79.523261
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	High
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM; Operating Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	FPA, Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Salem Township	Protect Thorn Run from pollution.
Action Number:	
SalemT-11	
Location (address, lat/long)	Thorn Run
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Salem Township	Install a static generator at Slickville Fire Department.
Action Number:	
SalemT-12	
Location (address, lat/long)	128 Main Street, Slickville, PA
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Utility Interruption
Priority (High, Medium, Low)	Medium
Estimated Cost	Medium
Potential Funding Streams	Hazard Mitigation Grants
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	Fred Cecchini
Title	
Agency/Department	
Phone	
E-mail	cecchini34@gmail.com

Mitigation Action Worksheet

Municipality(ies):	**Action**
Salem Township	Install a static generator at the Salem Township Municipal Building.
Action Number:	
SalemT-13	
Location (address, lat/long)	244 Congruity Road, Greensburg, PA
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Utility Interruption
Priority (High, Medium, Low)	Medium
Estimated Cost	Medium
Potential Funding Streams	Hazard Mitigation Grants
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	Fred Cecchini
Title	
Agency/Department	
Phone	
E-mail	cecchini34@gmail.com

Mitigation Action Worksheet

Municipality(ies):	**Action**
Salem Township	Install a static generator at the Congruity United Presbyterian Church (emergency shelter).
Action Number:	
SalemT-14	
Location (address, lat/long)	136 Fenneltown Rd, New Alexandria, PA
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Utility Interruption
Priority (High, Medium, Low)	Medium
Estimated Cost	Medium
Potential Funding Streams	Hazard Mitigation Grants
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	Fred Cecchini
Title	
Agency/Department	
Phone	
E-mail	cecchini34@gmail.com

Mitigation Action Worksheet

Municipality(ies):	**Action**
Scottdale Borough	Improve drainage in West Park Area (Anderson Run).
Action Number:	
ScottdaleB-1	
Location (address, lat/long)	West Park Area (Anderson Run)
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Operating Budget
Timeline	Short
Lead Agency/Department	Parks and Recreation
Support Agency(ies)/ Department(s)	DPW
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Scottdale Borough	Improve drainage on Little Sherrick Run Area.
Action Number:	
ScottdaleB-2	
Location (address, lat/long)	Little Sherrick Run, Scottsdale Borough
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Operating Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	DPW
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Scottdale Borough	Improve drainage on Stauffer Avenue
Action Number:	
ScottdaleB-3	
Location (address, lat/long)	Stauffer Ave, Scottsdale Borough
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Operating Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	DPW
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Scottdale Borough	Protect Police Station 065 Scottdale to the 0.2% annual chance flood level.
Action Number:	
ScottdaleB-4	
Location (address, lat/long)	40.103851, -79.584612, 10 Mount Pleasant Rd
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Medium
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP, Sewer Grant; Sewer Fees
Timeline	Short
Lead Agency/Department	Scottdale Borough PD
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Scottdale Borough	Work with R E Uptegraff Manufacturing Co facility owner to protect it to the 0.2% annual chance flood level.
Action Number:	
ScottdaleB-5	
Location (address, lat/long)	40.098214, -79.586309, 120 Uptegraff Dr
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	High
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Sewer Fees
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	FPA, Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Scottdale Borough	Work with Summerill Tube Corp facility owner to protect it to the 0.2% annual chance flood level.
Action Number:	
ScottdaleB-6	
Location (address, lat/long)	40.107500, -79.585278, Franklin St
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	High
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Sewer Fees
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	FPA, Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Scottdale Borough	Improve drainage in West Park.
Action Number:	
ScottdaleB-7	
Location (address, lat/long)	W Park Rd
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Scottdale Borough	Improve drainage on Garfield Avenue
Action Number:	
ScottdaleB-8	
Location (address, lat/long)	Garfield Ave
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Scottdale Borough	Improve drainage on Parker Avenue
Action Number:	
ScottdaleB-9	
Location (address, lat/long)	Parker Ave
Mitigation Technique Category	Structure and I+F216:R216nfrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Scottdale Borough	Improve drainage on Penn Line.
Action Number:	
ScottdaleB-10	
Location (address, lat/long)	Orchard Ave
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Scottdale Borough	Protect Stauffer Run from future habitat loss due to flooding.
Action Number:	
ScottdaleB-11	
Location (address, lat/long)	Stauffer Run
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Seward Borough	Protect the Municipal Office to the 0.2% chance annual flood level.
Action Number:	
SewardB-1	
Location (address, lat/long)	40.415423, -79.025308
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	High
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP, Sewer Grant; Sewer Fees
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	FPA, Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Sewickley Township	Assess and determine best action to prevent further erosion on Yukon Road, Sewickley Creek.
Action Number:	
SewickleyT-1	
Location (address, lat/long)	Yukon Road
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Sewickley Township	Install stormwater drainage system along Pinewood Road.
Action Number:	
SewickleyT-2	
Location (address, lat/long)	Pinewood Road
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Operating Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Sewickley Township	Procure a skid loader/grab attachment for storm cleanup and culvert clean out.
Action Number:	
SewickleyT-3	
Location (address, lat/long)	Sewickley Township
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	High
Potential Funding Streams	Operating Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Sewickley Township	Procure and install a back-up generator into Hutchinson VFD Station 85.
Action Number:	
SewickleyT-4	
Location (address, lat/long)	Hutchinson VFD Station 85 Sewickley Township
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Utility Interruption
Priority (High, Medium, Low)	Medium
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM; RACP
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Sewickley Township	Procure and install a back-up generator into Lowber VFD Station 16.
Action Number:	
SewickleyT-5	
Location (address, lat/long)	Sewickley Township Lowber VFD Station 16
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Utility Interruption
Priority (High, Medium, Low)	Medium
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM; RACP
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Sewickley Township	Procure and install back-up generator into Rillton VFD Station 14.
Action Number:	
SewickleyT-6	
Location (address, lat/long)	Sewickley Township Rillton VFD Station 14
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Utility Interruption
Priority (High, Medium, Low)	Medium
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM; RACP
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Sewickley Township	Procure remote receive sites to enhance communications.
Action Number:	
SewickleyT-7	
Location (address, lat/long)	Sewickley Township
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	All hazards
Priority (High, Medium, Low)	Medium
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Sewickley Township	Procure skid steer attachment to clear debris around culverts.
Action Number:	
SewickleyT-8	
Location (address, lat/long)	Sewickley Township
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	High
Estimated Cost	High
Potential Funding Streams	FEMA PDM, possible local budgetary match
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Sewickley Township	Procure sweeper truck for stormwater management.
Action Number:	
SewickleyT-9	
Location (address, lat/long)	Sewickley Township
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Medium
Estimated Cost	Medium
Potential Funding Streams	FEMA, PEMA
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Sewickley Township	Protect Fire Station 16 to the 0.2% annual chance flood level.
Action Number:	
SewickleyT-10	
Location (address, lat/long)	40.245339, -79.772023, 386 Lower RD
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	High
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM; Operating Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	FPA, Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Sewickley Township	Improve drainage along Lowber Road.
Action Number:	
SewickleyT-11	
Location (address, lat/long)	Lowber Road
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Sewickley Township	Improve drainage infrastructure in Herminie.
Action Number:	
SewickleyT-12	
Location (address, lat/long)	Herminie
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Sewickley Township	Protect Rillton from future habitat loss due to pollution.
Action Number:	
SewickleyT-13	
Location (address, lat/long)	Rillton
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Smithton Borough	Assess and determine the best action for Dutch Hollow Road to prevent further erosion.
Action Number:	
SmithtonB-1	
Location (address, lat/long)	Dutch Hollow Rd
Mitigation Technique Category	Structure and I+F216:R216nfrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Medium
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Long
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Smithton Borough	Install a flood wall or stream bank stabilization to prevent future erosion.
Action Number:	
SmithtonB-2	
Location (address, lat/long)	Sulphur Creek at the east of First St, Smithton, PA
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	High
Potential Funding Streams	Hazard Mitigation grants, Flood Mitigation grants
Timeline	Long
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	Tom Haynes
Title	
Agency/Department	
Phone	
E-mail	haynesthomas@msn.com

Mitigation Action Worksheet

Municipality(ies):	**Action**
Smithton Borough	Install emergency generator for Borough building/EOC.
Action Number:	
SmithtonB-3	
Location (address, lat/long)	Smithton Borough Bldg., Center and Second St, Smithton, PA
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Utility Interruption
Priority (High, Medium, Low)	Medium
Estimated Cost	Low
Potential Funding Streams	Hazard Mitigation grants
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	Tom Haynes
Title	
Agency/Department	
Phone	
E-mail	haynesthomas@msn.com

Mitigation Action Worksheet

Municipality(ies):	**Action**
Smithton Borough	Install generator at Smithton VFD to serve as a warming center during extended winter power outages.
Action Number:	
SmithtonB-4	
Location (address, lat/long)	609 Center St, Smithton, PA
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Utility Interruption
Priority (High, Medium, Low)	Medium
Estimated Cost	Low
Potential Funding Streams	Hazard Mitigation grants
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	Tom Haynes
Title	
Agency/Department	
Phone	
E-mail	haynesthomas@msn.com

Mitigation Action Worksheet

Municipality(ies):	**Action**
Smithton Borough	Install rip-rap gabions along Sulphur Creek.
Action Number:	
SmithtonB-5	
Location (address, lat/long)	Sulphur Creek between the WWTP and Ballfield, a hundred ft east of the railroad
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	Hazard Mitigation grants
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	Tom Haynes
Title	
Agency/Department	
Phone	
E-mail	haynesthomas@msn.com

Mitigation Action Worksheet

Municipality(ies):	**Action**
Smithton Borough	Protect Fire Station 17 to the 0.2% chance annual flood level.
Action Number:	
SmithtonB-6	
Location (address, lat/long)	40.154638, -79.741947,131 1ST ST
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	High
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM; Operating Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	FPA, Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Smithton Borough	Protect Police Station 627 Smithton Boro to the 0.2% annual chance flood level.
Action Number:	
SmithtonB-7	
Location (address, lat/long)	40.153983, -79.742211, 615 Center St
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Medium
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP, Sewer Grant; Sewer Fees
Timeline	Short
Lead Agency/Department	Smithton Borough PD
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Smithton Borough	Protect Smithton Public Library to the 0.2% annual chance flood level.
Action Number:	
SmithtonB-8	
Location (address, lat/long)	40.154098, -79.742384, 615 Center St
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Medium
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP, Sewer Grant; Sewer Fees
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	FPA, Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Smithton Borough	Protect the Municipal Office to the 0.2% chance annual flood level.
Action Number:	
SmithtonB-9	
Location (address, lat/long)	40.153967, -79.744395
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	High
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP, Sewer Grant; Sewer Fees
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	FPA, Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Smithton Borough	Stabilize steep cliffside below Route 981 all the way down the stream bed.
Action Number:	
SmithtonB-10	
Location (address, lat/long)	Route 981 at the foot of Fort St
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Medium
Estimated Cost	Medium
Potential Funding Streams	PennDOT, mitigation grants
Timeline	Long
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	Tom Haynes
Title	
Agency/Department	
Phone	
E-mail	haynesthomas@msn.com

Mitigation Action Worksheet

Municipality(ies):	**Action**
South Greensburg Borough	Improve drainage along Slate Creek.
Action Number:	
SouthGreensburgB-1	
Location (address, lat/long)	Slate Creek
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
South Greensburg Borough	Improve drainage along S. Main Street/Huff Avenue
Action Number:	
SouthGreensburgB-2	
Location (address, lat/long)	S. Main St/Huff Ave
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Medium
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP, Sewer Grant; Sewer Fees
Timeline	Short
Lead Agency/Department	Municipal FPA
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
South Huntingdon Township	Assess and determine best action to prevent from further erosion of Dutch Hollow Road.
Action Number:	
SouthHuntingdonT-1	
Location (address, lat/long)	Dutch Hollow Road
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
South Huntingdon Township	Improve stormwater management within the I70 commercial area.
Action Number:	
SouthHuntingdonT-2	
Location (address, lat/long)	Matty Road/Motordrome Road
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Southwest Greensburg Borough	Work with Suburban Propane Heating Oil Partners facility owner to protect it to the 0.2% annual chance flood level.
Action Number:	
SouthwestGreensburgB-1	
Location (address, lat/long)	40.289421, -79.544150, 1017 Green St
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	High
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Sewer Fees
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	FPA, Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
St. Clair Township	Elevate structures on Robb Road that are at risk of flooding.
Action Number:	
StClairT-1	
Location (address, lat/long)	Robb Road
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	High
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
St. Clair Township	Work with daycare owner to protect Lori Clark Family Child Care Home facility to the 0.2% annual chance flood level.
Action Number:	
StClairT-2	
Location (address, lat/long)	40.411202, -79.0279, 314 Saint Clair St
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Medium
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP, Sewer Grant; Sewer Fees
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	FPA, Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
St. Clair Township	Protect the Municipal Office to the 0.2% chance annual flood level.
Action Number:	
StClairT-3	
Location (address, lat/long)	40.382838, -79.080574
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	High
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP, Sewer Grant; Sewer Fees
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	FPA, Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
St. Clair Township	Reconstruct the River Hill Bridge.
Action Number:	
StClairT-4	
Location (address, lat/long)	River Hill Bridge
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Operating Budget
Timeline	Long
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
St. Clair Township	Reconstruct the bridge over Baldwin Creek on Sugar Run Road.
Action Number:	
StClairT-5	
Location (address, lat/long)	Sugar Run Road
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Operating Budget
Timeline	Long
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Sutersville Borough	Improve drainage on 1st Street residential and commercial area.
Action Number:	
SutersvilleB-1	
Location (address, lat/long)	1st St
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Medium
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP, Sewer Grant; Sewer Fees
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Sutersville Borough	Work with the owner of the Nancy H Westerman Family Child Care Home to protect the facility to the 0.2% annual chance flood level.
Action Number:	
SutersvilleB-2	
Location (address, lat/long)	40.238204, -79.805408, 244 1st Ave
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Medium
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP, Sewer Grant; Sewer Fees
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	FPA, Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Sutersville Borough	Protect the Municipal Office to the 0.2% chance annual flood level.
Action Number:	
SutersvilleB-3	
Location (address, lat/long)	40.236573, -79.805028
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	High
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP, Sewer Grant; Sewer Fees
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	FPA, Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Trafford Borough	Improve drainage along Mehaffey Hill in Trafford along Brush Creek to prevent flooding.
Action Number:	
TraffordB-1	
Location (address, lat/long)	Mehaffey Hill
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Operating Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Trafford Borough	Protect the Trafford Elementary School to the 0.2% annual chance flood level.
Action Number:	
TraffordB-2	
Location (address, lat/long)	100 E Brinton Ave, Trafford PA
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Medium
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP, Sewer Grant; Sewer Fees
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	FPA, Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Trafford Borough	Protect the Westinghouse Dumpsite to the 0.2% annual chance flood level.
Action Number:	
TraffordB-3	
Location (address, lat/long)	West side of Trafford Borough, PA
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Medium
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP, Sewer Grant; Sewer Fees
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	FPA, Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Trafford Borough	Protect townhomes on the west side of Trafford Borough to the 0.2% annual chance flood level.
Action Number:	
TraffordB-4	
Location (address, lat/long)	West side of Trafford Borough, PA
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Medium
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP, Sewer Grant; Sewer Fees
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	FPA, Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Trafford Borough	Update inadequate infrastructure.
Action Number:	
TraffordB-5	
Location (address, lat/long)	Trafford Borough
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Trafford Borough	Work with Multi-Flow Industries facility owner to protect it to the 0.2% annual chance flood level.
Action Number:	
TraffordB-6	
Location (address, lat/long)	40.389549, -79.763063, 4200 Commerce Circle
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	High
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Sewer Fees
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	FPA, Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Unity Township	Assess and determine best action to prevent further erosion at Sewickley Creek at Phillips Road
Action Number:	
UnityT-1	
Location (address, lat/long)	Phillips Road
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Unity Township	Assess and determine the best action to prevent future erosion at Indian Camp Run along Bethel Church Road.
Action Number:	
UnityT-2	
Location (address, lat/long)	Indian Camp Run
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Unity Township	Construct and install a new culvert in Lloydsville to enhance hydraulic capacity.
Action Number:	
UnityT-3	
Location (address, lat/long)	Lloydsville
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Operating Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Unity Township	Improve drainage at Nine Mile Run.
Action Number:	
UnityT-4	
Location (address, lat/long)	Nine mile Run
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Unity Township	Improve drainage in Baggaley.
Action Number:	
UnityT-5	
Location (address, lat/long)	Baggaley
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Unity Township	Improve drainage in Dorothy.
Action Number:	
UnityT-6	
Location (address, lat/long)	Dorothy
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Unity Township	Improve drainage on Route 30, 982 Cloverleaf.
Action Number:	
UnityT-7	
Location (address, lat/long)	Route 30, 982
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Unity Township	Improve stormwater infrastructure in Edgewater Terrace.
Action Number:	
UnityT-8	
Location (address, lat/long)	Edgewater Terrace
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Unity Township	Install a back-up generator at the Harrison City Fire Department.
Action Number:	
UnityT-9	
Location (address, lat/long)	Harrison City Fire Dept
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Utility Interruption
Priority (High, Medium, Low)	Medium
Estimated Cost	Low
Potential Funding Streams	Hazard Mitigation grants
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Unity Township	Install a stormwater detention system in Lawson Heights.
Action Number:	
UnityT-10	
Location (address, lat/long)	Lawson Heights
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Medium
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Unity Township	Work with the facility owner to protect the Growing Tree Child Development Center to the 0.2% annual chance flood level.
Action Number:	
UnityT-11	
Location (address, lat/long)	40.241801, -79.493363
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Medium
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP, Sewer Grant; Sewer Fees
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	FPA, Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Unity Township	Work with Leigh Specialty Melting Inc facility owner to protect it to the 0.2% annual chance flood level.
Action Number:	
UnityT-12	
Location (address, lat/long)	40.305556, -79.386111, 107 Gertrude St
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	High
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Sewer Fees
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	FPA, Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Unity Township	Work with St. Vincent College to ensure they know what hazard areas they are in, and develop/update emergency plans.
Action Number:	
UnityT-13	
Location (address, lat/long)	40.29256, -79.403677
Mitigation Technique Category	Local Plans and Regulations (LPR)
Hazard(s) Addressed	All hazards
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	Operating Budget
Timeline	Short
Lead Agency/Department	Unity T EMC
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Upper Burrell Township	Assess and determine best action to prevent further erosion on Turkey Ridge Road from Whitten Hollow Road to Barnview Lane.
Action Number:	
UpperBurrellT-1	
Location (address, lat/long)	Turkey Ridge Road
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Upper Burrell Township	Improve drainage infrastructure at Lincoln Beach.
Action Number:	
UpperBurrellT-2	
Location (address, lat/long)	Lincoln Beach
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Upper Burrell Township	Improve drainage infrastructure at Lower Drennen Road
Action Number:	
UpperBurrellT-3	
Location (address, lat/long)	Lower Drennen Rd
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Upper Burrell Township	Procure and install an emergency generator.
Action Number:	
UpperBurrellT-4	
Location (address, lat/long)	Upper Burrell Township
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Utility Interruption
Priority (High, Medium, Low)	Medium
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM; RACP
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Upper Burrell Township	Work with PSU New Kensington to ensure they know what hazard areas they are in, and develop/update emergency plans.
Action Number:	
UpperBurrellT-5	
Location (address, lat/long)	40.54982, -79.697595
Mitigation Technique Category	Local Plans and Regulations (LPR)
Hazard(s) Addressed	All hazards
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	Operating Budget
Timeline	Short
Lead Agency/Department	Upper Burrell T EMC
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Vandergrift Borough	Work with Ati FRPH, LLC-Vandergrift facility owner to protect it to the 0.2% annual chance flood level.
Action Number:	
VandergriftB-1	
Location (address, lat/long)	40.601667, -79.552500, 130 Lincoln Ave
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	High
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Sewer Fees
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	FPA, Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Washington Township	Assess and determine the best action to prevent further erosion of Owens Road.
Action Number:	
WashingtonT-1	
Location (address, lat/long)	Owens Road
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Washington Township	Assess and determine the best action to prevent further erosion of Paulton.
Action Number:	
WashingtonT-2	
Location (address, lat/long)	Paulton
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Washington Township	Improve drainage along Pine Run Creek/Meadows Mobile Home Park, replace undersized culverts.
Action Number:	
WashingtonT-3	
Location (address, lat/long)	Pine Run Watershed and Meadows Mobile Home Park
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	High
Estimated Cost	High
Potential Funding Streams	FEMA PDM, possible local budgetary match
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	Municipal EMC
Project Point of Contact	
Name	Sandra Smythe
Title	Local Emergency Management Coordinator
Agency/Department	Washington Township
Phone	
E-mail	ssmythe@washingtontownship.com

Mitigation Action Worksheet

Municipality(ies):	**Action**
Washington Township	Improve drainage infrastructure on Jefferson Drive.
Action Number:	
WashingtonT-4	
Location (address, lat/long)	Jefferson Drive
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
West Leechburg Borough	Assess and determine best action to prevent erosion on 1st Avenue.
Action Number:	
WestLeechburgB-1	
Location (address, lat/long)	1st Avenue
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
West Newton Borough	Add drainage piping to control and direct existing natural tributary that runs near residential homes and businesses.
Action Number:	
WestNewtonT-1	
Location (address, lat/long)	Southern end of West Newton Borough
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	High
Potential Funding Streams	PA DEP, PA DCNR, PEMA
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	Paul Williams
Title	
Agency/Department	
Phone	
E-mail	wnbemadirector39@comcast.net

Mitigation Action Worksheet

Municipality(ies):	**Action**
West Newton Borough	Assess and determine best action to prevent further erosion along Vernon Drive.
Action Number:	
WestNewtonT-2	
Location (address, lat/long)	Vernon Drive
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
West Newton Borough	Develop a Flood Control Project to minimize damage from Stormwater Flash Flooding events that damage properties and homes along Vernon Run.
Action Number:	
WestNewtonT-3	
Location (address, lat/long)	Vernon Drive
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	High
Potential Funding Streams	PA DEP, PEMA
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	Paul Williams
Title	
Agency/Department	
Phone	
E-mail	wnbemadirector39@comcast.net

Mitigation Action Worksheet

Municipality(ies):	**Action**
West Newton Borough	Improve drainage infrastructure on Atomic Way.
Action Number:	
WestNewtonB-4	
Location (address, lat/long)	Atomic Way
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Medium
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP, Sewer Grant; Sewer Fees
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
West Newton Borough	Install a Flood Stream Gage on the western side of the West Newton Bridge to monitor and provide flood prediction tools.
Action Number:	
WestNewtonB-5	
Location (address, lat/long)	Western side of West Newton Bridge
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams; Utility Interruption
Priority (High, Medium, Low)	Medium
Estimated Cost	Medium
Potential Funding Streams	USGS, PA DOT, PEMA, FEMA
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	Paul Williams
Title	
Agency/Department	
Phone	
E-mail	wnbemadirector39@comcast.net

Mitigation Action Worksheet

Municipality(ies):	**Action**
West Newton Borough	Install back-up generator at Lion's Club to serve as a shelter during emergencies.
Action Number:	
WestNewtonB-6	
Location (address, lat/long)	West Newton Borough
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Utility Interruption
Priority (High, Medium, Low)	Medium
Estimated Cost	Low
Potential Funding Streams	Hazard Mitigation grants
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
West Newton Borough	Install back-up generator at school to serve as a shelter during emergencies.
Action Number:	
WestNewtonB-7	
Location (address, lat/long)	West Newton Borough
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Utility Interruption
Priority (High, Medium, Low)	Medium
Estimated Cost	Low
Potential Funding Streams	Hazard Mitigation grants
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
West Newton Borough	Install back-up generator at the gym to serve as a shelter during emergencies.
Action Number:	
WestNewtonB-8	
Location (address, lat/long)	West Newton Borough
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Utility Interruption
Priority (High, Medium, Low)	Medium
Estimated Cost	Low
Potential Funding Streams	Hazard Mitigation grants
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
West Newton Borough	Protect West Newton Public Library to the 0.2% annual chance flood level.
Action Number:	
WestNewtonB-9	
Location (address, lat/long)	40.21151, -79.766904, 124 N Water St
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Medium
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP, Sewer Grant; Sewer Fees
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	FPA, Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
West Newton Borough	Protect Fire Station 82 to the 0.2% annual chance flood level.
Action Number:	
WestNewtonB-10	
Location (address, lat/long)	40.21325, -79.766588, 100 Riverside Dr
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	High
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM; Operating Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	FPA, Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
West Newton Borough	Protect Police Station 621 West Newton to the 0.2% annual chance flood level.
Action Number:	
WestNewtonB-11	
Location (address, lat/long)	40.209819, -79.768308, 112 Water St
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Medium
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP, Sewer Grant; Sewer Fees
Timeline	Short
Lead Agency/Department	West Newton PD
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
West Newton Borough	Protect the library to the 0.2% annual chance flood level.
Action Number:	
WestNewtonB-12	
Location (address, lat/long)	West Newton Borough
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	High
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM; Operating Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	FPA, Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
West Newton Borough	Protect the Municipal Office to the 0.2% chance annual flood level.
Action Number:	
WestNewtonB-13	
Location (address, lat/long)	40.209757, -79.770410
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	High
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP, Sewer Grant; Sewer Fees
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	FPA, Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
West Newton Borough	Work with the nursing home/personal care center to protect the facility to the 0.2% annual chance flood level.
Action Number:	
WestNewtonB-14	
Location (address, lat/long)	West Newton Borough
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	High
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM; Operating Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	FPA, Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
West Newton Borough	Protect the post office to the 0.2% annual chance flood level.
Action Number:	
WestNewtonB-15	
Location (address, lat/long)	West Newton Borough
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	High
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM; Operating Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	FPA, Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
West Newton Borough	Protect the West Newton Borough Sewage Treatment Plant to the 0.2% annual chance flood level.
Action Number:	
WestNewtonB-16	
Location (address, lat/long)	North side of West Newton Borough
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	High
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP, Sewer Grant; Sewer Fees
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	FPA, Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
West Newton Borough	Repair Orr Rd, and hillside, which will restore road back to 2 lanes.
Action Number:	
WestNewtonB-17	
Location (address, lat/long)	West side of Borough off of Vernon Dr on Orr Rd
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	High
Estimated Cost	Medium
Potential Funding Streams	PA Liquid Fuels, PA DEP, PEMA
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	PennDOT
Project Point of Contact	
Name	Paul Williams
Title	
Agency/Department	
Phone	
E-mail	wnbemadirector39@comcast.net

Mitigation Action Worksheet

Municipality(ies):	**Action**
West Newton Borough	Replace back-up generator for West Newton Volunteer Fire Company Station 82.
Action Number:	
WestNewtonB-18	
Location (address, lat/long)	West Newton Volunteer Fire Company Station 82
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Utility Interruption
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	PEMA, FEMA
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	Paul Williams
Title	
Agency/Department	
Phone	
E-mail	wnbemadirector39@comcast.net

Mitigation Action Worksheet

Municipality(ies):	**Action**
West Newton Borough	Replace back-up power generator for EMS station.
Action Number:	
WestNewtonB-19	
Location (address, lat/long)	
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Utility Interruption
Priority (High, Medium, Low)	Medium
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM; RACP
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	Municipal EMC
Project Point of Contact	
Name	Paul Williams
Title	
Agency/Department	
Phone	
E-mail	wnbemadirector39@comcast.net

Mitigation Action Worksheet

Municipality(ies):	**Action**
West Newton Borough	Replace collapsed road in the northern part of West Newton Borough.
Action Number:	
WestNewtonB-20	
Location (address, lat/long)	North side of West Newton Borough
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Operating Budget
Timeline	Long
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
West Newton Borough	Separate the combined storm water and sewage lines 2/3rd of the Borough.
Action Number:	
WestNewtonB-21	
Location (address, lat/long)	1st and 2nd Wards of West Newton Borough
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams; Utility Interruption
Priority (High, Medium, Low)	Medium
Estimated Cost	High
Potential Funding Streams	PA CDBG, PA DEP, PEMA
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	Paul Williams
Title	
Agency/Department	
Phone	
E-mail	wnbemadirector39@comcast.net

Mitigation Action Worksheet

Municipality(ies):	**Action**
West Newton Borough	Separate the combined storm water and sewage lines on the east side of town.
Action Number:	
WestNewtonB-22	
Location (address, lat/long)	East side of West Newton Brough
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams; Utility Interruption
Priority (High, Medium, Low)	Medium
Estimated Cost	High
Potential Funding Streams	PA CDBG, PA DEP, PEMA
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
West Newton Borough	Work with Chemstation facility owner to protect it to the 0.2% annual chance flood level.
Action Number:	
WestNewtonB-23	
Location (address, lat/long)	40.214954, -79.766158, 200 Riverside Dr
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	High
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Sewer Fees
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	FPA, Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
West Newton Borough	Work with Verizon West Newton Co (PA59172) Facility owner to protect it to the 0.2% annual chance flood level.
Action Number:	
WestNewtonB-24	
Location (address, lat/long)	40.207200, -79.766700, 201 S Fifth St
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	High
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Sewer Fees
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	FPA, Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
West Newton Borough	Work with West Newton Borough Hazmat facility owner to protect it to the 0.2% annual chance flood level.
Action Number:	
WestNewtonB-25	
Location (address, lat/long)	40.224113, -79.763068, Access road off of Robertson St
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	High
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Sewer Fees
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	FPA, Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Youngstown Borough	Improve drainage on Sawmill Run, Route 982.
Action Number:	
YoungstownB-1	
Location (address, lat/long)	Sawmill Run, Route 982
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Youngwood Borough	Assess and determine best action to further prevent further erosion from driveway onto Silvis Farm Road
Action Number:	
YoungwoodB-1	
Location (address, lat/long)	Silvis Farm Rd
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Youngwood Borough	Assess and determine best action to prevent further erosion at Jacks Run streambank.
Action Number:	
YoungwoodB-2	
Location (address, lat/long)	Jacks Run
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Youngwood Borough	Assess and determine best action to prevent further erosion on Wineman Lane.
Action Number:	
YoungwoodB-3	
Location (address, lat/long)	Wineman Lane
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Youngwood Borough	Demolition of dilapidated homes to prevent fires.
Action Number:	
YoungwoodB-4	
Location (address, lat/long)	Throughout the Borough
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Structure fires
Priority (High, Medium, Low)	Medium
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP
Timeline	Long
Lead Agency/Department	PEMA
Support Agency(ies)/ Department(s)	Municipal EMCs
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Youngwood Borough	Improve drainage along Depot St and Jacks Run.
Action Number:	
YoungwoodB-5	
Location (address, lat/long)	Depot St and Jacks Run
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Youngwood Borough	Improve drainage along Route 119.
Action Number:	
YoungwoodB-6	
Location (address, lat/long)	Route 119
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	PENNDOT
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Youngwood Borough	Improve infrastructure along S 5th Street
Action Number:	
YoungwoodB-7	
Location (address, lat/long)	S 5th St
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Youngwood Borough	Install additional stormwater runoff pipes and upgrade/replace deteriorated pipes.
Action Number:	
YoungwoodB-8	
Location (address, lat/long)	Chestnut St and Overhead Bridge Rd
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Youngwood Borough	Install larger pipes along Clawson Avenue to improve drainage.
Action Number:	
YoungwoodB-9	
Location (address, lat/long)	Clawson Ave
Mitigation Technique Category	Structure and infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Youngwood Borough	Protect Youngwood Borough STP to the 0.2% annual chance flood level.
Action Number:	
YoungwoodB-10	
Location (address, lat/long)	40.231267, -79.583241
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	High
Estimated Cost	High
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP, Sewer Grant; Sewer Fees
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	FPA, Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Youngwood Borough	Replace culvert on 5th and Hillis.
Action Number:	
YoungwoodB-11	
Location (address, lat/long)	5th/Hillis
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Medium
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Operating Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Youngwood Borough	Slow traffic through Borough-Route 119
Action Number:	
YoungwoodB-12	
Location (address, lat/long)	Throughout the Borough
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Transportation Accident
Priority (High, Medium, Low)	Low
Estimated Cost	Low
Potential Funding Streams	Operating Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	PENNDOT
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	

Mitigation Action Worksheet

Municipality(ies):	**Action**
Youngwood Borough	Upgrade/replace existing pipes installed by private property owners on Clawson Avenue
Action Number:	
YoungwoodB-13	
Location (address, lat/long)	Clawson Ave
Mitigation Technique Category	Structure and Infrastructure Project (SIP)
Hazard(s) Addressed	Flood, Flash Flood, and Ice Jams
Priority (High, Medium, Low)	Low
Estimated Cost	Low
Potential Funding Streams	FEMA HMGP, PDM, FMA; PA DCED FMP; Capital Improvement Budget
Timeline	Short
Lead Agency/Department	DPW
Support Agency(ies)/ Department(s)	Municipal EMC
Project Point of Contact	
Name	
Title	
Agency/Department	
Phone	
E-mail	