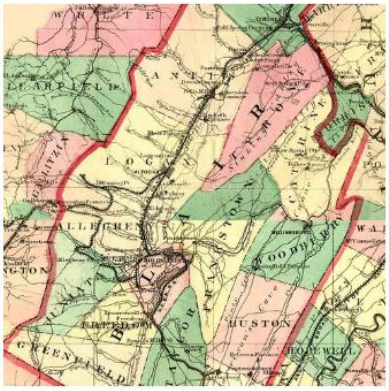











20 BRAVE 26 PLAN

Blair **R**esilience: **A**ddressing **V**ulnerability & **E**xposure

Blair County Hazard Mitigation Plan

Blair Planning

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2026 Blair County Hazard Mitigation Plan

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CERTIFICATION OF ANNUAL REVIEW

The Blair County Planning Committee (BCPC) will review this Hazard Mitigation Plan (HMP).

Year	Date of Meeting	Public Outreach Addressed?	Signature
2026			
2027			
2028			
2029			
2030			
2031			
2032			

RECORD OF CHANGES

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

REMINDER: Please document all associated meeting agendas, sign in sheets, handouts, and minutes

- SECTION 1 -

INTRODUCTION

1.0 INTRODUCTION

1.1. BACKGROUND

Blair Planning, in response to the Disaster Mitigation Act of 2000, organized a countywide hazard mitigation planning effort to prepare, adopt and implement a multi-jurisdictional hazard mitigation plan for Blair County and all 25 Blair County municipalities. Blair Planning then undertook the task of preparing the 2025 update to the 2018 hazard mitigation plan. The 2013 and 2018 hazard mitigation plans have been utilized and maintained during the five-and-ten-year life cycles.

Blair Planning was successful in securing hazard mitigation grant funding to update the Blair County hazard mitigation plan. The pre-disaster mitigation grant funding was administered by the Pennsylvania Emergency Management Agency and provided to the Blair County Planning Commission as a sub-grantee. A local hazard mitigation planning team was developed comprised of government leaders and citizens from Blair County. This updated hazard mitigation plan will provide another solid foundation for the Blair County Hazard Mitigation Program.

Hazard mitigation describes sustained actions taken to prevent or minimize long-term risks to life and property from hazards and to create successive benefits over time. Pre-disaster mitigation actions are taken in advance of a hazard event and are essential to breaking the disaster cycle of damage, reconstruction and repeated damage. With careful selection, successful mitigation actions are cost-effective means of reducing risk of loss over the long-term.

Hazard mitigation planning has the potential to produce long-term and recurring benefits. A core assumption of mitigation is that current dollars invested in mitigation practices will significantly reduce the demand for future dollars by lessening the amount needed for recovery, repair and reconstruction. These mitigation practices will also enable residents, businesses and industries to reestablish themselves in the wake of a disaster, getting the economy back on track sooner and with less interruption.

1.2. PURPOSE

The purpose of the Blair County Hazard Mitigation Plan is:

- To protect life, safety and property by reducing the potential for future damages and economic losses that result from natural hazards.
- To qualify for additional grant funding, in both the pre-disaster and the post-disaster environment.
- To speed recovery and redevelopment following future disaster events.
- To demonstrate a firm local commitment to hazard mitigation principles.
- To comply with both state and federal legislative requirements for local hazard mitigation plans.

1.3. SCOPE

This Blair County Hazard Mitigation Plan serves as a framework for saving lives, protecting assets and preserving the economic viability of the 25 municipalities in Blair County. The hazard mitigation plan outlines actions designed to address and reduce the impact of a full range of natural hazards facing Blair County, including drought, earthquakes, flooding, tornados, hurricanes/tropical storms and severe winter weather. Human caused hazards such as terrorism, hazardous materials releases, and substance use disorders are also addressed.

A multi-jurisdictional planning approach was utilized for the Blair County hazard mitigation plan update, thereby eliminating the need for each municipality to develop its own approach to hazard mitigation and its own planning document. Further, this type of planning effort results in a common understanding of the hazard vulnerabilities throughout the county, a comprehensive list of mitigation projects, common mitigation goals and objectives and an evaluation of a broad capabilities assessment examining policies and regulations throughout the county and its municipalities.

1.4. AUTHORITY AND REFERENCE

Authority for this plan originates from the following federal sources:

- Robert T. Stafford Disaster Relief and Emergency Assistance Act, 42 U.S.C., Section 322, as amended
- Code of Federal Regulations (CFR), Title 44, Parts 201 and 206
- Disaster Mitigation Act of 2000, Public Law 106-390, as amended
- National Flood Insurance Act of 1968, as amended, 42 U.S.C. 4001 et seq.

Authority for this plan originates from the following Commonwealth of Pennsylvania sources:

- Pennsylvania Emergency Management Services Code. Title 35, Pa C.S. Section 101
- Pennsylvania Municipalities Planning Code of 1968, Act 247 as reenacted and amended by Act 170 of 1988
- Pennsylvania Storm Water Management Act of October 4, 1978. P.L. 864, No. 167

The following Federal Emergency Management Agency guides and reference documents were used to prepare this document:

1. FEMA Region 3 High Hazard Potential Dams: *Local and Tribal Mitigation Planning Tips.* June 2025
2. FEMA FP 302-094-2: State Mitigation Planning Policy Guide. May 19, 2025
3. FEMA FP 206-21-0002: Local Mitigation Planning Policy Guide. April 11, 2025
4. FEMA Fact Sheet*: Rehabilitation of High Hazard Potential Dams Mitigation Plan Requirement Fact Sheet* (2025)
5. FEMA: *Local Mitigation Planning Handbook.* June 2025

The following Pennsylvania Emergency Management Agency (PEMA) guides and reference documents were used to prepare this document:

1. *Pennsylvania: HMP Standard Operating Guide Update* June 2025

2. *Commonwealth of Pennsylvania 2023 Hazard Mitigation Plan.* August 28, 2023

The following document produced by the National Fire Protection Association (NFPA) provided additional guidance for updating this plan:

1. NFPA 1660: *Standard for Emergency, Continuity, and Crisis Management: Preparedness, Response, and Recovery.* 2024 (Aware of new version but unable to access in time to use)
2. NFPA 1600: *Standard on Continuity, Emergency, and Crisis Management.* 2019

The following links were used to access all guides, documents, and resources for updating this plan:

- https://www.nfpa.org/en (NFPA 1, 2)
- https://www.fema.gov/emergency-managers/risk-management/hazard-mitigation-planning/create-hazard-plan (FEMA 2, 4, 5)
- https://www.pa.gov/search#q=Hazard%20Mitigation%20Plan.pdf (PEMA 2)
- https://www.pa.gov/content/dam/copapwp-pagov/en/pema/documents/mitigation/planning/pa%20hmp%20standard%20operating%20guide_2025%20update.pdf (PEMA 1)
- https://www.fema.gov/emergency-managers/risk-management/hazard-mitigation-planning (FEMA 3)
- https://www.fema.gov/sites/default/files/documents/fema_r3_high-hazard-potential-dams-local-and-tribal-mitigation-planning-tips_06252024.pdf (FEMA 1)
- https://www.pennsylvaniahmp.com/resource_links (Master List)

- SECTION 2 -

COMMUNITY PROFILE

2.0 COMMUNITY PROFILE

2.1 GEOGRAPHY AND ENVIRONMENT

Blair County was formed on February 26, 1846, from portions of Bedford and Huntingdon Counties. It covers 526 square miles and is in the south-central portion of the Commonwealth of Pennsylvania. It is bounded by Centre County to the north, Huntingdon County to the east, Bedford County to the south, Cambria County to the west, and Clearfield County to the northwest. According to the 2020 Census, the population of Blair County was 122,822.

The County is composed of 25 municipalities, including two home rule municipalities, eight boroughs, and fifteen second class townships. One second class township, Blair Township, is eligible to become a first-class township should it so choose.

Table 1: Blair County Municipalities (Official US Census)

Municipality	Type	2020 Population	Settled
Allegheny	Township	6585	1793
Altoona	Home Rule	43963	1854
Antis	Township	6478	1787
Bellwood	Borough	1827	1877
Blair	Township	4783	1773
Catharine	Township	771	1846
Duncansville	Borough	1255	1831
Frankstown	Township	7399	1787
Freedom	Township	3002	1787
Greenfield	Township	3788	1846
Hollidaysburg	Borough	5641	1768
Huston	Township	1252	1842
Juniata	Township	968	1847
Logan	Township	12413	1850
Martinsburg	Borough	1876	1815
Newry	Borough	230	1793
North Woodbury	Township	2433	1771
Roaring Spring	Borough	2384	1865
Snyder	Township	3344	1840
Taylor	Township	2296	1775
Tunnelhill	Borough	108 (Blair)	1876
Tyrone	Home Rule	5480	1851
Tyrone	Township	1876	1775
Williamsburg	Borough	1233	1790
Woodbury	Township	1437	1787

The US Census also hosts another set of data called Vintage 2024. Nested in that set is the Minor Civil Divisions: 2020 to 2024. It is an annual estimate of the resident population for Minor Civil Divisions, by County. The numbers are an estimate by the US Census and differs slightly from the official Census conduct every 10 years. This data gives us insight into the population trend in Blair County by municipalities.

Table 2: Estimated Population Changes in Municipalities 2020-2024 (Vintage 2024)

Municipality	Type	2020 Pop.	Change	Percentage	2024 Pop.
Allegheny	Township	6,624	-36	-.5%	6,588
Altoona	Home Rule	43,951	-1232	-2.8%	42,719
Antis	Township	6,501	-140	-2.2%	6,361
Bellwood	Borough	1,815	-51	-2.8%	1,764
Blair	Township	4,796	-115	-2.4%	4,681
Catharine	Township	772	-19	-2.5%	753
Duncansville	Borough	1,254	-37	-3%	1,217
Frankstown	Township	7,364	+104	+1.4%	7,468
Freedom	Township	3,000	-49	-1.6%	2,951
Greenfield	Township	3,801	-104	-2.7%	3,697
Hollidaysburg	Borough	5,636	-99	-1.8%	5,537
Huston	Township	1,248	-13	-1%	1,235
Juniata	Township	964	-23	-2.4%	941
Logan	Township	12,413	-246	-2%	12,167
Martinsburg	Borough	1,871	-48	-2.6%	1,823
Newry	Borough	225	=	0%	225
North Woodbury	Township	2,438	-15	-6.2%	2,423
Roaring Spring	Borough	2,369	-72	-3%	2,297
Snyder	Township	3,350	-55	-1.6%	3,295
Taylor	Township	2,313	-54	-2.3%	2,259
Tunnelhill	Borough	108	-3	-2.8%	105
Tyrone	Home Rule	5,468	-156	-2.9%	5,312
Tyrone	Township	1,870	-43	-2.3%	1,827
Williamsburg	Borough	1,233	-30	-2.4%	1,203
Woodbury	Township	1,437	-16	-1.1%	1,421
Total		122,821	-2,552	-2.1%	120,269

Blair County is situated at the headwaters of all three major branches of the Juniata River: the Little Juniata, the Frankstown Branch, and the Raystown Branch. All water in the county drains into the main stem of the Juniata River, on to the Susquehanna River, and into the Chesapeake Bay. As stewards of the headwaters of one of the major tributaries to the Susquehanna, we take our water quality and stewardship responsibilities seriously.

Geologically, the county is located at the western edge of the ridge and valley section of the Commonwealth, in the Southern Alleghenies region. The Allegheny Front, which forms the eastern continental divide in this area, defines the western boundary of the county. The climate is temperate and influenced by both the Allegheny Front and the ridges and valleys of the province. It generally experiences moderately hot summers, with mid-summer temperatures generally reaching the lower 90s and moderately cold winters, when it is not unusual to see a few days in the teens. The record high for the county is 103 degrees, and the record low is -29. In terms of precipitation, the county sees an average of just over 40 inches of rainfall annually, plus an average of 34 inches of snow.

2.2 COMMUNITY FACTS

The economy in Blair County is diverse. The five largest employers are the UPMC Health System, Sheetz, Inc., Commonwealth of Pennsylvania, the Federal Government, and Altoona Area School District. This list does not reflect the importance of the agriculture industry, which tops the list of major industries in the county, by value. Most of our agriculture is conducted on smaller family-oriented farms and businesses and is spread across the county. As such it does not generally appear in 'top ten' lists unless considered as an aggregated whole.

Blair County is characterized by several working landscapes. Sinking Valley and Morrisons Cove are largely agricultural. The Allegheny Front, Tussey Mountain, and mid-county ridges are largely forested. Dotted in these areas are several quarries, processing plants, and settlements. The substantial employers are in the more densely populated communities; however, the larger industries work the landscape and are in the more rural areas.

Recreation is quickly becoming a major industry in the county. For instance, Antis Township and Bellwood Borough are collaborating on numerous efforts to improve the trail systems and amenities at their joint Community Park while new trails such as the 9/11 National Memorial Trail take shape across our region.

2.3 POPULATION AND DEMOGRAPHICS

Using the 2020 Census and the American Community Survey, also a data set by the United States Census Bureau for data beyond 2020, Blair County counted 122,822 people in the county, with a median age of 42 years. The overall population continues to decline and is estimated to be around 120,269 people in 2024 (ACS 2024) with an estimated median age of 43.3. Additionally, the median age is increasing due to people living longer and the outmigration of young people. According to ACS 2024, the county is 89% White, 2% Black, 2% Hispanic, 1% Asian, and 6% with two or more mix. The heaviest immigrant population is from south-central Asia, a trend that mirrors the state.

Limited English proficiency is not widespread in the county. The most common non-English languages spoken are Pennsylvania Dutch, Hindi, and Mandarin. Most speakers of these three languages are also proficient in English. The most common non-English language with many non-English speakers is Spanish. Just 2.65% were classified as 'non-English speakers' with less than 5% of these indicating they had limited English proficiency. Live phone translation service is provided to all municipalities in the county through a contract held by Blair Planning.

According to ACS in 2024, the median household income in the county was $66,994. The per capita income was $37,285. 38% of the population made under $50,000, 31% between $50,000-$100,000, 25% between $100,000-$200,000, and 5% making over $200,000. (Margin of error is at least 10% of the total value.) There is an estimated 11.8% of persons living below poverty level, an estimated amount of 14,192 people. The mean travel time to work was 19.7 minutes a far lower figure than the US average of 27.2 minutes.

There are 50,837 number of households with an average of 2.3 persons per households. 62% of household type were married couples, 20% in non-family, 13% female householder, and 5% male householder. 51% had a marital status of married. The fertility rate of women 15-50 who gave birth during the past year is 2.6%, far lower than the rate in United States – 5%. As for educational attainment in Blair County, 92.8%

are a high school grad or higher compared with 89.9% in United States. 25.8% has a bachelor's degree of higher compared with 36.9% in United States.

2.4 LAND USE AND DEVELOPMENT

The land use is about 65 percent forest/game lands, 20 percent agricultural, and nine percent residential. Over 65 percent of the population is concentrated in less than six percent of the county's land area. The major transportation routes in Blair County include Interstate 99, which runs in a north/south direction and US Route 22 which runs east/west. Secondary major routes include PA 36 through Morrisons Cove, PA 453 along the Little Juniata River, and PA 350 through Bald Eagle.

There have been no major subdivisions in Blair County in over a decade. The development applications are primarily to adjust lot lines and build on previously approved parcels. An occasional plan comes in with a few lots, but this is not common in recent years. More common are commercial land developments requiring site plan review. Even these are modest, tending toward small businesses, start-ups, and family-owned shops.

Major developed areas are centered on the 'Golden Triangle' of Altoona, Duncansville, and Hollidaysburg, with some extension northward along the I-99 corridor toward Tyrone. There has been a rural revitalization in Morrisons Cove in the last quarter century as farming ownership has changed hands and is prospering under the new management. The hollows along the Allegheny Front tend toward the stereotypical Appalachia, often a dozen homesteads along a stream with one proper means of ingress and egress from the neighborhood.

2.5 DATA SOURCES AND LIMITATIONS

The ultimate source of nearly all data in the section comes from some iteration of the United States Census or data created by U.S. Census Bureau. This may be through the Decennial Census, the Economic Census, the American Community Survey, or similar product published by the Bureau. Other sources are the *Alleghenies Ahead* comprehensive plan, the prior iterations of the hazard mitigation plan, the long-range transportation plan, and the Blair Planning public participation plan. All these numbers, apart from the Decennial Census, are based on estimates drawn from the results of surveys. The numbers given have a margin of error that can be quite large. American Community Survey data in Blair County can have a margin of error that can make the number meaningless. This is due to the small population size, and as a result, American Community Survey data are avoided in favor of another source whenever possible.

For the 19 hazard profiles the data we used includes, but are not limited to, DCNR, EPA, FEMA/CISA, FEMA, CDC, National Inventory of Dams, DEP, US Drought Monitor, NOAA, US Geological Society, Pennsylvania Invasive Species Council, PA Department of Health, National Centers for Environmental Information, FBI, United States Energy Information Administration, NASA, United States Department of Homeland Security, PEMA, National Weather Service, ODSMP, University of Pittsburgh, Breast Cancer Research Foundation, Brown University, PA West Nile Virus Control Program, and America's Health Ranking. Some data are not comprehensive, and some data are a few years old. These limitations should be kept in mind.

- SECTION 3 -

PLANNING PROCESS

3.0 PLANNING PROCESS

3.1 UPDATE PROCESS AND PARTICIPATION SUMMARY

County Participants

The Hazard Mitigation Plan update began June of 2022. The Blair County Planning Commission was able to secure a hazard mitigation grant to start the process. The planning process involved a variety of key decision makers and stakeholders within the county. The core hazard mitigation team, which was referred to as the steering committee, included staff from Blair Planning, and the Blair County Department of Emergency Services as well as elected or appointed officials from each municipality. With the outreach program the county was able to contact residents from Snyder township, Tyrone Borough, Duncansville, Logan Township, Allegheny Township, Williamsburg, Catherine, Woodbury Township, Altoona, Antis, Tunnelhill, Freedom Township, etc. and incorporate their insights and concerns into the 2025 BRAVE Plan. Table 6 is an incomplete list of participants that we contacted with the full list in appendix C.

The process was developed around the requirements laid out in the Federal Emergency Management Agency plan review tool, referenced throughout this plan, as well as numerous other guidance documents including, but not limited to, Pennsylvania: Hazard Mitigation Planning Standard Operating Guide (June 2025), Commonwealth of Pennsylvania 2023 Hazard Mitigation Plan (August 28, 2023), FEMA Region 3 High Hazard Potential Dams: Local and Tribal Mitigation Planning Tips (June 2025), FEMA: State Mitigation Planning Policy Guide, FEMA Local Mitigation Planning Policy Guide (April 11, 2025), FEMA Fact Sheet: Rehabilitation of High Hazard Potential Dams Mitigation Plan Requirement Fact Sheet (2025), FEMA: Local Mitigation Planning Handbook (June 2025), and the National Fire Protection Association 1600 Standard on Standard on Continuity, Emergency, and Crisis Management (2019).

Blair Planning and the Blair County Department of Emergency Management coordinated and led public open houses, local planning team meetings, analysis and the writing of the plan update. Blair Planning conducted project meetings and local planning team meetings throughout the process. Meeting agendas, meeting minutes and sign-in sheets were developed and maintained for each meeting; these documents are detailed in Appendix C of this plan.

Schedule & Timeframe

The 2026 BRAVE plan was started in June 2023 with the intent of completion in 2024. A hiatus on the 2026 BRAVE plan occurred for an extended duration during 2025. Stuart Group Consulting was brought on to finish the plan in a few months aiming for PEMA/FEMA approval during May 2026.

Table 3: BRAVE Plan Schedule

Date	Description
June 20, 2023	The beginning of the plan update for Blair County Hazard Mitigation Plan. Reviewed 2018 HMP and 2023 State Hazard Mitigation Plan.

January 2024	Created outreach plan, public workshops, and survey. Executed the outreach plan and documented all forms completed.
July 2024	Discussed feedback from the public workshops and survey. Talked about potential projects and NFIP requirements. Discussed committee's responsibility and status update for the plan.
2025	The plan update was put on hold.
February 2026	Stuart Group Consulting was brought on to help complete the plan. Previous documented forms were provided to SGC. Using PEMA's Local Mitigation Review Tool as the guide, BRAVE plan was deemed acceptable by PEMA March 24th after 4 revisions.
April 2026	Blair County Planning Commission had an administration restructuring. FEMA's Local Mitigation Review Tool feedback came through with 10 unmet items. SGC is aiming for FEMA's approval May 2026.

Planning Process & Activities

During annual municipal outreach meetings, municipal officials were consulted on the status of the plan including its status as well as any changes or updates to projects in the given municipality. At each of these meetings, municipal officials were strongly encouraged to submit hazard mitigation project opportunity forms and complete their respective portions of the capabilities assessment. Blair Planning will continue to work with all local municipalities to collect local hazard mitigation project opportunities.

The hazard mitigation planning process and activities consisted of:

- Applying for and receiving a hazard mitigation grant to fund the planning project.
- Announcing the initiative via press releases and postings on the county website.
- Involving individuals from county office, municipal office, EMA, GIS, Fire Departments, etc. in a series of meetings, training sessions and workshops
- Identifying capabilities and reviewed the information with the municipalities.
- Identifying, ranking, and prioritizing hazards.
- Assessment of risk and analyzing vulnerabilities.
- Identifying mitigation strategies, goals and objectives.
- Developing an implementation plan.
- Announcing completion via press releases and postings on the county website.
- Plan submission to the Federal Emergency Management Agency and the Pennsylvania Emergency Management Agency.
- Plan adoption at a public meeting of the 25 municipalities and the Blair County Board of Commissioners.

- Analyzing and listing community lifelines that would be impacted within vulnerability section of each hazard profile

This plan update passed PEMA April of 2026 and passed FEMA May of 2026. The document follows an outline developed by the Pennsylvania Emergency Management Agency which provides a standardized format for all local hazard mitigation plans in the Commonwealth of Pennsylvania. The 2025 Blair County Hazard Mitigation Plan has reconsidered the impact of climate change adaptation throughout the document and maximizes the efforts and collaboration of state agencies and stakeholders already doing hazard mitigation work.

Table 4: Reviewed Plans, Studies, Reports, and Technical Information

Key Documents Reviewed & Incorporated			
Document/Source	**Publisher**	**Year**	**Incorporation/Review**
2018 Blair County Hazard Mitigation Plan	BCPC	2018	Baseline document in which Hazard Mitigation Planner updated the hazards, actions, and approach. Used to track prior actions and projects.
Pennsylvania State Hazard Mitigation Plan	PEMA	2023	Used to confirm hazard list and align goals, objectives, formatting, and strategy for this BRAVE Plan.
PA HMP Standard Operating Guide	PEMA	2025	Used to start the 5-year Hazard Mitigation Plan Update. This was our timeline guideline & checklist to help meet deadlines.
FEMA Local Mitigation Planning Policy Guide	FEMA	2025	Used as checklist compliance guide. To ensure plan meets requirements.
FEMA Region 3 HHPD: Local and Tribal Mitigation Planning Tips	FEMA R3	2025	Document was to help build High Hazard Potential Dam hazard profile to meet FEMA standard. Although not formatted as a checklist, it was used as one.
Risk Assessment Worksheet	BCPC	2026	A risk assessment worksheet was handed out in municipal outreach meetings to participants to understand concerns about hazards & threats.
Capability Self-Assessment Worksheet	BCPC	2026	A capability self-assessment worksheet was sent out to each municipality to understand their perspective on their ability.
NFIP Check-In Forms	BCPC	2026	NFIP check in form is a form sent out to each flood plain coordinator to inform BCPC on our ability relating to flood.
High Hazard Potential Dam Worksheet	BPCP	2026	Worksheet sent out to dam owners to gather information such as Emergency Action Plans, Inundation Maps, Dam Reports, etc.

3.2 THE PLANNING TEAM

The Plan update was led by the Blair County Steering Committee. The Steering Committee provided guidance and leadership for the overall project. The steering committee disseminated information and undertook administrative tasks and is listed in Table 4.

Table 5: Hazard Mitigation Plan Update Steering Committee

Name	Organization	Position
David McFarland, III	Blair County Planning Commission	*Planning Director
Sherry Socie	Blair County Planning Commission	Strategic Planner
MacKenzie Caron	Blair County Planning Commission	Regional Planner / *Interim Planning Director
Rhonda Kelly	Blair County Planning Commission	Planning Aide
Mark Taylor	Blair County Department of Emergency Services	EMA Director
Cris Fredrickson	Blair County Department of Emergency Services	Operations & Training Coordinator

* 2026 during BRAVE Plan update MacKenzie Caron became Interim Planning Director

To represent the county, a diversified list of potential Local Planning Team members was developed. Members that participated in the 2018 hazard mitigation plan were highly encouraged to join the new team. The steering committee then provided invitations to the prospective members and provided a description of duties to serve on the Team. The following agencies, departments and organizations were invited to participate in the Team: Blair County Commissioners, the Altoona Blair County Development Corporation, Blair County Chamber of Commerce, the Department of Conservation and Natural Resources Bureau of Parks, and Bureau of Forestry, the Pennsylvania Department of Transportation, Pennsylvania State Police, Blair County Conservation District, Pennsylvania Department of Agriculture and all twenty-five municipalities as well as representatives from many of the area's major employers. The invitations for membership were disseminated by Blair Planning utilizing emails and telephone calls. The local planning team worked throughout the process to plan and hold meetings, collect information and conduct public outreach.

The stakeholders, which included officials from Blair County and each of the participating municipalities, served on the 2025 Blair County Hazard Mitigation Local Planning Team, actively participated in the planning process by attending meetings, completing assessments, surveys and worksheets and/or submitting comments.

3.3 MEETINGS AND DOCUMENTATION

Meetings of the local planning team were held as required during plan development. At each of these meetings, municipal officials were strongly encouraged to participate in identifying and prioritizing hazards, review the capability assessment, and provide input on the plan. Four public outreach meetings were held at different locations throughout the county to directly solicit public input into the plan and identify any hazards or capacity concerns that may have been missed. During the municipal interview process, participants were asked to submit hazard mitigation project opportunity forms, complete their respective portions of the capability assessment and review and eventually adopt the plan update. Table 5: Hazard Mitigation Planning Committee Meetings lists the meetings held during the planning process

and the topic that was discussed at each meeting. Meeting-related materials including agendas, advertisements and sign-in sheets, are in Appendix C.

Table 6: Hazard Mitigation Planning Committee Meetings

Date	Description of Meeting
June 20, 2023	Kickoff meeting and update of status of the 2018 Plan. Developed a project triage to prioritize action steps.
October 2, 2023	Reviewed hazards and updates from the 2023 State Hazard Mitigation Plan.
January 8, 2024	Discussed outreach plan for municipalities and public workshops as well as the creation of a survey to identify new and potential hazards. Hosted a flood mapping workshop for planning committee and discussed the possibility of a countywide floodplain administrator.
May 20, 2024	Discussed survey results and feedback from public and municipal workshops related to the hazards that will be included in the plan update, along with discussion on potential projects to be included. Also discussed National Flood Insurance Program requirements for municipalities and public outreach assistance.
July 1, 2024	Discussion on committee's responsibilities and status update of the plan. Also discussed capacity and implementation strategies for the plan. Discussed capability assessment forms and development of action plans to support mitigation strategies. 15 High Hazard Dams were identified and 3 non HHPD.

3.4 PUBLIC AND STAKEHOLDER PARTICIPATION

Blair Planning engaged numerous stakeholders including but not limited to Logan Township Fire Department, DCNR, EMA, Altoona Housing Authority Blair Drug and Alcohol, Blair Senior Service, Blair County GIS (Created all the GIS maps for BRAVE Plan 2026), Blair Unity Way, Family Service Inc, VA Med Center, and encouraged public participation during the plan update process. (Source in Appendix C) Advertisements for public meetings were completed utilizing the local newspaper, social media, and the Blair Planning website. Copies of those advertisements are in Appendix C. Municipalities and other county entities were invited to participate in various meetings and encouraged to review and update various worksheets and surveys. Copies of all meeting agendas, meeting minutes and sign-in sheets are in Appendix C. Municipalities were also encouraged to review hazard mitigation-related items with other constituents located in the municipality like businesses, academia, private and nonprofit interests.

Table 7: List of Local Public Participants

Name	Position/Title	Municipality
Grant Wills	Director of GIS Department	Blair County
David Lynch	Fire Department	Logan Township
Mandy Burgoon	Bureau of Forestry at DCNR	n/a
Mark Taylor	Director of Emergency Management	Blair County
Brad Kanuch	Housing Authority	Altoona
Chelsey Weyant	Conservation Dist./ISC	Blair County
Karen Struble	Unite Way	Blair County
Bill Lightner	Emergency Management	Frankstown Township
Amy Webster	Commissioner	Blair County
Donna Fisher	Conservation Dist.	Blair County
Silke Morrison	LEMC	Allegheny Township
David Rimbeck	Resident	Juniata Township
Jim Callahan	Resident	Frankstown Township
Sunny Consiglio	Resident	Altoona
Tammy Miller	Resident	Freedom Township
Joe Claar	LEMC	Greenfield Township
Gary Garofoli	Resident	Tyrone Township
Cassandra Schmick	Resident	Logan Township
Chris Storm	LEMC	Hollidaysburg Borough
Douglas Brown	Resident	Antis Township
Keith Carper	Resident	Woodbury Township
Eric Oliver	Resident	Snyder Township
Donna Gority	Resident	Duncansville
Melvin Edwards	Resident	Huston Township
Sharon Brower	Resident	North Woodbury Township
Walt Piper	LEMC	Taylor Township
Kenny Brenneman	Resident	Cathrine Township
Troy Bookhammer	Resident	Williamsburg Borough
Dave Snyder	Resident	Bellwood Borough
Gary Garofoli	Resident	Tyrone Township
Dennis Igou	Resident	Roaring Spring Borough
Rich Brantner	LEMC	Martinsburg Borough
Allen Lego	Resident	Tunnel Hill

Our approach to gather information for the BRAVE 2025 Plan was to use the following:

- *Hazard Mitigation Meetings*: Officials participating in regular meetings during the update process were asked to evaluate the 2018 plan and provide input on where changes were needed in the document. This included a re-evaluation of the hazards considered for the 2025 BRAVE plan and a new ranking of these hazards based on local knowledge and experience. Since the majority of those

at the meeting were first responders, the input provided an excellent base of hazards faced in the community.

- *Hazard Assessment Forms:* Hazard assessment forms were handed out to participants at meetings to gather their input on hazards and threats faced in their community. Using these forms, we can gather a ranking and priority of hazards and threats for Blair County based on community experience. We then incorporated their concerns and perspective to the BRAVE Plan.
- *Capability Assessment Forms:* Capability Assessment Forms were emailed out to municipalities to assess their capability. They document what jurisdictions and partners can realistically do to reduce risk based on what plans, staff, programs, funding, and technical resources they already have. Using these we can identify gaps and create mitigation actions.
- *Hazard Mitigation Outreach Meetings:* 4 of these meetings were conducted on March 7th at Northern Blair Senior Center, March 13th at Southern Blair Senior Center, March 14th at TRNG CTR, and March 21st at Williamsburg Community Center. The objective of these meetings was community outreach to identify local hazards and gather public input for the BRAVE 2025 Plan. (Appendix C)
- *Municipal Interviews*: Blair Planning staff conducted interview discussions with most of the twenty-five municipalities in the county in 2023 & 2024. These interviews ensured participation by all the municipalities in the county, gave assurance that all were aware of the process, needs, and requirements, and provided staff with the municipal viewpoint on potential hazards and mitigation projects in the county, each planning region, and each municipality. These interviews form the basis of the approaches outlined in Section Six.

A timeline that provided appropriate opportunities for public comment was utilized during the review and drafting process. Any public comment that was received during public meetings or during the draft review of the plan were documented and included in the plan. Copies of public meeting notices, workshop invitations, and survey are included in Appendix C of this plan.

Blair Planning invited all contiguous counties to review the draft hazard mitigation plan. A notice was sent to the county planners in Bedford County, Cambria County, Centre County, Clearfield County and Huntingdon County, and is included in Appendix C.

New but incomplete addition to Stakeholder participation section is Community Lifeline. A lifeline enables the continuous operation of critical government and business functions and is essential to human health and safety or economic security. (FEMA) Lifelines are the most fundamental services in a community that enables all other aspects of society to function. This list will have the dual purpose of listing those who can contribute to the plan in those lifelines and as a handy list of knowing who has what functions in times of emergency. This section will be expanded upon in the future planning cycle.

Table 8: Community Lifeline Stakeholders

Community Lifeline Stakeholders		
Community Lifeline	**Examples**	**Ability**
Safety and Security	Law enforcement (Altoona Police Dept.), BC (Blair County) fire dept. BC dept. of emergency services 911 & emergency management	• Firsthand knowledge of threats and gaps • Knowledge of past hazard events and response systems

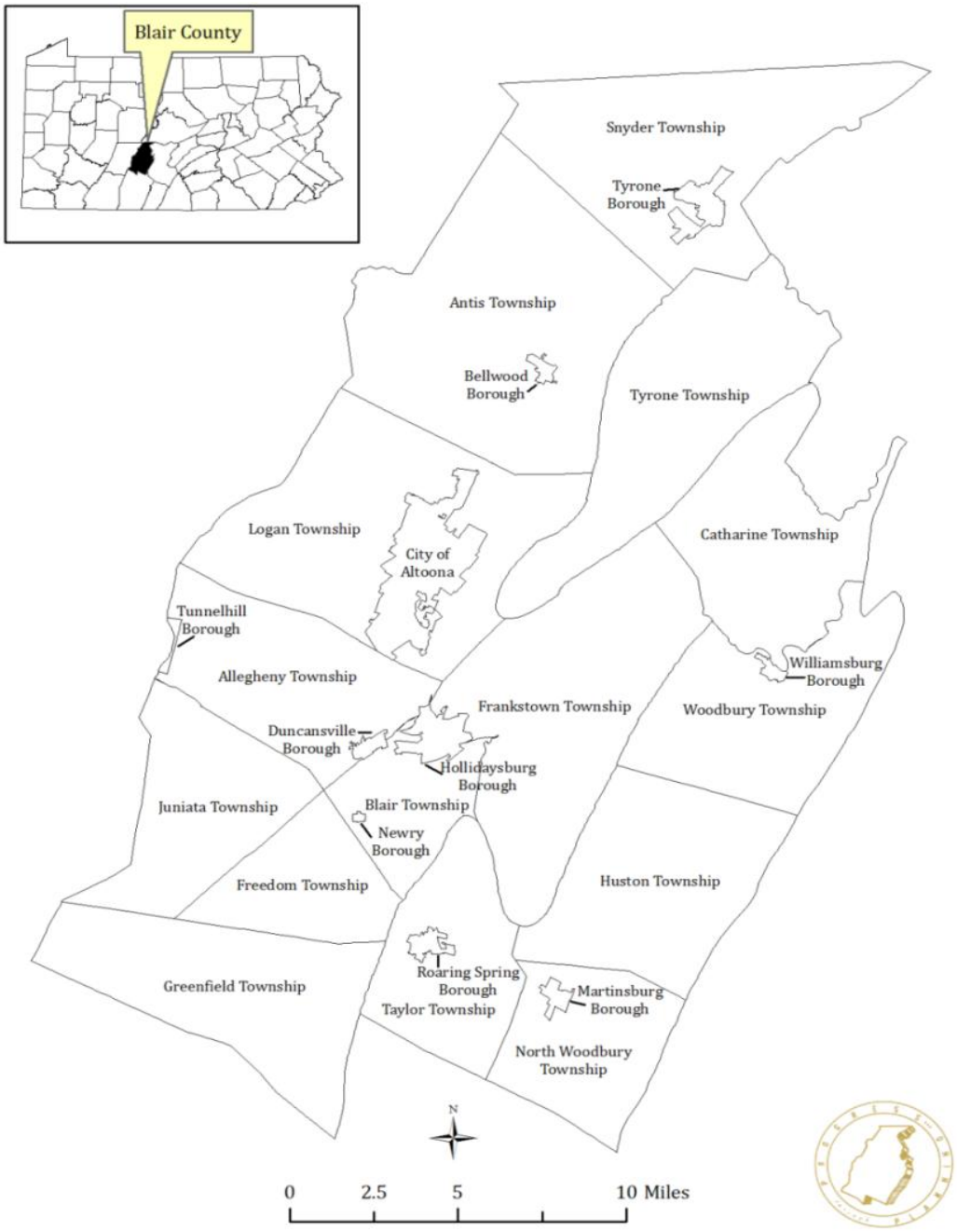
Hazardous Materials	HAZMAT team, BC dept. of emergency services 911 & emergency management	• Firsthand knowledge on hazardous materials and gaps
Food, Hydration, Shelter	Altoona Water Authority, Blair County Food Banks, Blair County Salvation Army	• Coordinate food and water distribution • Ensure shelter during incident
Health and Medical	UPMC Altoona, Conemaugh Nason Medical Center, Encompass Health Rehabilitation Hospital	• Connect traditional health medical and social services and mitigation funds • Inform planners the reality of healthcare networks and systems
Energy	Penelec FirstEnergy Company is Altoona's point of contact for electric outage.	• Identify infrastructure assets at risk • Develop plans for hazards and gaps
Transportation	PennDOT maintain certain highways. AMTRAN provides bus services. Northfolk Southern freight rail is a major player.	• Identify infrastructure assets at risk • Develop plans for hazards and gaps
Water Systems	Altoona Water Authority	• Identify infrastructure assets at risk • Develop plans for hazards and gaps
Communications	Communication infrastructure (wireless, cable, broadcast, internet, satellite), responder communications, alerts and warnings, messages, 911 dispatch, etc.	• Identify infrastructure assets at risk • Develop plans for hazards and gaps

3.5 MULTI-JURISDICTIONAL PLANNING

For a multi-jurisdictional hazard mitigation plan to be approved, each municipality that is included in the plan must have its governing body adopt the plan, even though the Blair County Emergency Management Agency has the authority to prepare such a plan on behalf of the respective jurisdictions. No special districts are seeking adoption of the plan at this time.

Once adopted, resolutions for the plan are included in Section Eight and are summarized in the table 5. Information regarding the adoption of the plan is also included.

Figure 1: Blair County Municipal Map



Blair County's 25 municipalities (see Table 8) were involved throughout the hazard mitigation planning process. Municipal emergency management coordinators were informed about the project at their quarterly training sessions. Municipal officials provided information related to existing codes and ordinances, known hazard areas, the severity of past hazard events, and the location of critical facilities. Municipalities also identified the mitigation measures they completed under the 2018 plan. Municipal officials also provided input on the hazard identification and risk assessment and hazard mitigation strategy sections of the plan. Municipal involvement in this hazard mitigation planning program was further emphasized during review of the draft plan and by adopting the final plan.

Table 9: 2025 Multi-Jurisdiction Summary Sheet

Municipality	A: Planning Process	B: Risk Assessment	C: Mitigation Strategy	D: Plan Maintenance	E: Plan Update	F: Plan Adoption	G: HHPD Requirements	H: State Requirements
Blair County	(Y)	(Y)	(Y)	(Y)	(Y)	(N)	(Y)	(N)
Altoona Municipality	(Y)	(Y)	(Y)	(Y)	(Y)	(N)	(Y)	(N)
Tyrone Municipality	(Y)	(Y)	(Y)	(Y)	(Y)	(N)	(Y)	(N)
Bellwood Borough	(Y)	(Y)	(Y)	(Y)	(Y)	(N)	(Y)	(N)
Duncansville Borough	(Y)	(Y)	(Y)	(Y)	(Y)	(N)	(Y)	(N)
Hollidaysburg Borough	(Y)	(Y)	(Y)	(Y)	(Y)	(N)	(Y)	(N)
Newry Borough	(N)	(N)	(N)	(N)	(N)	(N)	(Y)	(N)
Martinsburg Borough	(Y)	(Y)	(Y)	(Y)	(Y)	(N)	(Y)	(N)
Roaring Spring Borough	(Y)	(Y)	(Y)	(Y)	(Y)	(N)	(Y)	(N)
Tunnelhill Borough	(Y)	(Y)	(Y)	(Y)	(Y)	(N)	(Y)	(N)
Williamsburg Borough	(Y)	(Y)	(Y)	(Y)	(Y)	(N)	(Y)	(N)
Allegheny Township	(Y)	(Y)	(Y)	(Y)	(Y)	(N)	(Y)	(N)
Antis Township	(Y)	(Y)	(Y)	(Y)	(Y)	(N)	(Y)	(N)
Blair Township	(Y)	(Y)	(Y)	(Y)	(Y)	(N)	(Y)	(N)
Catharine Township	(Y)	(Y)	(Y)	(Y)	(Y)	(N)	(Y)	(N)
Frankstown Township	(Y)	(Y)	(Y)	(Y)	(Y)	(N)	(Y)	(N)
Freedom Township	(Y)	(Y)	(Y)	(Y)	(Y)	(N)	(Y)	(N)
Greenfield Township	(Y)	(Y)	(Y)	(Y)	(Y)	(N)	(Y)	(N)
Huston Township	(Y)	(Y)	(Y)	(Y)	(Y)	(N)	(Y)	(N)
Juniata Township	(Y)	(Y)	(Y)	(Y)	(Y)	(N)	(Y)	(N)
Logan Township	(Y)	(Y)	(Y)	(Y)	(Y)	(N)	(Y)	(N)
North Woodbury Township	(Y)	(Y)	(Y)	(Y)	(Y)	(N)	(Y)	(N)
Snyder Township	(Y)	(Y)	(Y)	(Y)	(Y)	(N)	(Y)	(N)
Taylor Township	(Y)	(Y)	(Y)	(Y)	(Y)	(N)	(Y)	(N)
Tyrone Township	(Y)	(Y)	(Y)	(Y)	(Y)	(N)	(Y)	(N)
Woodbury Township	(Y)	(Y)	(Y)	(Y)	(Y)	(N)	(Y)	(N)
Our risk assessment forms (Appendix C) do not have names or municipality attached to them, but discussions on ranking / prioritization of hazards / plan update are present at almost every meeting. We do not have document of Newry residents or officials at the meetings.								

- SECTION 4 -

RISK ASSESSMENT

4.0 RISK ASSESSMENT

4.1 UPDATE PROCESS SUMMARY

A key part of reducing future losses is understanding current risks and identifying practical ways to lower them. The risk assessment is the first step in the mitigation process. It identifies the natural and human-caused hazards that could affect Blair County and describes each hazard in terms of probability and frequency, magnitude and severity, exposure, consequences, and overall county impact.

This plan uses an all-hazards approach. The risk assessment provides the information needed to develop mitigation strategies and supports the Blair County Emergency Operations Plan, municipal emergency operations plans, and other public and private emergency plans.

The risk assessment is not static. It requires periodic updates because risk changes over time due to new technology, new facilities and infrastructure, development patterns, and demographic and socioeconomic shifts. Older hazards (such as brownfields or landfills) may also pose different risks as conditions change. Past events are useful for context, but they are not sufficient on their own because development and other conditions change over time.

For this update, the Blair County Local Planning Team reviewed all hazards from the 2018 hazard mitigation plan and evaluated additional hazards identified in the 2023 Pennsylvania Hazard Mitigation Plan that could affect Blair County. The team used PEMA's hazard identification and risk evaluation worksheet as part of this process. Blair Planning also met with municipalities, provided guidance, and gathered input on hazard capacity and mitigation issues. Flooding, hazardous materials, and the sustainability of local emergency services were the primary risks raised during municipal meetings.

After hazards were identified and profiled, the planning team completed a vulnerability assessment for each hazard. The team inventoried vulnerable assets using tabular data, spatial data, and local knowledge. The most recent county assessment data and HAZUS were used to estimate losses. Each hazard was then assigned a risk factor using the hazard prioritization matrix to help the County and municipalities focus mitigation efforts on areas most likely to be damaged or require early response.

In future updates, Blair County will expand its use of FEMA's Community Lifelines framework in both the capability assessment and within each hazard profile. The intent is to more clearly show how each hazard could disrupt essential services, what existing capabilities support lifeline stabilization, and where gaps remain. This will help connect mitigation actions to the systems that are most important for maintaining public health, safety, and economic security.

In the next planning cycle, the County will also make a focused effort to improve how economic impacts are documented. Where data are available, the plan will estimate hazard-related costs such as property damage, infrastructure repair, business interruption, agricultural losses, response costs, and long-term recovery needs. Better economic impact information will support stronger prioritization of mitigation projects, improve grant competitiveness, and help decision makers target limited resources toward actions that reduce the greatest losses.

Each hazard profile in this update includes an assessment by Blair County planning region. This regional breakout appears at the end of the Risk Assessment subsection for each hazard. If planning regions are

not appropriate for a specific hazard, an alternate local-level breakout is used. Blair County planning regions are shown in Table 9. The population count is not comprehensive, but the population from the 2020 US Census for each major municipality.

Table 10: Blair County Planning Regions

Region	Municipalities Included	Est. 2020 Pop.
Region One	Snyder Township (3,344), Tyrone Borough (5,480), Tyrone Township (1,876)	10,700
Region Two	Antis Township (6,478), Bellwood Borough (1,827)	8,305
Region Three	Altoona City (43,963), Logan Township (12,413)	56,376
Region Four	Catharine Township (771), Williamsburg Borough (1,233), Woodbury Township (1,437)	3,441
Region Five	Allegheny Township (6,585), Blair Township (4,783), Duncansville Borough (1,255), Frankstown Township (7,399), Hollidaysburg Borough (5,641), Newry Borough (230), Tunnelhill Borough (108)	26,001
Region Six	Huston Township (1,252), Martinsburg Borough (1,876), North Woodbury Township (2,433), Roaring Spring Borough (2,384), Taylor Township (2,296)	10,241
Region Seven	Freedom Township (3,002), Greenfield Township (3,788), Juniata Township (968)	7,758

4.2 HAZARD IDENTIFICATION

Based on historical occurrences specific to Blair County, the Hazard Mitigation Steering Committee developed a list of known natural hazards to be addressed in this plan. These known natural hazards were identified through an extensive process that involved the following:

- Input from discussions from Hazard Mitigation Meeting Committee, Hazard Mitigation Outreach Meetings, and Municipal Interviews
- Hazard Assessment Forms
- PEMA' state defined list of hazards
- Review of natural disaster history specific to Blair County (see Table 10)
- Analysis of hazard identification and risk assessment publications at the state level
- Review of "NFPA 1600" hazards
- Limited field reconnaissance

In addition, the Planning Commission's geographic information system database was used as an important resource in identifying and mapping the County's infrastructure, critical facilities, and land uses. Data from this source and spatial data made available from other project participants were used to

determine those hazards that present the greatest risk to the County. The discussion presented in the following pages summarize these hazards.

Table 11: History of Events in Blair County Since 2000

Hazard	Date	Fatalities	Injuries	Estimated Property Damage (2026)
Wind	1/16/2000	0	0	$36,392.16
Severe Storm	6/2/2000	0	0	$18,196.07
Severe Storm	6/21/2000	0	0	$3,639.21
Wind	12/12/2000	0	0	$27,591.89
Wind	2/10/2001	0	0	$10,601.42
Winter Weather	3/4/2001	0	0	$8,846.31
Flooding	5/26/2001	0	0	$17,692.63
Wind	3/9/2002	0	0	$2,638.98
Flooding	8/9/2003	0	0	$425,728.91
Flooding - Ivan	9/17/2004	1	0	$2,513,246.33
Wind - Ivan	9/17/2004	0	0	$8,277.12
Wind	2/17/2006	0	0	$2,825.91
Wind	12/1/2006	0	0	$470.99
Wind - Ike	9/14/2008	0	1	$0.00
Winter Weather	1/6/2009	0	0	$224.70
Wind	2/12/2009	0	0	$65,115.03
Flash Flood	6/20/2009	0	0	$36,513.10
Severe Storm	7/21/2009	0	0	$7,302.62
Severe Storm	8/10/2009	0	0	$7,302.62
Wind	10/7/2009	0	0	$10,041.11
Severe Storm	4/16/2010	0	0	$7,184.77
Severe Storm	5/14/2010	0	0	$14,369.55
Severe Storm	5/14/2010	0	0	$14,369.55
Flooding	12/1/2010	0	0	$14,369.55
Severe Storm	6/10/2011	0	0	$6,964.92
Severe Storm	7/29/2011	0	0	$6,964.92
Severe Storm	9/27/2011	0	0	$6,964.92
Severe Storm	5/27/2012	0	0	$6,823.70
Severe Storm	5/27/2012	0	0	$6,823.70
Severe Storm	5/27/2012	0	0	$6,823.70
Severe Storm	6/1/2012	0	0	$6,823.70
Severe Storm	7/7/2012	0	0	$13,647.42
Severe Storm	9/8/2012	0	0	$6,823.70
Severe Storm	1/30/2013	0	0	$6,725.20
Severe Storm	5/10/2013	0	0	$13,450.40
Severe Storm	5/10/2013	0	0	$3,362.60
Severe Storm	6/25/2013	0	0	$6,725.20
Severe Storm	6/25/2013	0	0	$6,725.20
Severe Storm	7/7/2013	0	0	$2,690.08
Severe Storm	5/13/2014	0	0	$1,323.57
Severe Storm	7/3/2014	0	0	$2,647.13
Severe Storm	7/27/2014	0	0	$1,323.57
Severe Storm	7/27/2014	0	0	$1,323.57
Severe Storm	7/27/2014	0	0	$1,323.57
Severe Storm	7/27/2014	0	0	$1,323.57
Severe Storm	7/27/2014	0	0	$1,323.57
Severe Storm	6/8/2015	0	0	$ 656.70.00
Severe Storm	6/12/2015	0	0	$ 1,313.41.00
Severe Storm	6/12/2015	0	0	$ 1,313.41.00
Thunderstorm	2/12/2017	0	0	$3,966.00
Thunderstorm	4/30/2017	0	0	$19,830.00

Thunderstorm	5/1/2017	0	0	$9,254.00
Thunderstorm	5/30/2017	0	0	$3,966.00
Thunderstorm	6/15/2017	0	0	$1,322.00
Thunderstorm	6/15/2017	0	0	$1,322.00
Thunderstorm	8/4/2017	0	0	$3,966.00
Thunderstorm	8/4/2017	0	0	$2,644.00
Thunderstorm	8/4/2017	0	0	$2,644.00
Thunderstorm	8/19/2017	0	0	$5,288.00
Thunderstorm	8/19/2017	0	0	$5,288.00
Thunderstorm	8/19/2017	0	0	$19,830.00
Thunderstorm	8/19/2017	0	0	$3,966.00
Thunderstorm	8/19/2017	0	0	$3,966.00
Thunderstorm	8/19/2017	0	0	$66,100.00
Thunderstorm	1/12/2018	0	0	$1,291.00
Thunderstorm	7/2/2018	0	0	$3,873.00
Thunderstorm	7/2/2018	0	0	$3,873.00
Thunderstorm	4/14/2019	0	0	$3,873.00
Thunderstorm	5/19/2019	0	0	$3,873.00
Thunderstorm	5/28/2019	0	0	$10,328.00
Thunderstorm	5/29/2019	0	0	$3,873.00
Thunderstorm	5/29/2019	0	0	$1,291.00
Thunderstorm	5/29/2019	0	0	$1,291.00
Thunderstorm	7/2/2019	0	0	$3,873.00
Thunderstorm	8/2/2019	0	0	$3,873.00
Thunderstorm	8/2/2019	0	0	$10,328.00
Thunderstorm	8/2/2019	0	0	$1,291.00
Thunderstorm	8/2/2019	0	0	$3,873.00
Thunderstorm	8/6/2019	0	0	$7,746.00
Thunderstorm	8/15/2019	0	0	$5,164.00
Thunderstorm	8/15/2019	0	0	$5,164.00
Thunderstorm	9/11/2019	0	0	$2,582.00
Thunderstorm	3/3/2020	0	0	$2,504.00
Thunderstorm	4/13/2020	0	0	$3,756.00
Thunderstorm	4/13/2020	0	0	$3,756.00
Thunderstorm	6/3/2020	0	0	$5,008.00
Thunderstorm	7/21/2020	0	0	$1,252.00
Thunderstorm	8/4/2020	0	0	$5,008.00
Thunderstorm	8/27/2020	0	0	$18,780.00
Thunderstorm	8/27/2020	0	0	$6,260.00
Thunderstorm	8/27/2020	0	0	$2,504.00
Thunderstorm	8/27/2020	0	0	$3,756.00
Thunderstorm	5/26/2021	0	0	$2,392.00
Thunderstorm	5/26/2021	0	0	$4,784.00
Thunderstorm	7/7/2021	0	0	$2,392.00
Thunderstorm	7/7/2021	0	0	$9,568.00
Thunderstorm	7/7/2021	0	0	$4,784.00
Thunderstorm	7/7/2021	0	0	$3,588.00
Thunderstorm	7/7/2021	0	0	$2,392.00
Thunderstorm	7/11/2021	0	0	$2,392.00
Thunderstorm	7/11/2021	0	0	$2,392.00
Thunderstorm	7/11/2021	0	0	$3,588.00
Thunderstorm	7/11/2021	0	0	$4,784.00
Thunderstorm	7/11/2021	0	0	$3,588.00
Thunderstorm	7/11/2021	0	0	$3,588.00
Thunderstorm	7/13/2021	0	0	$7,176.00
Thunderstorm	7/13/2021	0	0	$4,784.00
Thunderstorm	8/18/2021	0	0	$4,784.00
Thunderstorm	10/21/2021	0	0	$17,940.00
Thunderstorm	10/21/2021	0	0	$4,784.00

Thunderstorm	3/7/2022	0	0	$3,324.00
Thunderstorm	3/7/2022	0	0	$2,216.00
Thunderstorm	6/22/2022	0	0	$4,432.00
Thunderstorm	6/22/2022	0	0	$3,324.00
Thunderstorm	6/22/2022	0	0	$4,432.00
Thunderstorm	6/22/2022	0	0	$3,324.00
Thunderstorm	7/1/2022	0	0	$6,648.00
Thunderstorm	7/1/2022	0	0	$6,648.00
Thunderstorm	7/1/2022	0	0	$4,432.00
Thunderstorm	7/1/2022	0	0	$4,432.00
High Wind	3/4/2023	0	0	$42,560.00
Thunderstorm	6/3/2023	0	0	$3,192.00
Thunderstorm	7/20/2023	0	0	$4,256.00
Thunderstorm	7/20/2023	0	0	$3,192.00
Thunderstorm	8/12/2023	0	0	$3,192.00
High Wind	1/10/2024	0	0	$46,485.00
Thunderstorm	6/26/2024	0	0	$2,066.00
Thunderstorm	6/26/2024	0	0	$3,099.00
Thunderstorm	6/29/2024	0	0	$5,165.00
Wildfire	11/8/2024	0	0	$2,066,000.00
High Wind	2/16/2025	0	0	$10,000.00
Thunderstorm	3/16/2025	0	0	$10,000.00
Thunderstorm	3/16/2025	0	0	$80,000.00
Thunderstorm	3/16/2025	0	0	$2,000.00
Thunderstorm	3/16/2025	0	0	$5,000.00
Strong Wind	4/15/2025	0	0	$10,000.00
Thunderstorm	4/29/2025	0	0	$5,000.00
Thunderstorm	4/29/2025	0	0	$50,000.00
Thunderstorm	4/29/2025	0	0	$5,000.00
Thunderstorm	4/29/2025	0	0	$10,000.00
Thunderstorm	4/29/2025	0	0	$40,000.00
Thunderstorm	4/29/2025	0	0	$10,000.00
Thunderstorm	4/29/2025	0	0	$25,000.00
Thunderstorm	6/9/2025	0	0	$1,000.00
Thunderstorm	6/9/2025	0	0	$3,000.00
Thunderstorm	7/26/2025	0	0	$4,000.00
NOAA NCEI 2026				

The cumulative effect of these enumerated hazards resulted in one fatality, one injury, and a little over $12 million in estimated property damages (adjusted for inflation 2026). Note these numbers are conservative as complete loss data for these events were not always available.

Additionally, the Blair County agriculture industry has filed $17.9 million in claims related to natural events during the same period (2000-2024). These claims were due to crop damage from storms, drought, and the adverse effects of very cold weather.

Man-made disasters have also occurred within Blair County. Examples include hazardous material incidents, fires, and explosions. Other incidents include the Logan Valley Mall fire of 1994, the Smith Transport fire of 1994, and the Lakemont explosion of 1998.

Using Pennsylvania Hazard Mitigation Plan Standard Operating Guide Update June 2025 guide as the basis for hazard profiles, we decided to not include coastal erosion, expansive soils, extreme temperature, hailstorm, lightning strike, building and structure collapse, civil disturbance, disorientation, drowning, coal mining, conventional oil and gas wells, gas and liquid pipeline, unconventional oil and gas wells, levee

failure, mass food/animal feed contamination, nuclear incident, transportation accident, war & criminal activity. Blair County has little to no, coastal erosion, expansive soils, lightning strike, building and structure collapse civil disturbance, coal mining, conventional oil and gas wells, unconventional oil and gas well, gas and liquid pipeline, levees, and nuclear plants. We may have some hailstorm and mass food/animal feed contamination. War and criminal activities are not super common and already handled by typical law enforcement activities. We will consider extreme temperature, disorientation, drowning, transportation accidents in the future planning cycle.

4.2.1 PRESIDENTIAL AND GUBERNATORIAL DISASTER DECLARATIONS

Table 11: Presidential & Gubernatorial Disaster Declarations presents a list of all Presidential and Governor's Disaster Declarations that have affected Blair County from 1972 through 2024, according to the Pennsylvania Emergency Management Agency. Figure 2 shows a map of PA disaster declaration as of 10/20/2021.

Figure 2: PA Disaster Declaration

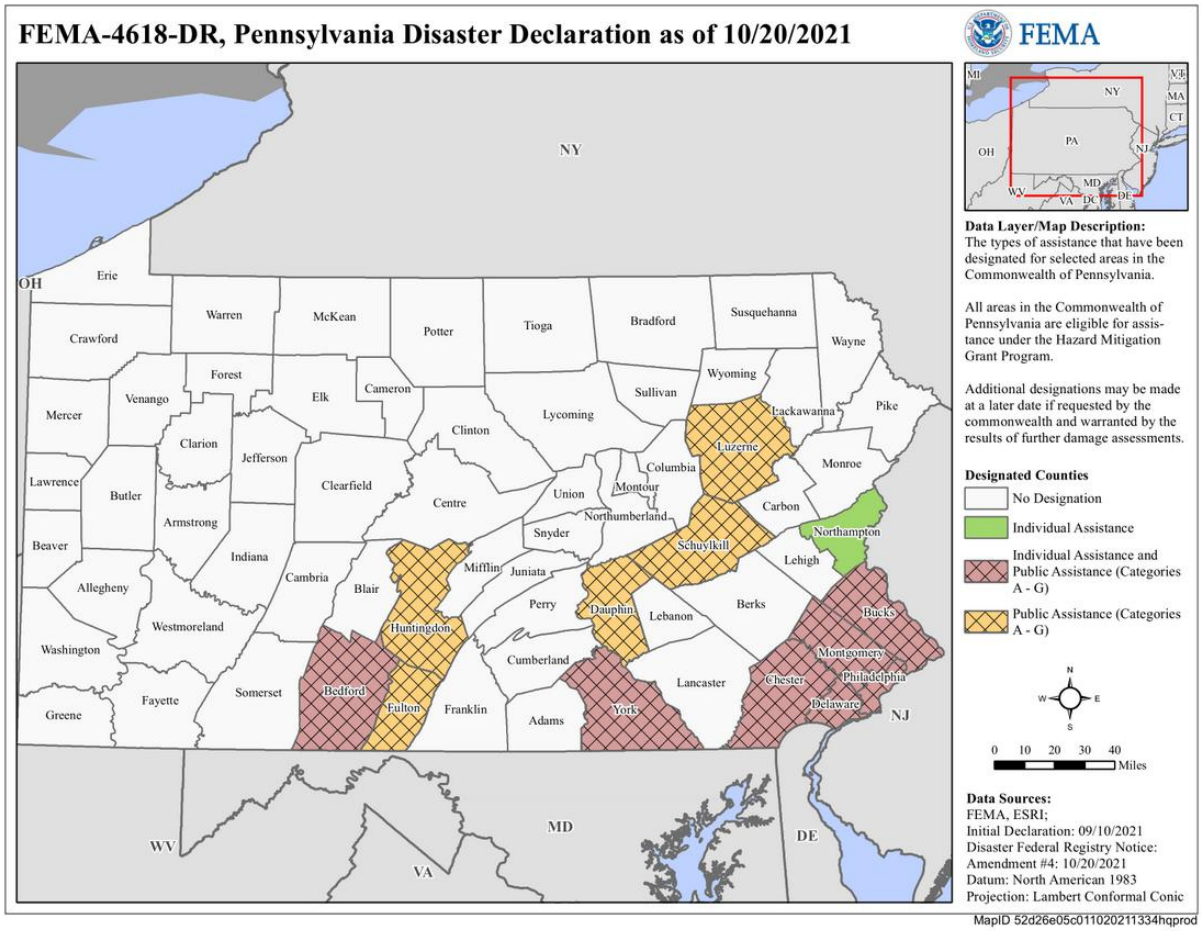


Table 12: Presidential & Gubernatorial Disaster Declarations

Date	Event	Date	Event
Presidential Declarations		***Gubernatorial Declarations***	
August 2024	Tropical Storm Debby	**August 2021**	Hurricane Ida
August 2021	Hurricane Ida	**April 2021**	Civil Disturbance
March 2020	Covid-19 Pandemic	**February 2021**	Winter Weather
October 2012	Hurricane Sandy	**December 2020**	Winter Event
September 2011	Tropical Storm Lee	**March 2020**	COVID-19
April 2010	Winter Storm	**January 2019**	Severe Winter Event
June 2006	Flooding	**August 2018**	Severe Weather Event
September 2005	Hurricane Katrina	**June 2018**	Severe Weather Event
September 2004	Hurricane Ivan	**January 2018**	Opioid Crisis
September 2004	Tropical Depression Frances	**March 2017**	Winter Storm
February 2003	Winter Storm	**January 2016**	Winter Storm
September 2003	Hurricane Isabel	**August 2015**	Severe Storms
		January 2015	Winter Storm
		February 2014	Winter Storm
		January 2014	Extreme Weather
		June 2013	Severe Storms
		October 2012	Hurricane Sandy
		April 2012	Winter Storm
		August 2011	Hurricane Irene
		January 2011	Winter Storm
		February 2010	Winter Storm
		April 2007	Severe Storms
		February 2007	Winter Storm
		September 2006	Tropical Depression Ernesto
		September 2005	Hurricane Katrina

4.2.2 SUMMARY OF HAZARDS

The local planning team was provided the Pennsylvania Standard List of Hazards to be considered for evaluation in the 2025 plan update. Following a review of the hazards considered during the planning process as well as the standard list of hazards, the local planning team decided that the 2025 plan should identify, profile and analyze 18 hazards, including the four in the 2018 Plan Update. The list below contains a description of the hazards that have the potential to impact Blair County as identified through previous risk assessments, the Blair County Hazards Vulnerability Analysis and input from those that participated in the 2025 plan update. Hazard profiles are included in Section 4.3 for each of these hazards.

Community Hazard Concern

On July 1st, 2024, during a hazard mitigation committee meeting in Altoona, Ms. Socie brought up Homelessness and human trafficking as hazards that should be added to the ranking per EMA Director Mark Taylor. These 2 hazards are not state-defined and thus cannot be incorporated into the BRAVE Plan as an official hazard profile, but they still impact PA residents enough to be noted here. Mr. McFarland suggests that it be incorporated into the BRAVE Plan. A small section will be dedicated to these community hazard raised by concern Blair County citizens.

Homelessness (Community Hazard Concern #1)

Nationally, the number of individuals experiencing homelessness from 2022 to 2024 has increased by 90,615 to a total of 512,007. In 2024, an estimated 14,088 number of Pennsylvanians are experiencing Homelessness. From the Department of Community & Economic Development (DCED) we have data from Continuums of Care (CoC), planning bodies promoting ending of homelessness. On January 21, 2026, Blair County's Center for Community Action conducted a Point-in-Time count of homeless people in cooperation with U.S. Department of Housing and Urban Development's nationwide effort. Due to the brutal weather condition, most people were out of sight and Blair County counted 10 in total – a number categorize as barely meaningful (Altoona Mirror 2026). In 2024, they counted 101, but a "by name list" contains 271 individuals. Continue efforts of PIT by Center for Community Action will help give Blair County a better view into the number and trend of homelessness in Blair County.

Human Trafficking (Community Hazard Concern #2)

Human trafficking is a type of human rights abuse where people profit from the exploitation of others using force, fraud, or coercion to manipulate victims into sex acts or labor/services in exchange for something of value. Those under age 18 who exchange sex for something of value are human trafficking victims, regardless of whether force, fraud, or coercion is involved. Over the past five years, 1,432 human-trafficking offenses were filed on 431 cases. In 2024 PA, 318 human trafficking offenses were filed. Blair County was among the top 10 counties with the highest number of human-trafficking offenses filed at 5%. (Administrative Office of Pennsylvania Courts) This can be quite alarming, but according to PA UCR, Blair County had 2 incidents human trafficking offenses in 2024 and 7 in 2023. AOPC and PA UCR are using different definitions and tracking different things so keep this in mind.

Drought

Drought is defined as a deficiency of precipitation experienced over an extended period of time, usually a season or more. Droughts increase the risk of other hazards, like wildfires, flash floods, and landslides or debris flows. This hazard is of particular concern in Pennsylvania due to the prevalence of farms and other

water-dependent industries, water-dependent recreation uses, and residents who depend on wells for drinking water.

Earthquake

An earthquake is the motion or trembling of the ground produced by sudden displacement of rock usually within the upper 10-20 miles of the Earth's crust. Earthquakes result from crustal strain, volcanism, landslides, or the collapse of underground caverns. Earthquakes can affect hundreds of thousands of square miles, cause damage to property measured in the tens of billions of dollars, result in loss of life and injury to hundreds of thousands of persons and disrupt the social and economic functioning of the affected area.

Flood, Flash Flood, Ice Jam

Flooding is the temporary condition of partial or complete inundation on normally dry land, and it is the most frequent and costly of all hazards in Pennsylvania. Flash flooding is usually a result of heavy localized precipitation falling in a short period over a given location, often along mountain streams and in urban areas where much of the ground is covered by impervious surfaces. Winter flooding can include ice jams which occur when warm temperatures and heavy rain cause snow to melt rapidly. Snow melt combined with heavy rains can cause frozen rivers to swell, which breaks the ice layer on top of a river. The ice layer often breaks into large chunks, which float downstream, piling up in narrow passages and near other obstructions such as bridges and dams.

Environmental Hazards – Hazardous Materials Releases

Hazardous material releases can contaminate air, water, and soils, and have the potential to cause injury or death. Dispersion can take place rapidly when transported by water and win. While often accidental, releases can occur because of human carelessness, intentional acts, or natural hazards. When caused by natural hazards, these incidents are known as secondary events.

Invasive Species

An invasive species is a species that is not indigenous to the ecosystem under consideration and whose introduction causes or is likely to cause economic or environmental harm or harm to human health. These species can be any type of organism: plant, fish, invertebrate, mammal, bird, disease, or pathogen.

Substance Use Disorder

Substance use can come in many forms including but not limited to alcohol, opioid, cocaine, prescription pain relievers, etc. Opioid addiction occurs when an individual becomes physically dependent on opioids (opiates and narcotics). Opioids are a synthetic substance found in certain prescription pain medications: morphine, codeine, methadone, oxycodone, hydrocodone, fentanyl, and hydromorphone, and street drugs like heroine. Opioids block the body’s ability to feel pain and can create a sense of euphoria. Individuals often build a tolerance to opioids, which leads them to take more of the medication than originally prescribed.

Radon Exposure

Radon is a radioactive gas produced by the breakdown of uranium in soil and rock that can lead to lung cancer in people exposed over a long period of time. Most exposure comes from breathing in radon gas that enters homes and buildings through foundation cracks and other openings. According to the DEP, approximately 40% of Pennsylvania homes have elevated radon levels.

Tornado, Windstorm

A tornado is a narrow, violently rotating column of air that extends from the base of a thunderstorm to the ground. About 1,250 tornadoes hit the U.S. each year, with around 16 hitting PA. Damaging winds exceeding 50-60 miles per hour can occur during tornadoes, severe thunderstorms, winter storms, or coastal storms. These winds can have severe impacts on buildings, pulling off the roof covering, roof deck, or wall siding and pushing or pulling off the windows.

Hurricane, Tropical Storm, Nor'easter

Hurricanes, tropical Storms, and nor'easters are classified as cyclones and are any closed circulation developing around a low-pressure center in which the winds rotate counterclockwise (in the Northern Hemisphere) and whose diameter averages 10-30 miles across. Potential threats from hurricanes include powerful winds, heavy rainfall, storm surges, coastal and inland flooding, rip currents, tornadoes, and landslides. The Atlantic hurricane season runs from June 1 to November 30.

Subsidence, Sinkhole

Subsidence is a gradual settling or sudden sinking of the ground surface due to the movement of subsurface materials. A sinkhole is a subsidence feature resulting from the sinking of surficial material into a pre-existing subsurface void. Subsidence and sinkholes are geologic hazards that can impact roadways and buildings and disrupt utility services. Subsidence and sinkholes are most common in areas underlain by limestone and can be exacerbated by human activities such as water, natural gas, and oil extraction.

Landslides

In a landslide, masses of rock, earth or debris move down a slope. Landslides can be caused by a variety of factors, including earthquakes, storms, fire, and human modification of land. Areas that are prone to landslide hazards include previous landslide areas, areas on or at the base of slopes, areas in or at the base of drainage hollows, developed hillsides with leach field septic systems, and areas recently burned by forest or brush fires.

Terrorism

Terrorism is use of force or violence against persons or property with the intent to intimidate or coerce. Acts of terrorism include threats of terrorism; assassinations; kidnappings; hijackings; bomb scares and bombings; cyber-attacks (computer-based); and the use of chemical, biological, nuclear and radiological weapons. Cyber-attacks have become an increasingly pressing concern.

Utility Interruptions

Utility interruption hazards are hazards that impair the functioning of important utilities in the energy, telecommunications, public works, and information network sectors. Utility interruption hazards include

the following: Geomagnetic storms, fuel or resource shortage, electromagnetic pulse, information technology failure, ancillary support equipment, public works failure, telecommunications system failure, transmission facility or linear utility accident, major energy, power utility failure.

Winter Storms

A winter storm is a storm in which the main types of precipitation are snow, sleet, or freezing rain. A winter storm can range from a moderate snowfall or ice event over a period of a few hours to blizzard conditions with wind-driven snow that lasts for several days. Most deaths from winter storms are not directly related to the storm itself, but result from traffic accidents on icy roads, medical emergencies while shoveling snow, or hypothermia from prolonged exposure to cold.

Dam Failure

Dam failure is the uncontrolled release of water (and any associated wastes) from a dam. This hazard often results from a combination of natural and human causes, and can follow other hazards such as hurricanes, earthquakes, and landslides. The consequences of dam failures can include property and environmental damage and loss of life.

Wildfire

A wildfire is an unplanned fire that burns in a natural area. Wildfires can cause injuries or death and can ruin homes in their path. Wildfires can be caused by humans or lightning, and can happen anytime, though the risk increases in period of little rain. In Pennsylvania, 98% of wildfires are caused by people.

Pandemic and Infectious Disease

A pandemic is a global outbreak of disease that occurs when a new virus emerges in the human population, spreading easily in a sustained manner, and causing serious illness. An epidemic describes a smaller-scale infectious outbreak, within a region or population, that emerges at disproportional rate. Infectious disease outbreaks may be widely dispersed geographically, impact large numbers of the population, and could arrive in waves lasting several months at a time.

Cyber Terrorism

Cyber terrorism refers to acts of terrorism committed using computers, networks, and the internet. The most widely cited definition comes from Denning's Testimony before the Special Oversight Panel on Terrorism: "Cyberterrorism…is generally understood to mean unlawful attacks and threats of attack against computers, networks, and the information stored therein when done to intimidate or coerce a government or its people in furtherance of political or social objectives. Furter, to qualify as cyberterrorism, an attack should result in violence against persons or property or at least cause enough harm to generate fear." Blair County will encompass cyber incidents instead of just cyber terrorism. This will encompass non-malicious incidents in the cyber realm.

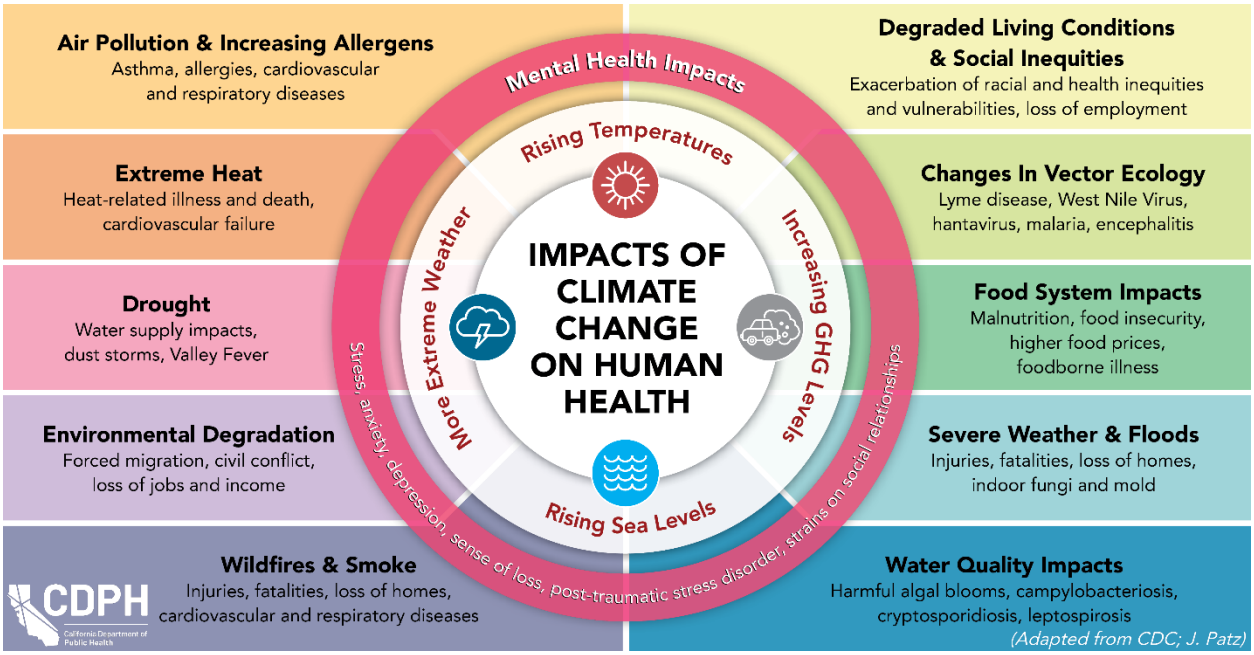
4.2.3 CLIMATE CHANGE

Humans have become the dominant species on Earth and our society and influence is globalized. Human activity such as the large-scale consumption of fossil fuels and deforestation has caused atmospheric carbon dioxide concentrations to significantly increase and a notable diversity of species to go extinct. The result is rapid climate change unparalleled in Earth's history and an extinction event approaching the level of a mass extinction (Barnosky et al., 2011; Wake & Vredenburg, 2008). The corresponding rise of average atmospheric temperatures is intensifying many natural hazards and further threatening biodiversity. The effects of climate change on these hazards is expected to intensify over time as temperatures continue to rise, so it is prudent to be aware of how climate change is impacting natural hazards.

Since 2013 Climate Change has been incorporated into statewide hazard profiles that may be exacerbated by Climate Change such as Floods, Extreme Temperature, and Utility Interruption. Pennsylvania has been addressing Climate Change for nearly two decades. The Commonwealth developed its first Climate Action Plan in response to the Pennsylvania Climate Change Act (Act 70 of 2008), which required DEP to prepare a climate action plan regularly. The first Climate Action Plan was developed in 2008 and Pennsylvania Climate Action Plan 2021 is the most current. Several actions added to the mitigation strategy are recommendations from the State Climate Action Plan.

The most obvious change is regarding extreme temperatures. As average atmospheric temperatures rise, extreme high temperatures become more threatening, with record high temperatures outnumbering record low temperatures 2:1 in recent years (Meehl et al., 2009). As climate change intensifies, it is expected that the risk of extreme heat will be amplified whereas the risk of extreme cold will be attenuated. Less immediately apparent, climate change could increase the prevalence of the West Nile Virus (Section 4.3.7). Some studies show increased insect activities during a similar rapid warming event in Earth's history (Curano et al., 2008). Other studies make projections that with the warming temperatures and lower annual precipitation that are expected with climate change, there will be an expansion of the suitable climate for mosquitos and West Nile Virus, potentially increasing the risk that the disease poses (Harrigan et al., 2014). Myriad other health problems are likely to result from climate change, as this figure from the United States Center for Disease Control shows:

Figure 3: Impact of Climate Change on Human Health



Climate change is likely to increase the risk of droughts (Section 4.3.1). Higher average temperatures mean that more precipitation will fall as rain rather than snow, snow will melt earlier in the spring, and evaporation and transpiration will increase. Along with the prospect of decreased annual precipitation, the risk of hydrological and agricultural drought is expected to increase (Sheffield & Wood, 2008). Correspondingly this will impact wildfires (Section 4.3.3). Drought is accompanied by drier soils and forests, resulting in an elongated wildfire season and more intense and long-burning wildfires (Pechony & Shindell, 2010). However, the Southwest United States is at a greater risk of this increased drought and wildfire activity than Pennsylvania in the Eastern United States.

While it may seem counterintuitive considering the increased risk of drought, there is also an increased risk of flooding associated with climate change (Section 4.3.4). As previously mentioned, warmer temperatures mean more precipitation will fall as rain rather than snow. Combined with the fact that warmer air holds more moisture, the result is heavier and more intense rainfalls, increasing the risk of flooding and dam and levee failures. Similarly, winter storms are expected to become more intense, if possibly less frequent (Section 4.3.13). Climate change is also expected to result in more intense hurricanes, tropical storms, tornadoes and windstorms (Section 4.3.9 and Section 4.3.17). With the rise of atmospheric temperatures, ocean surface temperatures are rising, resulting in warmer and moister conditions where tropical storms develop (Stott et al., 2010). A warmer ocean stores more energy and is capable of fueling stronger storms. It is projected that the Atlantic hurricane season is elongating, and there will be more category 4 and 5 hurricanes than before (Trenberth, 2010).

Climate change is contributing to the introduction of new invasive species (Section 4.3.6). As maximum and minimum seasonal temperatures change, non-native species are able to establish themselves in previously inhospitable climates where they have a competitive advantage. This may shift the dominance of ecosystems in favor of nonnative species, contributing to species loss and the risk of extinction.

This type of sudden global change is novel to humanity. Despite myriad documents of well thought out research, there is still much uncertainty surrounding the future of the Earth. All signs point to the intensification of the hazards mentioned above, especially if human society and individuals do not make swift and significant changes to reduce emissions and species losses.

4.3. HAZARD PROFILES

4.3.1. DROUGHT

4.3.1.1 Location and Extent

While Pennsylvania is generally more water-rich than many U.S. states, the Commonwealth may be subject to drought conditions. A drought is broadly defined as a period of prolonged dryness that contributes to the depletion of ground and surface water. Droughts are regional climatic events, so when such an event occurs in Blair County, impacts are not restricted to the county and are often more widespread. The spatial extent of the impacted area can range from localized areas in Pennsylvania to the entire Mid-Atlantic region. Since the 1980s, there are more than 150 published definitions of drought. The National Integrated Drought Information System (Accessed 2026, NIDIS) identified five types of droughts. We established the simpler definition to be more encompassing. According to the National Drought Mitigation Center (NDMC 2026), "Definitions of meteorological drought must be considered as region specific since the atmospheric conditions that result in deficiencies of precipitation are highly variable from region to region."

Due to drought typically affecting larger areas of region as opposed to small areas, when Blair County experiences drought, it would be at least 60% of the total land area. (See Figure 6). When a drought does happen in Blair County, the extent typically extends to ~100%. There isn't any known location where a drought first happens, but when it does happen, it usually affects the large portions of Blair County.

Meteorological Drought – When dry weather patterns dominate an area.

Agricultural Drought – When crops become affected by drought.

Hydrologic Drought – When low water supply becomes evident in the water system.

Ecological Drought - When natural ecosystems are affected by drought.

Socioeconomic Drought - When the supply and demand of various commodities is affected by drought.

Due to the many types of droughts and various solutions, some of which are not applicable to Blair County, our strategy to mitigate drought will follow the Pennsylvania State Water Plan 2022. The purpose of the State Water Plan is to provide decision makers with essential information and assessments of priority issues relevant to all aspects of Pennsylvania's water resources. (Pennsylvania State Water Plan 2022) Mitigation actions derived from priorities are *italicized* & underlined. Below are the Statewide Water Resources Priorities.

- *Floodplain and stormwater management*
- *Link land use management and water resources – Integrated Water Resources Management*
- Climate Change Adaptation
- *Water withdrawal and use*
- Drinking Water/Waste Infrastructure
- Legacy Impacts
- Contaminants of emerging concern
- Water efficiency
- Navigation and transportation by water
- Agricultural nonpoint source pollution

Blair County is in the Lower Susquehanna region of Pennsylvania. Which has regional priorities differing from other regions of Pennsylvania. After considering feasibility and effectiveness, our mitigation actions derive solutions inspired from priorities stated in the Lower Susquehanna region section of the Pennsylvania State Water Plan 2022 or from the State Water Plan itself.

- Identify and Target Solutions for Potential Protection Priority Water Resources to Reduce or Prevent Point and Nonpoint Source Pollution with a Focus on Currently Impaired Water Resources
    - Identify "protection priority" water resources
    - Identify targeted solutions
    - Reduce existing point and nonpoint source pollution
    - Prevent new water pollution from all sources
    - Broaden support and advocacy for water resources
- Enable Continued Responsible Economic Growth by Ensuring Adequate Water Resources
    - *Prioritize resiliency solutions to address increased stormwater runoff and flooding, including restoration and expansion of green infrastructure*
    - *Include proactive management of land development and land expansion*

- Provide support to local governments and municipalities through training and model ordinance development and enlisting non-governmental organizations, watershed groups and riverkeepers

Figure 4: NDMC Sequence of Drought Occurrence and Impacts

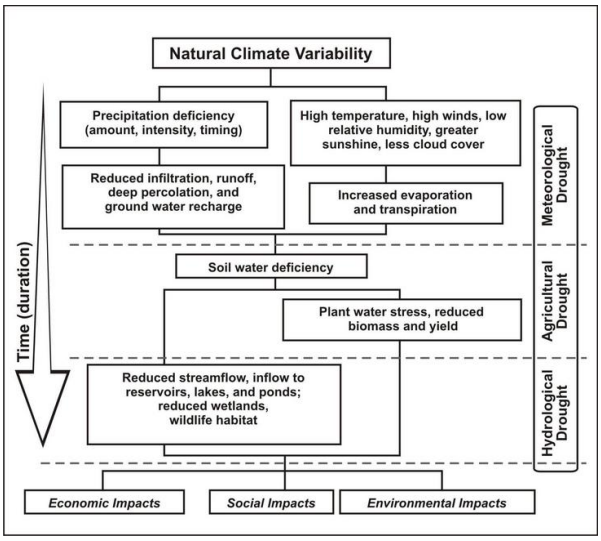
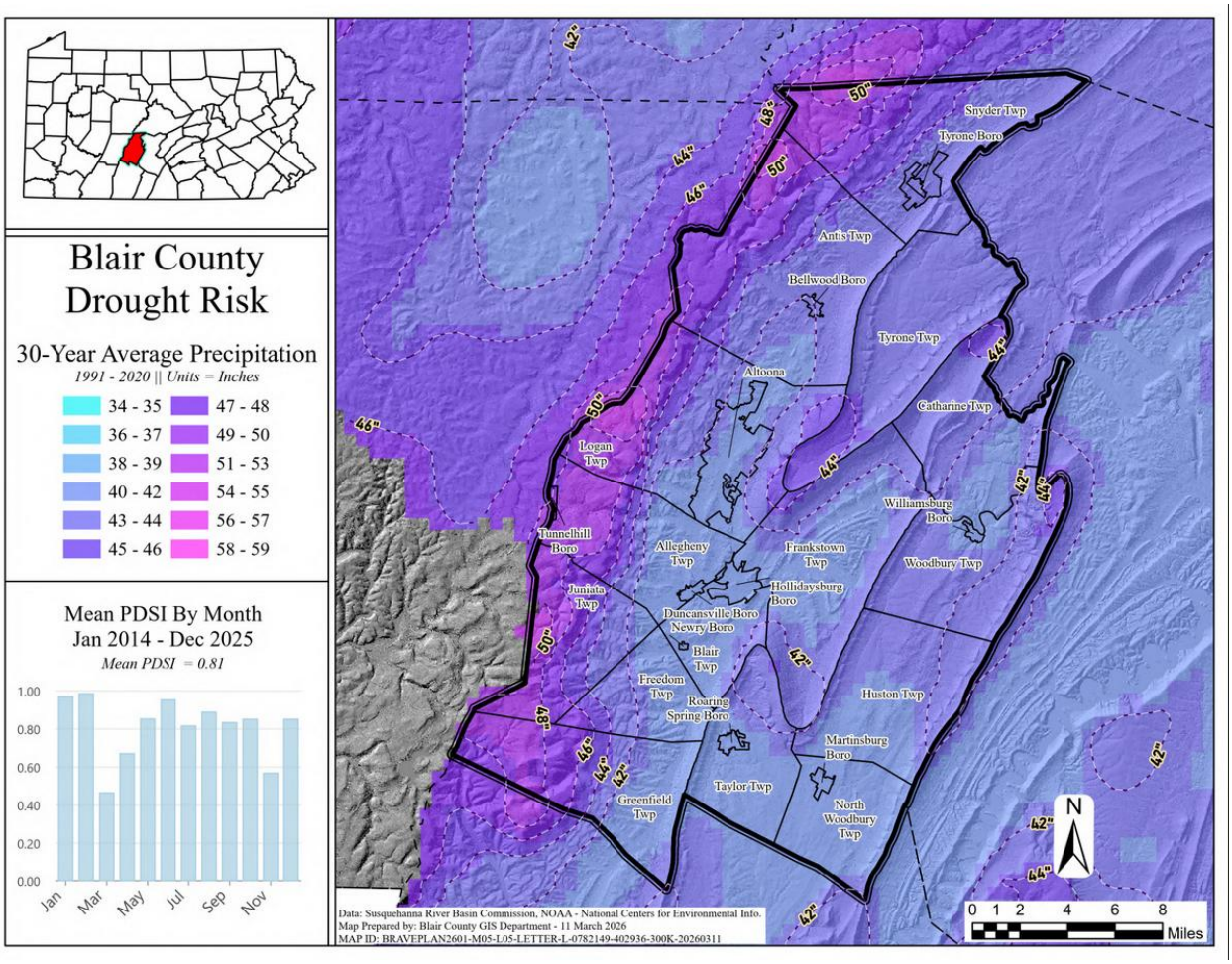


Figure 5: Blair County Drought Risk



4.3.1.2 Range of Magnitude

Drought impacts in Blair County vary depending on the season, severity, duration, and where impacts are concentrated. Short droughts may mainly stress vegetation and agriculture, especially when combined with extreme heat. Longer droughts can reduce streamflow, lower reservoir and groundwater levels, and affect public water supplies, water quality, recreation, and aquatic habitat.

Drought conditions in Pennsylvania are assessed using five parameters:

1. Stream flows (compared to benchmark records).
2. Precipitation (measured as the departure from normal, thirty-year average precipitation).
3. Reservoir storage levels in a variety of locations.
4. Groundwater elevations in several counties (comparing to past month, past year and historic record).
5. Soil moisture via the Palmer Drought Index (See Table 13: Palmer Drought Severity Index) - a soil moisture algorithm calibrated for relatively homogeneous regions which measures dryness based on recent precipitation and temperature.

Hydrologic drought is especially important because reduced streamflow, reservoir storage, and groundwater can affect public drinking water, private wells, livestock and agricultural operations, and water-dependent industries. Dry conditions can also increase the likelihood and severity of wildfire and can limit the availability of water sources used for suppression.

In severe or prolonged drought, water systems may need to implement conservation measures or restrictions. With approval of the Pennsylvania Emergency Management Council, municipalities may implement local water rationing in designated service areas to share a rapidly dwindling or severely depleted supply. Local rationing plans authorized under 4 PA Code Chapter 120 can require specific limits on water use to achieve significant reductions, and both state restrictions and local rationing typically include procedures for variances to address individual hardship or economic impacts.

Drought can negatively affect both the natural and human-made environment in Blair County by reducing streamflow, reservoir storage, groundwater recharge, and soil moisture. These conditions can stress wetlands, streams, fish, and other aquatic life, reduce water quality, weaken trees and crops, and increase wildfire risk. Prolonged drought can also make vegetation more vulnerable to insects, disease, and invasive species. On the human side, drought can strain public water systems and private wells, reduce agricultural productivity, damage pasture and landscaping, and require water conservation or restrictions that affect homes, businesses, farming, and recreation.

Potential environmental impacts of drought include:

- Reduced streamflow and lower reservoir levels
- Reduced groundwater recharge and stress on private wells and springs
- Drying of wetlands and other sensitive habitats
- Higher water temperatures and lower water quality in streams and ponds
- Stress or loss of crops, pasture, trees, and other vegetation
- Greater vulnerability to insects, disease, and invasive species
- Increased wildfire risk due to dry vegetation
- Reduced agricultural productivity and stress on livestock operations
- Water conservation measures or restrictions affecting residents, businesses, and recreation

Drought affects community lifelines by reducing the water needed for basic health, safety, and daily operations. When water supplies drop, water systems may require conservation measures or restrictions to keep essential services running. Reduced water availability can also affect agriculture and food supply. In Blair County, drought most directly threatens the Water Systems lifeline and can secondarily affect the Food, Water, and Shelter lifeline through impacts on farming and water use.

Table 13: Drought Community Lifelines

Community Lifelines	Description
Food, Water, Shelter	Drought can reduce agricultural productivity and increase stress on local food supply and prices. If water supplies drop, communities may need to reduce non-essential water use to protect drinking water and basic needs.

Water System	Drought can lower streamflow, reservoir storage, and groundwater levels, which can strain public water supplies and private wells. Prolonged drought may require conservation measures or water use restrictions to maintain essential service.

Drought primarily affects water systems and water-dependent activities. Other lifelines are usually not directly impacted, but prolonged drought can cause secondary impacts through reduced water availability.

Table 14: Palmer Drought Severity Index Table

Severity Category	PDSI
Extremely wet	4.0 or more
Very wet	3.0 to 3.99
Moderately wet	2.0 to 2.99
Slightly wet	1.0 to 1.99
Incipient wet spell	0.5 to 0.99
Near normal	0.49 to -0.49
Incipient dry spell	-0.5 to -0.99
Mild drought	-1.0 to -1.99
Moderate drought	-2.0 to -2.99
Severe drought	-3.0 to -3.99
Extreme drought	-4.0 or less

4.3.1.3 Past Occurrence

Blair County from 1980 to 2021 has declared a total of 33 Drought Watches, 10 Drought Warnings, and 9 Drought Emergencies. (PA DEP)

Table 15: Pennsylvania DEP Drought Preparation Phases

Phase	General Activity	Actions	Request	Goal
Drought Watch	Early stages of planning and alert for drought possibility	Increased water monitoring, awareness and preparation for response among government agencies, public water suppliers, water users and the public	Voluntary water conservation	Reduce water use by 5%
Drought Warning	Coordinate a response to imminent drought conditions and potential water shortages	Reduce shortages - relieve stressed sources, develop new sources if needed	Continue voluntary water conservation, impose mandatory water use restrictions if needed	Reduce water use by 10 to 15%

Drought Emergency	Management of operations to regulate all available resources and respond to emergency	Support essential and high priority water uses and avoid unnecessary uses	Possible restrictions on all nonessential water uses	Reduce water use by 15%

Figure 6: Drought Event History for Blair County shows declared drought status for Blair County from 2016 to the present as reported by the US Drought Monitor. The figure indicates the level of drought declaration (yellow is abnormally dry D0, while light and dark orange show moderate to severe drought as D1 and D2), as well as the percentage of the county affected. According to U.S. Drought Monitor, Blair County has not experienced a single drought in D3 or D4 classification in 25 years. We estimated 18% of Blair County was in a D2 drought from 9/29/2020 to 10/27/2020.

Figure 6: Drought Event History for Blair County

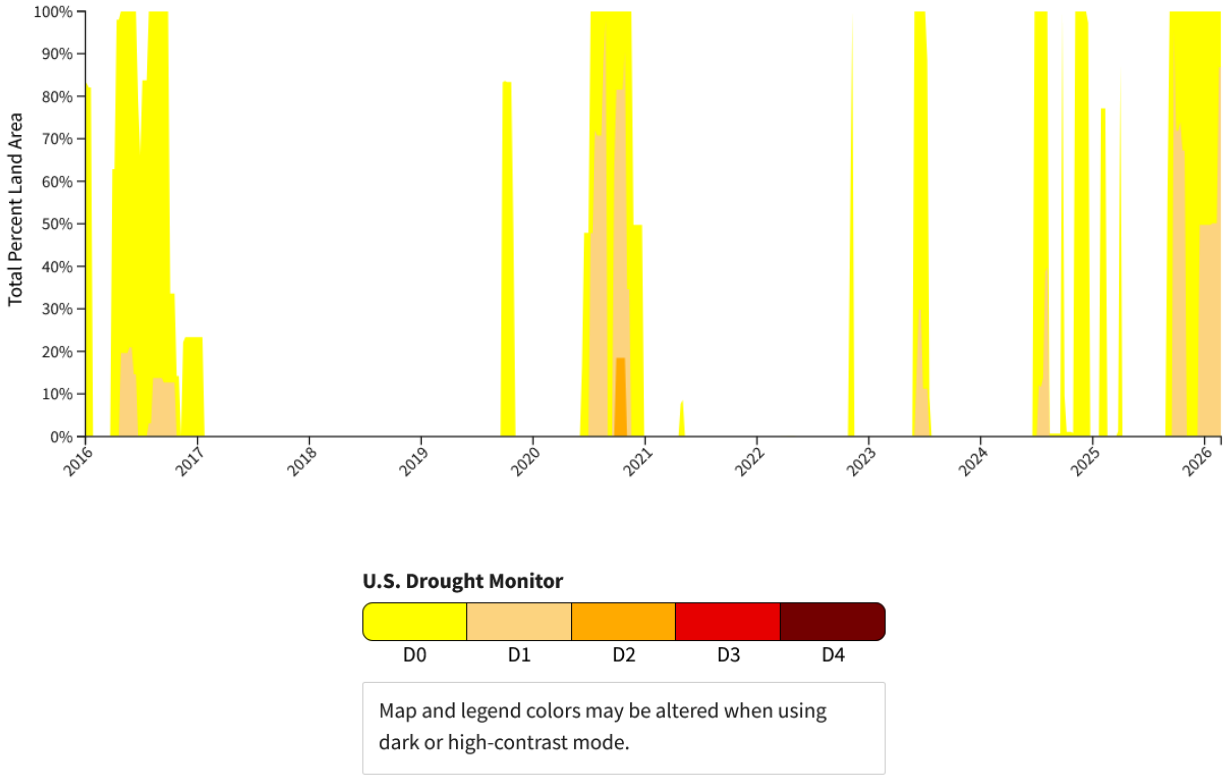


Table 16: Drought Classification

Drought Classification		
D0	Abnormally Dry	You are going into drought or coming out of drought. Short-term dryness slowing planting, growth of crops or pastures. Some lingering water deficits. Pastures or crops not fully recovered.

D1	Moderate Drought	Some damage to crops, pastures. Streams, reservoirs, or wells low, some water shortages developing or imminent. Voluntary water-use restrictions requested.
D2	Severe Drought	Crop or pasture losses likely. Water shortages common. Water restrictions imposed.
D3	Extreme Drought	Major crop/pasture losses. Widespread water shortages or restrictions.
D4	Exceptional Drought	Exceptional and widespread crop/pasture losses. Shortages of water in reservoirs, streams, and wells creating water emergencies.

4.3.1.4 Future Occurrence

NOAA Nation Weather Service's Climate Prediction Center produces official monthly and seasonal temperature and precipitation outlook products. The forecasting model, Drought Termination and Amelioration, allows prediction of drought conditions based on "normal condition" "hot and dry" "cold and wet" and three, six, and nine months in the future. However, it does not predict further than that. Under the worst-case scenario (which is very unlikely), Blair County could experience mild or moderate drought within nine months. Blair County will need to declare a drought watch and adjust as needed. Drought watch suggests voluntary water-use restrictions. However, under normal conditions in the next nine months, Blair County would experience incipient drought, incipient moist spell, and mildly moist conditions. This would require no change in water usage.

It is difficult to forecast the exact severity and frequency of future drought events, and the future of climate change will lead to increased uncertainty and extremity of climate events, suggesting that it is best to be prepared for potentially adverse conditions. Given that Blair County has not experienced Extreme Drought (D3) in the past 25 years, Blair County should be ready for a Severe Drought (D2) over the next five years and be ready to impose water restrictions for Severe Drought (D2). If an Extreme Drought (D3) does occur, it is recommended to impose widespread non-essential water restrictions across impacted area. We estimated 18% of Blair County was in a D2 drought from 9/29/2020 to 10/27/2020. This is the one of two times Blair County was in a D2 drought in 25 years. (U.S. Drought Monitor) So it is possible that Blair County will experience a D2 drought, but it is unlikely.

4.3.1.5 Vulnerability Assessment

The most significant losses resulting from drought events are typically found in the agriculture sector. The 1999 Gubernatorial Proclamation was issued in part due to significant crop damage. Preliminary estimates by the Pennsylvania Department of Agriculture indicated possible crop losses across the Commonwealth could cost more than $500 million. This estimate did not include a twenty percent decrease in dairy milk production which also resulted in million-dollar losses (National Climatic Data Center, 2009).

While these were statewide impacts, they illustrate the potential for droughts to severely impair the local economy in more agricultural communities. Blair County ranks twentieth of the sixty-seven counties in the Commonwealth for agricultural production, totaling $197,176,000 (United States Department of Agriculture, 2022). This production divides between crops, (including nursery and greenhouse crops) totaling $31,629,000 and livestock (including aquaculture and related products), totaling $165,547,000.

Water supplies are also vulnerable to the effects of drought. Public water service areas cover 7.1% of the county, including the two home rule municipalities, the majority of the eight boroughs, and large portions of Allegheny, Logan, and Blair Townships. Additionally, there are smaller systems serving a number of village areas in the townships as well as the areas of townships immediately surrounding the boroughs. These systems serve nearly two-thirds of Blair County households, but private wells cover nearly two-thirds of the land area.

Droughts will quickly affect systems that rely on surface supplies, whereas systems with wells are more capable of handling short-term droughts without issue. Longer-term droughts inhibit the recharging of groundwater aquifers which has an impact on well owners. Depending on the severity of the drought, this could cause the well to dry up, rendering the well owner at a loss for usable water, meaning Blair County residents who use private domestic wells are vulnerable to drought events. Blair County has approximately 5,563 wells and a dozen active springs in service as of the writing of this document. Well and spring data was gathered from the Pennsylvania Groundwater Information System, which relies on voluntary submissions by well drillers. While this is the best dataset of domestic wells available for Blair County, it is not comprehensive due to the voluntary nature of the data submission. Not all wells were reported include a location designation (Pennsylvania Groundwater Information System, 2022).

Table 17: PAGWIS Water Well Dataset for Blair County's Municipalities

Municipality	# of Water Wells	Municipality	# of Water Wells
Snyder Township	219 / 204	**Frankstown Township**	516 / 497
Tyrone Borough	(n/a) / (n/a)	**Hollidaysburg Borough**	51 / 48
Tyrone Township	358 / 320	**Newry Borough**	19 / 16
Antis Township	275 / 242	**Tunnelhill Borough**	0 / (n/a)
Bellwood Borough	13 / 7	**Huston Township**	260 / 255
Altoona City	447 / 421	**Martinsburg Borough**	62 / 57
Logan Township	724 / 698	**North Woodbury Township**	288 / 275
Catharine Township	110 /104	**Roaring Spring Borough**	19 / 8
Williamsburg Borough	5 / 4	**Taylor Township**	305 / 278
Woodbury Township	334 / 326	**Freedom Township**	411 / 388
Allegheny Township	564 / 532	**Greenfield Township**	376 / 369
Blair Township	213 / 208	**Juniata Township**	121 / 103

Duncansville Borough	20 / 20	**Unknown**	0 / 35
		Total	*5,710 / 5,415*

First Number Source: PAGWIS Water Wells dataset from PA DCNR Accessed April 29, 2026
Second Number Source: PaGEODE PaGWIS Water Well from PA DCNR Accessed April 29, 2026

Table 18: Drought Vulnerability Assessment by Region

Local Hazard Vulnerability Assessment	
Jurisdiction	**Summary of Potential Impact**
Planning Region 1	Higher drought impact due to reliance on reservoir-based municipal supplies. Water supply stress may appear earlier during dry periods (lower storage, conservation measures). Sinking Valley agriculture is also more vulnerable due to crop and livestock water needs and reduced soil moisture.
Planning Region 2	Impacts generally match the countywide assessment. Typical drought effects include gradual stress on water demand and limited impacts to agriculture unless drought conditions are prolonged or combined with extreme heat.
Planning Region 3	Higher drought impact because municipal supplies rely heavily on reservoirs. Prolonged drought could reduce storage levels and require conservation measures. Agricultural impacts are limited compared to other regions, but recreational water use and streamflow may still be affected.
Planning Region 4	Moderate drought impact on agriculture, especially during the growing season and periods of extreme heat. Municipal supplies are expected to be less affected than reservoir-dependent regions, but localized conservation measures may still be needed during prolonged drought.
Planning Region 5	Moderate drought impact due to partial reliance on reservoir-based supplies. Drought conditions may require voluntary or mandatory conservation depending on duration. Agricultural impacts are limited overall, though smaller operations and private water users may still experience stress.
Planning Region 6	Higher drought impact on agriculture due to greater dependence on rainfall and soil moisture for crop and pasture conditions. Municipal supplies are more resilient because they are primarily well-based, but prolonged drought can still reduce groundwater recharge and affect private wells.
Planning Region 7	Higher drought impact on agriculture, including crop stress, reduced yields, and increased watering needs. Municipal supplies are expected to be minimally affected relative to reservoir-dependent regions, though private wells and small systems could be vulnerable in prolonged drought.

See Table 10: Blair County Planning Regions for communities that make up each Planning Region

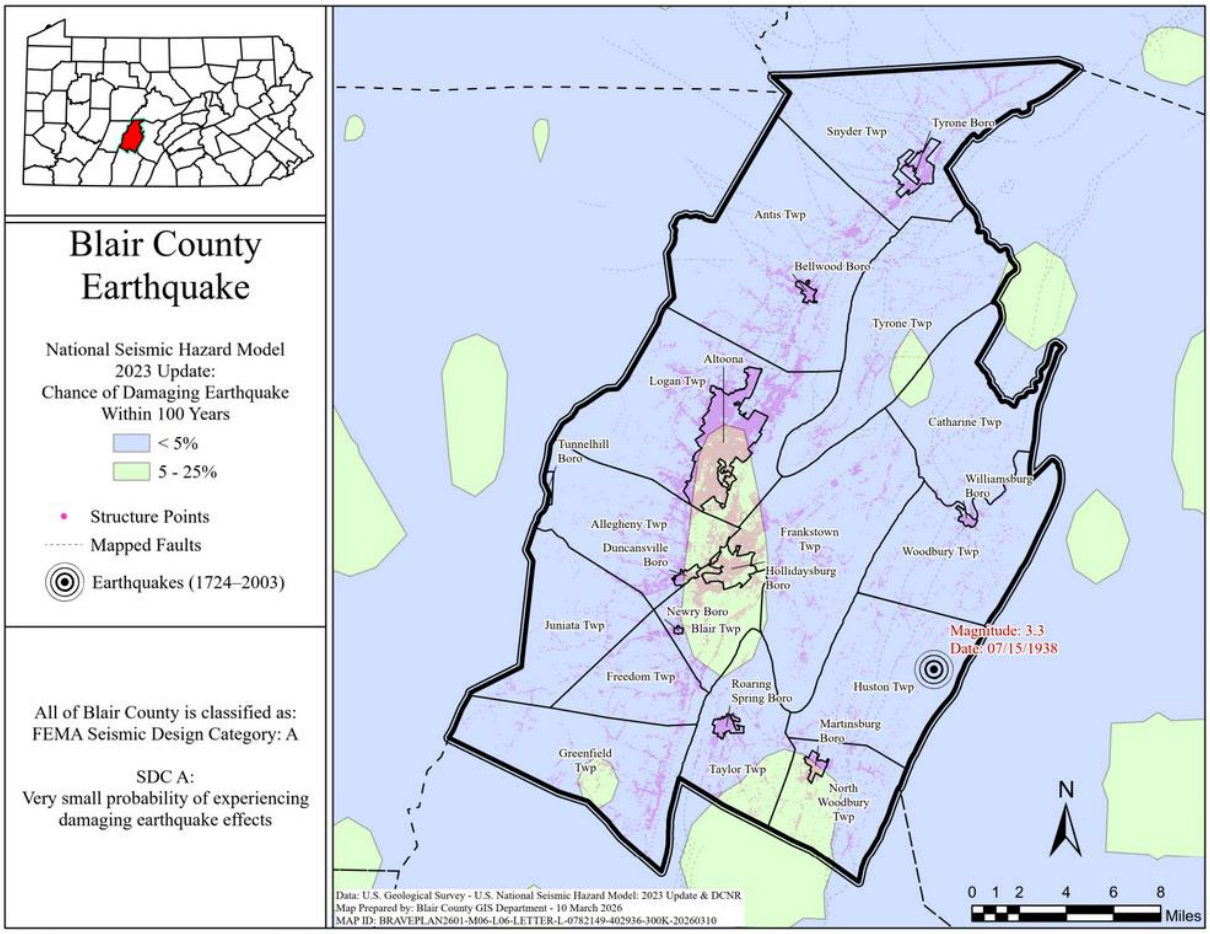
4.3.2. EARTHQUAKE

4.3.2.1 Location and Extent

An earthquake is a sudden shaking of the ground caused by the release of built-up stress in the Earth's crust. This stress is usually released along faults, but earthquakes can also be associated with volcanic activity or human-caused events such as explosions (Pennsylvania Department of Conservation and Natural Resources, 2007). In Pennsylvania, including Blair County, most earthquakes are small. When they occur, the area affected is typically limited to the region around the epicenter, often no more than about 62 miles in diameter for the types of events commonly experienced in the state.

Blair County is far from the nearest tectonic plate boundary. The closest boundary is the Mid-Atlantic Ridge, roughly 2,000 miles to the east, but ancient faults formed as the Atlantic Ocean developed after Pangaea broke apart. Many of these faults do not produce measurable seismic activity, so mapping every fault does not reliably predict where earthquakes will occur. Most earthquakes felt in Blair County over the past 100 years originated outside the County, and all were below magnitude 5.0. Because earthquake shaking is widespread, a felt event is usually noticed across much of Blair County. From 1724 to 2026, only one earthquake had an epicenter located within Blair County (See figure 7)

Figure 7: Blair County Seismic Model



4.3.2.2 Range of Magnitude

Earthquakes result in the propagation of seismic waves, which are detected using seismographs. These seismograph results are measured using the Richter Scale, an open-ended logarithmic scale that describes the energy release of an earthquake. Table 17: Richter Scale summarizes Richter Scale Magnitudes as they relate to the spatial extent of impacted areas. The Modified Mercalli Intensity Scale (Table 18: Modified Mercalli Intensity Scale) is an alternative measure of earthquake intensity that is broken down by the impacts of the earthquake event. Earthquakes have many secondary impacts, including disrupting critical facilities, transportation routes, public water supplies and other utilities.

Earthquakes can negatively affect both the natural and human-made environment in Blair County, although the risk of a damaging event is low. Ground shaking can damage buildings, roads, bridges, utilities, and underground infrastructure, especially older or unsound structures. Earthquakes can also trigger secondary environmental impacts such as slope instability, small landslides, rockfalls, streambank disturbance, and localized ground cracking. If infrastructure is damaged, there is also potential for fuel leaks, hazardous material releases, utility outages, and disruption to water or wastewater systems.

Potential environmental impacts of earthquakes include:

- Ground shaking that damages buildings and infrastructure
- Damage to roads, bridges, and underground utilities
- Cracking or shifting of the ground surface
- Localized landslides, rockfalls, or slope failures
- Disturbance to streambanks or drainage patterns
- Possible fuel, wastewater, or hazardous material releases if facilities are damaged
- Damage to water, sewer, or stormwater systems
- Debris generation and cleanup needs after a damaging event

Table 19: Richter Scale

Richter Magnitude	Earthquake Effects
Less than 3.5	Generally, not felt but recorded.
3.5-5.4	Often felt but rarely causes damage.
5.5 - 6.0	At most, slight damage to well-designed buildings; can cause major damage to poorly constructed buildings over small regions.
6.1-6.9	Can be destructive in areas where people live up to about 100 kilometers across.
7.0-7.9	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

Table 20: Modified Mercalli Intensity Scale

Scale	Intensity	Earthquake Effects	Richter Scale Magnitude
I	**Instrumental**	Detected only on seismographs	**<4.2**
II	**Feeble**	Some people feel it	
III	**Slight**	Felt by people resting; 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 damaged	**<6.9**
IX	**Ruinous**	Some houses collapse; ground cracks; pipes break open	
X	**Disastrous**	Ground cracks profusely; many buildings destroyed; liquefaction and landslides widespread	**<7.3**
XI	**Very Disastrous**	Most buildings and bridges collapse; roads; railways; pipes and cables destroyed; general triggering of other hazards	**<8.1**
XII	**Catastrophic**	Total destruction: trees fall; ground rises and falls in waves	**>8.1**

Table 21: Earthquake Community Lifelines

Community Lifelines	Description
Food, Water, Shelter	Blair County has not experienced a damaging earthquake in 100 years. If we were to experience one, it would likely only lightly damage a few buildings.

Given the track record of no damaging earthquake in Blair County, even if we were to experience a damaging earthquake one Richter above anything we ever felt, the most expected outcome would be no probable loss of life and a few buildings lightly damaged. No community lifelines would be at risk at this level.

4.3.2.3 Past Occurrence

The strongest recorded earthquake in Pennsylvania is referred to as the Pymatuning Earthquake and occurred on September 25th, 1998. The Pymatuning Earthquake was a magnitude 5.1 on the Richter Scale and originated near the southern end of the Pymatuning Reservoir, in Crawford County. A total of forty-three earthquake events occurred within 50 miles of Blair County between 1724 and 2015 and were minor quakes with Richter magnitudes less than four. Since 2015, Blair County has had nineteen quakes of magnitudes up to 3.4. (Volcano Discovery) four quakes above magnitude 3, eleven quakes between magnitude 2 and 3, and four quakes below magnitude 2 that people don't normally feel. Only one of which may have been in Blair County.

On March 12, 2015, 6.8 miles southwest of Altoona in Blair County, a light magnitude 2.2 earthquake hit. The depth of the quake could not be determined but was assumed to be shallow. The quake was not felt (or at least not reported).

On August 23, 2011, a magnitude 5.8 earthquake struck Virginia, with an epicenter in Louisa County. The location of the earthquake as well as the geology of the region enables the shockwaves to travel great distances, and therefore people who were still at the time were able to notice the disturbance. The effect was minor, and most did not realize that an earthquake was occurring. No damage was reported in Blair County as a result.

4.3.2.4 Future Occurrence

Earthquake activity and intensities are difficult to predict, but a probabilistic analysis of prior earthquakes can assist in gauging the likelihood of future occurrences. Figure 7: Blair County Seismic Model shows Blair County in the lowest non-zero hazard zone for earthquake activity according to the United States Geologic Survey (2012), suggesting a low probability of earthquake occurrence. However, according to the United States Geologic Survey, there has been a recent trend increasing the frequency of magnitude 3 and larger earthquakes in the central and eastern United States. This uptick in seismicity is due to fracking activities and specifically occurs because of wastewater from the hydraulic fracturing process being injected into the earth (Meyer, 2016). Recent studies have moved towards being able to predict such induced seismicity by looking at uplift after injections, but more work needs to be done to confirm uplift as a reliable indicator of induced seismicity (Shirzaei et al., 2016). As of October 2024, Blair County has four active wells (Pennsylvania Department of Environmental Protection, 2023), and it is important to note that seismicity can occur even after wells become inactive and injections rates decline (Shirzaei et al., 2016).

The only earthquake that requires our attention is one that could cause damage. A magnitude of 3.5-5.4 is the bare minimum required to deal damage. It often doesn't. In the past 10 years, there have been four earthquakes near Pennsylvania (all New York) that was above Richter Scale 4. The strongest earthquake since 1900 was the one on April 5, 2024, in Table 20. I do expect future earthquakes to happen, but not an earthquake past magnitude 5.4 which is when we would expect damage to occur. There is a trend to note though. The strongest earthquakes felt in Pennsylvania have been experienced in the last 10 years with one of the strongest ones felt a roughly two years ago. This trend should be tracked carefully for the next 10 years.

Table 22: Major Earthquake near/in PA past 10 years

Date and Time	Magnitude	Location
Apr 5, 2024, 10:23AM	M4.8	39 mi E from Allentown
Jul 17, 2021, 5:02PM	M4.2	127mi NNW from Pittsburg
Jun 10, 2019, 10:50AM	M4.0	114 mi NW from Pittsburg
Nov 30, 2017, 4:47PM	M4.1	54 mi SSW from Philadelphia

4.3.2.5 Vulnerability Assessment

According to the U.S. Geological Society Earthquake Hazards Program, an earthquake hazard is anything associated with an earthquake that may affect a resident's normal activities. For Blair County, this could include surface faulting, ground shaking, landslides, liquefaction, tectonic deformation, and seiches (sloshing of a closed body of water from earthquake shaking). Earthquakes usually occur without warning and can impact areas a great distance from their point of origin (epicenter). Ground shaking is the greatest risk to building damage within Blair County. The risk to public safety and loss of life from an earthquake is dependent upon the severity of the event. Injury or death to those inside buildings, or people walking below building ornamentation and chimneys is a higher risk to Blair County's public during an earthquake. While historically the risk of earthquakes in northwestern PA is low to moderately low (See Figure 7: Blair County Seismic Model) the uptick in seismicity due to hydraulic fracturing increases the likelihood of Blair County experiencing a non-damaging earthquake. Given the fact that Pennsylvania has not experienced a single earthquake above magnitude 5.4 (likely the threshold of damage from

earthquake) in over 100 years, Blair County is not likely to be harmed by earthquake and suggests this profile hazard be dropped next planning cycle.

Table 23: Earthquake Vulnerability Assessment by Region

Local Hazard Vulnerability Assessment	
Jurisdiction	**Summary of Potential Impact**
Planning Region 1	Overall earthquake risk is low (Seismic Design Category A). Most of the region is in the "very low probability of damaging shaking" area, with roughly 80% of the county showing less than a 5% chance of damaging effects within 100 years. Expected impacts are mainly minor non-structural issues (small cracks, fallen items) unless an older/unsound structure is involved.
Planning Region 2	Consistent with the countywide classification (low risk). Damage is unlikely, but older masonry buildings, unreinforced structures, and contents in public facilities could experience localized impacts during a rare event.
Planning Region 3	This region includes an area mapped at a higher likelihood (about a 5–25% chance of damaging earthquake effects within 100 years). Altoona is within this zone, so exposure is higher because population and building density are highest here (56,376). The main concern is damage to older or unsound structures and non-structural damage in schools, healthcare facilities, and critical services.
Planning Region 4	Consistent with the countywide classification (low risk). Most impacts would be limited and localized, with the greatest vulnerability in older construction and facilities with unsecured contents and equipment.
Planning Region 5	This region contains the largest concentration of mapped "higher likelihood" areas in the county (more area within the 5–25% chance zone), making it the most likely region to experience damaging shaking within 100 years. Population and development are also relatively high (26,001), so more people and structures could be affected if a rare event occurs. Primary vulnerabilities include older/unsound buildings and non-structural impacts (equipment, ceiling systems, pipes).
Planning Region 6	Includes areas mapped at a 5–25% chance of damaging effects within 100 years. While overall risk remains low, unsound structures and older buildings are the primary concern, and road cuts or unstable slopes could experience localized issues during shaking.
Planning Region 7	Consistent with the countywide classification (low risk). Damaging effects are unlikely; expected impacts would be limited unless a rare event affects older, poorly maintained, or unreinforced buildings.

See Table 10: Blair County Planning Regions for communities that make up each Planning Region

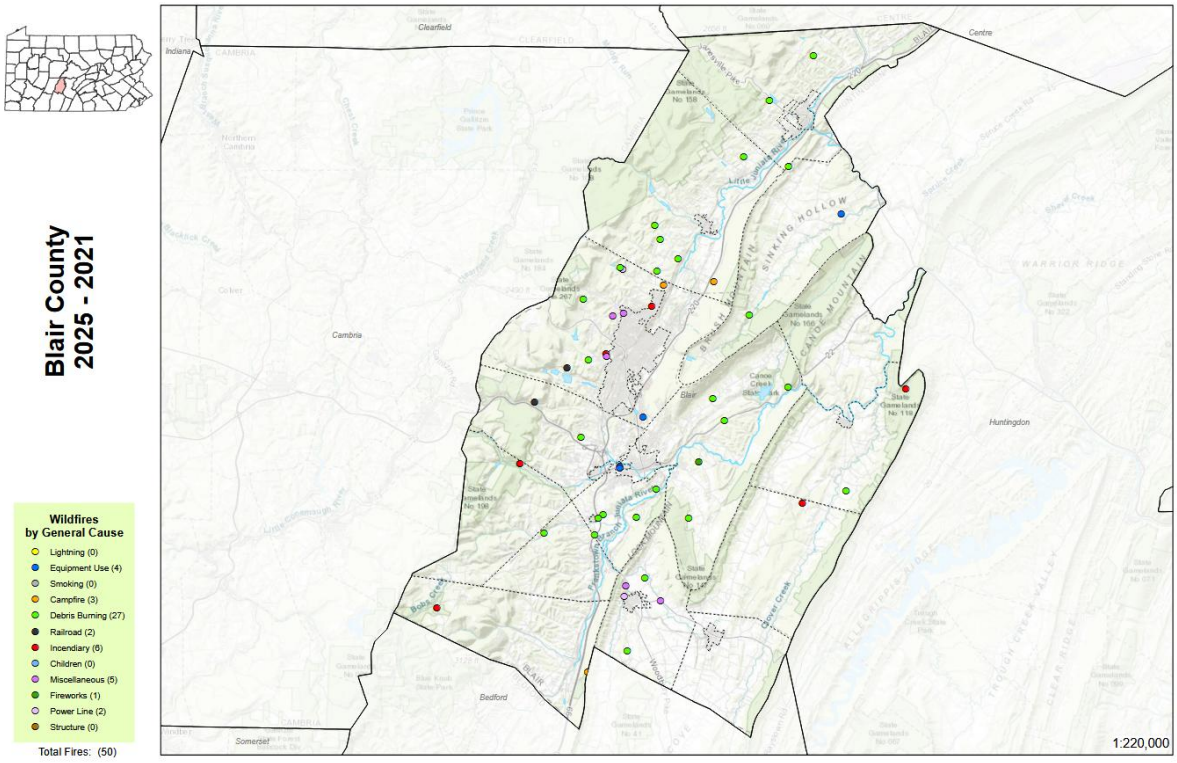
4.3.3. WILDFIRE

4.3.3.1 Location and Extent

Debris burning is the leading cause of Pennsylvania Wildfires. In Pennsylvania, 99 percent of all wildfires are caused by people. (DCNR) Examining the data during 2021-2025 in Blair County, the leading cause was Debris Burning (27), Incendiary (6), miscellaneous (5), Equipment Use (4), Campfire (3), Power Line (2), and Fireworks (1). Pennsylvania had a total 1,460 wildfires burning 3,277 acres during 2024. While wildfires are a natural and essential part of many native Pennsylvania ecosystems (e.g. pitch pine – scrub oak woodlands), wildfires also cause devastating damage. Wildfires most often occur in less developed areas such as open fields, grass, dense brush or forests where they can spread rapidly by feeding off vegetative fuels. Wildfires are most prevalent under prolonged dry and hot spells, or generally drought conditions. The greatest potential for wildfires (83% of all PA wildfires) occurs in the spring months of March, April, and May, and the autumn months of October and November. In the spring, bare trees allow sunlight to reach the forest floor, drying fallen leaves and other ground debris and increasing wildfire vulnerability. In the fall, the surplus of dried leaves is fuel for fires. The Pennsylvania Department of Conservation and Natural Resources has provided Figure 8: Wildfires by General Cause for Blair County.

The location of each wildfire is spread around the county without a clear indicator of concentration. Using another data set apart from the one in Table 24, in 2010 and 2017, we lost 435 acres to wildfire. This is an average of 13 acres burnt per year. However, the average can be misleading as the extent of each wildfire can vary greatly with some burning almost 300 acres and some burning less than 1 acre.

Figure 8: Wildfires by General Cause



4.3.3.2 Range of Magnitude

Forested areas, croplands and properties that are at the interface between wild lands and human development are most at risk for being impacted by and causing wildfires. If a wildfire is not contained, secondary impacts such as power outages may result. Other negative impacts of wildfires include killing people, livestock, fish and wildlife, destroying property, valuable timber, and forage, recreational and scenic values. Wildfires can also cause severe erosion, silting of stream beds and reservoirs, and flooding due to a loss of ground cover. Large events may require evacuation from one or more communities and necessitate regional or national firefighting support.

In addition to the risk wildfires pose to the 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 includes 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.

Wildfire can harm both the natural and human-made environment in Blair County by burning forests, grasslands, and developed areas near the wildland-urban interface. Fire can damage homes, outbuildings, utilities, fences, and transportation corridors, while also killing vegetation and wildlife. After a wildfire, loss of ground cover can increase erosion, sedimentation, and runoff, which can damage streams, wetlands, and water quality. Smoke can also affect air quality over a wide area, even beyond the burn area.

Potential environmental impacts of wildfire include:

- Loss of forests, vegetation, and wildlife habitat
- Damage to homes, outbuildings, and infrastructure near wooded areas
- Increased erosion and sediment runoff after vegetation is burned
- Reduced water quality in streams, ponds, and reservoirs
- Damage to scenic, recreational, and natural areas
- Smoke and reduced air quality
- Loss of timber, forage, and other natural resources
- Increased flooding risk after fire due to loss of ground cover

Wildfires affect community lifelines by threatening homes and critical services and by requiring a strong emergency response. The larger and longer a wildfire burns, the more it can strain fire, EMS, and law enforcement, and the more likely it is to cause evacuations and disrupt daily life. The lifelines below summarize the main services most likely to be affected during a wildfire in Blair County.

Table 24: Wildfire Community Lifelines

Community Lifelines	Description
Safety and Security	Wildfires require fire response and may also require EMS and law enforcement for traffic control, evacuations, and public safety. Large events may require mutual aid or outside support.

Food, Water, Shelter	Wildfires can threaten homes, buildings, and shelters, especially where development meets forested areas. Evacuations may be needed if homes are at risk.
Health and Medical	Wildfires can cause injuries, smoke-related health impacts, and occasional fatalities. Responders may also face heat-related illness or injuries during operations.

Energy, communications, transportation, hazardous materials, and water systems are community lifelines that may not be directly affected, but disruptions can occur in some events like power outages or road closures or if fire affects infrastructure or access.

4.3.3.3 Past Occurrences

In recent years, the number of wildfires in Pennsylvania have been increasing since 2000, from a low of 202 to a high of 1,901. This corresponds to an embrace of the need for fire in many natural ecosystems and management strategies for reducing vulnerability to wildfires. Table 25: Pennsylvania Wildfire Statistics (Pennsylvania Department of Conservation and Natural Resources) shows wildfire data for Pennsylvania from 2010 to 2025, is the last period for which the Pennsylvania Department of Conservation and Natural Resources has published data.

Table 25: Pennsylvania Wildfire Statistics

Year	# Fires	# Acres	Average Size	Extinction Cost
2010	574	3,414	5.95	$ 638,248.84
2011	202	582	2.88	$ 83,654.69
2012	717	3,193	4.45	$ 677,708.70
2013	632	1,790	2.83	$ 180,825.65
2014	871	4,514	5.18	$ 595,389.29
2015	817	4,165	5.10	$ 811,571.29
2016	853	12,190	14.30	$ 3,286,996.85
2017	534	1,649	3.09	$ 257,541.76
2018	690	1,843	2.67	$ 372,367.56
2019	536	693	0.69	$ 109,051.54
2020	1,507	3,033	2.01	$ 466,544.68
2021	1,371	2,981	2.17	$ 497086.49
2022	1,036	2,700	2.61	$ 522,354.76
2023	1,901	9,186	4.83	$ 1,459,485.22
2024	1,460	3,301	2.26	n/a
2025	1,536	5,527	3.60	n/a

In Blair County between 2010 and 2017, there were 36 wildfires reported to authorities, burning a total of 435 acres. These wildfires in natural lands may be reported less frequently and thus could be under-represented here. The list on the following page Table 26: Blair County Wildfires (2010-2017) should be treated as a sample of fire history in Blair County and not an all-inclusive database. Although it is not yet in the database, there was a large brush fire near Canoe Creek State Park in November 2024 that burned 300 acres (DCNR). This wildfire alone accounts for 40% of the acres burned when compared with all recorded wildfires in Blair County 2010-2017.

The largest wildfire Blair County encountered was the Brush Fire in Huntingdon Pike next to Canoe Creek State Park. This single fire burned 300 acres and occurred in fall during a particularly dry and windy day. Fall fires are rare in Pennsylvania. This one required a response from twelve fire companies and two EMS companies on scene with two more fire department on standby under the control of DCNR. Veterans noted that this was the largest fire they have ever responded to. The fire blaze happened to spread in a direction that did not damage any property. Blair County was lucky to be hit with one of the largest wildfires that did not affect property or life. There was also a small rain that helped the firefighting. DNCR noted the burn ban was key to eliminating situations like this from starting. The cause of the fire is not stated. A fire like this near houses or state parks would be devastating. Canoe Creek State Park is roughly 900 acres.

Table 26: Blair County Wildfires (2010-2017)

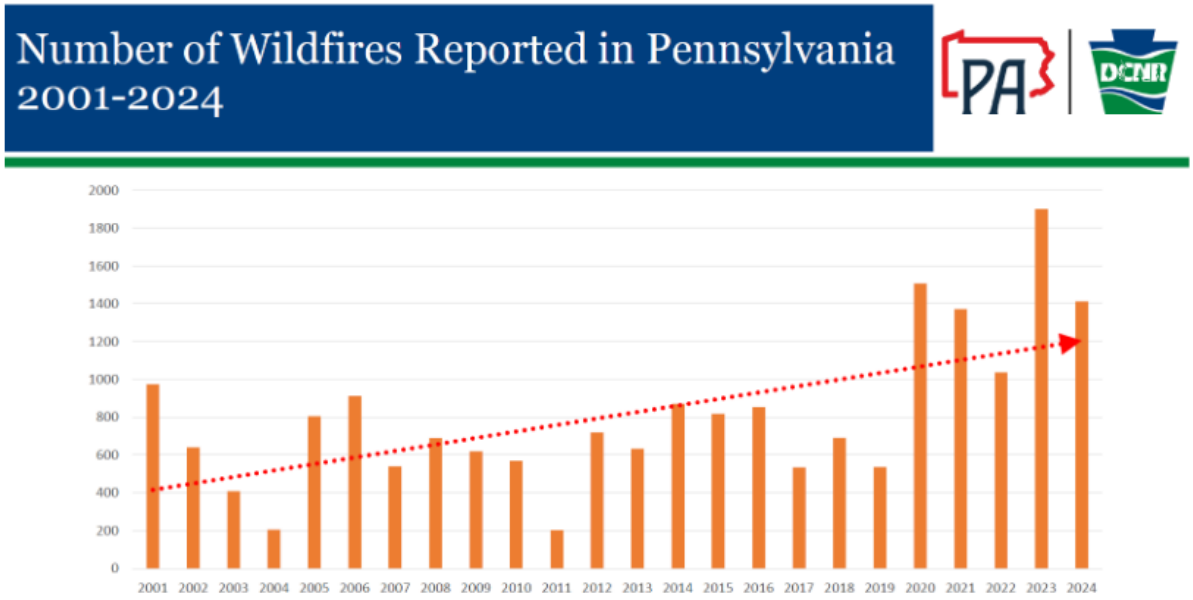
Year	Name	Cause	Acres	Township	Date
2011	Nicewonger Lane	Incendiary	2.8	Juniata	11/09/2011
2011	Beagle Club	Incendiary	4.18	Antis	03/27/2011
2012	Buckhorn	Equipment Use	0.9	Logan	12/14/2012
2012	Hollidaysburg Sportsman Club	Miscellaneous	4.25	Frankstown	11/20/2012
2012	Sandy Run 1	Equipment Use	1.65	Logan	04/18/2012
2012	Smith Farm	Equipment Use	1.34	Snyder	04/09/2012
2012	Tyrone Reservoir	Equipment Use	3.64	Snyder	04/07/2012
2012	Johnstown Road	Incendiary	1.03	Freedom	04/06/2012
2012	Homer Gap	Debris Burning	0.73	Logan	04/03/2012
2012	Horse Shoe 1	Railroad	61.09	Logan	03/11/2012
2013	Sinking Valley	Debris Burning	1	Tyrone	04/05/2013
2014	Puzzletown	Incendiary	10.75	Freedom	11/04/2014
2014	The Jones	Debris Burning	0.4	Snyder	11/04/2014

2014	Decker Hollow	Debris Burning	0.21	Snyder	10/28/2014
2014	Elementary School	Equipment Use	0.18	Tyrone (HRM)	10/28/2014
2014	Wopsy White Rd	Equipment Use	9.62	Logan	05/08/2014
2014	Deer Lane Fire	Debris Burning	2.77	Freedom	05/06/2014
2014	Hite Hollow	Debris Burning	5.62	Antis	04/24/2014
2014	15th St. Hollow	Equipment Use	0.8	Logan	04/16/2014
2014	Bums Woods II	Incendiary	1.22	Logan	04/12/2014
2014	Rossman Road	Debris Burning	4.22	Snyder	04/10/2014
2015	McCaulley Lane	Debris Burning	1.51	Snyder	10/21/2015
2015	Sugar Run	Railroad	0.01	Allegheny	06/07/2015
2015	Schoch Hollow	Debris Burning	0.85	Snyder	05/11/2015
2015	McMullen Road	Camp Fire	3.0	Tyrone	04/19/2015
2015	Riggles Gap	Debris Burning	12.05	Antis	04/12/2015
2016	Sugar Run Road	Railroad	1.7	Allegheny	07/21/2016
2016	Gwin Road	Incendiary	3.83	Logan	04/18/2016
2017	I-99 Grass Fire	Miscellaneous	0.01	Snyder	06/13/2017
2017	Mile-Maker 55.8	Equipment Use	0.25	Snyder	05/17/2017
2017	I-99 North	Miscellaneous	0.01	Snyder	05/17/2017
2017	Deer Farm	Debris Burning	0.8	Snyder	04/19/2017
2017	Bruce Reiter	Debris Burning	0.9	Logan	04/18/2017
2017	Burk Rd	Debris Burning	0.02	Freedom	04/15/2017
2017	Sugar Run	Railroad	295	Allegheny	04/11/2017
2017	Berkheimer Ln	Debris Burning	0.1	Juniata	04/11/2017

4.3.3.4 Future Occurrence

Multiple occurrences of wildfires in Blair County are expected each year with a trend to increase in number of acres burned. The occurrence of large scale and intense wildfires is somewhat unpredictable and highly dependent on environmental conditions and human response. Given that the number of wildfires reported in Pennsylvania has been consistently trending upwards for the past 24 years, it is expected that wildfires will increase in Blair County as shown in Figure 9. Weather conditions play a major role in the occurrence of wildfires, so in the event of dry drought conditions, wildfire caution should be heightened with a burn ban introduced. Any fire without the quick response or attention of fire-fighters, forestry personnel, or visitors to the forest, has the potential to become a wildfire.

Figure 9: Number of Wildfires Reported in PA



4.3.3.5 Vulnerability

The size and impact of a wildfire depend on its location, climate conditions and the response of firefighters. If the right conditions exist, these factors may often mitigate the effects of wildfires, however during a drought, wildfires can be devastating. Wildfires are most common in the spring (March–May) and fall (October–November) months. During spring and fall months, the lack of leaves on the trees allows the sunlight to heat and dry the existing leaves on the ground, increasing the risk of forest fires. Firefighters and other first responders can encounter life threatening situations due to forest fires. Traffic accidents during a response and then the impacts of fighting the fire once on scene are examples of the first responder vulnerabilities.

When compared with other areas of Pennsylvania, Blair County has a relatively low occurrence of wildfires. From 2000 through 2023, there are 113 fires on record, burning a total of 771 acres. This averages just under five fires and 33½ acres each year. The average size of these fires was just under seven acres. These numbers are low; however, the danger lies in the interface between the woodland and developed areas. The most exposed of these areas are the subdivisions to the north of Frankstown Road on Brush Mountain. These are high-end homes interspersed in the woods on the toe of Brush Mountain.

Other areas of interaction include the several developed gaps, particularly in the Allegheny Front, which are wooded except the small areas around each building.

Table 27: Wildfire Vulnerability Assessment by Region

Local Hazard Vulnerability Assessment	
Jurisdiction	**Summary of Potential Impact**
Planning Region 1	5 wildfires (2021–2025). Overall vulnerability is consistent with the countywide assessment. Impacts are typically localized and depend on weather, fuels, and proximity to structures; risk increases where homes, roads, or utilities border forested areas.
Planning Region 2	6 wildfires (2021–2025). Consistent with countywide vulnerability. Most incidents are expected to be containable, but periods of dry weather and wind can increase spread potential and response demand.
Planning Region 3	12 wildfires (2021–2025). Highest vulnerability due to the urban-wildland interface and the concentration of people and structures near forested areas, including fires along the edges of Altoona. With the highest population (56,376), the potential for structure exposure, evacuations, road impacts, and responder demand is greater than other regions.
Planning Region 4	2 wildfires (2021–2025). Lowest vulnerability in the county and lowest population (3,441). Lower exposure of structures reduces overall risk, though wildfire can still occur during drought and windy conditions.
Planning Region 5	13 wildfires (2021–2025). Higher vulnerability due to the highest number of recent wildfires and a relatively high population (26,001). Many incidents are more dispersed (At least 2021-2025), which may reduce direct structure threat compared to a concentrated interface area, but the higher frequency increases overall responder workload and the chance that a future event occurs near homes or infrastructure.
Planning Region 6	6 wildfires (2021–2025). Consistent with countywide vulnerability. Wildfire impacts are generally limited, but risk increases near wooded slopes, stream corridors, and rural roads where access and suppression can be more difficult.
Planning Region 7	4 wildfires (2021–2025). Consistent with countywide vulnerability. Primary concerns include small-to-moderate fires in forested areas, potential smoke impacts, and localized access issues depending on terrain and road network.
*Wildfire size and impacts vary widely. Some incidents remain small, while others can grow quickly under dry conditions, wind, and heavy fuels, so past counts indicate where ignitions occur but do not predict future fire size or location.	

See Table 10: Blair County Planning Regions for communities that make up each Planning Region

4.3.4. FLOODS, FLASH FLOODS, AND ICE JAMS

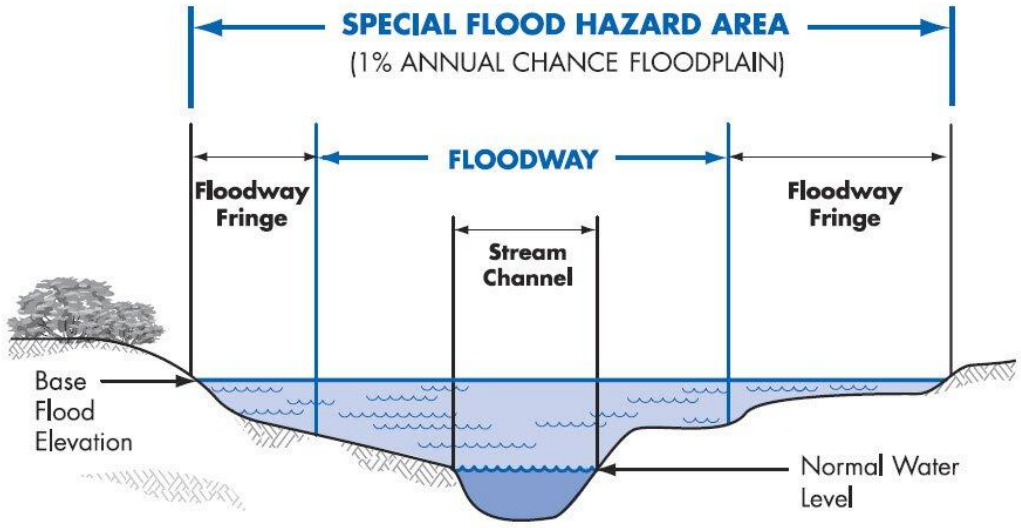
4.3.4.1 Location and Extent

Flooding is the temporary condition of partial or complete inundation on normally dry land, and it is the most frequent and costly of all hazards in Pennsylvania. Flooding events are generally the result of excessive precipitation. General flooding is typically experienced when precipitation occurs over a given river basin for an extended period. Flash flooding is usually a result of heavy localized precipitation falling in a short time over a given location. This often occurs along mountain streams and in urban areas where much of the ground is covered by impervious surfaces. Flash floods are the most common type of flooding in Blair County. The severity of a flood event is dependent upon a combination of factors including stream and river basin topography and physiography, hydrology, precipitation and weather patterns, present soil moisture conditions, the degree of vegetative clearing as well as the presence of impervious surfaces in and around flood-prone areas.

Winter flooding can include ice jams which occur when warm temperatures and heavy rain cause snow to melt rapidly. Snow melt combined with heavy rains can cause frozen rivers to swell, which breaks the ice layer on top of a river. The ice layer often then breaks into large chunks, which float downstream, piling up in narrow passages and near other obstructions such as bridges and dams. All forms of flooding can damage infrastructure.

Floodplains are lowlands adjacent to rivers, streams and creeks that are subject to recurring floods. The size of the floodplain is described by the recurrence interval of a given flood. Flood recurrence intervals are explained in more detail in Section 4.3.4.4. However, in assessing the potential spatial extent of flooding, it is important to know that a floodplain associated with a flood that has a 10% chance of occurring each year is smaller than the floodplain associated with a flood that has a 0.2% annual chance of occurring. The National Flood Insurance Program publishes digital flood insurance rate maps. These maps identify the 1% annual chance of flood area. Special Flood Hazard Area and Base Flood Elevations are developed from the 1% annual chance flood event, as seen in Figure 10: Flooding and Floodplain Diagram. Structures located in the Special Flood Hazard Area have a 26% chance of flooding in a thirty-year period. The Special Flood Hazard Area serves as the primary regulatory boundary used by the Federal Emergency Management Agency, the Commonwealth of Pennsylvania and Blair County local governments. Federal floodplain management regulations and mandatory flood insurance purchase requirements apply to the following high risk special flood hazard areas in Table 26: Flood Hazard High Risk Zones. Appendix D of this hazard mitigation plan includes a flooding vulnerability map for each municipality in Blair County with vulnerable structures identified.

Figure 10: Flooding and Floodplain Diagram



Blair County is in the Juniata River watershed. Figure 11 is a map showing the Federal Emergency Management Agency's prediction of a 1% Annual Chance Floodplain for Blair County and Figure 12 is a map of Blair County's Creeks and Waterways. Past flooding events have been primarily caused by heavy rains which cause small creeks and streams to overflow their banks, often leading to road closures. Flooding poses a threat to critical facilities, agricultural areas, and those who reside or conduct business in the floodplain. The most significant hazard exists for facilities in the floodplain that process, use and/or store hazardous materials. A flood could potentially release and transport hazardous materials out of these areas. As the water recedes it would spread the hazardous materials throughout the area. Most flood damage to property and structures located in the floodplain is caused by water exposure to the interior, high velocity water and debris flow.

Figure 11: 1% Annual Chance Floodplain for Blair County

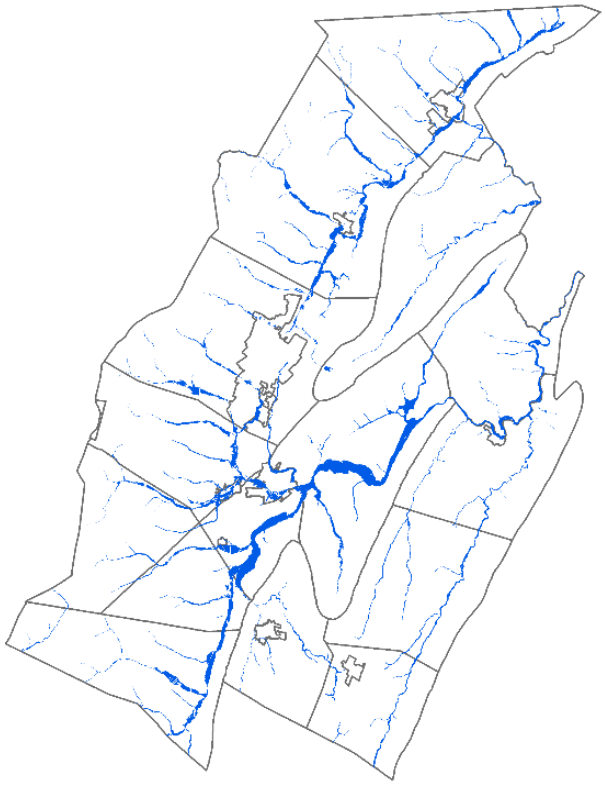


Figure 12: Blair County's Creeks and Waterways

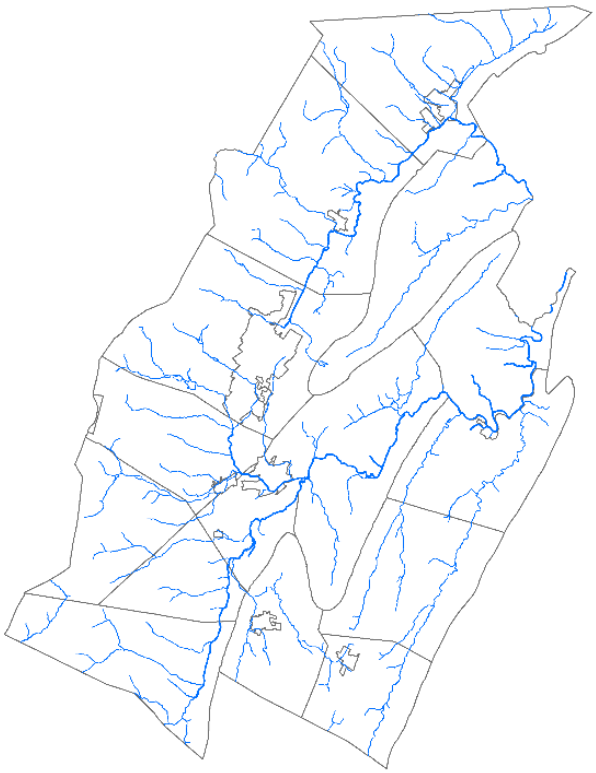


Table 28: Flood Hazard High Risk Zones

Zone	Description
A	Areas subject to inundation by the 1% annual chance flood event. Because detailed hydraulic analysis has not been performed, no base flood elevations or flood depths are shown
AE	Areas subject to inundation by the 1% annual chance flood event determined by detailed methods. base flood elevations are shown within these zones.
AH	Areas subject to inundation by the 1% annual chance shallow flooding (usually areas of ponding) where average depths are 1-3 feet. base flood elevation s derived from detailed hydraulic analysis are shown in this zone.
AO	Areas subject to inundation by the 1% annual chance shallow flooding (usually sheet flow on sloping terrain) where average depths are 1-3 feet. Average flood depths derived from detailed hydraulic analysis are shown within this zone.
AR	Areas that result from the decertification of a previously accredited flood protection system that is determined to be in the process of being restored to provide base flood protection.
A99	Areas with a 1% annual chance of flooding that will be protected by a federal flood control system where construction has reached specified legal requirements. No depths or base flood elevations are shown within these zones.
B	Area of moderate flood hazard, usually area between the limits of the 1% and 0.5% annual chance floods event. B Zones are also used to designate base floodplains of lesser hazards, such as areas protected by levees from a 1% annual chance flood event, or shallow flooding areas with average depths of less than one foot or drainage areas less than 1 square mile.
C	Area of minimal flood hazard, usually depicted on Flood Insurance Rate Maps as above the level of a 0.5% annual chance flood event. Zone C may have ponding and local drainage problems that don't warrant a detailed study or designation as base floodplain.
V	Coastal areas with a 1% or greater chance of flooding and an additional hazard associated with storm waves. These areas have a 26% chance of flooding over the life of a 30 - year mortgage. No base flood elevations are shown within these zones.
VE	Coastal areas with a 1% or greater chance of flooding and an additional hazard associated with storm waves. These areas have a 26% chance of flooding over the life of a 30 - year mortgage. Base flood elevations derived from detailed analyses are shown at selected intervals within these zones.
D	Areas with possible but undetermined flood hazards. No flood hazard analysis has been conducted. Flood insurance rates are commensurate with the uncertainty of the flood risk.
X	If unshaded, the area determined to be outside the 0.5% annual chance flood event and protected by levee from a 1% annual chance flood event. If shaded, is shows an area of moderate flood hazard, usually the area between the limits of the 1% and 0.5% annual chance flood event.

4.3.4.2 Range of Magnitude

Several factors determine the severity of floods, including rainfall intensity and duration, topography, ground cover and rate of snowmelt. Water runoff is greater in areas with steep slopes and little to no vegetative ground cover. The mountainous terrain of Blair County can cause more severe floods as runoff reaches receiving water bodies more rapidly over steep terrain. Urbanization typically results in the replacement of vegetative ground cover with impermeable surfaces like asphalt and concrete, increasing the volume of surface runoff and storm water, particularly in areas with poorly planned storm water drainage systems. A large amount of rainfall over a short time span can cause flash floods. Additionally, small amounts of rain can cause floods in locations where the soil is frozen, saturated from a previous wet period, or if the area is rife with impermeable surfaces such as large parking lots, paved roadways and other developed areas. The county occasionally experiences intense rainfall from tropical storms in late summer and early fall which can potentially cause flooding as well.

In winter months, local flooding could be exacerbated by ice jams in rivers. Ice jam floods occur on rivers that are totally or partially frozen. A rise in stream level will break up a totally frozen river and create ice flows that can pile up on channel obstructions such as shallow riffles, log jams, or bridge piers. The jammed ice creates a dam across the channel over which the water and ice mixture continues to flow, allowing for more jamming to occur.

Severe flooding can cause injuries and deaths, and can have long-term impacts on the health and safety of the citizens. Severe flooding can also result in significant property damage, potentially disrupting the regular function of critical facilities and have long-term negative impacts on local economies. Industrial, commercial and public infrastructure facilities can become inundated with flood waters, threatening the continuity of government and business. The special needs population must be identified and located in flooding situations, as they are often home bound. Mobile homes are especially vulnerable to high water levels. Flooding can have significant environmental impacts when flood waters release and/or transport hazardous materials, and can also result in spreading diseases.

In areas that were developed in the decades following World War II, flooding is also a man-made hazard. In these areas, development occurred in wetland areas and other poor drainage areas and the impervious cover constructed included no storm water management. This primarily occurs in Logan and Allegheny Townships but is visible other areas as well. The lack of infrastructure results in street and parking lot flooding and has closed some major arterials in the last few years. It also threatens housing and business interests. These areas are difficult to drain, particularly during a flood even since the property lies below the level of the flood waters. Additionally, the water drains unchecked into the rivers systems, increasing quantity and decreasing quality downstream and impacting properties miles away from the source. This also contributes to the quality issues in the Chesapeake Bay and high waters downstream in the Juniata and Susquehanna river systems.

Severe flooding also comes with many secondary effects that could have long lasting impacts on the population, economy and infrastructure of Blair County. Power failures are the most common secondary effect associated with flooding. Coupled with a shortage of critical services and supplies, power failures could cause a public health emergency. Critical infrastructure, such as sewage and water treatment facilities, can be severely damaged, having a significant effect on public health. High flood waters can cause sewage systems to fail and overflow, contaminating groundwater and drinking water. Flooding also has the potential to trigger other hazards, such as landslides, hazardous material spills and dam failures.

The maximum threat of flooding in Blair County is estimated by looking at potential loss data and repetitive loss data, both analyzed in the risk assessment portion of the hazard mitigation plan. In these cases, the severity and frequency of damage can result in permanent population displacement, and businesses may close if they are unable to recover from the disaster.

Although floods can cause deaths, injuries and damage to property, as naturally occurring events they benefit riparian systems which have not been disrupted by human actions. Such benefits include groundwater recharge and the introduction of nutrient rich sediment which improves soil fertility. However, human development often disrupts natural riparian buffers by changing land use and land cover, and the introduction of chemical or biological contaminants that often accompany human presence can contaminate habitats after flood events.

Floods, flash floods, and ice jams can harm both the natural and human-made environment in Blair County. Floodwaters can damage homes, businesses, roads, bridges, utilities, farmland, and critical facilities. They can also erode streambanks, wash out soil, damage habitat, and spread pollutants such as fuel, sewage, chemicals, and debris into streams and floodplains. Flash floods are especially dangerous because they develop quickly and can cause severe erosion and damage in a short time. Ice jams can force water out of river channels, causing sudden localized flooding and damage to nearby land, roads, and structures.

Potential environmental impacts of floods, flash floods, and ice jams include:

- Flooding of homes, businesses, roads, bridges, and critical facilities
- Erosion of streambanks, soil loss, and channel instability
- Sediment and debris deposition in streams, roads, and floodplains
- Damage to wetlands, riparian areas, and wildlife habitat
- Contamination from sewage overflows, fuel, chemicals, or other hazardous materials
- Reduced water quality in streams, rivers, and groundwater
- Crop damage and loss of agricultural productivity
- Sudden localized flooding from ice jams that damages nearby land and infrastructure

Flooding affects community lifelines by damaging homes and infrastructure, limiting travel, and disrupting essential services. The larger and faster the flood (especially flash floods), the more likely it is to trigger evacuations, road closures, power issues, and public health concerns. The lifelines below summarize the main services most likely to be impacted during flood events in Blair County.

Table 29: Floods, Flash Floods, and Ice Jams Community Lifelines

Community Lifelines	Description
Food, Water, Shelter	The main lifeline affected is homes. Many homes are around a once in 100-year flood. Fixing these homes is not feasible in most cases. Food, water and basic supplies may be limited during major flooding.
Transportation	Many lines of transportation may be damaged or inaccessible during a flooding event.
Safety and Security	A flood requires police, fire search and rescue, government officials, and first responders to tacking together. We can reduce the strain by limiting infrastructure development in certain areas and improving stormwater management.
Hazardous Materials	A flood can damage facilities containing hazardous materials or hit wastewater treatment plants resulting in hazardous materials. Hazardous sites should never be in a flood zone.
Health and Medical	Flooding can create a mass casualty event, slow emergency transport, and create health risks such as mold, contaminated water and wastewater exposure.

Flooding can disrupt energy, communications, and water systems if facilities or access routes are affected. However, these facilities tend to be placed in more resilient areas.

4.3.4.3 Past Occurrence

Blair County has experienced numerous flooding, flash flooding and ice jam flooding events in the past. The flooding and flash flooding was caused by a variety of heavy storms, tropical storms, ice jams and other issues. High crest records from the United States Geologic Survey water gauge at Williamsburg are shown in Table 28: High water events on the Little Juniata at Spruce Creek and the Frankstown Branch of the Juniata River at Williamsburg, and a summary of flood event history for Blair County follows in Table 29: Flood Event History Since 2000.

Table 30: Riverine High-Water Events

Little Juniata at Spruce Creek				Frankstown Branch at Williamsburg			
Historic Records		Highs Since 2010		Historic Records		Highs Since 2010	
Date	Feet	Date	Feet	Date	Feet	Date	Feet
1936-03-18	19.10	2018-09-10	12.18	2004-09-18	19.46	2018-09-10	16.98
1972-06-23	16.98	2010-12-01	11.03	1996-01-19	19.15	2021-09-02	16.55
1950-11-25	15.77	2024-04-03	10.69	1889-06-01	19.10	2024-04-03	15.47
2004-09-18	15.46	2024-08-09	9.25	1936-03-18	18.58	2010-12-02	15.27
1993-04-16	14.08	2021-09-01	8.54	1972-06-23	18.39	2011-09-07	14.03

Table 31: Blair County Flood Event History Since 2000

Date	Site	Flood Stage (ft)	Crest	Category	Basin	Stream
January 2, 2003	Spruce Creek	8.00	8.60	Minor	Juniata	Little Juniata River
August 9, 2003	Altoona	-	-	-	Juniata	-
September 27, 2003	Lakemont	-	-	-	Juniata	-
November 19, 2003	Williamsburg	12.00	12.85	Minor	Juniata	Frankstown Branch
November 19, 2003	Spruce Creek	8.00	9.43	Minor	Juniata	Little Juniata River
May 21, 2004	Altoona	-	-	-	Juniata	-
August 30, 2004	Hollidaysburg	-	-	-	Juniata	-
September 9, 2004	Spruce Creek	8.00	12.94	Moderate	Juniata	Little Juniata River
September 9, 2004	Williamsburg	12.00	16.91	Major	Juniata	Frankstown Branch
September 17, 2004	Williamsburg	12.00	19.46	Major	Juniata	Frankstown Branch
September 17, 2004	Spruce Creek	8.00	15.46	Major	Juniata	Little Juniata River
January 6, 2005	Countywide	-	-	-	Juniata	-
March 28, 2005	Countywide	-	-	-	Juniata	-
November 29, 2005	Spruce Creek	8.00	8.74	Minor	Juniata	Little Juniata River
November 16, 2006	Altoona	-	-	-	Juniata	-
June 20, 2009	Bellwood	-	-	-	Juniata	-
January 25, 2010	Spruce Creek	8.00	9.60	Minor	Juniata	Little Juniata River
March 14, 2010	Spruce Creek	8.00	9.84	Minor	Juniata	Little Juniata River
May 28, 2010	Blue Knob	-	-	-	Juniata	Poplar Run
November 30, 2010	Spruce Creek	8.00	8.02	Minor	Juniata	Little Juniata River
December 1, 2010	Spruce Creek	8.00	11.03	Moderate	Juniata	Little Juniata River
December 1, 2010	Williamsburg	12.00	15.27	Major	Juniata	Frankstown Branch

March 10, 2011	Williamsburg	12.00	13.77	Moderate	Juniata	Frankstown Branch
March 10, 2011	Spruce Creek	8.00	8.45	Minor	Juniata	Little Juniata River
September 7, 2011	Williamsburg	12.00	14.03	Moderate	Juniata	Frankstown Branch
September 9, 2011	Bennington	-	-	-	Juniata	-
September 9, 2011	Juniata Gap	-	-	-	Juniata	-
September 10, 2011	Williamsburg	12.00	14.16	Minor	Juniata	Frankstown Branch
June 20, 2015	Bennington	-	-	-	Juniata	Sugar Run Creek
February 16, 2019	Spruce Creek	8.00	8.33	Minor	Juniata	Little Juniata River
February 17, 2018	Williamsburg	12.00	12.63	Minor	Juniata	Frankstown Branch
August 4, 2018	Williamsburg	12.00	12.58	Minor	Juniata	Frankstown Branch
September 10, 2018	Spruce Creek	8.00	12.18	Moderate	Juniata	Little Juniata River
September 10, 2018	Williamsburg	12.00	16.98	Major	Juniata	Frankstown Branch
March 29, 2020	Spruce Creek	8.00	8.22	Minor	Juniata	Little Juniata River
September 1, 2021	Spruce Creek	8.00	8.54	Minor	Juniata	Little Juniata River
September 2, 2021	Williamsburg	12.00	16.55	Major	Juniata	Frankstown Branch
May 7 2022	Spruce Creek	8.00	8.40	Minor	Juniata	Little Juniata River
May 8, 2022	Williamsburg	12.00	13.21	Moderate	Juniata	Frankstown Branch
April 3, 2024	Spruce Creek	8.00	10.69	Moderate	Juniata	Little Juniata River
April 3, 2024	Williamsburg	12.00	15.47	Major	Juniata	Frankstown Branch
August 9, 2024	Spruce Creek	8.00	9.25	Minor	Juniata	Little Juniata River
Source: **Middle Atlantic River Forecast Center and National Centers for Environmental Information**						

The National Flood Insurance Program identifies properties that frequently experience flooding. Repetitive loss properties are structures insured under the National Flood Insurance Program which have had at least two paid flood losses of more than $1,000 over any ten-year period since 1978. A property is considered a severe repetitive loss property either when there are at least four losses each exceeding $5,000 or when there are two or more losses where the building payments exceed the property value. The Hazard Mitigation Assistance Program defines repetitive loss as having incurred flood-related damage on two occasions, in which the cost of the repair, on the average, equaled or exceeded 25 percent of the market value of the structure at the time of each such flood event; and, at the time of the second incidence of flood-related damage, the contract for flood insurance contains increased cost of compliance coverage. Data from January 2017 shows that there are seventeen repetitive loss properties in Blair County. All municipalities in Blair County participate in the National Flood Insurance Program. The following table shows the number of Repetitive Loss Properties and Number of Flood Insurance Policies in Blair County. Figure 13 shows the location of each of these properties from 2017. Mitigation action to buy out those properties identified in 2017 are in section 6.4.

Accessing OpenFEMA in 2026, the amount of RL/SRL are much higher than what we previously thought. The program does not provide sensitive information such as address, so we are left with county wide table with raw data. In total we have 130 properties of repetitive loss. Only 22 are insured. 116 are unmitigated and uninsured. 89% of repetitive loss insurable buildings/property are not insured. One of our goals is compliance with NFIP which means increasing the Community Rating System, finding the NFIP structures within each jurisdiction repetitively damaged by floods, and buying them out. These are in the 2025 Mitigation Action Plan.

Table 32: Blair County Total Repetitive Loss Properties

Category	Counts
Any Repetitive Loss	130
Any Repetitive Loss (Unmitigated, Insured)	22
Any Repetitive Loss (Unmitigated)	116
NFIP Repetitive Loss	113
NFIP Repetitive Loss (Unmitigated, Insured)	22
NFIP Repetitive Loss (Unmitigated)	113
NFIP Severe Repetitive Loss	18
NFIP Severe Repetitive Loss (Unmitigated, Insured)	1
NFIP Severe Repetitive Loss (Unmitigated)	18
Flood Mitigation Assistance Repetitive Loss	2
Flood Mitigation Assistance Repetitive Loss (Unmitigated, Insured)	0
Flood Mitigation Assistance Repetitive Loss (Unmitigated)	2
Flood Mitigation Assistance Severe Repetitive Loss	21
Flood Mitigation Assistance Severe Repetitive Loss (Unmitigated, Insured)	1
Flood Mitigation Assistance Severe Repetitive Loss (Unmitigated)	18
Accessed OpenFEMA February 2024	

Table 33: Municipality RL & Policy Summary

Municipality	Recent Date of Loss	Number of RL Properties	Number of SRL Properties	Number of Losses	Policies in Force	Net Building Payment	Net Contents Payment	Total Net Payment	Average Net Payment Per Loss	Average Net Building Payment Per Loss
Frankstown Township	2021	25	6	84	41	$767,070.01	$301,718.66	$1,068,788.67	$12,723.67	$9,131.79
Hollidaysburg Borough	2025	14	7	50	24	$669,095.41	$81,501.92	$750,597.33	$15,011.95	$13,381.91
Altoona	2021	12	1	29	103	$168,953.47	$828.50	$169,781.97	$5,854.55	$5,825.98
Williamsburg Borough	2018	11	0	25	12	$224,851.06	$54,624.17	$279,475.23	$11,179.01	$8,994.04
Blair Township	2021	11	1	28	36	$355,020.19	$107,465.52	$462,485.71	$16,517.35	$12,679.29
Duncansville Borough	2025	8	2	20	69	$159,550.29	$35,014.62	$194,564.91	$9,728.25	$7,977.51

Greenfield Township	2025	8	1	20	52	$151,472.00	$36,939.46	$188,411.46	$9,420.57	$7,573.60
Allegheny Township	2019	8	1	22	43	$250,022.16	$12,725.41	$262,747.57	$11,943.07	$11,364.64
Freedom Township	2021	7	0	18	37	$166,368.47	$15,243.70	$181,612.17	$10,089.57	$9,242.69
Tyrone Borough	2018	6	0	15	61	$85,310.89	$22,053.98	$107,364.87	$7,157.66	$5,687.39
Logan Township	2017	4	0	8	57	$20,482.89	$2,211.50	$22,694.39	$2,836.80	$2,560.36
Catharine Township	2024	3	0	7	5	$117,313.80	$15,627.45	$132,941.25	$18,991.61	$16,759.11
Antis Township	2009	2	0	4	39	$6,254.39	$0.00	$6,254.39	$1,563.60	$1,563.60
Snyder Township	2004	1	0	2	25	$26,122.39	$15,627.00	$41,749.39	$20,874.70	$13,061.20
Taylor Township	2004	1	0	2	5	$12,241.80	$0.00	$12,241.80	$6,120.90	$6,120.90

The highest three number in each column is highlighted.
Source: Accessed data March 2026 from PEMA State NFIP Specialist

Table 31 shows a relationship between the number of RL/SRL properties and the total cost to the NFIP (Total Net Payment). To better understand severity, we calculated the "Average Net Payment Per Loss." However, that number includes contents payments, which would not occur if a structure were acquired before future flood damage. For that reason, we also calculated the "Average Net Building Payment Per Loss" to focus more directly on structural damage.

Because Blair County cannot acquire every repetitive loss property, a decision framework is needed. One way to prioritize acquisitions is to consider past flood history, likely future risk, and severity of damage. Using building damage severity as one factor, Snyder Township and Catharine Township appear to be strong candidates for early buyouts, even though they have relatively few RL/SRL properties and lower total net payments overall. This suggests that small municipalities should not be overlooked, because acquiring a small number of high-severity properties may produce a strong reduction in future NFIP losses.

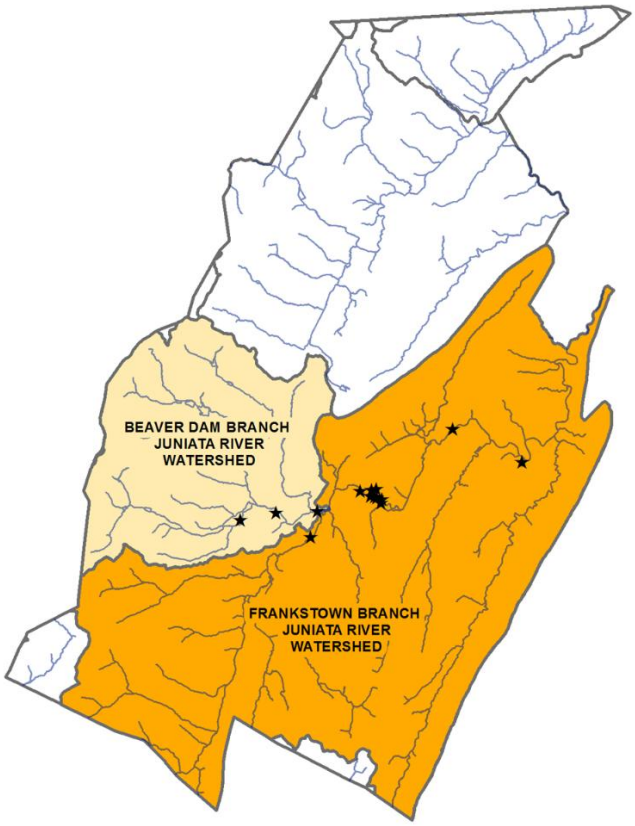
Table 32 shows which municipalities have the highest participation in NFIP. From Table 31 we can see that Frankstown Township, Hollidaysburg Borough, and Blair Township all have very high number of loss and total net payment, yet they do not crack top 3 in number of policies in force or buildings & content coverage. This seems like a gap between which the costliest region and where we are focusing our NFIP policies. Catharine Township is another place where a gap is identified. Using "average net building payment per loss" as a measure of severity, we see that Catharine Township has had a few severe losses (7) but does not have many policies in force (5). Snyder is one where it also has a few severe losses (2) but many policies in force (25).

Although there are many ways to go about it. Strategically, ensuring compliance (using policies in force as a metric) with NFIP in regions with highest number of past losses, highest number of expected future losses, and highest severity would be a great decision framework.

Table 34: NFIP Policies, Premiums, and Coverage Table

Municipality	Policies in Force	Total Premium + Fees	Building + Contents Coverage	Average Building & Contents Coverage
Antis Township	39	$77,117	$11,140,000	$285,641
Greenfield Township	52	$72,330	$7,943,000	$152,750
Tyrone Township	3	$2,691	$283,000	$94,333
Logan Township	57	$104,880	$15,144,000	$265,684
Frankstown Township	41	$74,182	$7,193,000	$175,439
Huston Township	6	$9,503	$2,044,000	$340,667
Williamsburg Borough	12	$26,054	$1,362,000	$113,500
Catharine Township	5	$8,332	$409,000	$81,800
Taylor Township	5	$6,765	$801,000	$160,200
Woodbury Township	4	$7,303	$520,000	$130,000
Roaring Spring Borough	2	$2,301	$216,000	$108,000
Bellwood Borough	4	$5,888	$955,000	$238,750
North Woodbury Township	1	$358	$76,000	$76,000
Freedom Township	37	$72,803	$6,775,000	$183,108
Hollidaysburg Borough	24	$47,909	$4,481,000	$186,708
Altoona City	103	$91,525	$16,782,000	$167,820
Tyrone Borough	61	$115,682	$7,549,000	$123,754
Juniata Township	2	$1,930	$309,000	$154,500
Snyder Township	25	$45,570	$3,520,000	$140,800
Blair Township	36	$57,154	$5,382,000	$149,500
Allegheny Township	43	$60,222	$11,497,000	$267,372
Duncansville Borough	69	$76,564	$10,851,000	$157,261

Figure 13: 2018 Map of Blair County Repetitive Loss Properties



4.3.4.4 Future Occurrence

Flooding is a frequent problem throughout Pennsylvania. Blair County will certainly be impacted by flooding events in the future - Blair County experiences some degree of flooding annually. The threat of flooding is compounded in the late winter and early spring months, as melting snow can overflow streams, creeks and tributaries, increasing the amount of groundwater, clogging storm water culverts and bridge openings. The National Flood Insurance Program recognizes the 1%-annual chance flood, also known as the base flood or 100-year flood, as the standard for identifying properties subject to federal flood insurance purchase requirements. A 1%-annual-chance flood is a flood which has a 1% chance of occurring over a given year or is likely once every 100 years. The digital flood insurance rate maps are used to identify areas subject to the 1% annual-chance flooding. A property's vulnerability to a flood is dependent upon its location in the floodplain. Properties along the banks of a waterway are the most vulnerable.

As the elements of this plan and the comprehensive plan were discussed, the nexus between flood mitigation and storm water management became a frequent topic. As the past decade has progressed empirical experience indicates the intensity of storms is increasing in terms of rainfall amounts per hour. To obtain a better understanding of storm intensity, these events will be monitored over the course of this plan to determine any trends – both spatial and temporal – that are occurring relative to baseline data available from Federal, regional, and local sources.

Storm water vulnerability is particularly acute in the areas developed prior to the recognition of need to manage runoff from development. Those areas are in the core areas of the county and are unfortunately at the top of the Little Juniata and Beaverdam Branch watersheds in areas that were mainly wetland. The combined effects of no runoff management in an area that was essentially a large retention basin on the immediate area and downstream are readily apparent in any non-minor storm event in the form of street closures. This condition is mostly a result of inadequate or nonexistent storm water infrastructure in these areas. Basement flooding, and washouts in greenway parks and other areas along the downstream areas are impacted as well. As Blair County is at the top of the watershed for all three major branches of the Juniata River, the impacts are felt downstream into the Susquehanna River and the Chesapeake Bay. In some lower elevations, stormwater-based flooding can be expected to increase because of development as well as storm intensification. Regardless of the source of the increase, mitigation is needed.

The communities that have responsibilities under the Municipal Separate Storm Sewer System requirements of the National Pollution Discharge Eliminates System created an intergovernmental committee to address that issue. The formal committee has been active since 2018, but the municipalities have been meeting on a more informal basis since about 2012. The focus of this committee is meeting the requirements imposed on the communities, but an added benefit is the overall positive effect it will have on mitigation efforts. Additionally, this plan proposes a county-wide storm water management plan as a mitigation action. That plan will integrate the needs of state law, hazard mitigation, metropolitan transportation planning, the intermunicipal storm water committee, and federal regulations.

4.3.4.5 Vulnerability Assessment

Blair County is vulnerable to flooding events. Flooding puts the entire population at some level of risk, whether through the flooding of homes, businesses, places of employment, or the road, sewer and water infrastructure. Table 31: Structures Vulnerable to Flooding identifies how many structures are in the special flood hazard area by municipality using data from the Blair Planning geographic information system. Critical facilities are facilities that if damaged would present an immediate threat to life, public health and safety. Appendix D of this hazard mitigation plan includes a flooding vulnerability map for each municipality in Blair County with vulnerable structures and critical facilities identified. A list of critical facilities located in the special flood hazard area is shown in Table 32: Critical Facilities Vulnerable to Flooding. Flash flooding has been common in Blair County and can occur anywhere conditions are right. Some of the most damaging floods in Blair County have been flash floods.

Table 35: Structures Vulnerable to Flooding

Municipality	Number of Structures
Allegheny Township	474
Altoona Municipality	475
Antis Township	203
Bellwood Borough	23
Blair Township	206
Catharine Township	13
Duncansville Borough	325
Frankstown Township	177
Freedom Township	211

Greenfield Township	270
Hollidaysburg Borough	137
Huston Township	33
Juniata Township	19
Logan Township	190
Martinsburg Borough	0
Newry Borough	0
North Woodbury Township	11
Roaring Spring Borough	15
Snyder Township	65
Taylor Township	26
Tunnelhill Borough	0
Tyrone Municipality	387
Tyrone Township	31
Williamsburg Borough	75
Woodbury Township	14
Total	**3380**

Table 36: Critical Facilities Vulnerable to Flooding

Facility Type	Number of Facilities
Municipal Buildings	2
Police Stations	1
Fire Stations	2
Emergency Medical Services Stations	2
Treatment Plants	8

Flooding threats by municipality as identified on the Flood Insurance Rate Maps are found in Appendix D. Additional information on critical facilities and HAZUS analysis are found in Appendices E and F, respectively. The table below identifies regional vulnerabilities outside these analyses.

Table 37: Floods, Flash Floods, and Ice Jams, Vulnerability Assessment by Region

Municipal Hazard Vulnerability Assessment

Jurisdiction	Summary of Potential Impact
Planning Region 1	Downtown Tyrone is a known higher flood-risk area. Flooding is influenced by channel conditions and constrictions, including bridge abutments that contribute to sediment buildup/sand bars and the confluence of flows from different directions. Impacts are most likely to include roadway and property flooding in and near the borough, with repeat impacts possible during heavy rainfall and high streamflow events.
Planning Region 2	Consistent with the countywide flood profile. Primary impacts are expected in mapped floodplain areas and along smaller streams during heavy rainfall, with localized stormwater flooding in developed areas depending on drainage capacity.
Planning Region 3	Higher vulnerability due to the concentration of population and infrastructure and the presence of legacy development in historic wetlands and low-lying areas. Impervious surfaces and older drainage patterns can increase stormwater runoff and street/parking lot flooding. The main concern is higher potential damage to homes, businesses, and critical infrastructure during both river flooding and intense rainfall events.
Planning Region 4	Consistent with the countywide flood profile. Flood impacts are expected mainly near streams and mapped floodplains, with localized stormwater flooding where drainage systems are undersized or where runoff concentrates.
Planning Region 5	By far the largest floodplain areas as well as largest number of river-flood-impacted properties. Also includes legacy development contributing to storm runoff.
Planning Region 6	Lower flood vulnerability than most regions due to smaller mapped floodplain areas, including within the 1% annual chance floodplain. Flood impacts are more likely to be localized (e.g., small stream flooding, drainage issues) rather than widespread river flooding.
Planning Region 7	Consistent with the countywide flood profile. Flood impacts are expected mainly in mapped floodplain areas and along smaller streams, with localized stormwater issues depending on development patterns and drainage capacity.

See Table 10: Blair County Planning Regions for communities that make up each Planning Region

4.3.5. ENVIRONMENTAL HAZARDS – HAZARDOUS MATERIALS RELEASE

4.3.5.1 Location and Extent

Chemicals for industrial use and petroleum products can pose a potential environmental hazard when such materials are manufactured, extracted, used, stored, or transported. Most hazardous materials incidents are unintentional, however hazardous materials could also be released in a criminal or terrorist act. Release can result in injury or death and may contaminate air, water and/or soils. Hazardous materials incidents can be generally broken down into the subcategories of transportation and fixed facility. In the calendar year 2022, Pennsylvania reported 1,622 hazardous materials related incident reports to PEMA. As of December 31, 2022, Blair County has a state certified Hazardous Materials Response Team (HMRT) – the Altoona Fire Department Hazardous Materials Response Team. The current Blair County local emergency planning committee chairpersons is headed by Karen Hamel.

The location and extent of hazardous materials release would be dependent on two main factors: whether the hazardous materials release is from transportation or from a fix facility. The transportation would be limited by the size of the transportation vehicle. Train would have the largest potential of large spill. Fixed facilities locations are reported in Table 4.3.5.1-2.

Transportation

Tanker trucks, tractor trailers and rail cars often are used to transport hazardous materials. According to FEMA, transportation of hazardous materials on highways involving tanker trucks or trailers are responsible for the greatest number of hazardous material release incidents. When there are transportation incidents involving these type of vehicles, hazardous materials can be released in significant quantities. Major transportation routes through Blair County include The Keystone Mainline of the Norfolk Southern Railway Company, Interstate 99, US 22 and US 220, and PA Routes 36, 350, 453, and a small part of 764. Several railroad accidents have occurred in Pennsylvania involving hazardous materials.

Fixed Facility

In Pennsylvania, facilities that use, manufacture, or store hazardous materials must comply with Title III of the federal Superfund Amendments and Reauthorization Act (SARA), and the Commonwealth's reporting requirements under the Hazardous Materials Emergency Planning and Response Act (1990-165), as amended. It is important to recognize that these facilities are not an exhaustive and comprehensive list of all locations where hazardous material resides in the county.

Fixed facilities are also monitored by the Environmental Protection Agency (EPA). The EPA has identified hazardous materials sites not regulated by SARA. These sites are known as Toxic Releases Inventory. Facilities that employ ten or more full time employees and manufacture or process more than 25,000 pounds of any toxic chemical listed in SARA Section 313 in a year must report TRI information to the EPA. Blair County has 36 of these fixed facilities and is listed in table 35. This number from EPA's ArcGIS map data conflicts with Chemical Facility Data from PEMA's 2022 Annual Report Pennsylvania Hazardous Material Emergency Planning and Response Act 165 of 1990. The data from 2022 is in Table 34.

Simple Definitions:

- Tier II Facilities: Facilities that report hazardous chemicals stored on site above EPCRA thresholds.
- Chemical Count: Number of distinct hazardous chemicals reported in Tier II data.
- Number of EHS Chems: Chemicals on EPA's Extremely Hazardous Substances list.
- Number of EHS Chems more than TPQ: EHSs at or above the Threshold Planning Quantity, which triggers emergency planning requirements.
- Number of TRI Reporting Facilities: Facilities that report toxic chemical releases and waste management data to EPA under the TRI program.
- Number of TRI Chemicals Reported: Number of distinct TRI-listed chemicals reported by those facilities.
- Facilities Requiring Offsite Plans: Facilities with EHSs at or above TPQ that must be included in local emergency planning and off-site response coordination.

Table 38: PEMA Act 165 of 1990 Chemical Facilities Data

Blair County Year	Number of Tier II Facilities	Chemical Count	Number of EHS Chems	Number of EHS Chems	Number of TRI	Number of TRI	Facilities Requiring

				more than TPQ	Reporting Facilities	Chemicals Reported	Offsite Plans
2022	159	671	104	81	58*	11*	33
2020	156	658	106	77	12	54	68
2018	170	731	n/a	n/a	15	59	68

***This is likely a typo from the PEMA's 2022 Annual Report Pennsylvania Hazardous Material Emergency Planning and Response Act 165 of 1990. Should be swapped**.

Table 39: Blair County Toxic Releases Inventory Sites

Name	Location: Address | Town
Fort Dearborn Co	13985 Eagle Valley Road | Tyrone
Wr Grace & Co Conn	2858 Black Vail Road | Tyrone
Chicago Rivet & Mach	Old Athletic Park Adams Avenue Exit | Tyrone
Team Ten Tyrone Mill	1600 Pennsylvania Ave | Tyrone
Pittsburgh Glass Works LLC	4408 E Pleasant Valley BLVD | Tyrone
Gardner Denver Altoona	150 Enterprise Campus Drive | Altoona
HH Brown Shoe Co/Cove Shoe Martinsburg	107 Highland Street | Martinsburg
Wenger Feeds LLC/Martinsburg Mill	106 S Railroad Street | Martinsburg
Westvaco Corp Envelope Div	Canal ST & RT 866 | Williamsburg
Martinsburg Feed Mill	106 S Railroad Street | Martinsburg
Appvion Inc	100 Paper Mill Road | Roaring Spring
Champion Homes Builders Inc Atlantic Homes Div	343 Champion Drive | Claysburg
Champion Home Builders Inc	2551 Champion Drive | Claysburg
A P Green Refractories Inc Sproul PA Plant	Old RTE. 220 & S.R. #3006 | Sproul
FL Smithe Machine Co Inc	899 Old RT 220 N | Duncansville
Proctor-Silex Inc	Route 220 Business | Altoona
Penn Turf Inc	531 Tel Power Road | Hollidaysburg
Watco Mech SVC Railcar Repair	US Route 22 & Berwind Road | Hollidaysburg
Blair County Resource Recovery Facility	1308 Old Sixth Avenue Road | Altoona
Dept of Homeland Security	320 E Chestnut Avenue | Altoona
Lumax Industries Inc.	201 Chestnut Avenue | Altoona
Ollinger Brothers	827 Pleasant Valley BLVD | Altoona
Dan Caracciolo and Son Mountain City Junk	1917 9th AVE | Altoona
Warnaco Knitwear Division	2424 8th Ave. | Altoona
Concord Plastics of PA Inc	3000 7th Ave. | Altoona
Amerway Inc	3701 Beale Ave. | Altoona
Alpha Assembly Solutions	4100 6th Ave. | Altoona
Synthex Organics LLC	4601 Cortland Ave. | Altoona
General Cable Industries Inc	3101 Pleasant Valley Boulevard | Altoona
SKF USA Inc Altoona Plant	1000 Logan BLVD. | Altoona
Sunoco Partners M&T Altoona Terminal	620 Sugar Run Road | Altoona
Vopak USA Altoona Branch	6th Avenue and Sugar Run Road | Altoona

Altoona Bulk Petroleum Storage Terminal	664 Burns Avenue | Altoona
Veeder Root Co	2709 Route 764 | Duncansville
ST Prod LLC DBA Wieland Small Tube Prod	PO Box 1017 | Duncansville
ST Products LLC	PO Box 1017 | Duncansville

4.3.5.2 Range of Magnitude

Hazardous material releases can contaminate air, water and soil, and can possibly cause injuries, poisonings, or deaths. Hazardous materials fall into nine hazard classes:

- Class 1 Explosives
- Class 2 Gases
- Class 3 Flammable and combustible liquids
- Class 4 Flammable solids
- Class 5 Oxidizing substance and organic peroxides
- Class 6 Toxic substances and infectious substances
- Class 7 Radioactive materials
- Class 8 Corrosive substances
- Class 9 Miscellaneous hazardous materials/products, substances or organisms.

All nine hazard classes can be found being transported and stored at fixed facilities. Certain conditions can exacerbate release incidents:

- Weather conditions affect how the hazard occurs (e.g. transportation accidents) and develops (dispersion can take place rapidly when transported by water and/ or wind). Release can be a secondary impact of natural hazards such as tornadoes or flooding.
- Micro-meteorological effects of buildings and terrain alters dispersion of hazardous materials
- Proximity to surface and ground water sources
- Compliance with applicable codes (e.g. building or fire codes) and maintenance failures (e.g. fire protection and containment features) can substantially increase the damage to the facility itself and to surrounding buildings

The range of magnitude depends on the type of material released; distance and related response time of emergency responders also significantly impact the severity and scope of hazardous material releases and clean-up efforts. Areas most proximal to the release are usually at greatest risk, but depending on the material, a release can travel great distances or remain present in the environment for long periods of time (e.g. centuries or millennia for some radioactive materials) resulting in chronic and extensive impacts on people and the environment.

Hazardous materials releases can harm both the natural and human-made environment in Blair County by contaminating air, soil, surface water, and groundwater. The severity of the impact depends on the type of material released, the amount released, where it occurs, and how quickly it is contained. Releases can damage ecosystems, threaten drinking water sources, require evacuation or shelter-in-place, and disrupt roads, rail lines, businesses, and public services. Some releases may cause only short-term localized impacts, while others can require long-term cleanup and monitoring.

Potential environmental impacts of hazardous materials releases include:

- Contamination of streams, rivers, wetlands, and groundwater
- Soil contamination and long-term cleanup needs
- Air quality impacts from fumes, smoke, or toxic vapors
- Harm to fish, wildlife, vegetation, and habitat
- Damage to roads, rail lines, buildings, and nearby infrastructure
- Evacuation, shelter-in-place, or restricted access to affected areas
- Possible fire or explosion, depending on the material released
- Long-term monitoring, remediation, and disposal requirements

Hazardous materials releases affect community lifelines because they can create immediate threats to public safety and require rapid protective actions. The larger and more toxic the release, and the closer it is to people, waterways, or critical facilities, the more likely it is to require evacuations, restrict transportation, and strain emergency response and healthcare resources. The lifelines below summarize the main services most likely to be impacted during a hazardous materials release in Blair County.

Table 40: Hazardous Materials Release Community Lifelines

Community Lifelines	Description
Safety and Security	Hazardous material release is a threat to public safety and security. They can result in explosions and fires. They can poison the water and environment.
Health and Medical	Individuals nearby or at the incident can be exposed to harmful levels of hazardous materials. Exposure can have permanent health impacts on communities.
Transportation	Hazardous materials release can occur on highways, railroad, or even air vehicles. Closures, detours, and restricted access are common for response and cleanup.
Food, Water, Shelter	The main concern in environmental contamination from hazardous materials releases which can seep into the ground. Once it is released, you can solve it. Best way is prevention.
Hazardous Materials	This incident, hazardous materials release, falls into this category. Clean up typically requires specialized response and coordination through LEPC and/or HazMat teams.

The energy, communications, and water systems are unlikely to be directly affected by hazardous material release. These community lifelines may be disrupted if facilities are affected directly or in proximity, access is restricted, or proactive actions requires temporary shutdowns.

4.3.5.3 Past Occurrence

Detailed past occurrence of hazardous materials release in Blair County from highway travel between 2000 and 2017 have been identified. The Pipeline Hazardous Materials Safety Administration (2017) has eight recorded incidents involving the rail system, all but one of which occurred in or near Altoona. The

bulk of the incidents involved package delivery services, mostly occurring within the Duncansville ZIP code. No recorded incidents have caused fatalities; however, three incidents resulted in injuries.

According to ACT 165 2018 Annual Report, in 2018, Blair County reported 6 Chemical Spill, 12 flammable liquid and solids, and 5 others for a total of 23 hazardous material release incident. The latest 2022 Annual Report does not contain such data.

Table 41: Blair County Hazardous Materials Release Incident Count

Year	Chemical Spill	Fish Kill	Flammable Liquid & Solids	Flammable Liquid / Solid	Flammable Liquid and Solids	Vehicle Accident	Other
2020	3	1	1	4	2	1	0
2018	6	0	12			0	5

4.3.5.4 Future Occurrence

Hazardous material release incidents are generally difficult to predict, but the presence and use of such known dangerous materials warrant preparation for release events. Emergency response in Blair County should be prepared to handle the types of hazardous materials housed, used, and transported in the Superfund Amendments and Reauthorization Act Title III facilities, Toxics Release Inventory facilities and oil and gas wells throughout the county. Given that several incidents have happened several times from 2000 to 2018, we should consider this incident almost guaranteed in any given year.

4.3.5.5 Vulnerability Assessment

The vulnerability of a community and the environment to a spill or release of an extremely hazardous substance at a facility or from a transportation accident depends on many variables. These include: the specific chemical, the extent of the spill or release, the proximity of waterways, and the number of people residing in a radius from the facility or accident location that can reasonably be expected to be adversely affected.

Furthermore, the vulnerability of a community and the environment to a hazardous material release from a transportation incident is directly related to several specific variables, namely the mode and class of transportation. Each mode is further subject to several categories of hazard. Each mode of transportation (truck/highway, aircraft, rail, watercraft, or pipeline) has separate and distinct factors affecting the vulnerability. Transportation carriers must have response plans in place to address accidents, otherwise the local emergency response team will need to 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.

All types of population are evaluated in determining the population at risk within the radius of vulnerability including hospitals, schools, homes for the elderly, and critical infrastructure facilities. Populations in communities that contain Toxics Release Inventory facilities are more vulnerable to facility releases, particularly those within 1½ miles of a given facility. Jurisdictions within one-quarter mile of major highways and railways are considered more vulnerable in the event of a transportation incident involving hazardous materials. Note that there is some overlap among these vulnerable jurisdictions. For

example, an individual that lives within 1½ miles of a hazardous materials site may also live within one-quarter mile of a major road.

Private water supplies such as domestic drinking water wells in the vicinity of oil and gas wells are at risk of contamination from brine and other pollutants, including methane which can pose a fire and explosive hazard. Ideally, vulnerability of private drinking well owners would be established by comparing distance of drinking water wells to known oil and gas well locations, but this extensive detailed data is not readily available at this time. Private drinking water is largely unregulated and information on these wells is voluntarily submitted to the Pennsylvania Topographic and Geologic Survey by water well drillers, and the existing data is largely incomplete and/or not completely accurate.

Table 42: Hazardous Materials Release Vulnerability Assessment by Region

Municipal Hazard Vulnerability Assessment	
Jurisdiction	**Summary of Potential Impact**
Planning Region 1	Consistent with the countywide profile. Primary risk is from transportation corridors (road/rail) and smaller fixed facility uses. Most incidents would be localized and would require short-term response actions depending on the material released.
Planning Region 2	Consistent with the countywide profile. Impacts would generally be limited to the immediate area of a release, with the potential for road closures, evacuation or shelter-in-place, and environmental cleanup if a spill reaches surface water or storm drains.
Planning Region 3	Higher potential impact due to high population density and the presence of major rail infrastructure, including Norfolk Southern yards, plus a concentration of TRI-reporting facilities in the Altoona area. A significant release here could affect the largest number of people and could require protective actions, traffic control, and extended cleanup, especially if it involves air dispersion or waterways.
Planning Region 4	Lowest vulnerability due to low population exposure and few (if any) TRI-reporting facilities. Incidents are less likely and would typically be smaller and more localized, with limited off-site impacts unless a spill reaches a stream or roadway network.
Planning Region 5	Higher vulnerability due to the presence of a large intermodal facility and major transportation crossroads. This increases the likelihood of a large-scale transportation-related hazardous materials incident. Impacts could include major road or rail closures, evacuation or shelter-in-place, and significant response and cleanup needs depending on the material and weather conditions.
Planning Region 6	Consistent with the countywide profile. Risk is primarily tied to transportation routes and local fixed facilities; impacts would usually be localized but could increase if a release affects waterways, densely occupied areas, or critical access routes.
Planning Region 7	Consistent with the countywide profile. Most incidents would be localized, but severity could increase if a release occurs near waterways, residential clusters, or key transportation corridors.

See Table 10: Blair County Planning Regions for communities that make up each Planning Region

4.3.6. INVASIVE SPECIES

4.3.6.1 Location and Extent

An invasive species is defined by the 2016 Presidential Executive Order 13751 as, "with regard to a particular ecosystem, a non-native organism whose introduction cases or is likely to cause economic or environmental harm, or harm to human, animal, or plant health". A non-native organism is "any organism that occurs outside of its natural range." (Pennsylvania Invasive Species Management Plan 2025) The PA Governor's Invasive Species Council has identified 300 invasive plants, insects, fungi, pathogens, and animals as having the greatest current or potential negative impacts for Pennsylvania.

The location and extent for each invasive species vary greatly depending on the species. Some of those invasive species from the Pennsylvania Invasive Species Management Plan 2025 are not even present in Pennsylvania (we plan to keep it that way), while others are found in every county of Pennsylvania. Invasive species are a hazard that is consistently underfunded and have poor tracking record of species varying by county. Blair County is one of those counties with poor tracking record relative to Pennsylvania.

The invasive species are constantly making their way into Pennsylvania. Often, they are unintentionally introduced by people when they hide in firewood, attach to boats and other gear, or conceal themselves in merchandise. Regardless of their means of introduction, they have potential significant negative impacts for Pennsylvania in several ways.

1. They outcompete and decrease diversity of our native plants, insects, and wildlife.
2. They decrease agricultural crop yields and increase the cost of cultivation.
3. They damage critical infrastructure like roads, bridges, storm water management systems, and riparian buffers.
4. They impact human health directly through diseases such as West Nile Virus, or indirectly by increasing incidents of Lyme disease.

Invasive species threats are divided into 8 categories by PA Governor's Invasive Species Council.

1. Plants – More than 140 invasive plant species pose significant risk of negative impacts for PA.
2. Plant Pathogens – 25 plant pathogens of most concern for PA.
3. Insects – There are 28 insects of greatest concern for Pennsylvania.
4. Aquatic Animals – Almost 60 invasive aquatic animals are identified as greatest concern for PA.
5. Aquatic Animal Pathogens – 10 viruses and diseases are of greatest concern to PA's aquatic animals and industries.
6. Mollusks and Other Land Invertebrates – There are 3 emerging threats and 11 potential threats in PA.
7. Birds and Mammals – 1 emerging threat, 3 established threats, and 1 potential threat in PA.
8. Fungi – There are 21 introduced fungi of greatest concern that are pathogens of plants and animals, threaten native fungal biodiversity, or are poisonous to humans.

4.3.6.2 Range of Magnitude

Invasive species vary widely in their impacts. Some cause little harm, while others can significantly damage forests, agriculture, waterways, and local ecosystems. The severity depends on the species, how quickly it spreads, how long it has been established, and how vulnerable the affected habitat is.

Invasive insects and plants can be especially damaging in Blair County. For example, emerald ash borer can kill most ash trees it infests, which can lead to widespread tree loss. Invasive plants such as Japanese knotweed can form dense stands that crowd out native vegetation and limit access along streambanks and roadsides. This can affect watershed health and, in some areas, can make maintenance and emergency access more difficult.

Large-scale forest decline can increase secondary impacts. Tree loss reduces shade and root stability, increases erosion, and can worsen runoff and flooding by degrading natural land cover. It can also create economic impacts by affecting logging, tourism, and other activities tied to forest resources. Invasive species impacts are often amplified when ecosystems are already stressed, such as during drought or extreme weather, which can reduce the ability of native species to recover.

Potential environmental impacts of invasive species include:

- Loss of native plants, animals, and biodiversity
- Damage to forests, crops, and other vegetation
- Degradation of streambanks, wetlands, and riparian areas
- Increased erosion and reduced slope or soil stability
- Reduced habitat quality for fish and wildlife
- Spread of plant disease, pests, or ecosystem stress
- Higher maintenance costs for roadsides, parks, and public lands
- Increased vulnerability to other hazards such as flooding, wildfire, and drought

The magnitude of an invasive species threat is generally amplified when the ecosystem or host species is already stressed, such as in times of drought. The already weakened state of the native ecosystem causes it to more easily succumb to an infestation.

Invasive species affect community lifelines by damaging the natural systems that support agriculture, water resources, and safe access to land and waterways. Impacts typically build over time rather than occurring in a single event, but severe infestations can create long-term costs and increase vulnerability to other hazards such as flooding and erosion. The lifelines below summarize the main services most likely to be affected by invasive species in Blair County.

Table 43: Invasive Species Community Lifelines

Community Lifelines	Description
Food, Hydration, Shelter	Invasive species can reduce agricultural productivity and harm forests and waterways that support local food and natural resources. Some invasives also degrade streambanks and increase erosion, which can affect water quality and long-term resilience.

Invasive species do not usually cause immediate failure of other lifelines, but they can create secondary impacts over time (e.g., increased erosion and flooding risk, higher maintenance costs, and reduced access along stream corridors). If an invasive species affects human or animal health, it may also increase demand on health and medical services.

4.3.6.3 Past Occurrence

At this time in 2026, Blair County doesn't have a comprehensive listing of every invasive species documented in Blair County by the eight categories listed from PA Governor's Invasive Species Council. The invasive species list provided on Blair Conservation District is a comprehensive list for Pennsylvania. To address the gap would require the updated list of eight categories to be made aware to Blair County Conservation District and an effort to document this data. What we do have is a list of all invasive plant species documented.

Invasive species have been entering Pennsylvania since the arrival of European settlers. Table 41: Blair County Invasive Species lists all known invasive species that are established in Blair County and pose a threat. Some invasive species such as the Emerald Ash Borer, Japanese Beetle, and Japanese Knotweed are also widespread in the region surrounding Blair County. While Blair County can work towards mitigating the negative impacts of such widespread species, controlling the spread of the species can be difficult. For some species such as Japanese Stilt grass, the Asian Long-horned Beetle or the Chestnut Gall Wasp, Blair County is on the edge of the species range, meaning control efforts taken in the county can help limit the propagation of the threat even beyond the county.

Table 44: PA Rank Classification for DCNR Invasive Species 2020

Rank Classification Definition	
Rank 1	Severe Threat. Exotic plant species that possess characteristics of invasive species and spread easily into native plant communities and displace native vegetation. Includes species that are or could become widespread in Pennsylvania.
Rank 2	Significant Threat. Exotic plant species that possess characteristics of invasive species but are not presently considered to spread as easily and aggressively into native plant communities as those species listed as Rank 1.
Rank 3	Lesser Threat. Exotic plant species that spread in or near disturbed areas and are not presently considered a major threat to undisturbed native plant communities.
Watch List	Exotic plant species that are severe problems in surrounding states but have not been widely reported in Pennsylvania or may naturalize and become a problem in the future and require more monitoring.
n/a	No rank classified from DCNR Invasive Species 2020 list or unknown.

Table 45: Blair County Invasive Species

Common Name	Scientific Name	Rank
Amur Honeysuckle	(Lonicera maackii)	1
Asian Ladybird Beetle	(Harnonia axyridis)	n/a
Autumn Olive	(Elaeagnus umbellata)	2
Bitter Dock	(Rumex obtusifolius)	n/a
Black Medic	(Medicago lupulina)	n/a
Border Privet	(Ligustrum obtusifolium)	2
Bouncing-Bet	(Saponaria officinalis)	n/a
Brittle Naiad	(Najas minor)	3
Brown Marmorated Stink Bug	(Halyomorpha halys)	n/a
Common Buckthorn	(Rhamnus cathartica)	1

Bull Thistle	(Cirsium vulgare)	2
Butter-and-Eggs	(Linaria vulgaris)	n/a
Canada Bluegrass	(Poa compressa)	n/a
Canada Thistle	(Cirsium arvense)	2
Chicory	(Cichorium intybus)	n/a
Chinese Bushclover	(Lespedeza cuneata)	2
Climbing Nightshade	(Solanum dulcamara)	n/a
Colonial Bentgrass	(Agrostis capillaris)	n/a
Colt's-Foot	(Tussilago farfara)	n/a
Common Chickweed	(Stellaria media)	3
Crown-Vetch	(Securigera varia)	2
Common Speedwell	(Veronica officinalis)	n/a
Velvet Grass	(Holcus lanatus)	3
Common Yarrow	(Achillea millefolium)	n/a
Moneywort	(Lysimachia nummularia)	3
Curly Dock	(Rumex crispus)	n/a
Curly-Leaf Pondweed	(Potamogeton crispus)	1
Cypress Spurge	(Euphorbia cyparissias)	n/a
Dame's Rocket	(Hesperis matronalis)	2
Dog Rose	(Rosa canina)	n/a
Dutch Elm Disease	(Ophiostoma ulmi)	n/a
Emerald Ash Borer	(Agrilus planipennis)	n/a
English Plantain	(Plantago lanceolata)	n/a
Eurasian Water-Milfoil	(Myriophyllum spicatum)	1
European Black Alder	(Alnus glutinosa)	2
European Lily-of-the-Valley	(Convallaria majalis)	n/a
Garden Bird's-Foot-Trefoil	(Lotus corniculatus)	n/a
Garlic Mustard	(Alliaria petiolata)	1
Giant Bentgrass	(Agrostis gigantea)	n/a
Giant Chickweed	(Myosoton aquaticum)	n/a
Great Hedge Bedstraw	(Galium mollugo)	n/a
Greater Celandine	(Chelidonium majus)	2
Ground-Ivy	(Glechoma hederacea)	n/a
Hemlock Woolly Adelgid	(Adelges tsugae)	n/a
House Cat	(Felis catus)	n/a
Indian Mock Strawberry	(Duchesnea indica)	n/a
Japanese Barberry	(Berberis thunbergii)	1
Japanese Beetle	(Popillia japonica)	n/a
Japanese Knotweed	(Fallopia japonicas)	1
Japanese Stiltgrass	(Microstegium vimineum)	1
Kentucky Bluegrass	(Poa pratensis)	n/a
Lady's Thumb	(Persicaria maculosa)	n/a
Lesser Burdock	(Arctium minus)	n/a
Common Periwinkle	(Vinca minor)	3
Marshpepper Smartweed	(Persicaria hydropiper)	n/a
Meadow Goat's-Beard	(Tragopogon dubius)	n/a
Meadow Hawkweed	(Hieracium caespitosum)	n/a
Meadow Timothy	(Phleum pratense)	n/a
Morrow's Honeysuckle	(Lonicera morrowii)	1
Mugwort	(Artemisia vulgaris)	3

Multiflora Rose	(Rosa multiflora)	1
Orange Daylily	(Hemerocallis fulva)	3
Orange Hawkweed	(Hieracium aurantiacum)	n/a
Orchard Grass	(Dactylis glomerata)	n/a
Oriental Bittersweet	(Celastrus orbiculata)	1
Oriental Lady's Thumb	(Polygonum caespitosum)	n/a
Oxeye Daisy	(Leucanthemum vulgare)	n/a
Perennial Pea	(Lathyrus latifolius)	n/a
Poison Hemlock	(Conium maculatum)	1
Reed Canary Grass	(Phalaris arundinacea)	2
Scotch Pine	(Pinus sylvestris)	n/a
Rough Bluegrass	(Poa trivialis)	2
Sheep Sorrel	(Rumex acetosella)	n/a
Smooth Brome	(Bromus inermis)	n/a
Spongy (Gypsy) Moth	Lymantria dispar	n/a
Spotted Lanternfly	(Lycorma delicatula)	n/a
Spotted Starthistle	(Centaurea biebersteinii)	n/a
Sweet Vernal Grass	(Anthoxanthum odoratum)	n/a
Sweet Yellow Clover	(Melilotus officinalis)	n/a
Tall Buttercup	(Ranunculus acris var. acris)	n/a
Tree-of-Heaven	(Ailanthus altissima)	1
White Clover	(Trifolium repens)	n/a
Wild Carrot	(Daucus carota)	n/a
Wild Teasel	(Dipsacus fullonum)	n/a
Yarrow	(Achillea millefolium)	n/a
Yellow Iris	(Iris pseudacorus)	2

4.3.6.4 Future Occurrence

According to the Pennsylvania Invasive Species Council, the probability of future occurrence for invasive species threats is growing due to the increasing volume of transported goods, increasing efficiency and speed of transportation, and expanding international trade agreements. Expanded global trade has created opportunities for many organisms to be transported to and establish themselves in new counties and regions. Climate change is contributing to the introduction of new invasive species. As maximum and minimum seasonal temperatures change, pests can establish themselves in previously inhospitable climates. This also gives introduced species an earlier start and increases the magnitude of their growth, possibly shifting the dominance of ecosystems in the favor of nonnative species.

The definitions for the pathways of introduction in Pennsylvania are presented here along with an example.

- **Intentional release in nature**: Species are planted or released intentionally for purposes such as biological control, hunting or fishing, habitat/environmental goals, or cultural/medicinal or other reasons.
    - Crown vetch was planted intentionally for erosion control. Since then, it has spread on its own contributing to decline of native plants.
- **Escape from confinement**: Species that are intentionally contained in a confined environment can unintentionally escape

    - Feral swine have escaped captivity on farms and established free-roaming population. These wild populations are destructive to wetlands and other natural habitats, carry diseases that can infect domestic pigs and damage crops.
- **Transport as contaminants**: Species are unintentionally transported as a contaminant along with animals, plants, consumer goods, or other materials.
    - Hemlock wooly adelgid was probably introduced to Pennsylvania on the nursery stock of trees transported from Asia. This invasive insect subsequently established itself on native eastern hemlocks in our state's forests.
- **Transport as stowaways**: Species are unintentionally transported as stowaways in equipment, vehicles, ballast water, boats, or recreation gear.
    - The Emerald ash borer beetle is believed to have arrived in the US on wood packing materials. It is costly to the timber industry and threatens the persistence of ash trees.
- **Spread via human-made corridors**: Species can spread along human-made corridors, such as roads, trails, canals, tunnels, and railroads.
    - Japanese stilt grass spreads on its own along roadways and trails. It invades forest understories where it can crowd out other plants and reduce biodiversity.
- **Spread unaided via natural corridors**: Species can expand their distributions through dispersal along naturally connected habitats, such as waterways and connected suitable habitats.
    - Hydrilla may establish through vegetative means in new locations when fragments float downstream to a connected waterbody or hitching a ride on boats and trailers as recreationists travel across the commonwealth. Dense growth of hydrilla create unsuitable habitat for aquatic organisms.

To combat the increase in future occurrences, the Pennsylvania Invasive Species Council (a collaboration of state agencies, public organizations, and federal agencies) released the Invasive Species Management Plan in April of 2025. The plan outlines the Commonwealth's goals for managing the spread of nonnative invasive species and creates a framework for responding to threats through research, action, and public outreach and communication. More information can be found at www.pa.gov.

There are several invasive species that are found in Pennsylvania but have not yet been detected inside the county. Especially in cases like this, control efforts, heightened awareness, and public outreach and education can help prevent an invasive species from becoming established. Once a species is established, it is much more difficult to eradicate it from an ecosystem meaning prevention is very important. For a list of invasive species, please refer to Pennsylvania Governor's Invasive Species Council. For the latest strategy against invasive species, please refer to the Pennsylvania Invasive Species Management Plan 2025.

4.3.6.5 Vulnerability Assessment

Pennsylvania Invasive Species Management Plan 2025's analysis is that there are significant shortcomings which continue to impede prevention, early detection, rapid response, leadership, and coordination necessary to adequately protect Pennsylvania from invasive species. Jurisdictional agencies and partners are lacking in funding and capacity to adequately address invasive species management. This latest version of the plan addresses these and other important issues and calls on responsible parties to act on potential solutions. Blair County seems to fall in line with the statewide analysis, but we currently lack specific data to make an accurate vulnerability assessment.

Invasive species can have devastatingly negative impacts on the environment that affects many sectors of the economy. They can affect environment, forestry, agriculture, transportation and utilities infrastructure, landowners and recreation, human health and animal health.

- **Environment**: Invasive species are the second greatest cause of biodiversity loss behind habitat loss. Biodiversity is critical to maintaining a resilient and healthy environment. Invasive species can be an ecosystem engineers disrupting nature. This can include flood and erosion control, pollination, cleaning of air and water, wildlife nutrition, decomposition, and nutrient cycling.
- **Forestry**: Species like spongy moth and emerald ash borer, damage, weaken, and kill valuable hardwood trees like oaks and ashes and are incredibly costly to manage. PA DCNR spent ~$5 million in 2021 to suppress spongy moth outbreaks in state parks and forests. An outbreak still occurred 2021 to 2025. In 2018, the PA emerald ash borer control program cost $100,000 in state funds and $155,000 in federal funds. One million dollars of ash timber were harvested from state forest land. While this can cause a short-term timber industry boom, this resource will not be renewed for future benefit.
- **Agriculture**: Costs for crop losses and for invasive species management add up to a significant price tag. PA Department of Agriculture and US Department of Agriculture spent ~$34 million from 2015-2020 to control spotted lanternfly and $59 million from 1999 to 2009 to eradicate plum pox virus. Invasive insects decrease crop yields and marketability due to feeding damage. Farmers, foresters, and agencies must spend millions every year to keep them in check.
- **Transportation and Utilities Infrastructure**: Roadway and other infrastructure agencies incur significant increased costs for operations because of invasive species management. Zebra and quagga mussels clog water lines at water treatment and hydroelectric facilities. It is estimated that one power plant can spend up to $1.2 million per year to deal with zebra mussels. PA DOT spends half a million dollars annually to control invasive plants.
- **Landowners and Recreation**: Invasive species can decrease property values, reduce aesthetics of property, and increase landowner maintenance costs. It costs a homeowner a minimum of $1,000 to remove one tree infected with emerald ash borer. A comprehensive analysis of the economic impacts of invasive species in Pennsylvania has not been done.
- **Human Health**: Invasive species also have negative impacts on human health and create added costs for medical care. They can act as vectors of diseases like West Nile virus. Invasive plants like Japanese barberry create favorable habitat for ticks. Other plants can cause burns and rashes. Fatalities have been reported of dead ash trees falling on humans.
- **Animal Health**: Invasive species can have far reaching impact on the health of both domesticated and wild animals. Plants like poison hemlock are toxic to animals if ingested. The Asian Longhorned tick can vector several pathogens lethal to livestock. Invasive species can also vector diseases that affect wild animals which has been responsible for decline of many wild bird species. Sea lamprey has invaded the Lake Erie watershed and are parasites on native fish species. Great Lakes Fishery Commission spends $18 million annually on sea lamprey control.

Blair County is vulnerable to invasive species. In 2026, there are 300+ invasive species with many of them not well documented or known. Historically, resources to combat invasive species are underfunded. The solution for each invasive species differs from one to the next increasing the knowledge needed to combat invasive species. The table below outlines four different time period identified during an invasion timeline with the feasible objective below each timeline.

Table 46: Invasive Species Situation and Objective

Situation		Objective	
Absent	There is no invasive species here.	**Prevention**	Identify and address invasive species before they are introduced.
Localized	There is documentation of invasive species here in a local location.	**Eradication**	Detecting invasive species early after introduction and mount rapid response to eliminate it.
Spreading	There are reports of many instances of this invasive species around.	**Containment**	Limit the geographic spread of invasive species that have been established.
Widespread	This invasive species is everywhere.	**Long-term maintenance control**	Reduce densities of well-established invasive species to limit their negative impacts.

"Of these four components, **prevention** is by far the most important and least costly component of invasive species management that can have the biggest and most positive impact for the Commonwealth." - Pennsylvania Invasive Species Management Plan 2025

Recommended Actions

The Pennsylvania Invasive Species Management Plan 2025 is aware of great shortcoming against this hazard and has created an informed invasive species management strategy in Pennsylvania. Although prevention is the most impactful, many invasive species are introduced before discovery. Therefore, this plan emphasizes eradication, containment, and long-term management. The first four of 24 recommendations are written below and are chosen for their actionability at the local level.

1. Establish Partnerships for Regional Invasive Species Management (PRISM) program
    a. Funding mechanisms can be used to support this program and tackle invasive species as a team across PA while sharing situational awareness.
2. Develop policies and resources to improve prevention of invasive species introductions and monitor invasion pathways.
    a. Prevention is far more affordable than treatment.
3. Improve public outreach and education for prevention of high-risk invasive species threats.
    a. Increase resources to educate public and assist with prevention efforts.
4. Conduct Horizon Scanning to identify invasive species with a high risk of introduction to PA.
    a. Evaluate invasive species that are not currently present in PA to identify those that are of high risk of introduction and the potential for range expansion due to climate change.

Invasive species is a unique hazard in that the highest priority would be to prevent, eradicate, and manage in that order. Many of the invasive species that have already become widespread are nearly impossible to eradicate. So, the most effective use of our time is to prevent other invasive species from arriving. Then we must eradicate invasive species that are low in count isolated in a few local areas. Finally, we must spend resources on managing widespread invasive species in the areas that need it the most. Following the guidelines of PA Invasive Species Management Plan 2025 would be an effective use of limited resources. Establishing PRISM could give us access to funding in an area typically limited by funding while

establishing contact with Pennsylvania Governor's Invasive Species Council – a large policy advising organization which compiles information and conducts research on Pennsylvania invasive species.

Table 47: Invasive Species Vulnerability Assessment by Region

Municipal Hazard Vulnerability Assessment	
Jurisdiction	**Summary of Potential Impact**
Planning Region 1	Consistent with the general profile
Planning Region 2	Consistent with the general profile
Planning Region 3	Consistent with the general profile
Planning Region 4	Consistent with the general profile
Planning Region 5	Consistent with the general profile
Planning Region 6	Consistent with the general profile
Planning Region 7	Consistent with the general profile
*Invasive species are not currently tracked or documented in a consistent way at the municipal or planning-region level in Blair County. Because of this limitation, all planning regions are treated as having similar vulnerability, and future updates should improve tracking using sources such as PA iMapInvasives and local partner reporting.	

See Table 10: Blair County Planning Regions for communities that make up each Planning Region

4.3.7. PANDEMIC & INFECTIOUS DISEASE

4.3.7.1 Location and Extent

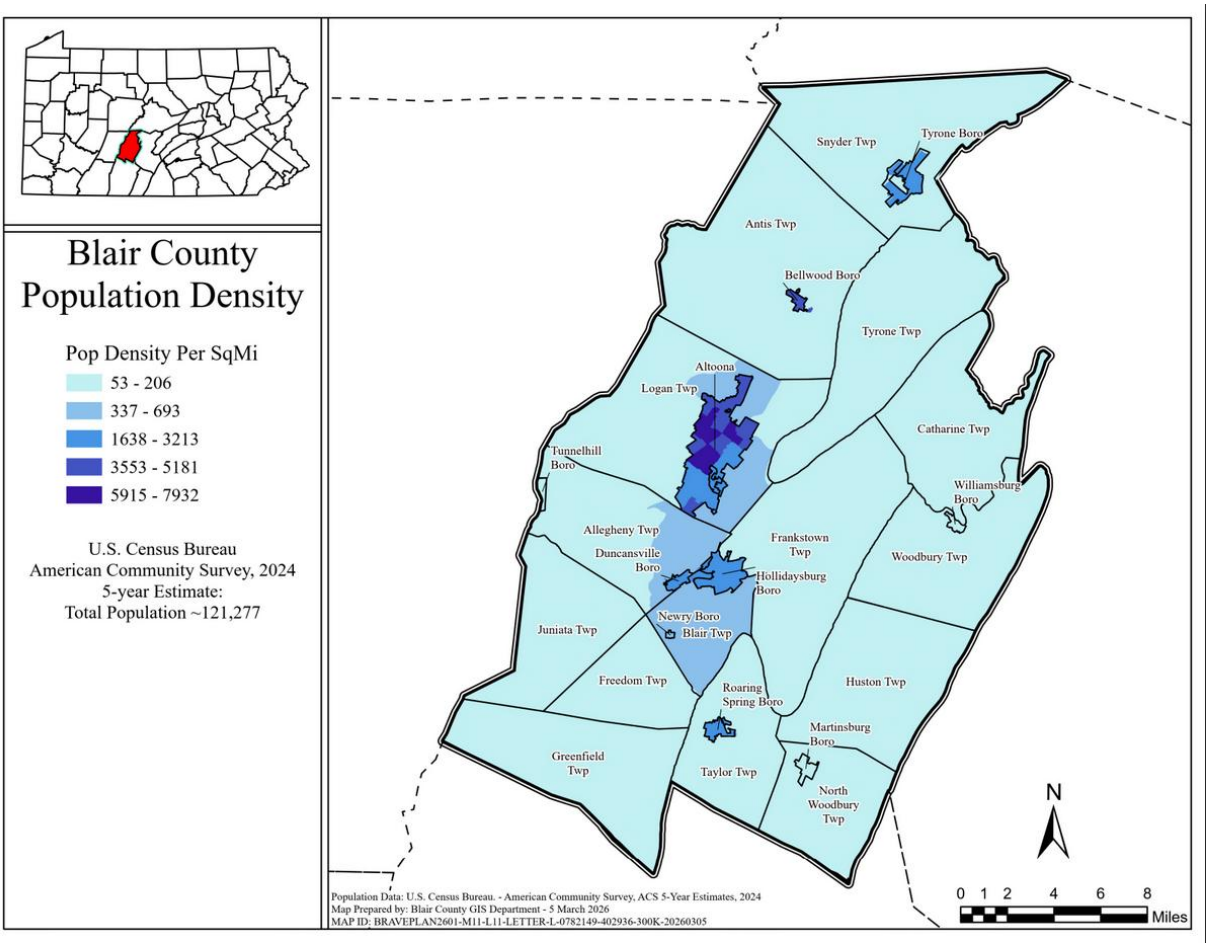
A pandemic is a widespread outbreak of an infectious disease that affects large regions and may spread across countries or continents. An epidemic is a similar outbreak but typically more limited in geographic area. How far a disease spreads (extent) depends on how it is transmitted, how contagious it is, and how much contact occurs between infected and non-infected people. The location would also be more likely to originate from a place with high traffic or travelers and high population density such as Altoona, Hollidaysburg, etc.

If a major disease outbreak occurs in the eastern United States, most of Blair County could be affected, though the impact would not be equal everywhere. Areas with high population density and more person-to-person contact typically experience faster spread and higher case counts. For this reason, the plan includes a population density map (Figure 14) to show where outbreaks may have the greatest potential impact.

Influenza remains a primary concern for Blair County because it spreads easily, can cause seasonal epidemics, and has caused pandemics in the past. CDC estimates that from October 1, 2023, to June 15, 2024, there were 600,000 hospitalizations and 50,000 deaths due to flu. Influenza pandemic planning increased nationally after outbreaks such as H5N1 (avian influenza) in the late 1990s and early 2000s. While H5N1 did not become a U.S. pandemic, it reinforced the need for preparedness. The Pennsylvania Department of Health has noted that an influenza outbreak is inevitable and may provide little warning (PA DOH, 2005)

Vaccine preventable/mitigatable diseases can be avoided or mitigated through immunization. Immunizations have begun making news recently as concerns over the impact non-immunized people may have on the overall health of society emerge. Blair County has been generally successful in immunization of school children. For the 2022-2023 school year, approximately 98% of school children were immunized, with the remaining 2% obtaining a medical, religious, or philosophical exemption.

Figure 14: Blair County Population Density



4.3.7.2 Range of Magnitude

The magnitude of a pandemic or infectious disease outbreak in Blair County can vary widely depending on the disease, how it spreads, how fast it is detected, and how well it can be treated or prevented. Some outbreaks may cause limited illness with few deaths, while others can overwhelm healthcare systems and disrupt daily life.

Examples from Pennsylvania and Blair County show this range. West Nile virus was first recorded in Pennsylvania in 2000 and peaked in 2003 with 237 cases and 9 deaths statewide. In Blair County, monitoring data for 2025 identified 1 human case and 0 equine cases (DEP, 2025). Influenza is typically more widespread and can produce much higher case counts. From 9/28/25 through 2/28/26, Blair County recorded 878 influenza cases (PA DOH, 2026). Influenza mortality can also be significant; for example, Pennsylvania recorded 3,068 influenza-related deaths in 2005.

Medical advances (vaccines, antivirals, and supportive care) have reduced mortality compared with early 1900s influenza pandemics, which caused millions of deaths worldwide. However, modern outbreaks can still be severe, especially for high-risk groups. During the 2009 H1N1 outbreak, about 70% of hospitalized patients in the United States were in high-risk categories (CDC, 2009). High-risk groups include young children, older adults, pregnant women, and people with weakened immune systems.

In addition to illness and death, infectious disease outbreaks can cause secondary impacts such as increased hospital demand, staff shortages, school and business disruptions, and strain on emergency services. The severity of these impacts will depend on how widespread the outbreak becomes and how long it lasts.

Pandemic and infectious disease typically does not affect the environment. If it does, it would be indirectly. Disease jumping from humans to wild animals (reverse zoonosis) is one example of this.

The magnitude of an infectious disease outbreak is best understood by how it affects the County's ability to maintain Community Lifelines. As case counts and duration increase, impacts shift from the individual affected to the community. There may be staffing shortages, increased demand for medical resources, and strain on supply chains and manufacturing goods. The lifelines below are the primary community lifelines most likely to be impacted during a significant outbreak.

Table 48: Pandemic & Infectious Disease Community Lifelines

Community Lifelines	Description
Health and Medical	Pandemic, emerging, zoonotic, and infectious diseases are the most devastating hazard on the healthcare system with the potential to stress healthcare networks to unprecedented levels.
Safety and Security	Public safety is at risk especially when staffing issues occurs due to the disease.
Food, Water, and Shelter	Logistics can be slowed or stopped from a pandemic. Food and water may be stressed greatly.

Pandemic, emerging, zoonotic, and infectious diseases indirectly affect energy, communications, transportation, hazardous materials, and water systems.

4.3.7.3 Past Occurrence

Influenza outbreaks of Spanish Flu, Asian flu, Hong Kong Flu and Swine Flu caused deaths in the United States and are considered pandemics. The 1918-1920 Spanish Flu claimed 50 million lives worldwide and 500,000 in the United States with 350,000 cases in Pennsylvania. The Asian flu caused about 1.5-2 million deaths worldwide with 70,000 deaths in the United States, peaking between September 1957 and March 1958. Approximately fifteen percent of the population of Pennsylvania was affected by Asian flu.

The most recent flu outbreak to impact Blair County was the 2009 outbreak of Swine flu. There were 10,940 cases reported in Pennsylvania resulting in 78 deaths.

The 2017-18 season resulted in 122,030 cases in Pennsylvania, and 2004 in Blair County. Of those cases, 258 were fatal statewide. (Pennsylvania Department of Health, 2018)

4.3.7.4 Future Occurrence

The precise timing of pandemic influenza is uncertain, but occurrences are most likely when the Influenza Type A virus makes a dramatic change, or antigenic shift, that results in a new or "novel" virus to which the population has no immunity. The emergence of a novel virus is the first step towards pandemic, and based on historical events, is expected to occur every eleven to forty-one years.

In 2026, the federal government had made some changes to immunization recommendation. Department of Health and Human Services announced that the CDC now recommends that children receive vaccines against 11 diseases, instead of 17. Many health experts are against the new changes led by Robert F Kennedy Jr., but the push against certain vaccines by the national government could lead to drops in vaccination rates across the nation and increase vaccine-preventable diseases. Although Blair County had great success in immunization in the past, new political climate could change things, and this requires constant monitoring and possible intervention for future success.

4.3.7.5 Vulnerability Assessment

If vaccine rates were to drop because of new vaccines recommendation from CDC led by Robert F. Kennedy Jr., Blair County must monitor closely and track if vaccine-preventable diseases would rise or not. If it does rise, Blair County must press hard for their own vaccine recommendation and against CDC's new recommendation.

Certain groups are at higher risk of infectious disease infection, including people of retirement age, preschool children, pregnant women, and people with certain chronic medical conditions such as diabetes, heart disease, asthma, and kidney disease. Schools, convalescent centers, and other institutions serving preschoolers and the elderly are locations that are conducive to faster transmission of influenza. More generally, areas with higher population densities and places where people gather can be hotspots where influenza can spread more rapidly. The highest concentration of elevated-transmission risk locations in the county (schools, retirement homes, and senior centers) is found in Altoona.

Figure 15: Blair County PA DOH Health Network

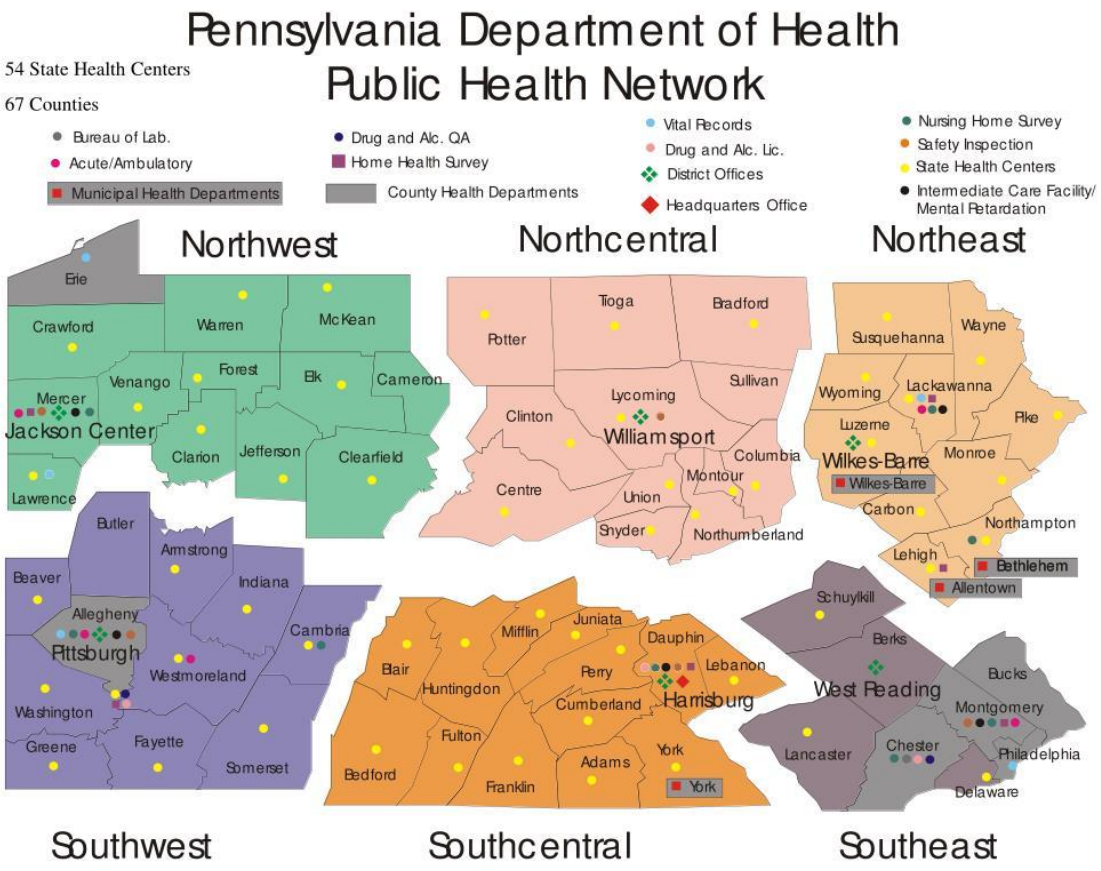


Table 49: Pandemic & Infectious Disease Vulnerability Assessment by Region

Municipal Hazard Vulnerability Assessment	
Jurisdiction	**Summary of Potential Impact**
Planning Region 1	Higher vulnerability in Tyrone Borough due to higher population density and more frequent person-to-person contact. Snyder Township and Tyrone Township are generally lower vulnerability because they are more rural and less densely populated, though outbreaks can still occur in schools, workplaces, and congregate settings.
Planning Region 2	Higher vulnerability in Bellwood Borough due to higher population density and more concentrated daily contact. Antis Township is generally lower vulnerability because it is less densely populated, with impacts more likely tied to specific settings (schools, employers, long-term care).
Planning Region 3	Highest vulnerability in the county due to the concentration of population and high density in Altoona, which increases contact rates and potential for faster spread. Logan Township also has elevated vulnerability in areas with higher density and strong daily connections to Altoona (commuting, services, schools, retail).

Planning Region 4	Lowest vulnerability overall because it has the lowest population and low population density. Impacts are more likely to be limited to specific facilities or gatherings rather than broad community spread, though healthcare access and staffing can still be stressed during regional outbreaks.
Planning Region 5	Higher vulnerability in borough and higher-density areas including Hollidaysburg, Newry, Duncansville, Blair Township, and parts of Allegheny Township. These areas have more concentrated housing and daily contact patterns. Frankstown Township and Tunnelhill are generally lower vulnerability due to lower density and more rural character.
Planning Region 6	Generally lower vulnerability due to lower density across much of the region, with higher vulnerability in Roaring Spring Borough because of more concentrated population and contact settings.
Planning Region 7	Overall lower vulnerability due to low population density. Some groups may receive public health messaging differently (e.g., limited media access or different healthcare use), which can affect outreach and response approaches. Planning should account for tailored communication and trusted local channels.

See Table 10: Blair County Planning Regions for communities that make up each Planning Region

4.3.8. RADON EXPOSURE

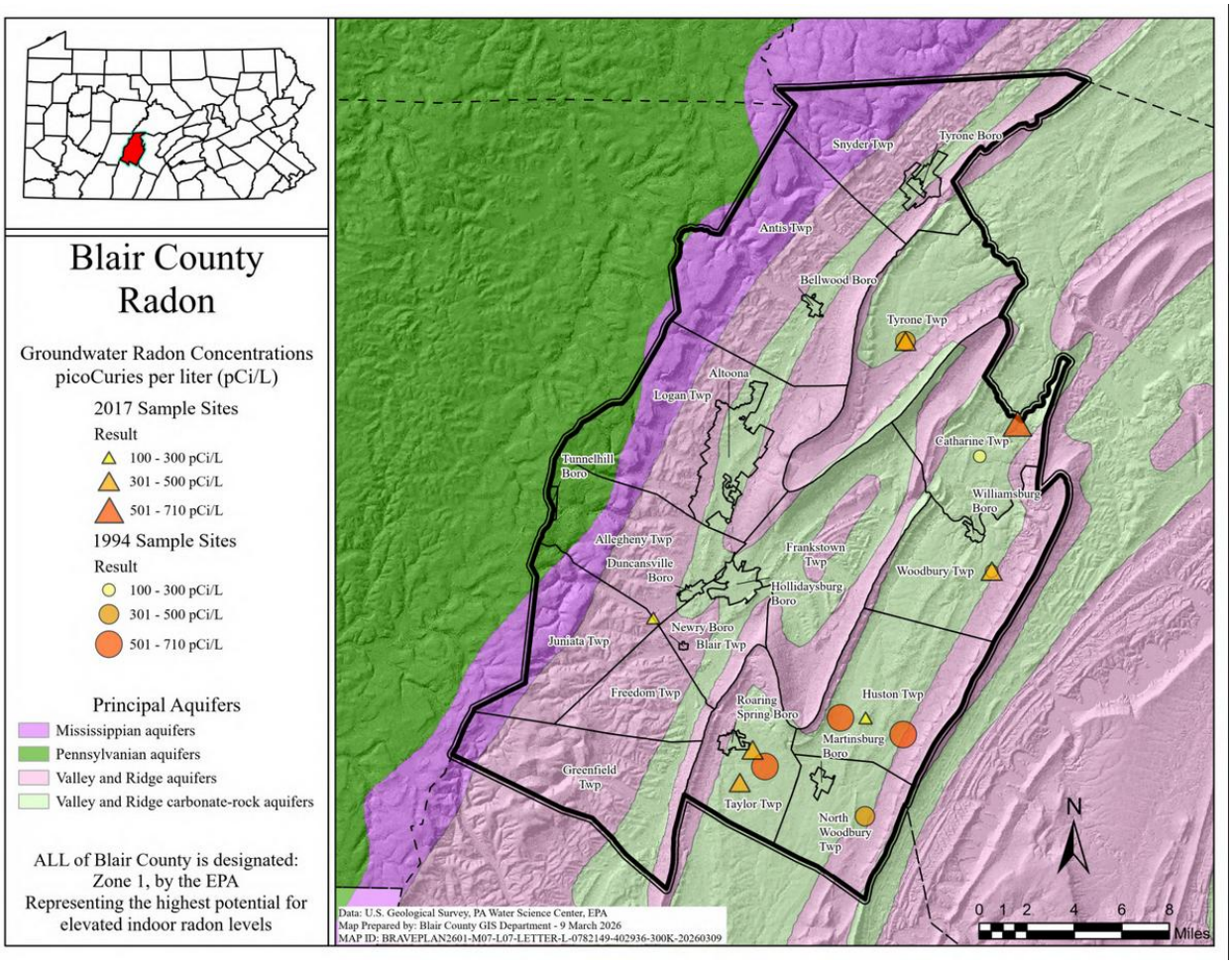
4.3.8.1 Location and Extent

Radon is a naturally occurring radioactive gas that comes from the breakdown of uranium and thorium in soil and rock. It has no color or odor, so it can build up indoors without people noticing. Radon became a major public concern in Pennsylvania in the 1980s after extremely high levels were discovered in a home in the Reading Prong region. This helped show that elevated indoor radon can occur across large areas and that some homes can have very high concentrations (above 2,000 pCi/L).

For Blair County, radon risk is mainly an indoor hazard that varies from building to building. Radon typically enters through the ground, moving into homes through cracks, gaps, and other openings in foundations. Because radon breaks down quickly, it usually does not travel far through the ground; concentrations can change over short distances, meaning two nearby homes can have different radon levels. Radon can also be present in well water, but this is less common in Pennsylvania, and building materials are not considered a major source in the Commonwealth.

Pennsylvania counties are classified as having low, moderate, or high radon hazard potential (see Figure 16). This statewide screening assessment has not been updated since 2014, but it remains the best available comprehensive dataset for comparing radon potential across the state. The average Blair County radon level is high. A high radon potential means the county's average indoor screening levels are above 4 pCi/L, moderate is between 2 and 4 pCi/L, and low is below 2 pCi/L. While this map shows broad patterns, it does not predict radon levels for a specific home. The most reliable way to determine radon levels in Blair County is through home testing, especially in lower levels and basements where radon is most likely to accumulate.

Figure 16: Radon Concentration in Blair County



High radon levels were initially thought to be exacerbated in houses that are tightly sealed, but it is now recognized that rates of air flow into and out of houses, plus the location of air inflow and the radon content of air in the surrounding soil, are key factors in radon concentrations. Outflows of air from a house, caused by a furnace, fan, thermal "chimney" effect, or wind effects, require that air be drawn into the house to compensate. If the upper part of the house is tight enough to impede influx of outdoor air (radon concentration generally <0.1 pCi/L), then 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.

The radon concentration of soil gas depends upon several soil properties, the importance of which is still being evaluated. In general, ten to fifty 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 air flow, 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. For houses built on bedrock, fractured zones may supply air having radon concentrations similar to those in deep soil.

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 (>50 ppm) around uranium deposits and prospects. Although very high levels of radon can occur in such areas, the hazard normally is restricted to within a few hundred feet of the deposit. In Pennsylvania, such localities occupy an insignificant area
- Areas of common rocks having higher than average uranium content (5 to 50 ppm). In Pennsylvania, such rock types include granitic and felsic alkali igneous rocks and black shales. In the Reading Prong, high uranium values in rock or soil and high radon levels in houses are associated with Precambrian granitic gneisses commonly containing 10 to 20 ppm uranium, but locally containing more than 500 ppm uranium. In Pennsylvania, elevated uranium occurs in black shales of the Devonian Marcellus Formation and possibly the Ordovician Martinsburg Formation. 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, 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 in which 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 the fact that radon contents in 93 percent of a sample of houses built on limestone dolomite soils near State College, Centre County, exceeded 4 pCi/L, and 21 percent exceeded 20 pCi/L, even though the uranium values in the underlying bedrock are all in the normal range of 0.5 to 5 ppm uranium.

4.3.8.2 Range of Magnitude

Exposure to radon is the second leading cause of lung cancer after smoking. It is the number one cause of lung cancer among non-smokers. Radon is responsible for about 21,000 lung cancer deaths every year; approximately 2,900 of which occur among people who have never smoked. Lung cancer is the only known effect on human health from exposure to radon in air and thus far, there is no evidence that children are at greater risk of lung cancer than are adults (United States Environmental Protection Agency, 2013). According to the United States Environmental Protection Agency, the average radon concentration in the indoor air of America's homes is about 1.3 pCi/L. The United States Environmental Protection Agency recommends homes be fixed if the radon level is 4 pCi/L or more.

Table 50: Radon Health Risks Related to Smoking

Radon Level (PCI/L)	If 1,000 People were exposed to this level over a lifetime	Risk of Cancer from radon exposure compares to	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	Fix structure
8	About 120 people could get lung cancer	30 times the risk of dying in a fall	Fix structure
4	About 62 people could get lung cancer	5 times the risk of dying in a car crash	Fix structure
2	About 32 people could get lung cancer	6 times the risk of dying from poison	Consider fixing between 2 and 4 pCi/L
1.3	About 20 people could get lung cancer	(Average indoor radon level)	n/a
0.4	About 3 people could get lung cancer	(Average outdoor radon level)	n/a
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	20times the risk of dying in a home fire	Fix structure
8	About 15 people could get lung cancer	4 times the risk of dying in a fall	Fix structure
4	About 7 people could get lung cancer	The risk of dying from car crash	Fix structure
2	About 4 people could get lung cancer	The risk of dying from poison	Consider fixing between 2 and 4 pCi/L
1.3	About 2 people could get lung cancer	(Average indoor radon level)	n/a
0.4	n/a	(Average outdoor radon level)	n/a
EPA 2016			

Because there is no known safe level of exposure to radon, the Agency also recommends that Americans consider fixing their home for radon levels between 2 pCi/L and 4 pCi/L. Table 46 shows the relationship between various radon levels, probability of lung cancer, comparable risks from other hazards, and action thresholds. A smoker exposed to radon has a much higher risk of lung cancer (United States Environmental Protection Agency, 2013).

The worst-case scenario for radon exposure would be that a large area of tightly sealed homes provided residents high levels of exposure over a prolonged period without the resident being aware. This worst-case scenario exposure then could lead to many people with cancer attributed to the radon exposure.

Radon exposure has little to no meaningful impact on the natural environment in the way that hazards such as flooding, wildfire, or hazardous materials releases do. Radon is a naturally occurring radioactive

gas produced by the decay of uranium in soil and rock, so its presence is part of the natural environment rather than a force that significantly damages it. The main concern is not harm to ecosystems, streams, soils, or habitat, but long-term indoor accumulation in buildings where people may be exposed without knowing it.

Potential impacts of radon exposure include:

- Little to no direct damage to the natural environment
- Naturally occurring radon gas released from soil and rock
- Indoor air quality impacts in homes, schools, and other buildings
- Long-term human health risk from prolonged exposure
- Need for testing and mitigation in buildings, especially lower levels and basements

Radon is a long-term, indoor exposure hazard rather than a sudden event, so its impact on community lifelines is mainly through public health. If many homes have elevated radon levels over long periods, health impacts can accumulate and increase the burden on healthcare services. The lifelines below summarize how widespread radon exposure can affect community health and safety and why testing and mitigation in homes are important for reducing long-term risk.

Table 51: Radon Exposure Community Lifelines

Community Lifelines	Description
Safety and Security	Due to large amounts of people exposed to radon in their homes at large scale, this is enough to be consider a public safety hazard.
Health and Medical	The amount of cancer that radon can cause over the course of a few decades of exposure is very high. It significantly increases the chances of cancer.
Food, Water Shelter	Radon exposure may be the result of radon entering the home through cracks in the foundation or through water supply. Fixing the home to stop radon exposure is the only option.

Radon exposure does not affect energy, communications, transportation, hazardous materials, and water systems enough to stop the community lifeline from functioning.

4.3.8.3 Past Occurrence

Current data on abundance and distribution of radon in Pennsylvania houses is considered incomplete and potentially biased, but a study was conducted testing the basements and first floors of over 800,000 buildings throughout all 67 counties in Pennsylvania. A total of nearly 2 million data points were gathered and analyzed to determine radon concentrations in Pennsylvania, (see Figure 16 for more details) the unadjusted median concentrations throughout the state and the levels of predicted radon contribution from geologic unit, county, and well water after accounting for variations in the tests, seasons, buildings, year, and average rainfall (Casey et al., 2015).

The United States Geological Survey conducted a study with the Pennsylvania Department of Health and Environmental Protection to examine radon levels in wells throughout the state. The data for the study was collected from 1986 to 2015 and accounts for approximately 31 percent of the land area of Pennsylvania. The study concluded that more than 14 percent of the tested wells had radon levels "at or above the Environmental Protection Agency's proposed alternative maximum contaminant level of 4,000 picocuries per liter." The standard maximum concentration that the EPA suggests is 300 pCi/L, but they also have this alternative maximum for states with an EPA-approved radon indoor air quality program, which Pennsylvania does have. However, the limits are simply proposed since the EPA does not currently regulate radon level in drinking water.

4.3.8.4 Future Occurrence

Radon exposure is inevitable given present soil, geologic, and geomorphic factors across Pennsylvania. Development in areas where previous radon levels have been 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 with proper testing for both past and future development and appropriate mitigation measures. Overall, the probability of future radon exposure hazards is considered likely.

4.3.8.5 Vulnerability Assessment

Vulnerability to radon exposure is primarily being defined as a facility located in a zip code whose average first floor and/or basement radon reading is greater than 4 pCi/L, the threshold for action. The Commonwealth's vulnerability assessment outcome for Blair County indicated and estimated 10,645 buildings in the county could be impacted by radon. This is just an estimate since the nature of radon is such that two neighboring houses can have quite varied results, and the only way to have an accurate number would be to test every building in the county. The United State Environmental Protection Agency determines that an average radon mitigation system costs $1,200. Based on this number and the Commonwealth's estimate, the cost of radon treatment in the county is approximately $12.75 million.

Radon is also among the several 'silent killers' people face. Because it is an odorless, tasteless, invisible gas, building occupants cannot detect its presence without having testing done. As such many people are unaware of the dangers that may be present in their very homes. Education and outreach are needed to raise awareness of the severe impact radon can have on people's lives.

Table 52: Radon Exposure Vulnerability Assessment by Region

Municipal Hazard Vulnerability Assessment	
Jurisdiction	**Summary of Potential Impact**
Planning Region 1	High vulnerability. Blair County is classified as EPA Radon Zone 1, meaning the area has a high potential for elevated indoor radon levels. Risk is primarily driven by building-specific conditions and whether homes are tested and mitigated.
Planning Region 2	High vulnerability. EPA Zone 1 indicates high potential for elevated indoor radon. Impacts depend on indoor exposure over time and whether buildings are tested and mitigated.
Planning Region 3	High vulnerability. EPA Zone 1 indicates high potential for elevated indoor radon. Because this region has the highest population, the potential number of people exposed is greatest if homes are not tested and mitigated.

Planning Region 4	High vulnerability. EPA Zone 1 indicates high potential for elevated indoor radon. Exposure risk varies by building and is influenced by foundation type, cracks/openings, and ventilation.
Planning Region 5	High vulnerability. EPA Zone 1 indicates high potential for elevated indoor radon. This region has the second highest population, so the potential number of people exposed is also high if testing and mitigation rates are low.
Planning Region 6	High vulnerability. EPA Zone 1 indicates high potential for elevated indoor radon. Exposure risk is building-specific and may be higher in homes with basements or lower levels.
Planning Region 7	High vulnerability. EPA Zone 1 indicates high potential for elevated indoor radon. Risk depends on indoor radon levels at the building and whether mitigation systems are installed.
*Radon risk cannot be confirmed by map alone. Individual buildings must be tested to determine indoor radon levels and whether mitigation is needed.	

See Table 10: Blair County Planning Regions for communities that make up each Planning Region

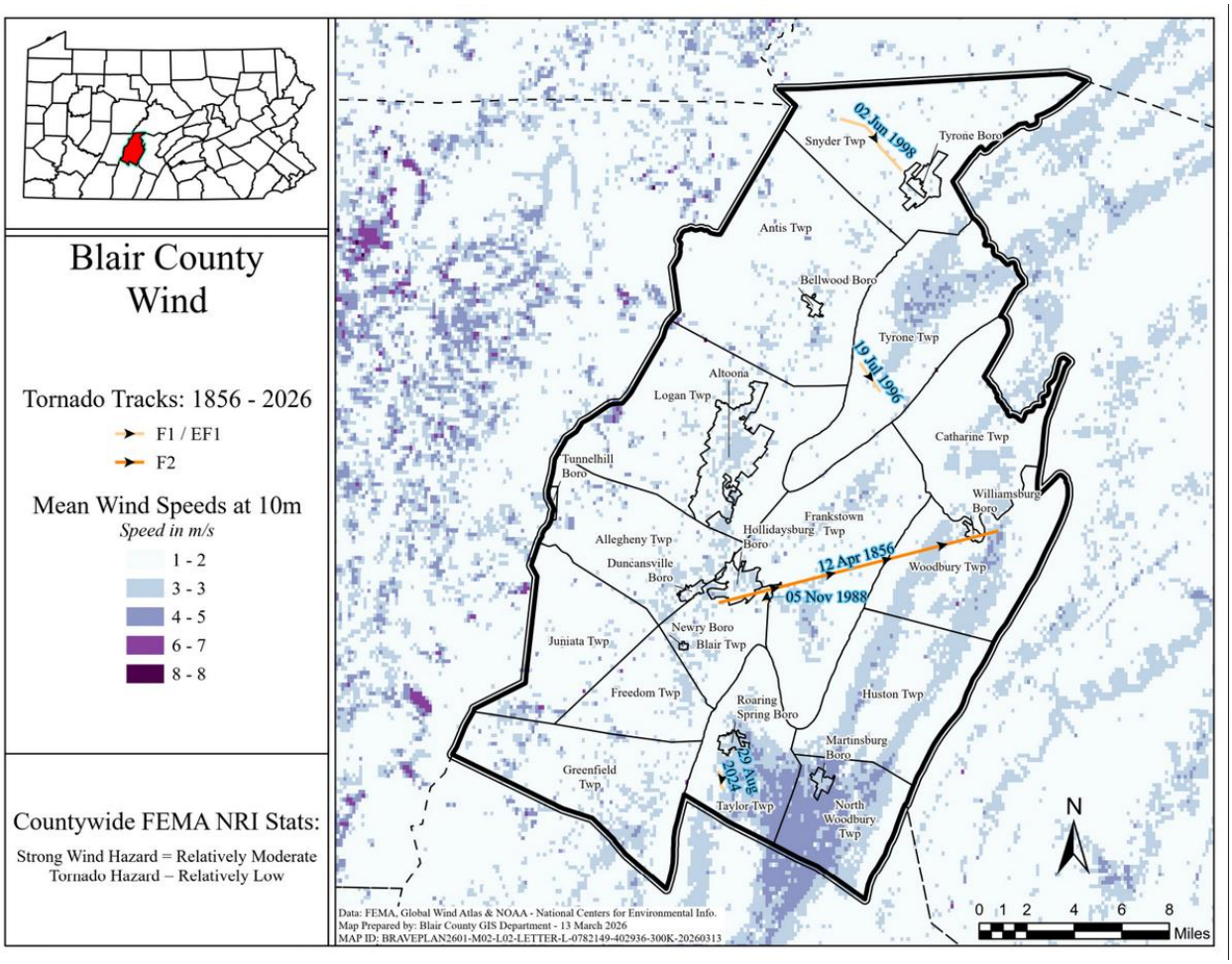
4.3.9. TORNADO & WINDSTORMS

4.3.9.1 Location and Extent

Tornados occur in the Commonwealth most frequently during the spring and summer months and are most likely to occur during the warmest times of the day. In the past 67 years, records show that 826 tornados have been reported throughout Pennsylvania (National Centers for Environmental Information, 2017). The National Weather Service estimates the Commonwealth will experience ten tornados annually. According to the National Centers for Environmental Information (known as NCEI, formerly known as NCDC), wind speeds in tornados range from values below that of hurricane speeds to more than 300 miles per hour. The National Centers for Environmental Information continues by reporting that, "the maximum winds in tornados are often confined to extremely small areas and vary tremendously over short distances." This is the reason that one house will be demolished by a tornado and the house next to it might be untouched. The width of tornados can vary greatly, from 100 feet wide to over a mile, and the forward motion of tornados can range from speeds between 0 and 50 miles per hour.

Windstorms may be caused by thunderstorms, hurricanes and tornados, but the most frequent cause of windstorms in Central Pennsylvania are thunderstorms. Straight-line winds and windstorms are experienced on a more regional scale. While such winds usually also accompany tornados, straight-line winds are caused by the movement of air from areas of high pressure to low pressure. Windstorms are generally defined with sustained wind speeds of 40 mph or greater, lasting for at least one hour, or simply winds of 58 mph or greater for any duration. A microburst is a very-localized column of sinking air, capable of producing damaging opposing and straight-line winds at the surface. A wind shear is usually found when a violent weather front is moving through; wind speeds have been recorded up to 100 mph. Wind shear is defined as a difference in wind speed and direction over a relatively short distance in the atmosphere. Figure 17 shows the mean wind speeds. Blair County is in Zone III, indicating 200 mile per hour winds are possible.

Figure 17: Blair County Wind Speeds & Tornado



4.3.9.2 Range of Magnitude

Each year, tornados account for $1.1 billion in damages and cause over 80 deaths nationally. 2011 was the second worst year on record for deadly tornados, the worst being in 1936. The number of tornado reports has increased by 14% since 1950. While the extent of tornado damage is usually localized, the vortex of extreme wind associated with a tornado can result in some of the most destructive forces on Earth.

Rotational wind speeds can range from 100 mph to more than 250 mph. In addition, a tornado's speed of forward motion can range from 0 to 50 mph. Therefore, some estimates place the maximum velocity (combination of ground speed, wind speed, and upper winds) of tornados at about 300 mph. The damage caused by a tornado is a result of the high wind velocity and wind-blown debris, also accompanied by lightning or large hail. The most violent tornados have rotating winds of 250 miles per hour or more and can cause extreme destruction turning normally harmless objects into deadly missiles.

Damages and deaths can be especially significant when tornados move through populated, developed areas. The destruction caused by tornados ranges from light to inconceivable depending on the intensity,

size and duration of the storm. Typically, tornados cause the greatest damages to structures of light construction. The Enhanced Fujita Scale, also known as the "EF-Scale," measures tornado strength and associated damages. The Enhanced Fujita Scale is an update to the earlier Fujita Scale, also known as the "F-Scale," that was published in 1971. It classifies United States tornados into six intensity categories, based upon the estimated maximum winds occurring within the wind vortex, as shown in (Figure 18: Enhanced Fujita Scale). Since its implementation by the National Weather Service in 2007, the Enhanced Fujita Scale has become the definitive metric for estimating wind speeds within tornados based upon damage to buildings and structures. Previously recorded tornadoes were reported with the older Fujita Scale values.

Tornadoes and windstorms can affect the natural environment by damaging forests, vegetation, and wildlife habitat. Strong winds can break limbs, uproot trees, scatter natural and human-made debris, and alter stream corridors or wooded areas. Most impacts are localized, but stronger events can damage large areas of tree cover and leave the landscape more vulnerable to erosion and runoff.

Potential impacts to the natural environment include:

- Tree loss, broken limbs, and forest damage
- Damage to crops, pasture, and other vegetation
- Disturbance or loss of wildlife habitat
- Debris scattered into fields, forests, streams, and wetlands
- Increased erosion or runoff where vegetation is removed
- Damage to riparian buffers and streamside vegetation

Figure 18 shows the wind speed and tornadoes. These wind speed are intended to guide the design and evaluation of the structural integrity of shelters and critical facilities. Because Blair County falls within Zone IV, design wind speeds for shelters and critical facilities should be able to withstand a 3-second gust of up to 250 mph, regardless of whether the gust is the result of a tornado, coastal storm, or windstorm event. Therefore, these structures should be able to withstand the wind speeds above the expected norm.

Figure 18: Enhanced Fujita Scale

Enhanced Fujita scale

Scale	Wind speed		Frequency	Information
	mph	km/h		
EFU	N/A	N/A	3.11%	**No observable** damage
EF0	65-85	105-137	52.82%	**Minor** damage: Small trees are blown down and bushes are uprooted. Shingles are ripped off roofs.
EF1	86-110	138-177	32.98%	**Moderate** damage: Small trees are uprooted. Roofs stripped from shingles.
EF2	111-135	178-217	8.41%	**Significant** damage: Medium trees are uprooted. Whole roofs ripped off frame houses.
EF3	136-165	218-266	2.18%	**Severe** damage: All trees are uprooted. Roofs and outside walls are blown away from frame homes.
EF4	166-200	267-322	0.46%	**Devastating** damage: Trees partially debarked. Frame homes are completely destroyed.
EF5	>200	>322	0.05%	**Incredible** damage: Trees are debarked. Frame or brick homes are swept away.

Tornados can have varying secondary effects. The most common is power failure. The severe wind can dismantle power sources and cause significant structural damage. Hazardous material spills can occur if a tornado comes near a holding tank, or the spill stems from a traffic accident caused by high winds.

Windstorms of all types have caused the following problems within Blair County:

- Power failures lasting four hours or longer
- Loss of communication networks lasting four hours or more
- Residents requiring evacuation or provision of supplies or temporary shelter
- Severe crop loss and or damage

Tornadoes and windstorms can affect community lifelines by causing sudden damage to homes, trees, and infrastructure and by creating unsafe conditions that require immediate response. Impacts range from short, localized outages and road blockages to major damage during stronger storms. The lifelines below summarize the services most likely to be disrupted during tornadoes and high-wind events in Blair County, and the secondary systems that may be affected if critical infrastructure is directly damaged.

Table 53: Tornado & Windstorms Community Lifelines

Community Lifelines	Description
Safety and Security	Tornadoes and high winds can be dangerous harming people with debris or causing a dangerous environment from second order effects.
Food, Water, Shelter	Shelters are often damaged from trees falling. EF2 or above will damage shelters by damaging roof or debris flying to infrastructure.
Energy	The winds will uproot or push over trees which can damage electrical infrastructure.
Transportation	Falling trees are very common and can impact transportation by downing trees on roads and trains or debris across the county.

Health and medical, communications, hazardous materials, and water systems, are not typically directly impacted by tornadoes and windstorms unless a tornado or windstorm direct hits that infrastructure.

4.3.9.3 Past Occurrence

Tornados

Blair County has experienced just three tornados since recordkeeping began in 1881, the strongest registering the equivalent of an EF1 That said, there have been several tornado-like storms in the county, with subsequent analysis by meteorologists determining the damage was inconsistent with a tornado.

Windstorm

Blair County has experienced many severe wind events aside from hurricanes and tornados. Most often these are the result of intense thunderstorms, the strongest of which cause trees to fall, damage to power lines and power outages. From 1950 to December 2024, there are over 300 recorded severe wind events causing an approximate total of $5.8 million dollars in property damage. Table 50: Windstorm/Tornado in Blair County, 2015-2024 is a listing of storm events in the previous few years.

Table 54: Windstorm/Tornado in Blair County, 2015-2024

Hazard	Date	Locality	Damage
Thunderstorm Wind	6/8/2015	East Freedom	$ 600.00
Thunderstorm Wind	6/12/2015	Mill Run	$ 1,300.00
Thunderstorm Wind	6/12/2015	Roaring Spring	$ 1,300.00
Thunderstorm Wind	2/12/2017	Klahr	$ 3,900.00
Thunderstorm Wind	4/30/2017	Mill Run	$ 19,300.00
Thunderstorm Wind	4/30/2017	Mt Etna	

Thunderstorm Wind	5/1/2017	AOO	$ 9,100.00
Thunderstorm Wind	5/30/2017	Sickles Corner	$ 3,900.00
Thunderstorm Wind	6/15/2017	Bennington	$ 1,300.00
Thunderstorm Wind	6/15/2017	Charlottesville	$ 1,300.00
Thunderstorm Wind	8/4/2017	Canan Station	$ 3,900.00
Thunderstorm Wind	8/4/2017	Bellwood	$ 2,600.00
Thunderstorm Wind	8/4/2017	Tyrone	$ 2,600.00
Thunderstorm Wind	8/19/2017	Cove Forge	$ 5,200.00
Thunderstorm Wind	8/19/2017	Greenwood	$ 5,200.00
Thunderstorm Wind	8/19/2017	Skelp	
Thunderstorm Wind	8/19/2017	Newburg	
Thunderstorm Wind	8/19/2017	Tyrone	$ 19,300.00
Thunderstorm Wind	8/19/2017	Roaring Spring	$ 3,900.00
Thunderstorm Wind	8/19/2017	Sproul	$ 3,900.00
Thunderstorm Wind	8/19/2017	Geeseytown	$ 64,800.00
Thunderstorm Wind	1/12/2018	Tunnelhill	$ 1,300.00
High Wind	3/2/2018	Blair County	
High Wind	4/4/2018	Blair County	
Thunderstorm Wind	7/2/2018	Duncansville	$ 3,900.00
Thunderstorm Wind	7/2/2018	Roots	$ 3,900.00
High Wind	2/24/2019	Blair County	
Thunderstorm Wind	4/14/2019	Greenwood	$ 3,700.00
Thunderstorm Wind	5/19/2019	Geeseytown	$ 3,700.00
Thunderstorm Wind	5/28/2019	AOO	$ 9,900.00
Thunderstorm Wind	5/29/2019	Skelp	$ 3,700.00
Thunderstorm Wind	5/29/2019	Juniata Gap	$ 1,200.00
Thunderstorm Wind	5/29/2019	Flowing Spring	$ 1,200.00
Thunderstorm Wind	7/2/2019	Altoona	$ 3,700.00
Thunderstorm Wind	8/2/2019	Mill Run	$ 3,700.00
Thunderstorm Wind	8/2/2019	Juniata Gap	$ 9,900.00
Thunderstorm Wind	8/2/2019	Juniata Gap	$ 1,200.00
Thunderstorm Wind	8/2/2019	Cross Keys	$ 3,700.00
Thunderstorm Wind	8/6/2019	Cross Keys	$ 7,500.00
Thunderstorm Wind	8/15/2019	Hollidaysburg	
Thunderstorm Wind	8/15/2019	Lind's Crossing	$ 5,000.00
Thunderstorm Wind	8/15/2019	Altoona	$ 5,000.00
Thunderstorm Wind	8/22/2019	Altoona	
Thunderstorm Wind	9/11/2019	Juniata Gap	
Thunderstorm Wind	9/11/2019	Altoona	$ 2,500.00
Thunderstorm Wind	3/3/2020	Pinecroft	$ 2,500.00
Thunderstorm Wind	4/13/2020	Canoe Creek	$ 3,700.00

Thunderstorm Wind	4/13/2020	Sickles Corner	$ 3,700.00
Thunderstorm Wind	6/3/2020	Tyrone	$ 5,000.00
Thunderstorm Wind	7/21/2020	East Freedom	$ 1,200.00
Thunderstorm Wind	8/4/2020	Canoe Creek	$ 5,000.00
Thunderstorm Wind	8/27/2020	Altoona	$ 18,600.00
Thunderstorm Wind	8/27/2020	Buckhorn	$ 6,200.00
Thunderstorm Wind	8/27/2020	Lakemont	$ 2,500.00
Thunderstorm Wind	8/27/2020	McKee	$ 3,700.00
Thunderstorm Wind	5/26/2021	Tunnelhill	$ 2,300.00
Thunderstorm Wind	5/26/2021	Hollidaysburg	$ 4,700.00
Thunderstorm Wind	7/7/2021	Hollidaysburg	$ 2,300.00
Thunderstorm Wind	7/7/2021	Bellwood	$ 9,400.00
Thunderstorm Wind	7/7/2021	Tipton	$ 4,700.00
Thunderstorm Wind	7/7/2021	Tyrone	$ 3,500.00
Thunderstorm Wind	7/7/2021	Tipton	$ 2,300.00
Thunderstorm Wind	7/11/2021	Altoona	$ 2,300.00
Thunderstorm Wind	7/11/2021	Greenwood	$ 2,300.00
Thunderstorm Wind	7/11/2021	Bellwood	$ 3,500.00
Thunderstorm Wind	7/11/2021	Altoona	$ 4,700.00
Thunderstorm Wind	7/11/2021	Tyrone	$ 3,500.00
Thunderstorm Wind	7/11/2021	Vail	$ 3,500.00
Thunderstorm Wind	7/13/2021	Roots	$ 7,000.00
Thunderstorm Wind	7/13/2021	Williamsburg	$ 4,700.00
Thunderstorm Wind	8/18/2021	East Freedom	$ 4,700.00
Thunderstorm Wind	10/21/2021	Horseshoe Curve	$ 17,600.00
Thunderstorm Wind	10/21/2021	Eldorado	$ 4,700.00
Thunderstorm Wind	3/7/2022	Altoona	$ 3,300.00
Thunderstorm Wind	3/7/2022	Newry	$ 2,200.00
Thunderstorm Wind	6/22/2022	Hollidaysburg	$ 4,300.00
Thunderstorm Wind	6/22/2022	Martinsburg	$ 3,300.00
Thunderstorm Wind	6/22/2022	Tussey Mountain	$ 4,300.00
Thunderstorm Wind	6/22/2022	Ski Gap	$ 3,300.00
Thunderstorm Wind	7/1/2022	Tunnelhill	$ 6,500.00
Thunderstorm Wind	7/1/2022	Canan Station	
Thunderstorm Wind	7/1/2022	Elberta	$ 6,500.00
Thunderstorm Wind	7/1/2022	Moores Mill	$ 4,300.00
Thunderstorm Wind	7/1/2022	Pinecroft	$ 4,300.00
Thunderstorm Wind	7/1/2022	Sickles Corner	
High Wind	3/4/2023	Blair County	$ 41,700.00
Thunderstorm Wind	6/3/2023	Moores Mill	$ 3,100.00
Thunderstorm Wind	7/20/2023	Lakemont	$ 4,200.00

Thunderstorm Wind	7/20/2023	Tyrone	$ 3,100.00
Thunderstorm Wind	8/12/2023	Lakemont	$ 3,100.00
High Wind	1/10/2024	Blair County	
High Wind	1/10/2024	Blair County	$ 45,600.00
High Wind	1/14/2024	AOO	
Thunderstorm Wind	6/26/2024	Ski Gap	$ 2,000.00
Thunderstorm Wind	6/26/2024	Chimney Rocks	$ 3,000.00
Thunderstorm Wind	6/29/2024	Altoona	$ 5,100.00
Thunderstorm Wind	8/29/2024	Ore Hill	$ 6,100.00
Tornado	8/29/2024	Dumb Hundred	$ 8,100.00
Thunderstorm Wind	8/29/2024	Roaring Spring	$ 3,000.00

4.3.9.4 Future Occurrence

It is extremely unlikely for a disastrous tornado to hit Blair County again. However, the damage that results when a strong tornado arrives can be devastating. An EF5 tornado, a 0.019 percent annual probability of occurring, 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.

Based on National Oceanic and Atmospheric Administration tornado activity information for Pennsylvania between 1982 and 2011, Blair County lies within an area that has a 0.2% chance of having a tornado occur in any given year. Additionally, based on historic patterns, tornados are unlikely to remain on the ground for long distances, given the vertical topography of the county. Unlike tornadoes, the high historical number of windstorms with winds over 50 knots indicates that annual chance of a windstorm is higher.

4.3.9.5 Vulnerability Assessment

Tornados can occur at any time of the year, though they are more likely during peak months, which are during the summer for the northern part of the United States. Tornados are most likely to occur between 3 P.M and 9 P.M. but have been known to occur at all hours of the day or night. Factors that impact the amount of damage caused by a tornado are the strength of the tornado, the time of day and the area of impact. Usually, such distinct funnel clouds are localized phenomena impacting a small area; however, the high winds of tornados make them one of the most destructive natural hazards.

There can be many secondary impacts of tornados and windstorms, including transportation accidents, hazardous material spills, flooding, and power outages. A proper warning system is vital for the public to be informed of what to do and where to go. Because of the abundance of forested areas in Blair, numerous hikers and hunters visit Blair County annually. In the event of a tornado or severe storm, these tourists and hunters have limited emergency notification measures.

Dangers that accompany thunderstorms that can produce tornados include:

- Flash floods – with 146 deaths annually nationwide
- Lightning – 75 to 100 deaths annually nationwide
- Damaging straight-line winds – reaching 140 mph wind speed

- Large hail – can reach the size of a grapefruit and causes several hundred million dollars in damages annually to property and crops.

Critical facilities are highly vulnerable to high windstorms. While many severe storms can cause exterior damage to structures, tornados can also destroy structures, along with their surrounding infrastructure, abruptly halting operations. Severe storms and their secondary effects often accompanying tornados and can be just as threatening to the critical facilities within the county. Many critical facilities are particularly vulnerable to power outages which can leave facilities functionless, potentially crippling infrastructure supporting the population of the county. With a storm's ability to destroy structures, citizens and their possessions are often left at the will of the storm. The elderly and disabled people are vitally at risk when faced with tornados. Without assistance to evacuate, they may be unable to prepare themselves or their homes and other possessions to safely weather the storm.

The local economy can also be crippled by tornados and windstorms and their secondary effects when buildings and supporting infrastructure are destroyed in the storm. Power outages can create work stoppages while transportation accidents and road closings can limit the transportation of goods and services. Additionally, flooding cannot be discounted as it can destroy the physical structures, merchandise and equipment essential for business operation. In the case of hazardous material spills caused by windstorms, the local environment can also be negatively impacted, requiring extensive clean-up and mitigation efforts.

Table 55: Tornado & Windstorms Vulnerability Assessment by Region

Municipal Hazard Vulnerability Assessment	
Jurisdiction	**Summary of Potential Impact**
Planning Region 1	Higher windstorm vulnerability along the extreme western fringe where the region includes the Allegheny Front. Ridgetops are also more exposed to strong winds than valley locations. The main concerns are tree damage, scattered power outages, and localized impacts to roads, homes, and farm structures.
Planning Region 2	Higher windstorm vulnerability along the extreme western fringe where the region includes the Allegheny Front. Brush Mountain also increases exposure to stronger winds on higher ground. Primary impacts are expected to be tree damage, power outages, and damage to exposed buildings and infrastructure.
Planning Region 3	Higher windstorm vulnerability along the extreme western fringe and on elevated areas such as Brush Mountain. This region also has the greatest concentration of population and infrastructure, so the potential for damage is higher than in most other regions. Strong winds could result in greater impacts to homes, businesses, utilities, and transportation corridors.
Planning Region 4	Lowest overall vulnerability in the county based on lower mean wind speeds and lower exposure. However, tornado risk is not zero, as a documented F2 tornado tracked through this region in 1856. Most expected impacts are from occasional severe thunderstorms rather than frequent high-wind events.
Planning Region 5	Higher windstorm vulnerability along the extreme western fringe where the region includes the Allegheny Front. Ridgetops are also more exposed to stronger winds. Potential impacts include tree damage, power outages, and damage to scattered structures and infrastructure.
Planning Region 6	Highest average wind exposure in the county. Although population and infrastructure are only moderate compared to more urban regions, this area

	remains vulnerable to wind damage to buildings, utilities, and agriculture. Morrisons Cove is especially vulnerable to crop damage from strong winds, hail, and severe thunderstorms.
Planning Region 7	Higher windstorm vulnerability along the extreme western fringe where the region includes the Allegheny Front. Dunnings Mountain also increases exposure to stronger winds on higher ground. Main concerns are damage to exposed structures, downed trees, and transportation disruptions from debris or power outages.

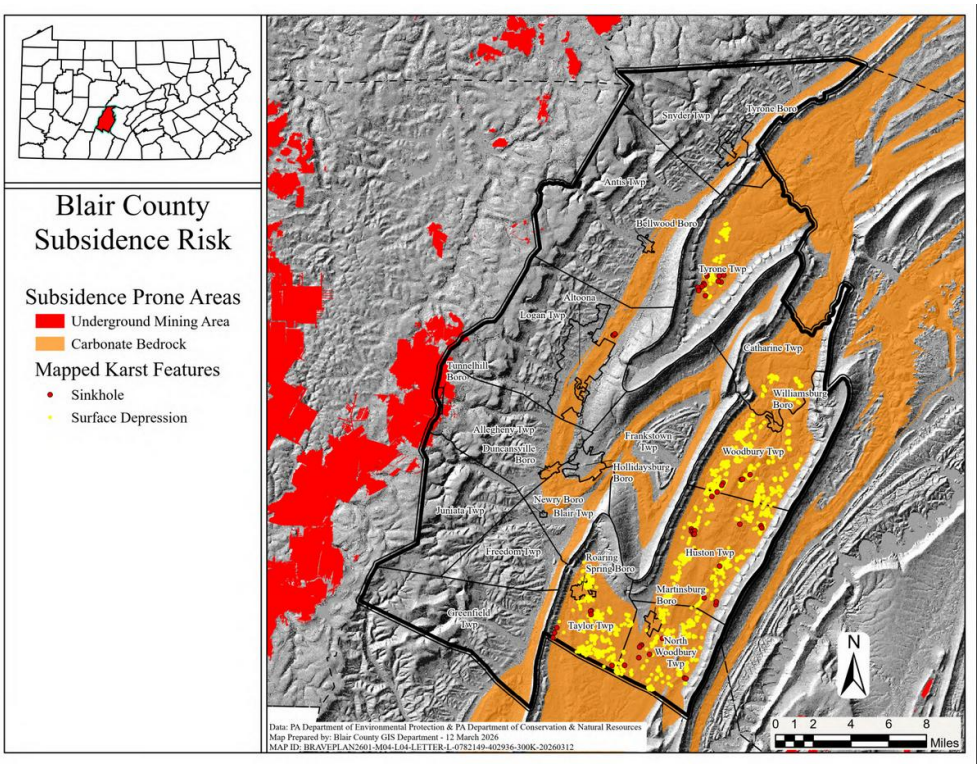
See Table 10: Blair County Planning Regions for communities that make up each Planning Region

4.3.10. SUBSIDENCE & SINKHOLE

4.3.10.1 Location and Extent

Subsidence refers to gradual caving in, sinking or collapse of an area of land. Many areas of Pennsylvania have bedrock conditions that lend themselves to subsidence events. Carbonate rock like limestone and dolomite is easily eroded and dissolved by water, so if an area has carbonate bedrock, that area is susceptible to subsidence because groundwater may erode and dissolve the carbonate rock, leading to the creation of caves, swales, sinkholes and other forms of subsidence. These types of features are generally referred to as karst topography. The karst topography in Pennsylvania is shown in Figure 19. Areas with coal or other mineral deposits which use deep mining techniques may become susceptible to subsidence Poor engineering practices used at the time of withdrawal or progressive degradation in geological stability can increase the risk of subsidence. Blair County historically was lightly mined, and little to no subsidence can be traced to past mining practices.

Figure 19: Blair County Sinkholes and Subsidence Risk



4.3.10.2 Range and Magnitude

Subsidence and sinkholes vary in size, shape, and speed. Some develop slowly as the ground settles over time, while others appear suddenly. The amount of damage depends mostly on where the event occurs and whether it affects homes, roads, or utilities. Impacts can range from minor surface cracking to deep collapses that damage structures.

In Blair County, subsidence and sinkholes are most concerning where past mining or underground voids exist. These events can damage buildings, foundations, roads, and buried infrastructure. They can also disrupt utilities such as water lines, sewer lines, and other underground services. When the ground shifts, the risk is highest for people and property located directly above or near the affected area.

Subsidence and sinkholes can affect the natural environment by changing the ground surface, altering drainage patterns, and damaging soil and vegetation. When the ground settles or collapses, water may collect in new areas, runoff may change direction, and localized erosion can occur. In karst areas, sinkholes can also create direct pathways for surface pollutants to reach groundwater.

Potential impacts to the natural environment include:

- Ground surface collapse or settling
- Changes in drainage patterns and surface water flow
- Localized soil loss and erosion
- Damage to vegetation and habitat where collapse occurs
- Increased sediment movement into nearby streams or low areas
- Greater risk of groundwater contamination where sinkholes connect surface water to subsurface pathways

Subsidence and sinkholes affect community lifelines by damaging the built environment and the infrastructure that supports daily life. When a collapse impacts a building, roadway, or buried utility line, it can create immediate safety hazards and disrupt access and essential services. The lifelines below summarize the systems most likely to be affected when subsidence or sinkholes occur.

Table 56: Subsidence & Sinkhole Community Lifeline

Community Lifelines	Description
Safety and Security	Sinkholes or subsidence have killed or injured people around abandoned mine sites nationwide.
Food, Water, Shelter	Sinkholes can sometimes form under buildings destroying or damaging it. It can disrupt water utility services and potential ground water contamination.
Transportation	Sinkholes or ground settlement can damage roads, bridges, and shoulders and may require closures, detours, and repairs to restore safe access.

Subsidence and sinkholes are typically localized events that mainly affect the area directly above the ground failure. They do not usually cause countywide disruptions to other lifelines. Energy, communications, hazardous materials, and health and medical services may be affected only if a collapse directly damages a specific facility, line, or access route. For this reason, the lifelines listed above represent the most common and most direct impacts expected from subsidence and sinkhole events in Blair County.

4.3.10.3 Past Occurrence

The Department of Conservation and Natural Resources provides an online Sinkhole Inventory Database, (shown at right) which lists a total of 2,665 identified natural karst topographic features in Pennsylvania as of 2009. Such features in Blair County occur in two valleys – Morrison Cove, and the aptly-named Sinking Valley (Department of Conservation and Natural Resources, 2009), see Figure 19. Many of these are known depressions in farm fields, creating "ghost lakes" and reduced crop production in the specific area of the depression. No major sinkhole openings or property damage has occurred in the last quarter century within the county. Blair County contains twelve sites identified in the Pennsylvania Department of Environmental Protection's Abandoned Mined Land Inventory, all but one of which are in watershed protection areas.

4.3.10.4 Future Occurrence

Subsidence is not likely, based on history, but certainly not impossible. The natural conditions contributing to subsidence and sinkholes are in agricultural or forest areas. The specific sinkhole sites identified are in fields and away from buildings. The mining sites are also away from structures and settled area. These conditions combine to sustain a minor threat of subsidence, but experience and specific locations indicate the impact would be low.

4.3.10.5 Vulnerability Assessment

The majority of Blair County is not particularly vulnerable to landslides. However, transportation routes throughout the county located at the base or crest of cliffs should be considered vulnerable to this hazard. A well-documented database of these locations is not available currently. Landslides are often precipitated by other natural hazards such as earthquakes or floods, and a serious landslide can cause millions of dollars in damages. Continued enforcement of floodplain management and proper road and building construction helps to mitigate the threat of landslides. Surface water may permeate into areas that have open fractures and the build-up of surface water in fractures could lead to unexpected slide events.

Abandoned mine sites are susceptible to subsidence events, and all mining activity in Blair County has been along the Allegheny Front in the western part of the county. All but one of these old mines are in watershed protection areas, however, should a property owner desire insurance, Mine Subsidence Insurance is available through the Pennsylvania Department of Environmental Protection. If citizens are aware of areas of Blair County which have been mined, but are not identified herein, the Pennsylvania Department of Environmental Protection Mine Subsidence Insurance department can be contacted at 1-800-922-1678 to have a site-specific request conducted.

Mine abandonment makes streams vulnerable to acid mine drainage. As all but one mine is in the watershed areas of the county, this threat has been largely mitigated through the diligent efforts of local municipal water authorities. One impacted creek, Kittanning Run, still contains high levels of mine drainage. The final closure of the Cooney Brothers Mine at the headwaters of this rill should enable its cleanup and eliminate the threat the drainage poses to downstream interests.

Table 57: Subsidence & Sinkhole Vulnerability Assessment by Region

Municipal Hazard Vulnerability Assessment	
Jurisdiction	**Summary of Potential Impact**
Planning Region 1	Overall vulnerability is mixed. Snyder Township and Tyrone Borough have relatively low vulnerability, but Tyrone Township has higher vulnerability because much of the township is underlain by carbonate bedrock and contains multiple surface depressions and sinkholes. The main concerns are damage to homes, roads, and buried utilities in localized areas.
Planning Region 2	Lowest vulnerability in the county. This region has no known sinkholes, no mapped surface depressions, no underground mining areas, and very little carbonate bedrock. Subsidence or sinkhole impacts are considered unlikely.
Planning Region 3	Moderate vulnerability. This region includes two known sinkholes, some surface depressions, underground mining areas, and limited carbonate bedrock. A known void in the Dutch Hill area of Altoona also increases localized concern. The primary risks are damage to older structures, roads, and underground infrastructure in affected areas.
Planning Region 4	Second highest vulnerability in the county. This region contains many sinkholes and surface depressions, and carbonate bedrock underlies much of the area. Localized ground failure could affect buildings, transportation routes, and utilities.
Planning Region 5	Moderate vulnerability. No known sinkholes or mapped surface depressions were identified, but underground mining areas and a moderate amount of carbonate bedrock are present. Risk is more localized and is mainly tied to areas with susceptible geology or former mining activity.
Planning Region 6	Highest vulnerability in the county. Nearly the entire region is underlain by carbonate bedrock, and there are many surface depressions and sinkholes. This creates a higher likelihood of localized subsidence or sinkhole formation that could damage homes, roads, and utilities.
Planning Region 7	Lowest vulnerability in the county. This region has no known sinkholes, no mapped surface depressions, no underground mining areas, and very little carbonate bedrock. Subsidence and sinkhole impacts are considered unlikely.
Sinkhole risk is most closely associated with carbonate bedrock, while subsidence risk may also be influenced by historic underground mining. Impacts are typically localized rather than countywide	

See **Table 10: Blair County Planning Regions** for communities that make up each Planning Region

4.3.11. TERRORISM

4.3.11.1 Location and Extent

Following several serious international and domestic terrorist incidents during the 1990's and early 2000's, citizens across the United States paid increased attention to the potential for deliberate, harmful actions of individuals or groups. The term "terrorism" refers to intentional, criminal, malicious acts. The functional definition of terrorism can be interpreted in many ways. Officially, terrorism is defined in the Code of Federal Regulations as "...the unlawful use of force and 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." (28 CFR §0.85).

The Federal Bureau of Investigation (FBI) further characterizes terrorism as either domestic or international, depending on the origin, base, and objectives of the terrorist organization. However, the origin of the terrorist or person causing the hazard is far less relevant to mitigation planning than the hazard itself and its consequences.

Critical facilities are either in the public or private sector that provide essential products and/or services to the public. Critical facilities are often necessary to preserve the welfare and quality of life in the County, or fulfill important public safety, emergency response, and/or disaster recovery functions. Critical facilities identified in the county are shelters; gas, electric and communication utilities; hospitals and other health care facilities; water and wastewater treatment plants, hazardous waste sites; and schools.

In addition to critical facilities, the county contains at risk populations that should be factored into a vulnerability assessment. These populations include not only the residents and workforce in the County, but also the tourists that visit the area daily, those that are traveling through the county on any of the interstate or major highways, marginalized groups, and racial minorities. Potential targets for attack include:

- Commercial facilities
- Abortion or Family Planning Clinics and other organizations
- Education facilities
- Events attracting large amounts of people
- Places of worship
- Industrial facilities, especially those utilizing large quantities of hazardous materials
- Transportation Infrastructure
- Historical sites
- Government Facilities

4.3.11.2 Range of Magnitude

Terrorism refers to the use of Weapons of Mass Destruction (including, biological, chemical, nuclear, and radiological weapons) arson, incendiary, explosive, armed attacks, industrial sabotage, intentional hazardous materials releases and cyber-terrorism. Within these general categories, however, there are many variations. Particularly around biological and chemical weapons, there are a wide variety of agents and ways for them to be disseminated. Terrorist methods can take many forms, including:

- Active Shooter
- Agri-terrorism
- Arson/incendiary attack
- Armed attack
- Biological agent
- Chemical agent
- Cyber-terrorism
- Conventional bomb or bomb threat
- Hazardous material release (intentional)
- Nuclear bomb
- Radiological agent

The magnitude of a terrorism incident depends on the attacker's intent, capability, planning, and access to weapons or targets. Some events (such as an active shooter) may be more likely to occur but usually affect a limited area and number of victims. More complex attacks, such as explosives or attacks on critical infrastructure, are harder to carry out but can cause mass casualties and wider disruption.
Terrorism can also create major secondary impacts. Even when physical damage is limited, incidents can cause fear, disrupt normal activity, and require a large emergency response. The level of disruption depends on the target (crowded public areas, housing, utilities, or hazardous materials sites) and how quickly the incident is contained.

Terrorism usually has limited direct impact on the natural environment unless the attack involves fire, explosives, or hazardous materials. When it does affect the environment, impacts are typically localized around the target area and may include contamination, debris, fire damage, and harm to vegetation, soil, water, or wildlife habitat. The severity depends on the type of attack and whether hazardous substances are released.

Potential impacts to the natural environment include:

- Localized fire or blast damage to vegetation and habitat
- Soil, water, or air contamination if hazardous materials are released
- Debris scattered into natural areas, streams, or wetlands
- Damage to trees, landscaping, and open space near the target area
- Harm to wildlife or habitat in the immediate impact zone
- Short-term cleanup and remediation need where contamination occurs

Terrorism affects community lifelines by creating immediate life-safety threats and by disrupting the services people rely on to function day to day. Impacts are usually concentrated around the target area, but attacks on critical infrastructure or hazardous materials sites can create broader consequences. The lifelines below summarize the systems most likely to be affected during a terrorism incident.

Table 58: Terrorism Community Lifelines

Community Lifelines	Description
Safety and Security	Terrorism typically causes death, injuries, and fear. The first two deals directly with safety and security.
Food, Water, Shelter	Bombs can blow up buildings classified as shelter. Apartment buildings are a centralized location with vast amounts of people. They tend to be susceptible.
Energy	Energy infrastructures are a centralized place without replacement that could affect a large amount of people.

Hazardous Materials	Hazardous materials are one way terrorist could expand their extent to target many people. However, facilities with chemical, biological, radiological, and nuclear items tend to be hardened.
Health and Medical	First responders and healthcare network are going to be strained from any terrorism event. It often adds more trauma than normal.

Terrorism does not consistently affect every lifeline in every scenario. Communications, transportation, and water systems, may be impacted depending on the target and the scale of the incident, but they are often affected indirectly or only in the immediate area. This section focuses on the lifelines most directly tied to common terrorism targets and the highest-consequence outcomes.

4.3.11.3 Past Occurrence

Active shooters, as defined by the US Department of Homeland Security, is an individual actively engaged in killing or attempting to kill people in a confined area; in most cases, active shooters use firearm[s] and there is no pattern or method to their selection of victims. One of the more recent high-profile shootings occurred at the Pulse Nightclub in Orlando, Florida on June 12, 2016, where a marginalized community was targeted - 49 people were killed and 53 were wounded. A few other significant active shooter events include those that occurred at Virginia Tech (April 2007), Sandy Hook Elementary School (December 2012), San Bernardino California (December 2015), an Aurora, Colorado movie theater (July 2012) and a church in Charleston South Carolina (June 2015). A 2014 study by the Federal Bureau of Investigation concluded that there has been a significant recent increase in frequency of active shooter incidents, and the vast majority (154 of 160 shooters between 2000 and 2013) were done by males (United States Federal Bureau of Investigation, 2014). Of these 160 incidents, 45.6% took place in commercial environments, 24.3% took place in an educational environment, and the remaining 30.1% took place at other locations such as open spaces, military and other government properties, residential locations, houses of worship, and health care facilities (United States Federal Bureau of Investigation, 2014).

Significant international terrorism incidents in the United States include: the World Trade Center bombing in 1993, the bombing of the Murrow Building in Oklahoma City in 1995, and the September 11th, 2001, attack on the World Trade Center. Blair County has not been directly impacted by any significant international terrorist incidents.

While the largest scale terrorist incidents have largely had international stimulus, many other incidents are caused by home grown actors who may have become radicalized through hate groups either in real life or online, and who may have mental health struggles. Hate groups such as the Ku Klux Klan, Aryan Nation and, more recently, the Alt-Reich have in one way or another been a part of domestic terrorism in different forms.

Two high volume highways traverse Blair County: US 22 runs east-west, and I-99 runs north-south. Additionally, the mainline of the railroad runs from just east of Tyrone to just west of the Horseshoe Curve in Blair County – a generally north-south direction between Tyrone and Altoona. The sheer number of people and goods traveling on these routes makes them potential targets.

4.3.11.4 Future Occurrence

The likelihood of Blair County being a primary target for a major international terrorist attack is astronomically small. The far likelier outcome would be domestic terrorism like bomb threats or incidents at schools. It is more likely that the county transportation system will be used to carry the implements or perpetrators of terrorism to their ultimate targets.

4.3.11.5 Vulnerability Assessment

The probability of terrorist activity is more difficult to quantify than some other hazards. Instead of considering likelihood of occurrence, 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 Planning should work towards identifying potentially at-risk critical facilities and systems in the community, prioritizing those assets and locations, and identify their vulnerabilities relative to known potential threats.

All communities in Blair County are vulnerable on some level, directly or indirectly, to a terrorist attack. However, communities where critical facilities 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. Site managers, risk assessors, and emergency managers should consider the following questions:

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?
- Hazardous materials – Are flammable, explosive, biological, chemical, and/or radiological materials present on site? If so, are they well secured?
- 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 planning and Landscape Design – Is the facility designed with security in mind – both site-specific and about adjacent land uses?
- Parking Security – Are vehicle access and parking managed in a way that separates vehicles and structures?
- Structure – Is the building's envelope designed to be blast-resistant? Does it provide collective protection against chemical, biological, and radiological contaminants?
- Interior Space – Does security screening cover all public and private areas?
- Mechanics – Are utilities and heating, ventilation, and air conditioning systems protected and/or backed up with redundant systems?
- Electrical – Are emergency power and telecommunications available? Are alarm systems operational? Is lightning sufficient?

- Fire Protection – 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?
- Security – Are systems and personnel in place to monitor and protect the facility?

Table 59: Terrorism Vulnerability Assessment by Region

Municipal Hazard Vulnerability Assessment	
Jurisdiction	**Summary of Potential Impact**
Planning Region 1	Moderate potential impact due to an exposed population of about 10,700. Impacts would depend on the target type, but likely concerns include localized casualties, fear, disruption of public services, and strain on emergency response.
Planning Region 2	Moderate potential impact due to an exposed population of about 8,305. A terrorism incident here would most likely create localized life-safety concerns, require a large emergency response, and disrupt nearby public activity and transportation.
Planning Region 3	Highest potential impact in the county because this region has the largest population (56,376) and the greatest concentration of people, infrastructure, businesses, and public facilities. If an incident occurred here, it could affect the highest number of people and create the largest disruption to public safety, operations, and community confidence.
Planning Region 4	Lowest potential impact due to the smallest population (about 3,441) and lower concentration of likely targets. Impacts would still be serious if an incident occurred, but the scale of disruption would likely be more limited than in more populated regions.
Planning Region 5	Second highest potential impact because of its relatively large population (26,001) and concentration of community activity. A terrorism incident here could affect many people and cause significant disruption, especially if critical infrastructure or a large gathering place were involved.
Planning Region 6	Moderate potential impact due to an exposed population of about 10,241. Impacts would likely be localized but could still require major law enforcement, EMS, and fire response depending on the type of attack and location.
Planning Region 7	Lower overall potential impact due to the smaller population (about 7,758) and lower concentration of major targets. However, an incident could still disrupt community life and require a significant emergency response within the affected area.
Terrorism impacts are driven less by geography alone and more by target type, population concentration, and the presence of critical or symbolic facilities. For that reason, higher-population regions generally have greater consequence potential, even though incidents remain low-frequency.	

See Table 10: Blair County Planning Regions for communities that make up each Planning Region

4.3.12. UTILITY INTERRUPTION

4.3.12.1 Location and Extent

Utility interruptions occur throughout the Commonwealth but usually are small-scale, localized incidents. Utility interruptions are possible anywhere there is utility service. This hazard has the potential to affect

a significant number of Pennsylvanians. According to the 2016 estimates of the American Community Survey, there are 5.6 million occupied housing units in the Commonwealth. The United States Energy Information Administration estimates that 51 percent of these households use natural gas as their main heating fuel, while 22 percent use electricity to heat their home, and 18 percent use fuel oil (United States Energy Information Administration, 2018). This means that should a utility interruption occur statewide, nearly 4.6 million households could be without heat or cooling.

The locations of each utility interruption incidents are not public information. To gather information about extent of utility interruption, we will use 2024 Pennsylvania Electric Reliability Report. In 2024, Pennsylvania had a total of 71 utility interruption. Those 71 utility interruption incidents affected 2,882,795 people. Blair County is relatively similar to Pennsylvania's experience. Looking at this chart, two causes stick out the most. Heavy Rain & Winds has 25 utility interruption incidents, which is 35% of all incidents in 2024. It affected 39% of all customers affected. Severe Thunderstorms is second at 24 utility interruption incidents (34%). Severe Thunderstorms affected 31% of all customers affected. Both leading causes accounts for 69% of all incidents and 70% of all customers impacted in 2024.

Table 60: PA 2024 Utility Interruptions Chart by Cause

PA 2024 Utility Interruptions Chart		
Causes	**No. of Incidents**	**Customers Affected**
Heavy Rains & Winds	25	1,117,746
High Winds	1	5,382
Winter Storm (Wet Snow)	2	176,679
Wind Event	6	172,991
Mixed Precipitation & Winds	1	390
Severe Thunderstorms	24	900,978
Microburst / Severe Thunderstorms	1	108,324
Tornadoes / Severe Thunderstorms	2	31,809
Severe Thunderstorms & Winds	2	67,404
Severe Thunderstorms & Heavy Rains	1	10,780
TS Debby Remnants	2	83,445
Winter Storm (Snow)	3	192,622
Heavy Rains, Winds, Snow	1	14,245
Total	**71**	**2,882,795**

4.3.12.2 Range of Magnitude

The most serious utility interruptions in Blair County are widespread outages of electricity and communications. When power is lost, many everyday systems stop working, including lighting, heating and cooling, water pumps, alarms, internet and phone service, and some medical and business equipment. Most outages are short and inconvenient, but longer outages can create real health and safety risks.

Utility interruptions are more severe when they happen during extreme weather, especially winter storms. They can also be dangerous for people who rely on powered medical equipment or who cannot safely leave their homes. Outages can also slow emergency response if communications systems are limited or if roads are blocked and repairs are delayed.

A worst-case scenario is a major winter storm that causes multi-day power outages during very cold temperatures. Residents may lose heat, be unable to contact help, and face unsafe indoor conditions until power is restored. The longer the outage lasts and the wider it spreads, the greater the impact on the community.

Utility interruption usually has little direct impact on the natural environment. Most effects are indirect and happen when outages reduce the operation of systems that protect the environment, such as water treatment, wastewater pumping, stormwater control, or refrigeration for sensitive materials. The longer the interruption lasts, the greater the chance of secondary environmental problems.

Potential impacts to the natural environment include:

- Reduced operation of water or wastewater systems, which can affect water quality
- Possible sewage overflows or untreated discharges during prolonged outages
- Reduced stormwater pumping or control in some areas
- Localized fuel or oil spills from backup generators or damaged equipment
- Indirect stress on streams, soils, and habitat if utility-dependent environmental controls fail

Utility interruptions affect community lifelines because they reduce or stop essential services that support daily life. Electricity and communications are foundational services; when they fail, other systems can also be disrupted. The lifelines below summarize the services most directly affected during utility interruptions in Blair County.

Table 61: Utility Interruption Community Lifelines

Community Lifelines	Description
Energy	Power outages are the most common utility interruption. Loss of electricity can shut down building systems, disrupt critical facilities, and prevent normal operations until service is restored.
Water Systems	Water and wastewater systems depend on power and equipment to pump, treat, and distribute water. Outages can reduce pressure, disrupt operations, or require backup power and conservation measures.
Communications	Phone, internet, and radio systems can be disrupted by power loss or network failure. Even partial outages can affect 911 access, coordination, and public information.

Safety and security, food, hydration, shelter, health and medical, transportation, and hazardous materials, are not typically directly impacted by utility interruptions alone. They can be interrupted in tandem with winter storms along with utility interruptions. This section focuses on community lifelines directly tied to utility services.

4.3.12.3 Past Occurrence

Utility interruptions are largely minor, routine events, but there have been several Presidential and Gubernatorial Disaster Declarations in which a utility interruption was a major component of a disaster. A series of bankruptcies in 1972 led the major steam heat provider in Lower Merion Township to cut off

heat to residents with no intention of resuming service in the wintertime; the governor declared the event a disaster. December 1974 brought heavy snow that led to widespread power outages in the Southwestern Counties, leading to a Gubernatorial Disaster Declaration. In January 1977, the nation's gas shortage coupled with severe winter weather led to a President's Declaration of Emergency. In March 2018, four nor'easters struck southeastern Pennsylvania, affecting Philadelphia, Delaware, Montgomery, Chester, Lehigh, Pike, Carbon, and Northampton counties. The storms' high winds and heavy snowfall caused down trees and powerlines, leaving an estimated 500,000 customers without power (Pennsylvania Emergency Management Agency, 2018).

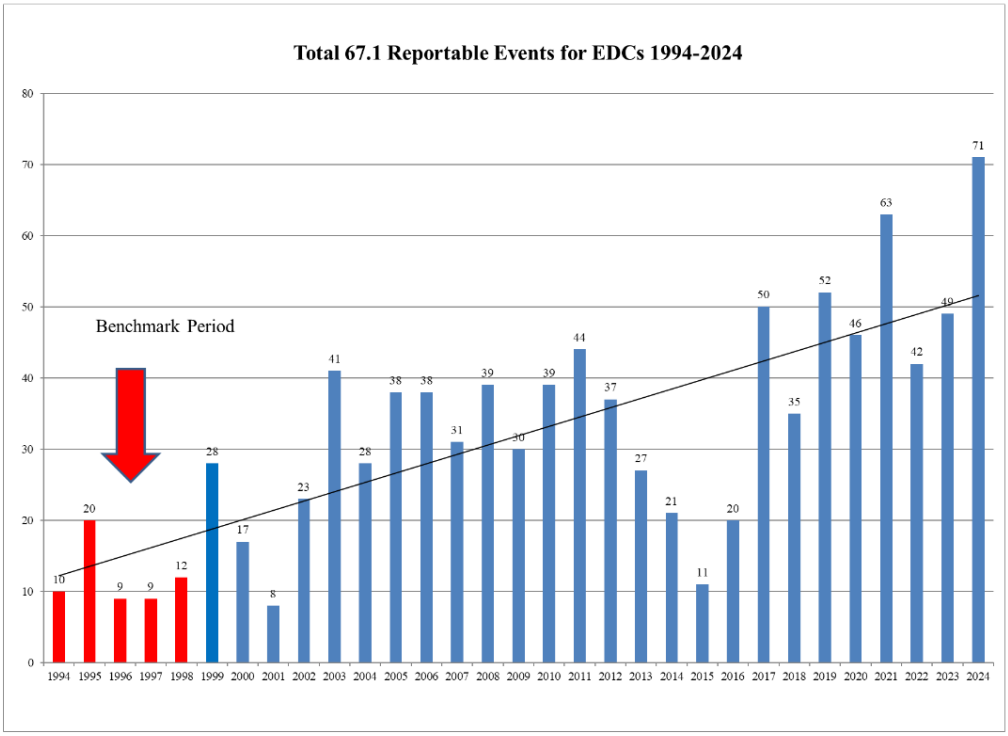
We can see that from Figure 20, Utility Interruptions are consistently growing every year. Nothing conclusive can be drawn from this as there are several factors that contribute to this trend. We are better trained than before and cohesively report events on a regular basis. We build more infrastructure each year increasing the likelihood of a reportable event. Our climate is getting worse every decade increasing the severity of a reportable event. One thing is clear, three decades of trends show that we will have more reportable events for EDCs in the future and mitigation in this area

In March of 1989, a severe geomagnetic storm caused a widespread blackout (occurring within 90 seconds) in northeastern Canada's Hydro-Quebec power grid, resulting in millions being without electricity for nine hours (Baker et al., 2008). Currents from this event are estimated to be ten times less than those induced in the May 1921 event.

On May 14 of 1921, a geomagnetic storm produced ground currents that were estimated to be half as strong as the Carrington event, but ten times stronger than the 1989 event. The Carrington Even was the most intense geomagnetic storm in recorded history. It created strong auroral displays that were reported globally and caused sparking and even fires in telegraph stations.

In July of 2012, a powerful solar storm produced an intense coronal mass ejection, estimated to be possibly stronger than the Carrington Event (Baker et al., 2013). Fortunately, due to the position of the event and the location of Earth in its orbit, the event missed Earth by as little as a week (Phillips, 2014). The STEREO-A spacecraft was however in the line of fire and was able to record valuable data on the event (Baker et al., 2013).

Figure 20: Historical Utility Interruption Trends



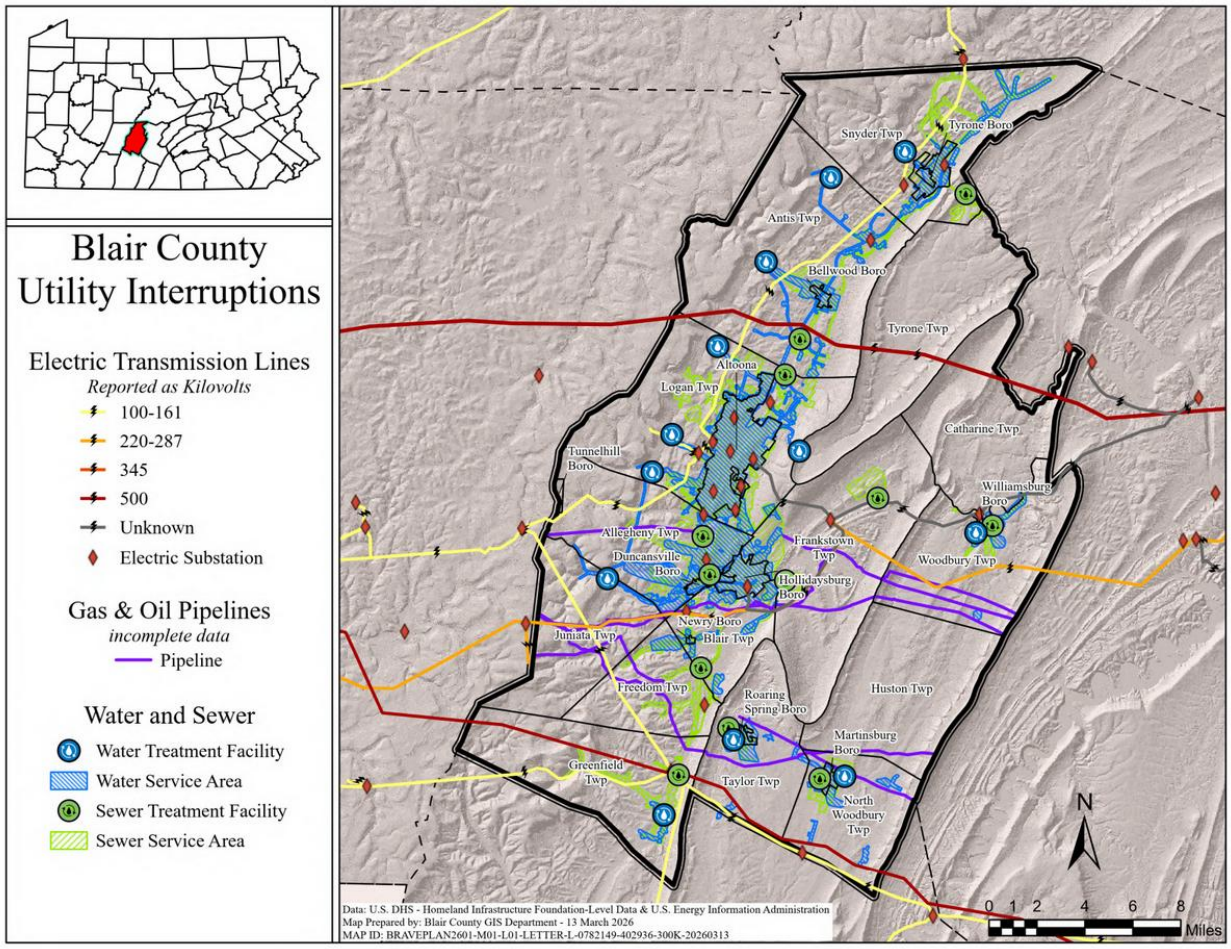
4.3.12.4 Future Occurrence

Minor, short-term outage events may occur several times a year for any given area in Blair County, while major, widespread and long-term events may take place once every few years. Energy Emergencies are most often caused by severe weather events; therefore, citizens should prepare for them during severe storms.

It is estimated that the probability of occurrence in the next ten years of an extreme space weather event at the scale of the Carrington Event is twelve percent (Riley, 2012). If a solar storm on the scale of the 1921 event impacted our modern electricity infrastructure, it could permanently damage an estimated 350 transformers, and cause blackouts for 130 million people (Baker et al., 2008).

As for reportable events for EDC, the trends strongly suggests that utility interruptions on a larger scale (the smallest incident from Table 56: PA 2024 Utility Interruptions Chart by Cause is 390 customers affected) will eventually be commonplace in most counties if trend continues for the next decade. Most counties already experience utility interruptions on a small scale.

Figure 21: Blair County Utility Map



4.3.12.5 Vulnerability Assessment

All municipalities in Blair County are vulnerable to energy emergencies. Critical facilities such as emergency medical facilities, retirement homes and senior centers are particularly vulnerable to power outages. While back-up generators are often used at these facilities, loss of electricity accompanied by temperature extremes can be dangerous for elderly and other high-risk populations.

Extreme temperatures can disrupt fuel and electricity supplies, with extreme cold weather triggering a higher demand for heating oil and natural gas as well as causing low gas pressure, and extreme hot weather possibly overloading electrical grids resulting in blackouts. Most of the county uses either natural gas or fuel oil as a fuel source. The pumping systems supplying these fuels are vulnerable to power supply loss, thereby exposing the population to a loss of fuel supply.

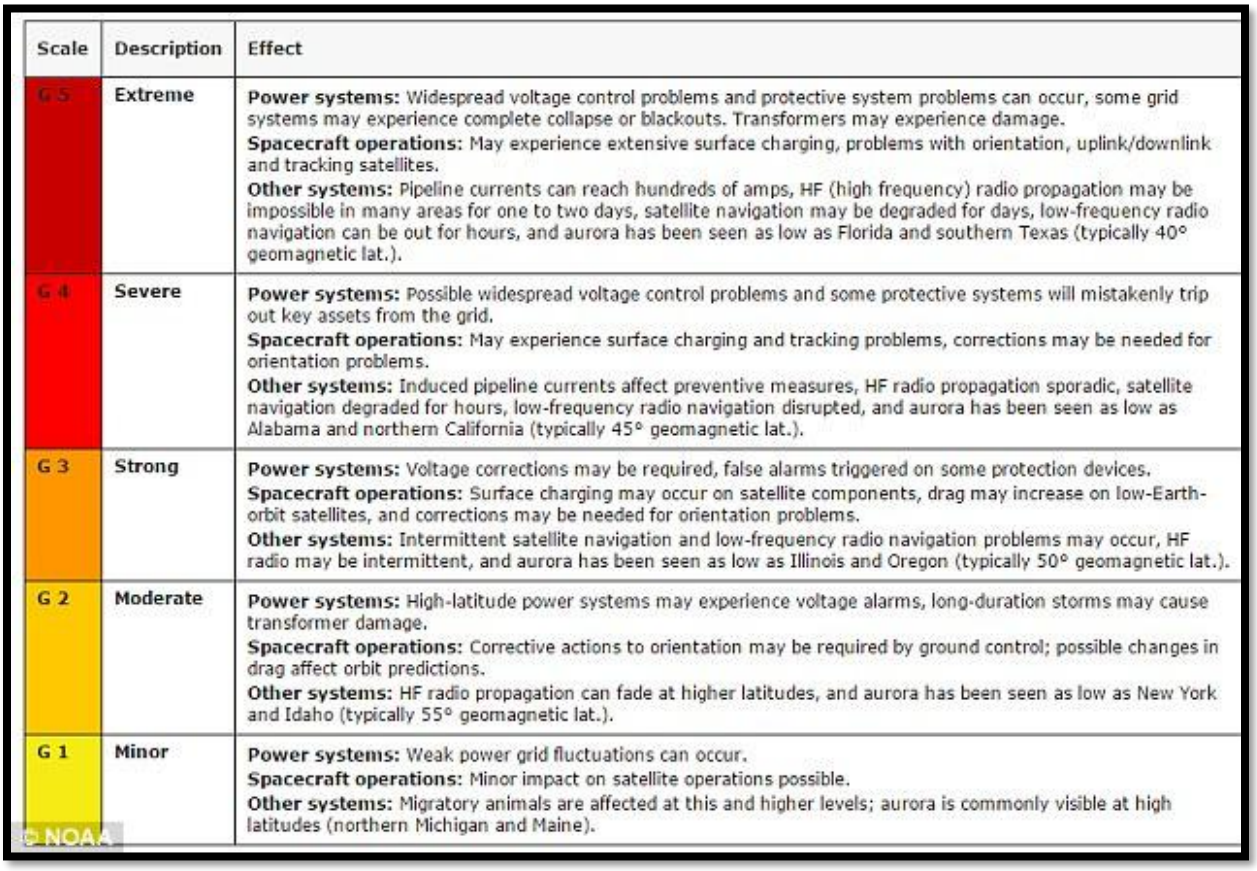
The National Oceanic and Atmospheric Administration monitors solar activity from the Space Weather Prediction Center, and can alert power grid operators of the impending geomagnetic storm so they may make efforts to protect the grid from geomagnetically induced currents (Baker et al., 2008). Events such as the 1989 Hydro-Quebec blackout have illuminated the hazard that solar storms pose to electricity

infrastructure, however modern power grids are more vulnerable than ever. Power grids have become increasingly interconnected, improving efficiency in many ways, but also making them more vulnerable to wide ranging rolling (Baker et al., 2008).

Geomagnetic storms can cause permanent damage to transformers that could result in much longer restoration times than experienced in the 1989 Hydro-Quebec outage. Transformer damage occurs when geomagnetically induced currents cause excessive internal heating resulting in melting and burning of many large-amperage copper windings and leads. Such damage cannot be repaired, and the damaged transformer must be replaced. Transformers are extremely large and heavy apparatuses, and replacement can be a long process, suggesting that efforts should be taken to protect resident transformers from geomagnetically induced currents. A workshop held by the Committee on the Societal and Economic Impacts of Severe Space Weather Events offered solutions to mitigating negative impacts of geomagnetically induced currents, suggesting that supplemental transformer neutral ground resistors should be installed because they are relatively inexpensive, have low engineering trade-offs, and can produce 60-70 percent reduction of geomagnetically induced current levels during severe solar storms (Baker et al., 2008).

The Department of Homeland Security has a Solar Storm Mitigation effort, which "aims to provide owners and operators of the electricity grid with advanced and actionable information about anticipated geomagnetically induced current levels in the event of a solar storm" (United States Government Accountability Office, 2017). According to the United States Department of Homeland Security, when provided with accurate solar storm warnings, utility operators can "make operational decisions to mitigate the impacts from solar storms. This can range from canceling maintenance work to temporarily shutting down vulnerable grid components and preventing permanent damage" (United States Department of Homeland Security, 2015).

Figure 22: National Oceanic and Atmospheric Administration Geomagnetic Storm Scale



Scale	Description	Effect
G 5	Extreme	**Power systems:** Widespread voltage control problems and protective system problems can occur, some grid systems may experience complete collapse or blackouts. Transformers may experience damage. **Spacecraft operations:** May experience extensive surface charging, problems with orientation, uplink/downlink and tracking satellites. **Other systems:** Pipeline currents can reach hundreds of amps, HF (high frequency) radio propagation may be impossible in many areas for one to two days, satellite navigation may be degraded for days, low-frequency radio navigation can be out for hours, and aurora has been seen as low as Florida and southern Texas (typically 40° geomagnetic lat.).
G 4	Severe	**Power systems:** Possible widespread voltage control problems and some protective systems will mistakenly trip out key assets from the grid. **Spacecraft operations:** May experience surface charging and tracking problems, corrections may be needed for orientation problems. **Other systems:** Induced pipeline currents affect preventive measures, HF radio propagation sporadic, satellite navigation degraded for hours, low-frequency radio navigation disrupted, and aurora has been seen as low as Alabama and northern California (typically 45° geomagnetic lat.).
G 3	Strong	**Power systems:** Voltage corrections may be required, false alarms triggered on some protection devices. **Spacecraft operations:** Surface charging may occur on satellite components, drag may increase on low-Earth-orbit satellites, and corrections may be needed for orientation problems. **Other systems:** Intermittent satellite navigation and low-frequency radio navigation problems may occur, HF radio may be intermittent, and aurora has been seen as low as Illinois and Oregon (typically 50° geomagnetic lat.).
G 2	Moderate	**Power systems:** High-latitude power systems may experience voltage alarms, long-duration storms may cause transformer damage. **Spacecraft operations:** Corrective actions to orientation may be required by ground control; possible changes in drag affect orbit predictions. **Other systems:** HF radio propagation can fade at higher latitudes, and aurora has been seen as low as New York and Idaho (typically 55° geomagnetic lat.).
G 1	Minor	**Power systems:** Weak power grid fluctuations can occur. **Spacecraft operations:** Minor impact on satellite operations possible. **Other systems:** Migratory animals are affected at this and higher levels; aurora is commonly visible at high latitudes (northern Michigan and Maine).

NOAA

Table 62: Utility Interruption Vulnerability Assessment by Region

Municipal Hazard Vulnerability Assessment	
Jurisdiction	**Summary of Potential Impact**
Planning Region 1	Utility interruption could affect about 10,700 people. Impacts would likely include loss of electricity, communications, and related services such as heating, cooling, internet, and some water service depending on the outage type and duration.
Planning Region 2	Utility interruption could affect about 8,305 people. The main impacts would be service disruption to homes, businesses, and public facilities, with greater concern during extreme temperatures or prolonged outages.
Planning Region 3	Highest vulnerability in the county because this region has the largest population (56,376) and the greatest concentration of homes, businesses, and infrastructure. A utility interruption here would affect the largest number of people and could create broader impacts on communications, emergency response, and daily operations.
Planning Region 4	Lower overall vulnerability because of the small population (about 3,441), but service restoration may take longer in rural areas during major events.

	Prolonged outages could create increased hardship due to lower population density, longer travel distances, and fewer nearby backup options.
Planning Region 5	Second highest vulnerability because of its relatively large population (26,001). Utility interruption in this region could affect a large number of residents and businesses and may disrupt critical daily services, especially during prolonged outages.
Planning Region 6	Utility interruption could affect about 10,241 people. Impacts would likely be moderate and depend on outage duration, weather conditions, and whether communications and water-related systems are also affected.
Planning Region 7	Lower overall vulnerability because of its smaller population (about 7,758). Some residents may be less dependent on certain utility services than other parts of the county, but prolonged outages would still affect homes, farms, businesses, and emergency communications.

See Table 10: Blair County Planning Regions for communities that make up each Planning Region

4.3.13. WINTER STORMS

4.3.13.1 Location and Extent

There is an average of 35 winter weather events in Pennsylvania each year and such winter storms are regional events, so each county in Pennsylvania shares these hazards. However, the northern tier, western counties and mountainous regions (including parts of Blair County) generally experience storms more frequently and with a greater severity due to lake effects. Within Blair County there are variations in the average amount of snowfall that is received throughout the county because of terrain differences; higher elevations experience greater snowfalls than lower-lying areas.

On occasion Blair County can be affected by a Nor'easter, depending on its track. A Nor'easter is a storm characterized by a central low-pressure area that deepens dramatically as it moves northward along the United States Eastern seaboard. The name came from the strong northeast winds that precede and accompany the storm as it passes over New England. Nor'easters are notorious for producing heavy snow in the Central and Northeastern Mountains. Nor'easters will ordinarily produce a heavy, wet snow. There is usually a consistent demarcation between rain, mixed precipitation, and snow which moves along with the storm and generally parallel to the track of the surface low. The demarcation typically pivots with the storm as the track changes direction. The mixed precipitation and rainfall are generated when warmer marine air is pulled into the storm. The heaviest snow in a Nor'easter falls to the north and west of the track of the surface low (National Weather Service, 2017).

4.3.13.2 Range of Magnitude

Winter storms in Blair County include cold temperatures, snow, ice, and sometimes strong winds. Impacts depend on how much snow or ice falls, how long the cold lasts, and whether strong winds are present. Severe storms can disrupt travel, delay emergency response, and cause power outages when snow or ice damages power lines and trees fall onto utility infrastructure. In rural areas, power loss can become dangerous if homes lose heat for long periods.

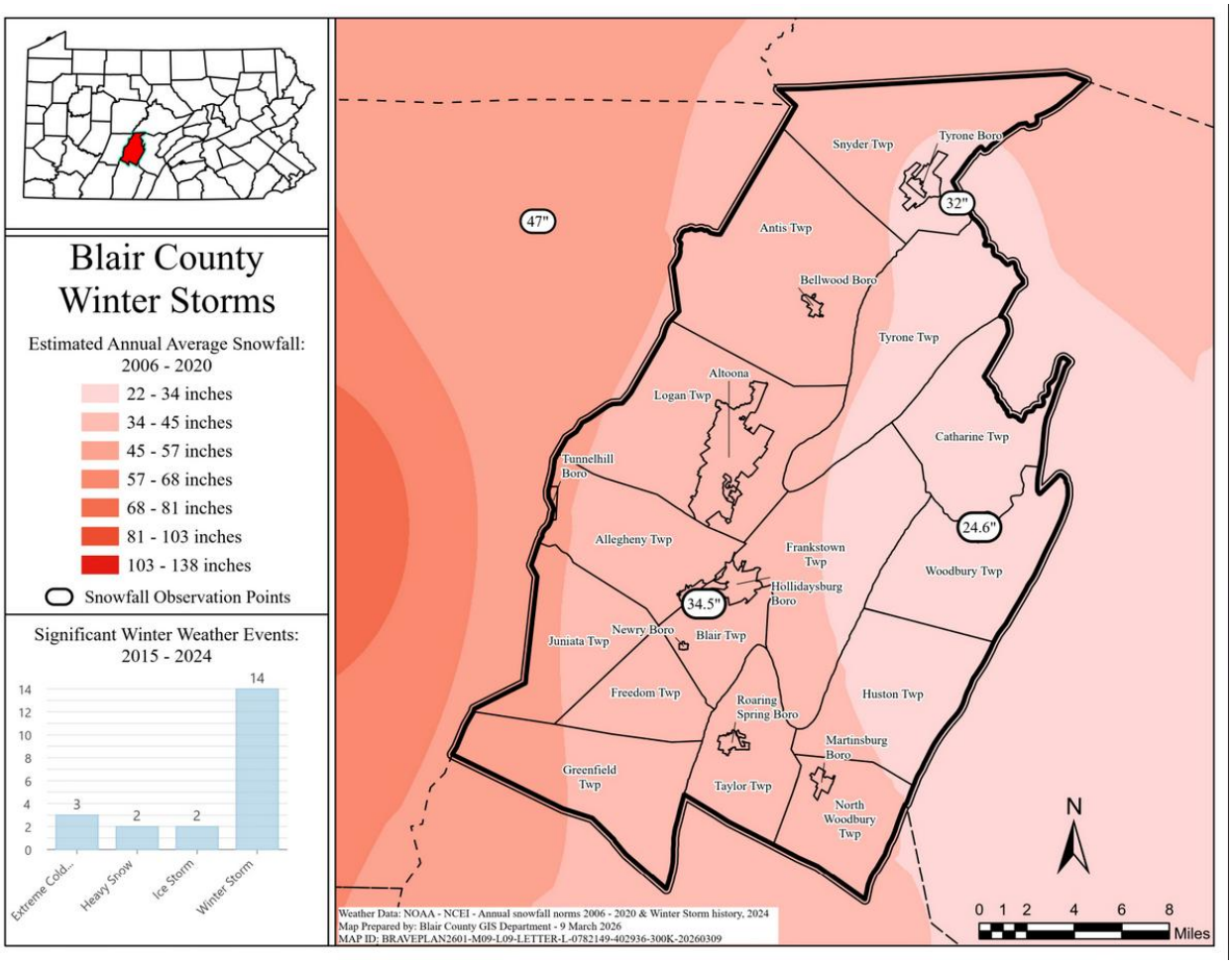
Table 63: winter Weather Events

Weather Event	Classification
Heavy Snowstorm	Accumulations of four inches or more in a six-hour period, or six inches or more in a twelve-hour period.
Sleet Storm	Significant accumulations of solid pellets which form from the freezing of raindrops or partially melted snowflakes causing slippery surfaces posing hazards to pedestrians and motorists.
Ice Storm	Significant accumulations of rain or drizzle freezing on objects (trees, power lines, roadways, etc.) as it strikes them, causing slippery surfaces and damage from the sheer weight of ice accumulation.
Blizzard	Wind velocity of 35 miles per hour or more, temperatures below freezing, considerable blowing snow with visibility frequently below one-quarter mile prevailing over an extended period.
Severe Blizzard	Wind velocity of 45 miles per hour, temperatures of 10 degrees Fahrenheit or lower, a high density of blowing snow with visibility frequently measured in feet prevailing over an extended period time.

Winter storms can also contribute to flooding. Rapid snowmelt or rain on snow can produce high runoff. Ice jams are another winter flood risk. When rivers freeze and then break up during a thaw, ice can pile up at channel constrictions (such as bends, shallow areas, or bridges), forming a temporary dam and causing flooding upstream.

Snowfall patterns vary across Blair County. Mean annual snowfall is roughly 22–34 inches in the eastern portion of the county, 34–45 inches across much of the central and western areas, and about 45–57 inches in a small southwestern area (Figure 23). These conditions increase the likelihood of travel disruptions and winter weather impacts each year.

Figure 23: Blair County Annual Snowfall



Winter storms can affect the natural environment by covering vegetation and habitat with snow and ice, breaking tree limbs, and damaging forests through heavy loading and strong winds. Ice and snow can also alter stream conditions, contribute to ice jams, and, during rapid thaw, increase runoff, erosion, and localized flooding. Most impacts are seasonal and temporary, but severe storms can cause lasting damage to trees, habitat, and stream corridors.

Potential impacts to the natural environment include:

- Tree and forest damage from heavy snow, ice buildup, and wind

- Damage to vegetation, shrubs, and crops
- Disturbance to wildlife habitat and food sources during severe cold and snow cover
- Ice jams that alter stream flow and cause localized flooding
- Increased runoff and erosion during rapid snowmelt
- Sediment movement into streams and low-lying areas after thaw

Winter storms affect community lifelines by limiting mobility, disrupting power, and increasing health and safety risks during cold weather. The longer the storm lasts and the more snow and ice it produces, the more likely it is to strain emergency services and disrupt normal operations. The lifelines below summarize the services most likely to be affected during winter storms in Blair County.

Table 64: Winter Storms Community Lifelines

Community Lifelines	Description
Energy	Snowstorm impacts the energy sector by downing energy provision. It increases fuel usage for those who lose access to electrical heating. Mitigation actions should be focused on grid resilience.
Transportation	Snowstorm and Icey roads causes transportation accident. Too much snow prevents movement until the snow plowers come through.
Safety and Security	Being caught out from your home during a snowstorm is extremely dangerous. A snowstorm also can create dangerous walking conditions outside.
Food, Water, Shelter	Winter storm can stop logistics and damage infrastructure. People stuck inside may be reliant on a limited supply of food and water. This can be compounded by no energy.

Health and medical has a case for being included on here. Winter storms always have a long warning time before impact. So mass casualty events are not likely but an increase in injuries or rare death could happen. Especially if they create unsafe driving and walking conditions outside for an extend duration of time. Communications, hazardous materials, and water systems can be impacted, but not to a large enough degree to threaten that community lifeline from being "downed".

4.3.13.3 Past Occurrence

Winter storms occur on the average of five times a year in Blair County, with major winter storms in 1950, 1977, 1978, 1982, 1983, 1993, 1994, 1996, 1998, and 2002. The severe winter of 1977, with its extreme temperatures, heavy snow and strong winds coupled with fuel shortages, caused extreme hardship in Blair County. Motorists were stranded on several highways; household fuel oil suppliers and food stocks ran out and re-supply was impaired by drifting snow. Heavy snow and drifting closed many roads, some for more than three days. Municipal and state road crews could not keep up with drifting snow and required supplemental equipment and manpower from the private sector.

One of the most major historical severe winter events was in the winter of 1993 – 1994 when the state was hit by a series of protracted winter storms. The severity and nature of these storms combined with accompanying record-breaking frigid temperatures posed a major threat to the lives, safety and well-being of Commonwealth residents and caused major disruptions to the activities of schools, businesses, hospitals, and nursing homes.

4.3.13.4 Future Occurrence

The prospect of climate change suggests that in general, future severe winter events will be attenuated as temperatures rise, however there is a lot of uncertainty in terms of what the future brings. Winters in 2000 and 2001 were mild and led to spring-like thunderstorms during the winter months rather than snowstorms. Such thunderstorms can be followed by cold fronts and winter storms resulting in temperature drops of 50˚F in a few short hours.

Winter storms are a regular, annual occurrence in Blair County and should be considered highly likely. Approximately thirty-five winter storm events occur across Pennsylvania and about five in Blair County annually.

4.3.13.5 Vulnerability Assessment

Due to the elevation effect from the Allegheny Front, locations along the western boundary generally experience greater snowfall than the remainder of Blair County. It is not unusual to see several inches along US 22 toward Tunnelhill and only have flurries in Altoona. Winter storms are a frequent event in the county. Detrimental impacts of severe winter storms are mitigated by salting, plowing and snow removal by the Pennsylvania Department of Transportation and local municipalities. Icy and snow-covered roads often result in increases in traffic incidents. Swift response to utility outages during winter storms is another significant way to mitigate damages. Residents of the mountainous and more rural areas of the county may be more susceptible during severe storms, especially when emergency medical assistance is required due to the location's potential for isolation. There are rural areas which are susceptible to isolation due to winter storms. Residents in outlying areas often find it beneficial to keep an emergency food and fuel stock in the event of isolation or utility interruption during a winter storm.

Even for communities that are prepared to respond to winter storms, severe events involving snow accumulations that exceed six or more inches in a twelve-hour period can cause a large number of traffic accidents, strand motorists due to snow drifts, interrupt power supply and communications, and cause the failure of inadequately designed and/or maintained roof systems. Like the vulnerability assessment discussion for tornados and severe wind, vulnerability to the effects of winter storms on buildings is dependent on the age of the building, construction material used and condition of the structure. Unfortunately, no comprehensive database of these variables could be identified for Blair County.

Table 65: Winter Storms Vulnerability Assessment by Region

Municipal Hazard Vulnerability Assessment	
Jurisdiction	**Summary of Potential Impact**
Planning Region 1	Below average vulnerability overall. About half of the region averages 34–45 inches of snowfall annually, while the other half averages 22–34 inches. Winter storm impacts are expected to be moderate, with the main concerns being icy roads, isolated power outages, and travel disruption.

Planning Region 2	Average vulnerability. Most of the region averages 34–45 inches of snowfall each year, which is typical for much of Blair County. Expected impacts include hazardous travel conditions, school or business disruptions, and scattered utility outages during stronger storms.
Planning Region 3	Average winter storm vulnerability based on snowfall (34–45 inches annually), but higher consequence potential because this region has the largest population (56,376). Even routine winter storms can affect more people, traffic, businesses, and emergency response here than in other parts of the county.
Planning Region 4	Lowest vulnerability in the county. The entire region averages 22–34 inches of snowfall annually, which is the lowest snowfall range in Blair County. Winter storm impacts are still possible, but overall exposure to heavy snowfall is lower than in the rest of the county.
Planning Region 5	Average vulnerability based on snowfall (34–45 inches annually), with higher consequence potential because of the second highest population in the county (26,001). Winter storms here are likely to affect a large number of residents, roads, and community services during prolonged events.
Planning Region 6	Average vulnerability. Annual snowfall is generally 34–45 inches, creating regular winter travel hazards and occasional utility impacts. Vulnerability is moderate and consistent with the countywide profile.
Planning Region 7	Highest vulnerability in the county. The western portion of the region averages 45–57 inches of snowfall annually, and snowfall and winter weather impacts are more frequent along the Allegheny Front. Heavy snow, strong winds, and difficult travel conditions are more likely here than in other parts of Blair County.
Winter storm impacts are influenced not only by snowfall totals, but also by ice, wind, duration, and the ability to keep roads and utilities operating during prolonged events.	

See Table 10: Blair County Planning Regions for communities that make up each Planning Region

4.3.14. DAM FAILURE

4.3.14.1 Location and Extent

A dam restricts the flow of water or underground streams to create reservoirs for water storage. Reservoirs creates suppress floods and provides water for activities such as irrigation, human consumption, industrial use aquaculture, and navigability.

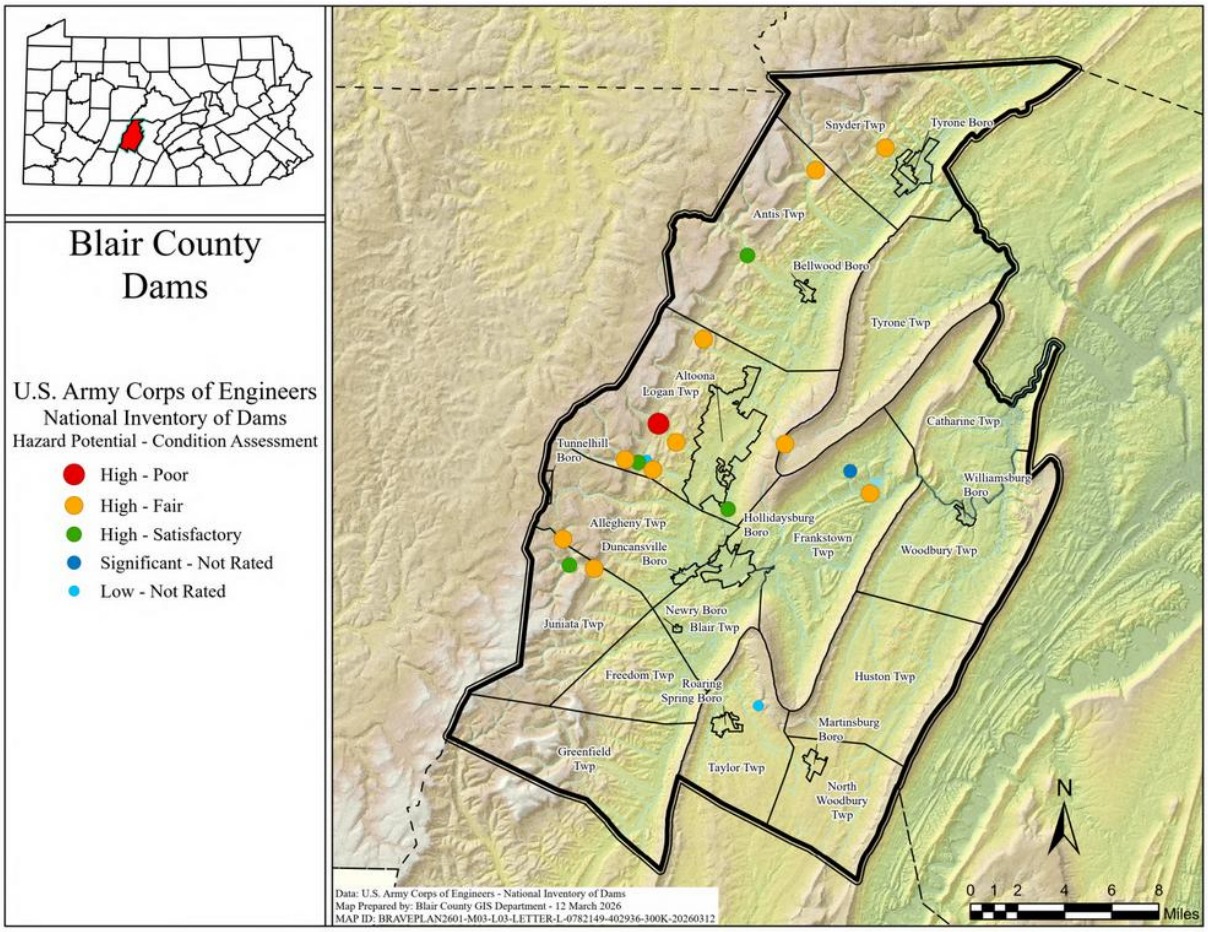
Dam failure is the uncontrolled release of water from a dam. This hazard often results from a combination of natural and human causes, and can follow other hazards such as hurricanes, earthquakes, and landslides. The consequences of dam failures can include property and environmental damage and loss of life. Blair County has 18 dams according to the National Inventory of Dams. However, some of the data is outdated from National Inventory of Dams including the condition assessment for Figure 24.

The Association of State Dam Safety Officials using data sourced from 2010-2019 states that dam failures are most likely to happen for one of five reasons:

1. Overtopping
2. Foundation Defects
3. Cracking
4. Inadequate Maintenance and Upkeep
5. Piping

Overtopping is caused by water spilling over the top of a dam. It is often a precursor of dam failure. Foundation Defects includes settlement and slope instability and causes about 30% of all dam failures. Cracking is caused by movements such as the natural settling of a dam. Piping is when seepage through a dam is not properly filtered and soil particles continue to progress and form sink holes in the dam. Seepage often occurs around hydraulic structures, such as pipes and spillways; through animal burrows; around roots of woody vegetation; and through cracks in dams, dam appurtenances, and dam foundation.

Figure 24: Blair County Dams Location



Blair County Planning Commission contacted dam owners with a worksheet to fill out along with request to have access their EAP and Inundation map (Documents in Appendix C). By getting the latest information and contacting responding dam owners, they provided the opportunity to inform us of what they need while giving Blair Planning situational awareness. All 18 dams in Blair County apart from Biddle Hollow Reservoir, Scotch Run, and Scotch Valley have a High Hazard Potential Classification of High. In the case of a dam failure, 15 dams would expect a probable loss of human life. The inspection dates are from National Inventory of Dams but filled in with data from dam owners (they have the latest reports) when available. Information highlighted in **bold** indicates that information came from Dam owners.

Condition*: The condition assessments are taken from the National Inventory of Dams from ~2020.

Table 66: PA DEP Classified Dams in Blair County

Name (AKA)	Owner / Operator	DEP Hazard Class*	FEMA Hazard Classification/ Inspection	Condition*	EAP / Date	Municipality
Mill Run	Altoona Water Authority	A-1	High / **May 2025**	Poor	Yes / **7/2022**	**Logan Township**
Hollidaysburg Muleshoe Reservoir	Hollidaysburg Borough Authority	B-1	High 9/30/2020	Satisfactory	Yes	**Hollidaysburg Borough**
Tipton	Altoona Water Authority		High / **May 2025**	Fair	Yes / **7/2022**	**Antis Township**
Lake Altoona			High / **May 2025**	Fair	Yes / **7/2022**	**Logan Township**
Bellwood			High / **May 2025**	Poor	Yes / **7/2022**	**Antis Township**
William L. Cochran Impounding			High / **May 2025**	Satisfactory	Yes / **7/2022**	**Logan Township**
Kettle Dam			High / **May 2025**	Fair	Yes / **7/2022**	**Tyrone Township**
Tyrone Reservoir #2 (Sink Run Reservoir No. 2)	Tyrone Municipality / Donald Shultz		High / **10/10/25**	Fair (2020) / Good? (2024)	Yes / 2015	**Tyrone Municipality**
Plane Nine	Altoona Water Authority		High / **May 2025**	Fair	Yes / **7/2022**	**Duncansville Borough**
Upper Kittanning			High / **May 2025**	Fair	Yes / **7/2022**	**Logan Township**
Canoe Creek	DCNR / Joe Basil		High / **6/11/25**	Fair (2020) / Good? (2024)	Yes / **4/22/24**	**Frankstown Township**
Blair Gap	Altoona Water Authority	B-2	High / **May 2025**	Fair	Yes / **7/2022**	**Allegheny Township**
Allegheny Storage		C-1	High / **May 2025**	Fair	Yes	**Logan Township**
Homer Gap No 2		C-1	High / **May 2025**	Fair	Yes / **7/2022**	**Logan Township**
Lakemont Park	Blair County Commissioners	C-1	High 10/22/2020	Satisfactory	Yes	**Logan Township**
Biddle Hollow Reservoir	Roaring Spring Borough	n/a	Low 7/31/2019	Not Rated	Not Required	**n/a**

Scotch Valley	Degol Organization	n/a	Significant 9/11/2019	Not Rated	No	**n/a**
Scotch Run	Altoona Water Authority	n/a	Low 7/17/2019	Not Rated	Not Required	**n/a**

Source: **Pennsylvania Department of Environmental Protection & National Inventory of Dams**

Table 67: Condition Assessment

Class	Description
Satisfactory	No existing or potential dam safety deficiencies are recognized. Acceptable performance is expected under all loading conditions (static, hydrologic, seismic) in accordance with the minimum applicable state or federal regulatory criteria or tolerable risk guidelines.
Fair	No existing dam safety deficiencies are recognized for normal operating conditions. Rare or extreme hydrologic and/or seismic events may result in a dam safety deficiency. Risk may be in the range to take further action. Note: Rare or extreme event is defined by the regulatory agency based on their minimum
Poor	A dam safety deficiency is recognized for normal operating conditions which may realistically occur. Remedial action is necessary. POOR may also be used when uncertainties exist as to critical analysis parameters which identify a potential dam safety deficiency. Investigations and studies are necessary.
Unsatisfactory	A dam safety deficiency is recognized that requires immediate or emergency remedial action for problem resolution.
Not Rated	The dam has not been inspected, is not under state or federal jurisdiction, or has been inspected but, for whatever reason, has not been rated.

Source: Condition Assessment by National Inventory of Dams

Table 68: Emergency Action Plan Prepared

Class	Description
Indicating whether this dam has an Emergency Action Plan (EAP) developed by the dam owner. An EAP is defined as a plan of action to be taken to reduce the potential for property damage and loss of life in an area affected by a dam failure or large flood.	
Yes	If EAP is required (or not required) and has one, it will be listed as Yes.

No	If an EAP is required and does not have one, it will be listed as No.
Not Required	If there is not an EAP and one is not required, it will be listed as Not Required.
Source: EAP Criteria by National Inventory of Dams	

4.3.14.2 Range of Magnitude

The scientific scale to measure magnitude for each dam is unique to that dam. To measure magnitude, BCPC gathers data from each dam owners. Blair County contacted the Dam Owners and attached a worksheet requesting information from "FEMA Region 3 High Hazard Potential Dams: Local and Tribal Mitigation Planning Tips", Emergency Action Plan, and dam inspection report. This guide highlights the contents needed in a FEMA-approved HMP that includes all dam risk. Where Blair County lacked in data, we supplemented with data from National Inventory of Dams.

Dam failure can pose a serious threat to communities located downstream from dams. The impact of a dam failure is dependent on the volume of water impounded by the dam and the amount of population or assets located downstream. PA DEP Dam Hazard Class Definitions contain the information for magnitude or damage for all but three dams in Blair County in Table 62. Those three dams not rated by PA DEP are rated low or significant by National Inventory of Dams. The population at risk for many of these dams would include over 50+ with buildings or traffic in those inundation zones. A complete failure at any of these high hazard dams would be disastrous. For example, a completely failure at Tyrone Reservoir No. 2 would put at risk, infant day care, elderly Cedarwood Nursing Home, Juniata River, Bald Eagle Creek, Reservoir Park, homes, schools, hospital, roads, and more downstream.

Table 69: Blair County Dam's Range of Magnitude

Dam Name | Primary POC	Dam Location | Population at Risk	Downstream Municipalities	Known Downstream Facilities	Known Potential Causes of Failure
Allegheny Storage Dam | Katie Semelsberger | Land Manager | 814-949-2222	Along Old Mill Run Road | 50+	Logan Twp, Allegheny Twp, Blair Twp, Canan, Mill Run, Fort Fetter, Gaysport, Hollidaysburg, Frankstown Twp	Homes: 2,550 Schools: 4	Severe Storm, Flooding, Structural Aging, (No known structural issues)
Bellwood Dam | Katie Semelsberger | Land Manager | 814-949-2222	Near Kelsey Road along SR-865 | 50+	Antis Twp, Roots, Reightown, Bellwood, Fostoria, Tipton, Charlottesville, Snyder, Grazierville, Gray, Tyrone, Ironville Spruce Creek	Homes: 1,100 Schools: 3	Severe Storm, Flooding, (No known structural issues)
Blair Gap Dam | Katie Semelsberger | Land Manager | 814-949-2222	Along Old U.S. Route 22 | 50+	Juniata Twp, Allegheny Twp, Foot of Ten, Fort Fetter, Duncansville, Blair Twp, Gaysport, Hollidaysburg, Frankstown, Geeseytown, Reese, Horrel Canoe Creek	Homes: 1,400 Schools: 1	Severe Storm, Structural Aging, Seepage (No known structural issues)

Canoe Creek Dam | Joseph Basil | Park Manager | 814-660-2361	Lat: 40 deg 28' 38" Long: -78 deg 16' 52" | 200	Catherine Twp, Woodbury Twp, Williamsburg Boro, Frankstown Twp	Roads/Bridges: SR 22, SR 866, Turkey Valley Rd, Juniata Valley Rd, Canoe Creek Rd. Canoe Creek State Park	Severe Storm, Flooding, (No known structural issues)
Homer Gap Dam | Katie Semelsberger | Land Manager | 814-949-2222	Along Homer Gap Road | 50+	Homer Gap, Orner's Corner, Pinecroft, Bellwood, Fostoria, Tipton, Charlottesville, Gray, Grazierville, Tryone, Nealmont, Ironville, Tryone Forge, Birmingham Borough	Homes: 500	Severe Storm, Flooding, Slope Instability, (No known structural issues)
Kettle Dam | Katie Semelsberger | Land Manager | 814-949-2222	Along Kettle Road, S.R. 1013 | 50+	Logan Twp, Altoona, Antis Twp, Bellwood Borough, Charlottesville	Homes: 350 Schools: 1	Severe Storm, Slope Instability, (No known structural issues)
Lake Altoona Dam | Katie Semelsberger | Land Manager | 814-949-2222	Along S.R. 4008 Veterans Memorial Highway | 50+	Logan Twp, Altoona, Eldorado, Allegheny, Canan, Blair, Fort Fetter, Gaysport, Horrell, Hollidaysburg, Frankstown, Reese, Canoe Creek, Flowing Spring, Woodbury, Cove Dale	Homes: 2,450 Schools: 3	Severe Storm, Flooding, Slope Instability, (No known structural issues)
Mill Run Dam | Katie Semelsberger | Land Manager | 814-949-2222	Along Old Mill Run Road | 50+	Logan Twp, South Altoona, Allegheny Twp, Blair Twp, Canan, Mill Run, Fort Fetter, Gaysport, Hollidaysburg, Frankstown Twp, Reese, Horrell, Canoe Creek	Homes: 3,650 Schools: 1	Severe Storm, Flooding, Structural aging, Seepage, (No known structural issues)
Plane Nine Dam | Katie Semelsberger | Land Manager | 814-949-2222	Along Old U.S. Route 22 | 50+	Juniata, Allegheny, Foot of Ten, Fort Fetter, Duncansville, Blair, Gaysport, Hollidaysburg, Reese, Frankstown, Geeseytown, Horrell, Canoe Creek, and Flowing Spring	Homes: 1,650 Schools: 1	Severe Storm, Erosion, Seepage, Flooding, (Structural Issues: Void beneath spillway)
Tipton Dam | Katie Semelsberger | Land Manager | 814-949-2222	Along SR 4023 | 50+	Antis, Tipton, Charlottesville, Snyder, Grazierville, Tyrone, Nealmont, Tyrone Forge, Ironville, Warriors Mark, Brimingham, Shoenberger, Morris, Union Furnace, Spruce Creek, Porter	Homes: 1,200	Severe Storm, Flooding, Structural aging, Seepage (No known structural issues)

Sink Run Reservoir #2 | Donald Shultz | Superintendent | 814-684-5396	Off Route 453 700' above 621 reservoir drive | 50+	Snyder Township	Homes, schools, healthcare facilities, roads, bridges, utilities, emergency services all downstream	Severe Storm, Flooding, Structural aging, (No known structural issues)
Upper Kittanning Dam | Katie Semelsberger | Land Manager | 814-949-2222	Along S.R. 4008 Veterans Memorial Highway | 50+	Logan, Altoona, Eldorado, Allegheny, Canan, Blair, Fort Fetter, Gaysport, Hollidaysburg, Frankstown, Reese, Canoe Creek, Flowing Spring, Horrell, Woodbury, Williamsburg	Homes: 2,450 Schools: 3	Severe Storm, Flooding, Structural aging, (No known structural issues)
William L. Cochran Impounding Dam | Katie Semelsberger | Land Manager | 814-949-2222	Along S.R. 4008 Veterans Memorial Highway | 50+	Logan, Altoona, Eldorado, Allegheny, Canan, Blair, Fort Fetter, Gaysport, Hollidaysburg, Frankstown, Reese, Canoe Creek, Flowing Spring, Horrell, Woodbury, Williamsburg	Homes: 2,450 Schools: 3	Severe Storm, Flooding, Structural aging, (No known structural issues)

Dam failures can cause major damage to the natural environment by releasing large volumes of water and debris downstream in a short period of time. This sudden flooding can erode streambanks, scour channels, damage wetlands and riparian areas, and destroy fish and wildlife habitat. It can also move sediment, debris, and pollutants long distances, causing water quality problems and long-term ecological damage downstream.

Potential impacts to the natural environment include:

- Severe erosion of streambanks, soils, and floodplain areas
- Scouring and physical alteration of stream channels
- Damage to wetlands, riparian buffers, and aquatic habitat
- Fish and wildlife mortality or habitat loss
- Sediment and debris deposition downstream
- Reduced water quality from sediment, nutrients, fuel, sewage, or other pollutants mobilized by flooding
- Damage to vegetation and natural areas in the inundation zone

Dam failures affect community lifelines because they can create sudden, high-speed flooding that damages critical facilities and disrupts essential services. Impacts are concentrated in downstream inundation areas, but the consequences can be severe, including mass casualties, major infrastructure damage, and contamination. The lifelines below summarize the services most likely to be affected if a dam fails in Blair County.

Table 70: Dam Failure Community Lifelines

Community Lifelines	Description
Safety and Security	Dam failure could kill large amount of people. The resulting response to dam failure creates a dangerous environment that threatens safety.
Food, Hydration, Shelter	Anything, including, people, building, roads, etc are going to be impacted downstream from a high hazard potential dam. Shelter can be devasted or damaged.
Health and Medical	Dam failure can cause a mass casualty event straining the healthcare system and stretching thin the medical responders.
Transportation	Roads, bridges, and vehicles in the inundation area may be flooded, damaged, or blocked by debris, limiting evacuation and emergency access.
Hazardous Materials	Flooding and debris can mobilize fuels, chemicals, or wastewater if impacted sites are inundated, creating contamination concerns.
Water Systems	Dam failure directly affects water resources and can disrupt reservoirs, water supply operations, and downstream water quality.

Communications, energy, and other lifelines may be affected if flooding or debris impacts specific infrastructure or if access is restricted. However, those impacts depend on where utilities are located relative to the inundation area for each scenario.

4.3.14.3 Past Occurrence

There have been no past occurrences of dam failure or major incidence occurring at the locations of dams within Blair County.

There have been a few historically destructive dam failures in Pennsylvania's history. The most infamous of them all took place in Johnstown, Pennsylvania (Cambria County) in 1889, claiming 2,209 lives after the catastrophic failure of South Fork Dam 14 miles upstream of Johnstown. Another more recent dam failure was the Laurel Run Dam No. 2 embankment dam (Cambria County) that failed during the Johnstown Flood of 1977. 101 million US gallons of water flood downstream Tanneryville, killing 40 people.

4.3.14.4 Future Occurrence

Although dam failures can occur at any time, the likelihood of a complete dam failure is still not likely. If any dams in Blair County's condition assessment drops down to "low" or "unsatisfactory", the probably of dam failure is increased and would require attention or immediate fix. When BCPC contacted Dam owners, a condition assessment was not available or was unknown to the dam owners. Pressuring/enforcing each

dam owner to have condition assessments done and made readily available would help understand the likelihood of future occurrence. Partial damage or neglect is a far likelier outcome and would have a far smaller impact not putting population at risk but incurring a greater economic cost down the road.

This plan is only updated once every five years. Dam inspections should occur yearly to keep up maintenance. To prevent major failure, Blair County should maintain contact with dam owners, who will know their dam the best, and follow their understanding and advice. These dam owners seem independent and take care of regular maintenance of their dams without Blair County's help apart from grant writing.

4.3.14.5 Vulnerability Assessment

Dam failures can cause significant environmental damages from the resulting flood is likely to disperse debris and materials downstream affecting everything in its path. Any building, infrastructure, roads, etc will be damaged or destroyed along with potential loss of human life with little to no warning. The sudden influx of water can cause landslides along steep slopes and embankments with slope instability. The economic and financial impact from damage and recover can be severe depending on size of dam, type of failure, and location of dam. A rough estimation of the damage can be gauged by DEP Hazard classification in Table 69 and FEMA's HHPD classification Table 70. Within our HHPD worksheet (Appendix C), each dam owner was asked to assess the number of vulnerable buildings downstream from their dams. This is contained in Table 65. At this time, we could not access all the inundation maps.

Few dams in Blair County have their inundation maps readily available when we contacted them. Access to GIS boundary data for dam inundation areas would allow for comprehensive damage estimation and analysis. Facilities critical to community lifelines could be identified as in the path of inundation zones. This inundation data could help lead to better land use, building codes, building development, and zoning laws being leveraged correctly considering inundation information. Vulnerability assessment from dam failures would not be an estimation, but an exact understanding of which buildings are at risk and effective resource use to mitigate those risks. This data should be readily available but shared confidentially to ensure no unauthorized access due to its sensitive nature.

Lacking all the inundation map data, we instead analyzed all infrastructure in a two-mile radius around each High Hazard Potential Dam in Table 67 using the Resilience Analysis and Planning Tool (RAPT) from FEMA. Some of these infrastructures counted in this vulnerability data are upstream or on higher ground than the dam itself so being listed here doesn't mean it is directly vulnerable during a dam failure. They could be indirectly affected if a dam breach floods the nearby road. Dam's highlighted in red signals that it is around a high number of infrastructures. Dam's highlighted in green signals low number of infrastructures.

Table 71: HHPD Infrastructure Vulnerability Data

High Hazard Dam Infrastructure Vulnerability Data											
Infrastructure / Dam Name	Fire Station	Law Enforcement	Mobile Home Parks	Public Schools	Private Schools	Power Plants	College & University	Hospitals	Nursing Homes	Places of Worship	Total
Tyrone Reservoir #2	1	0	1	3	1	0	0	1	0	7	**14**
Tipton Dam	0	0	0	0	0	0	0	0	0	0	**0**
Bellwood	0	0	0	0	0	0	0	0	0	0	**0**
Mill Run	1	0	0	0	0	0	0	0	0	1	**2**
Allegheny Storage	4	1	0	1	1	0	0	0	0	14	**21**
Upper Kittanning	0	0	0	0	0	0	0	0	0	0	**0**
William Cochran	1	0	0	1	0	0	0	0	0	0	**2**
Lake Altoona	1	0	0	1	0	0	0	0	0	1	**3**
Blair Gap	0	0	0	0	0	0	0	0	0	0	**0**
Hollidaysburg Reservoir	0	0	1	0	0	0	0	0	0	0	**1**
Plane Nine	0	0	1	0	0	0	0	0	0	1	**2**
Canoe Creek	0	0	0	0	0	0	0	0	0	1	**1**
Kettle	3	0	0	1	0	0	0	0	0	7	**11**
Lakemont Park	3	1	5	4	6	0	2	1	0	14	**36**
Homer Gap No. 2	1	0	0	1	0	0	0	0	0	1	**3**
FEMA Resilience Analysis and Planning Tool (Accessed March 2026)											

Emergency Action Plans are required and developed by the owners of High Hazard Potential Dams. These plans are then disseminated to vulnerable locations downstream from that dam. Not all Dams in Blair County requires an EAP and the ones that do may have minor differences in protocols. The Canoe Creek 2024 EAP states that the Park Manager is required to notify Blair County PSAP/911 and require 24-hour surveillance should condition for Early Warning Notification Happens. If certain thresholds are exceeded,

then a warning and evacuation notification is sent to Blair County PSAP/911. That notification will be relayed from Blair County PSAP/911 to Blair County DES, PEMA CWWC and all application emergency responders and governmental officials and agencies. Tyrone Dam EAP is quite similar with the difference being information is relayed to Blair County EMA and PEMA State EOC.

Each dam contains different inundation maps, different deficiencies, conditions, population-at-risk, etc. To document limitations and address deficiencies, we have a table below detailing the deficiencies of each dam and proposed action based on the inspection reports received. However, the main understanding of the hazard profile dam failures must come from the inspection reports (done by dam experts). The hardest part of keeping a good dam failure hazard profile is to access all the latest inspection reports from each dam. To my knowledge there is no alternative to this information and must be the key task done. It is observed that some of these dams seem to be self-sufficient and keep maintenance very well.

Actions proposed here from the dam inspection reports (only contains repair actions, not monitor or investigate) may be/already have been undertaken by dam owners. Acquiring funding for a specific dam fix requires close communication with the dam owners unless funding is general (for any dam / for any dam fix). The table below is a short summary with each proposed repair action to one line. For a more detailed report, please see the Inspection report for each dam. Item No. refers to where each Proposed Repair Action is in the report. This chart is meant for a dam expert to have a rough idea of the condition of each dam and guide planners to the important and urgent fixes.

In Table 68 is a chart categorizing every repair action in a dam inspection report for Sink Run Reservoir No. 2 and Canoe Creek Dam. For brevity's sake, we will not categorize every single repair action for all 18 dams, but a comprehensive list for two dams will cover common proposed repair actions for typical dams that score "fair" or "good" in condition assessment.

Table 72: Repair Action Chart

Dam	Item No.	Proposed Repair Action
Sink Run Reservoir No. 2	1, 6, 15, 13, 14, 22	Crack Sealing Work, vegetation removal, fill animal burrows
	28	Fix Piezometers Readings - Inaccurate
	30, 69	Weirs- Underdrain weir maintain, crack, patch separation
	39	Removal of heavy brush on riprap toe
	56, 65	Sidewall Repair – erosions and cracks, rust, delaminating skim coat
	57, 66	Channel Floor – Remove brush, debris. Some floor area need repair
	59	Approach Area – Remove large logs and debris prior to weir
	62, 71	Boils – Several hollow sound areas
	67	Unusual Movement – Inward rotation of right wall joint
	70	Discharge Channel – clear trees and brush
	80	Stilling Basin – 2024 storm damaged gabion basket
Canoe Creek Dam	6, 12, 15, 22, 25	Vegetation Control/Condition, animal burrow
	11	Slope Protection – vegetation removal
	23	Erosion – eroded footpath
	13, 21, 63	Emb.-Abut. Contact – woody growth, install gravel steps, erosion
	56	Sidewalls – good condition but showing age, cracks, vegetation
	57	Channel Floor – remove rocks both sides of stilling basin
	61	Discharge Channel – remove brush and woody growth
	76	Outlet Pipe – need seal minor seeps

	104	Sedimentation – at inlet of Mary Anne's Creek remove

Property and population downstream from any dams are vulnerable to dam failures. The Pennsylvania Code classifies dam by size and amount of loss of life and economic loss expected in a dam failure. This is defined by the PA DEP in Table 69. The Federal Guidelines for Dam Safety published by FEMA has their own assessments in Table 70. All 18 dams in Blair County are classified by both methodologies.

Table 73: PA DEP Dam Hazard Classification

Dam Classification		
Dam Size Classification		
Class	**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
Dam Damage Classification		
Category	**Loss of Life**	**Economic Loss**
1	Substantial	Excessive
2	Few	Appreciable
3	None Expected	Minimal
Source: PA Code Title 25 - Environmental Protection		

Table 74: Hazard Potential Classification Systems for Dams

Class	Description
High	Dams assigned the high hazard potential classification are those where failure or mis-operation will probably cause loss of human life. Economic, environmental, lifeline losses could be expected, but not necessary for this classification.
Significant	Dams assigned the significant hazard potential classification are those dams where failure or mis-operation results in not probably loss of human life but can cause economic loss, environmental damage, disruption of lifeline facilities, or can impact other concerns. Significant hazard potential classification dams are often located in predominantly rural or agricultural areas but could be in areas with population and significant infrastructure.

Low	Dams assigned the low hazard potential classification are those where failure or misoperation results in not probably loss of human life and low economic and/or environmental losses. Losses are principally limited to owner's property.
Source: Federal Guidelines for Dam Safety April 2004 FEMA	

Limitations, Actions, and Priority

During this 5-year plan update, we contacted 13 of 15 High Hazard Potential Dam (HHPD) owners, and all 13 returned the HHPD worksheet. Of the 15 owners, 2 provided an Emergency Action Plan (EAP) and their most recent inspection report, and 1 provided an inundation map. We did not receive consistent information on the current condition of each dam, which is critical for understanding risk. Because most inundation maps were not available, we used RAPT to estimate the number of vulnerable buildings downstream. BCPC supplemented that with asking each owner with estimation of vulnerable buildings downstream to their knowledge.

We reviewed proposed repair actions for Sink Run Reservoir No. 2 and Canoe Creek Dam to understand common maintenance needs. However, the available documentation did not provide a complete, countywide picture of dam condition, downstream exposure, or population at risk. Given that this is the first year of doing High Hazard Potential Dams for us, our urgent and important priority is to understand the situation and establish a communication relationship with dam owners. As we develop awareness and understanding, we can then produce specific actions to best achieve HHPD mitigation.

Our approach to HHPD mitigation is:

1. Understand: Confirm the status of each dam and maintain contact with each owner.
2. Prioritize: Identify which dams have the highest risk or most urgent needs.
3. Execute: Coordinate funding, partnerships, and implementation of needed actions.

Priority actions for future updates:

- Begin dam owner outreach early (at least 3 months in advance) and request the same core documents from all HHPD owners: completed worksheet, EAP, latest inspection report, current condition summary, and inundation map.
- Improve exposure estimates by using inundation maps to calculate population at risk and facilities/buildings downstream, rather than relying primarily on proxy methods.
- Simplify the HHPD worksheet so it focuses on information not already provided in the EAP, inspection report, and inundation map.

An additional improvement is to establish a single point of contact for dam coordination (a "Director of Dams"). Currently, dam owners typically contact the County only when a problem occurs or when funding is needed. A designated coordinator would reduce delays, improve consistency, and help the County maintain up-to-date information. A practical approach would be an annual check-in with the coordinator to review the status of all HHPDs in Blair County.

Table 75: Dam Failure Vulnerability Assessment by Region

Municipal Hazard Vulnerability Assessment	
Jurisdiction	**Summary of Potential Impact**
Planning Region 1	Moderate vulnerability. This region includes one HHPD near Tyrone Borough, where population density is higher, and another dam near the Tyrone Township border. The main concern is downstream exposure to homes, roads, and public facilities if a dam failure were to occur.
Planning Region 2	Moderate vulnerability. This region contains two HHPDs in Antis Township. Impacts would depend on failure location, storage volume, and downstream exposure, but localized flooding, road impacts, and risks to nearby structures are the primary concerns.
Planning Region 3	Highest vulnerability in the county. This region contains eight dams in Logan Township, including several near Altoona. Because of the high population, building density, and concentration of infrastructure, a dam failure in this region could affect the greatest number of people and cause the most disruption.
Planning Region 4	No direct HHPD vulnerability identified. No High Hazard Potential Dams are located in this region. Dam failure impacts from outside the region are not expected to be a major concern based on current information.
Planning Region 5	Moderate vulnerability. This region includes two dams in Frankstown Township and additional dams near the Allegheny Township border. Exposure is mixed, but the presence of a dam near Hollidaysburg increases concern because of nearby population, roads, and community facilities.
Planning Region 6	Very low vulnerability. This region includes one non-HHPD dam in Taylor Township, but no High Hazard Potential Dams. Direct dam failure risk is therefore limited compared to other regions.
Planning Region 7	Lower vulnerability. This region has a few dams, but overall population is lower than in the more urbanized regions. The main concern is for downstream portions of Juniata Township and Allegheny Township where localized flooding and infrastructure impacts could occur if one of these dams failed.

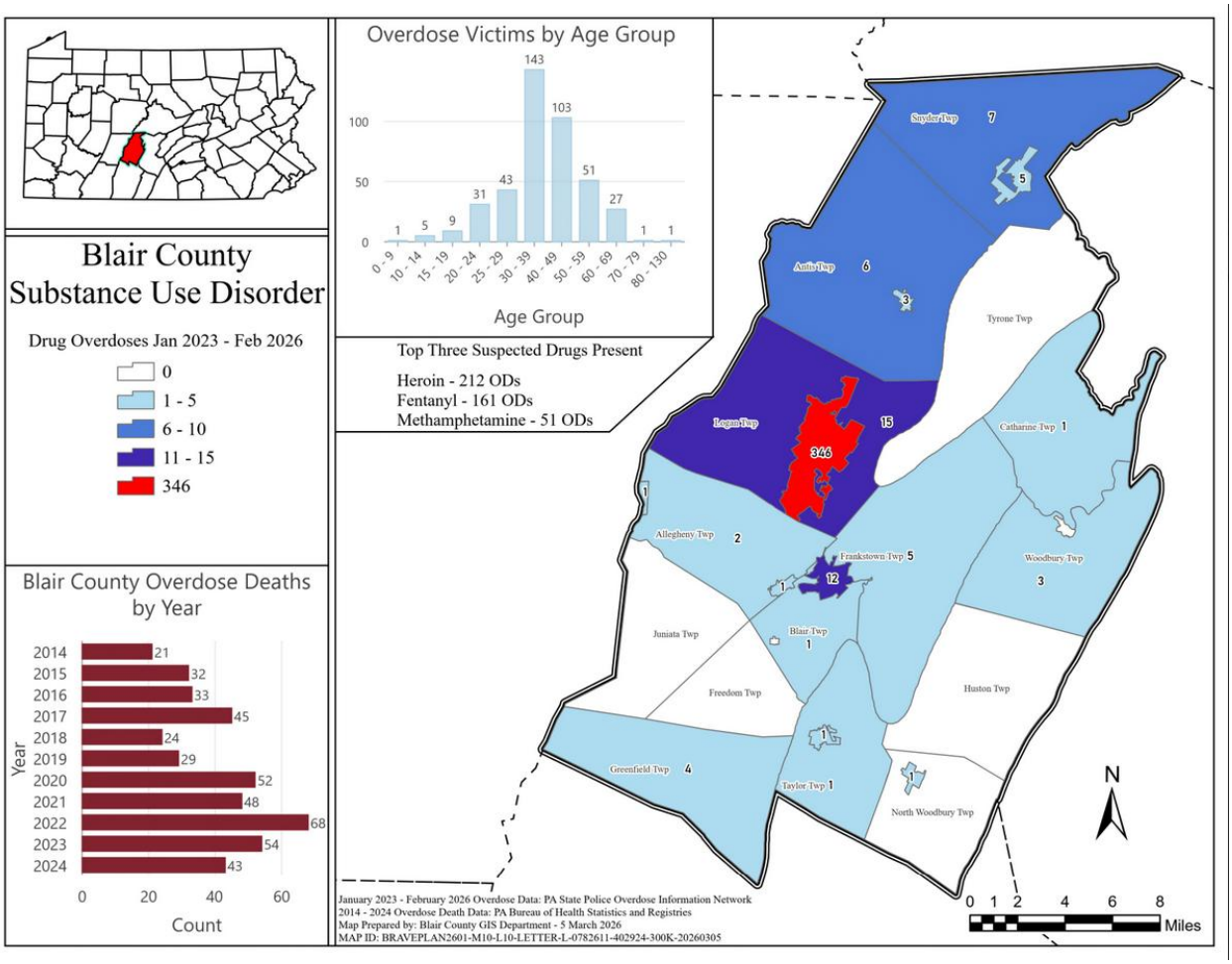
See Table 10: Blair County Planning Regions for communities that make up each Planning Region

4.3.15. SUBSTANCE USE DISORDER

4.3.15.1 Location and Extent

The Commonwealth has been experiencing substance use disorder, resulting in increasing numbers of overdose deaths from both prescribed (e.g. fentanyl) and illicit (e.g. heroine) opioids. In Blair County from 1/1/2023 to 3/15/2026, the suspect drug present in overdose was led by Heroin (214), Fentanyl (163), Unknown (61), and Meth (51). (ODIN) Overdose deaths from opioids occur when a large dose slows breathing, which can be especially likely when opioids are combined with alcohol or antianxiety drugs. While generally prescribed with good intentions, opioids can often be over-prescribed, resulting in addiction due to their highly addictive nature. According to Office of Drug Surveillance and Misuse, Quarter 2, 2025, Blair County prescribed opioids 1,401 per 10,000 population. While the county is not in the top tier of opioid deaths, with this prescription rate, there is great potential for the local problem to significantly worsen. The main location of substance use is in Altoona.

Figure 25: Blair County Substance Use Disorder



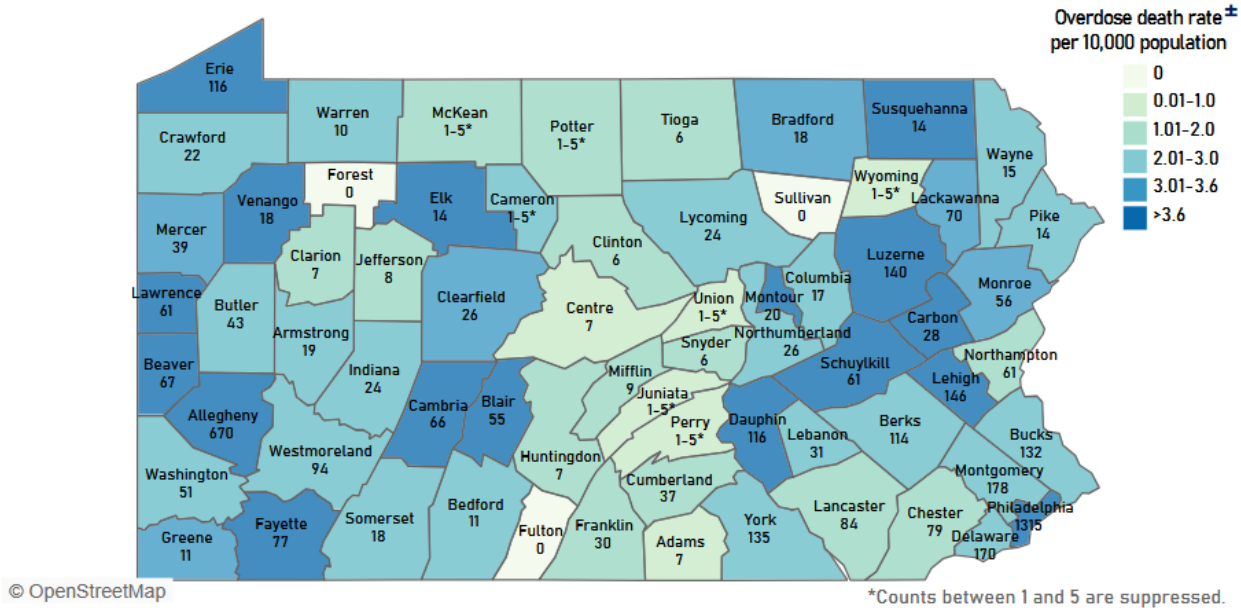
4.3.15.2 Range of Magnitude

Substance use disorder can cause long-term health impacts and premature death, and it can place sustained demand on EMS, hospitals, behavioral health services, and law enforcement. The magnitude in

Blair County is most clearly shown through overdose deaths, nonfatal overdoses, and naloxone (opioid reversal) administrations.

Statewide, Pennsylvania recorded 4,719 overdose deaths in 2023. The statewide crude overdose death rate in 2023 was 3.64 deaths per 10,000 population (PA DOH). Blair County's crude overdose death rate was higher than the state average at 4.6 deaths per 10,000 population (PA DOH). Pennsylvania also recorded an estimated 37,371 nonfatal overdoses in 2023, a rate of 28.83 deaths per 10,000 population (PA DOH). Law enforcement administered opioid reversal medication 4,681 times to people suspected of overdosing in 2023 (ODIN), showing the operational burden placed on responders. Naloxone Administration occurred 59% of the time. (ODIN)

Figure 26: PA Any Drug Overdose Death Rate 2023



Opioids drive most fatal overdoses. In 2023, 3,926 of the 4,719 overdose deaths involved opioids (PA DOH). Fentanyl contributed to death in 77% of all fatal overdoses, and 47% of overdose deaths involved opioids combined with stimulants (PA DOH). Locally, Blair County has shown a decline in "any drug" overdose deaths in recent years, with 68 deaths in 2022, 54 in 2023, and 43 in 2024 (ODSMP). Although 2024 statewide detailed data were not yet available at the time of writing, the 2023 data provide the most complete picture for comparing county and state patterns.

Substance use disorder has little direct impact on the natural environment, but it can create indirect environmental problems through improper disposal of drugs, drug-related waste, and chemicals. These materials can enter soil, streams, groundwater, and public spaces if they are dumped, flushed, or left behind. Over time, this can contribute to localized pollution and environmental cleanup needs.

Potential impacts to the natural environment include:

- Improper disposal of drugs or drug-related waste into soil or water

- Litter and hazardous waste from needles, containers, and other materials
- Localized contamination of streams, groundwater, or drainage areas
- Environmental cleanup needs in public spaces or illegal dumping areas
- Potential wildlife exposure to discarded substances or waste

Substance use disorder affects community lifelines by creating sustained demand on emergency response, healthcare, and public safety services. Higher overdose rates increase 911 calls, EMS transports, hospital and behavioral health workload, and the need for coordinated response and prevention efforts. The lifelines below summarize the services most directly stressed by substance use disorder in Blair County and why these impacts matter for community resilience.

Table 76: Substance Use Disorder Community Lifelines

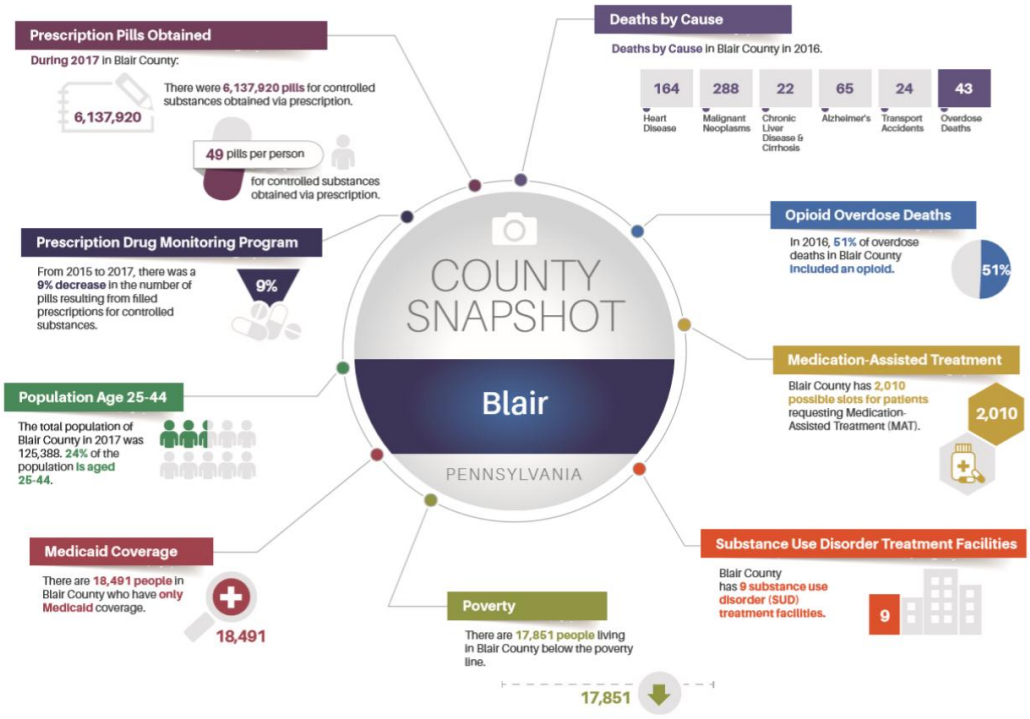
Community Lifelines	Description
Health and Medical	Substance abuse disorder directly impacts health of the individual, community health, and healthcare services such as medical treatment and mental health facilities. Second order effects impacts family and friends.
Safety and Security	Fentanyl is so powerful, responders must take extra precaution to aid drug response calls. Individual with substance use disorder may pose a danger to safety and security with intaking substances.

Food, hydration, shelter, energy, communications, transportation, and hazardous materials are not community lifelines majorly impacted by substance use disorder in Blair County. However, Cary Institute in 2023 found that up to 80% of streams in the U.S. alone are contaminated with chemicals, including pharmaceuticals. Water systems are still not included as it is better framed as an environmental concern rather than a lifeline that is "downed".

4.3.15.3 Past Occurrence

For the year of 2017, Blair County had 34.4 overdose deaths per 100,000 people, with 43 recorded overdose deaths occurring in the county (see Figure 27: Blair County Opioid Snapshot). Half of all overdose deaths in Blair County are from opioids. The following graphic provided by the University of Pittsburgh captures the situation well:

Figure 27: Blair County Opioid Snapshot



4.3.15.4 Future Occurrence

According to recent research, in states where medical marijuana has been permitted, overdose deaths from opioids have decreased about twenty-five percent, and the effect was even stronger five to six years after medical marijuana was allowed (Bachhuber et al., 2014). In those states where medical marijuana is permitted, each physician prescribed an average of 1826 fewer doses of pain medication each year (Bradford & Bradford, 2016), suggesting that medical marijuana could help prevent patients from ever being exposed to addicting opioids (Miller, 2016).

Rather than reduce pain, in some cases high doses of opioid painkillers can increase pain due to a phenomenon known as opioid-induced hyperalgesia (OIH). However, it is difficult to know how much of an influence it has on the opioid epidemic. Some researchers think that opioid-induced hyperalgesia could be increasing patients' pain and in turn, increasing their dosages and dependence on opioid drugs, suggesting that patients should work with lower dosages of opioids (Servick, 2016). However, other researchers are unsure of the importance of opioid-induced hyperalgesia for opioid users (Servick, 2016).

In the event of an opioid overdose, death can sometimes be prevented with the use of the drug naloxone. Emergency medical responders have access to the treatment, and as of 2015, naloxone is available without a prescription in Pennsylvania.

4.3.15.5 Vulnerability Assessment

Deaths from prescription opioid drugs like oxycodone, hydrocodone, and methadone have increased by more than four-fold since 1999. Considering this epidemic, the Healthy Blair County Coalition formed a committee to combat the problem that opioids pose to residents. While Blair County is below the

statewide average for opioid overdose deaths, it is well above the national average. The CDC offers a list of suggested actions and precautions that can be taken to prevent overdose deaths:

- Improve opioid prescribing to reduce exposure to opioids, prevent abuse, and stop addiction.
- Expand access to evidence-based substance abuse treatment, such as medication-assisted treatment, for people already struggling with opioid addiction.
- Expand access and use of naloxone- a safe antidote to reverse opioid overdose.
- Promote the use of state prescription drug monitoring programs, which give health care providers information to improve patient safety and prevent abuse.
- Implement and strengthen state strategies that help prevent high-risk prescribing and prevent opioid overdose.
- Improve detection of the trends of illegal opioid use by working with state and local public health agencies, medical examiners and coroners, and law enforcement.

Table 77: Substance Use Disorder Vulnerability Assessment by Region

Municipal Hazard Vulnerability Assessment	
Jurisdiction	**Summary of Potential Impact**
Planning Region 1	Low vulnerability. This region recorded 12 drug overdoses. Impacts are present but appear more limited and localized than in the higher-risk regions.
Planning Region 2	Low vulnerability. This region recorded 9 drug overdoses from. Current impacts appear relatively limited, though substance use disorder still affects public health and emergency response capacity.
Planning Region 3	Highest vulnerability in the county. This region recorded 361 drug overdoses, far more than any other region. Altoona is the main concentration area, and the combination of higher population, higher density, and stronger activity patterns increases the scale of public health, EMS, and law enforcement impacts.
Planning Region 4	Low vulnerability. This region recorded 4 drug overdoses. Substance use disorder impacts appear limited in scale compared to the rest of the county.
Planning Region 5	Moderate vulnerability. This region recorded 21 drug overdoses. There is a noticeable concentration in Hollidaysburg Borough, suggesting more localized impacts on public health, EMS, and community services than in the lower-risk regions.
Planning Region 6	Low vulnerability. This region recorded 3 drug overdoses. Current impacts appear limited and localized.
Planning Region 7	Low vulnerability. This region recorded 4 drug overdoses. Substance use disorder impacts are present but appear less concentrated than in the county's more urbanized regions.
*All drug overdose counts are for the period January 2023 through February 2026.	

See Table 10: Blair County Planning Regions for communities that make up each Planning Region

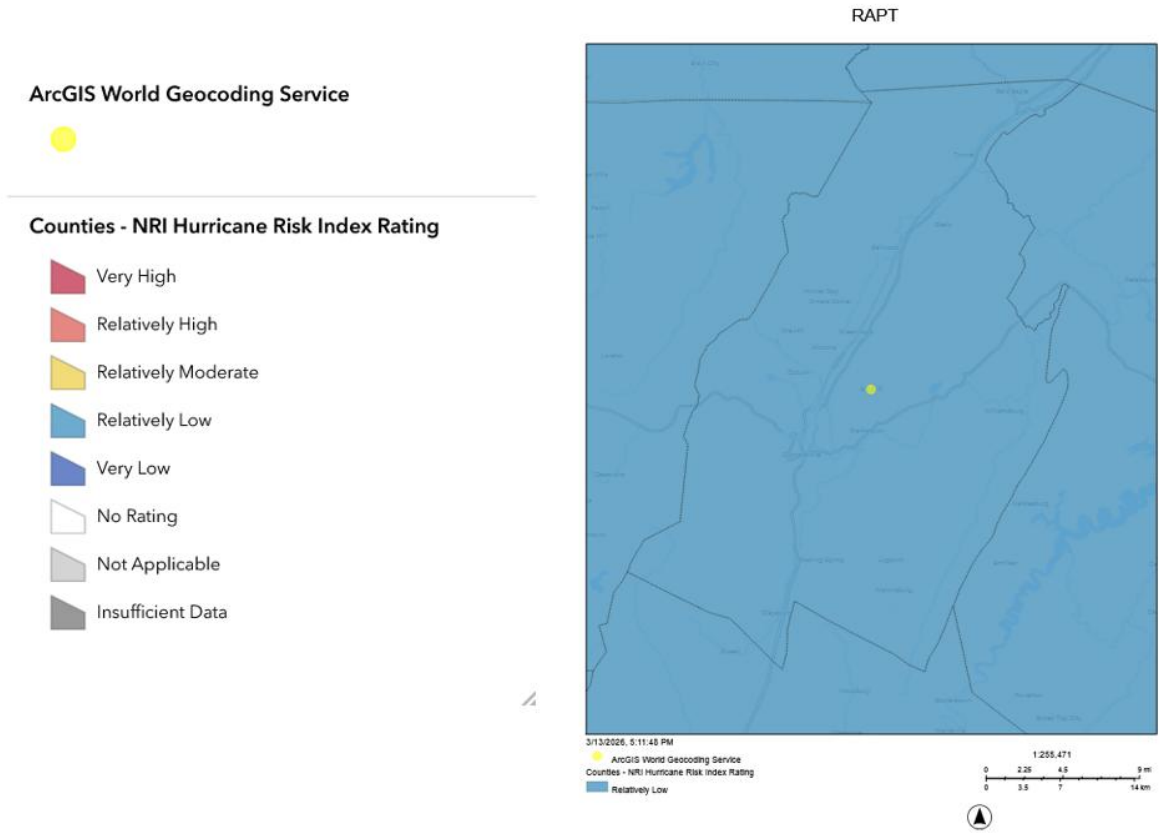
4.3.16. HURRICANE, TROPICAL STORM, NOR'EASTER

4.3.16.1 Location and Extent

Tropical depressions are cyclones with maximum sustained winds of less than 39 miles per hour (mph). The system becomes a tropical storm when the maximum sustained winds reach between 39-74 mph. When wind speeds exceed 74 mph, the system is considered a hurricane. Tropical storms impacting Blair

County develop in tropical or sub-tropical waters found in the Atlantic Ocean, Gulf of Mexico, or Caribbean Sea. While Blair County is located over 300 miles from the Atlantic Coast, tropical storms can track inland causing heavy rainfall and strong winds, however Blair County is located outside the high-risk regions for hurricanes, and it is unlikely that a hurricane would track through Blair County (see Figure 28: Hurricane Risk Map)

Figure 28: Hurricane Risk Map (RAPT)



4.3.16.2 Range of Magnitude

The impact tropical storm or hurricane events have on an area is typically measured in terms of wind speed. Expected damage from hurricane force winds is measured using the Saffir-Simpson Scale (Figure 29: Saffir-Simpson Scale). The Saffir-Simpson Scale categorizes hurricane intensity linearly based upon maximum sustained winds, barometric pressure, and storm surge potential (a characteristic of tropical storms and hurricanes, but not a threat to inland locations like Blair County). Categories 3, 4, and 5 are classified as "major" hurricanes. While major hurricanes comprise only 20% of all tropical cyclones making landfall, they account for over 70 percent of the damage in the United States. While hurricanes can cause high winds and associated impacts, it is also important to recognize the potential for flooding events during hurricanes and tropical storms; the risk assessment and associated impact for flooding events is included Section 4.3.4.

Figure 29: Saffir-Simpson Scale

SAFFIR-SIMPSON SCALE

Category	Winds	Effects
One	74-95 mph	Damage primarily to unanchored mobile homes, shrubbery, and trees. Also, some coastal road flooding and minor pier damage.
Two	96-110 mph	Some roofing material, door, and window damage to buildings. Considerable damage to vegetation, mobile homes, and piers.
Three	111-130 mph	Some structural damage to small residences and utility buildings. Mobile homes are destroyed. Flooding near the coast destroys smaller structures with larger structures damaged by floating debris.
Four	131-155 mph	More extensive failures with some complete roof structure failure on small residences. Major erosion of beach. Major damage to lower floors of structures near the shore.
Five	greater than 156 mph	Complete roof failure on many residences and industrial buildings. Some complete building failures with small utility buildings blown over or away. Massive evacuation of residential areas on low ground may be required.

Hurricanes, tropical storms, and nor'easters can affect the natural environment in Blair County mainly through heavy rain, strong winds, erosion, and flooding. Even though Blair County is inland, the remnants of these storms can still damage forests, streambanks, wetlands, and agricultural land. Strong winds can break trees and vegetation, while intense rainfall can increase runoff, sedimentation, and flooding in streams and low-lying areas.

Potential impacts to the natural environment include:

- Tree and forest damage from strong winds
- Damage to crops, pasture, and other vegetation
- Streambank erosion and soil loss from heavy rainfall and flooding
- Sediment and debris carried into streams, rivers, and wetlands
- Damage to riparian buffers and aquatic habitat
- Localized flooding of natural areas and farmland
- Reduced water quality from runoff, sediment, and pollutants carried by floodwaters

Tropical storms and hurricanes can affect community lifelines by combining heavy rain and strong winds that damage trees, block roads, and disrupt power. Impacts in Blair County are usually caused by the remnants of storms rather than direct landfall but even weakened systems can create serious flooding and outages. The lifelines below summarize the services most likely to be affected during tropical storm events in Blair County.

Table 78: Hurricane, Tropical Storm, Nor'easter Community Lifelines

Community Lifelines	Description
Energy	It is rare that a hurricane impacts Blair County enough to cause major damage, but if winds and rains are heavy enough, it can cause downed powerlines and impact energy sector.
Transportation	Heavy rain and winds can impact trees which falls on roads. Some areas may become flooded including roads.
Safety and Security	Government operations and facilities, including police, fire search and rescue, can be slowed or stopped. People caught out can be in the wild without shelter are put in a very dangerous situation.
Food, Hydration, Shelter	Buildings can be impacted by flooding, and the flood water can contaminate the drinking water. Hygiene could be hard to do. Large scale impact is unlikely due to location of Blair County, but possible.

Hazardous materials, communications, health and medical can all be impacted, but only in the case where a hurricane, tropical storm, or nor'easter are very powerful and directly hits Blair County. Due to our location and history of this event, it wouldn't be likely to hit those other community lifelines directly. It is noted that Blair County knows all seven community lifelines would be impacted – if we were located closer to the coast.

4.3.16.3 Past Occurrence

Table 75: History of Coastal Storms lists all coastal storms that have impacted Blair County from 1970 to October 2016. Although impacts of tropical storms are commonly felt in the Commonwealth, it is rare that a hurricane would track through Blair County. Tropical Depression Ivan was the only one Blair County felt and did substantial damage.

Table 79: History of Coastal Storms

Year	Name
1972	Tropical Storm Agnes
1999	Hurricane Floyd
2003	Tropical Storm Henri
2003	Tropical Storm Isabel
2004	Tropical Depression Ivan
2005	Hurricane Katrina
2006	Tropical Depression Ernesto
2008	Hurricane Ike
2011	Hurricane Irene
2011	Tropical Storm Lee
2012	Tropical Storm Sandy

4.3.16.4 Future Occurrence

Although hurricanes and tropical storms can cause flood events consistent with 100 and 500-year flood levels, the probability of the occurrence of hurricanes and tropical storms is measured relative to wind speed. Table 76: Annual Probability of Wind Speeds shows the annual probability of winds that reach the strength of tropical storms and hurricanes in Blair County and the surrounding areas based on a sample period of six years. The National Oceanic and Atmospheric Administration's Hurricane Research Division estimates that Blair County will experience impacts from a named tropical storm or hurricane with a probability of less than 10% annually.

Table 80: Annual Probability of Wind Speeds

Wind Speed	Saffir-Simpson Scale	Annual Probability of Occurrence (%)
45-77	Tropical Storm / Category 1 Hurricane	91.59
79-118	Category 1 to 2 Hurricane	8.32
119-138	Category 2 to 3 Hurricane	0.08
139-163	Category 3 to 4 Hurricane	0.0086
164-194	Category 4 to 5 Hurricane	0.00054
195+	Category 5 Hurricane	0.00001

Climate change is causing atmospheric temperatures to rise, which corresponds to a rise in ocean surface temperatures, resulting in warmer and moister conditions where tropical storms develop (Stott et al., 2010). Warmer oceans store more energy and can fuel stronger storms, and it is projected that Atlantic hurricanes will become more intense and produce more precipitation as ocean surface temperatures rise (Trenberth, 2010). There are expected to be more category 4 and 5 hurricanes in the Atlantic, and the hurricane season may be elongating. Blair County can be affected by Atlantic coastal storms, so the county should be prepared to deal with impacts of coastal storms more frequently in the future.

4.3.16.5 Vulnerability Assessment

While Blair County is located somewhat distantly from the Atlantic coast, hurricanes and tropical storms tracking nearby can still cause high winds and heavy rains. A vulnerability assessment for hurricanes and tropical storms focuses on the impacts of flooding and severe wind. The assessment for flood-related vulnerability is addressed in Section 4.3.4.

Table 81: Hurricane, Tropical Storm, Nor'easter Vulnerability Assessment by Region

Municipal Hazard Vulnerability Assessment	
Jurisdiction	**Summary of Potential Impact**
Planning Region 1	Relatively low vulnerability based on the NRI Hurricane Risk Index. Impacts would most likely come from the remnants of tropical systems, especially heavy rain, localized flooding, and occasional wind damage rather than direct hurricane-force conditions.
Planning Region 2	Relatively low vulnerability based on the NRI Hurricane Risk Index. Expected impacts are generally limited to heavy rainfall, localized flooding, downed trees, and scattered utility outages during stronger tropical systems.

Planning Region 3	Relatively low vulnerability based on the NRI Hurricane Risk Index, but consequence potential is higher because of the concentration of people, buildings, and infrastructure. Past storms, including Ivan, caused damage in Altoona. If rainfall and wind conditions align, this region could experience costly flooding, utility impacts, and damage to roads, businesses, and homes.
Planning Region 4	Relatively low vulnerability based on the NRI Hurricane Risk Index. Tropical system impacts are expected to be limited and would most likely involve heavy rain, localized flooding, and minor wind-related damage.
Planning Region 5	Relatively low vulnerability based on the NRI Hurricane Risk Index, but potential consequences are higher because this region has the second highest population and infrastructure concentration in the county. If a tropical system causes flooding or wind damage here, impacts could be more costly than in lower-density regions.
Planning Region 6	Relatively low vulnerability based on the NRI Hurricane Risk Index. Expected impacts are mainly tied to heavy rainfall, localized flooding, and occasional wind damage rather than direct hurricane effects.
Planning Region 7	Relatively low vulnerability based on the NRI Hurricane Risk Index. The most likely impacts are localized flooding, downed trees, and scattered road or utility disruptions during the remnants of tropical systems.

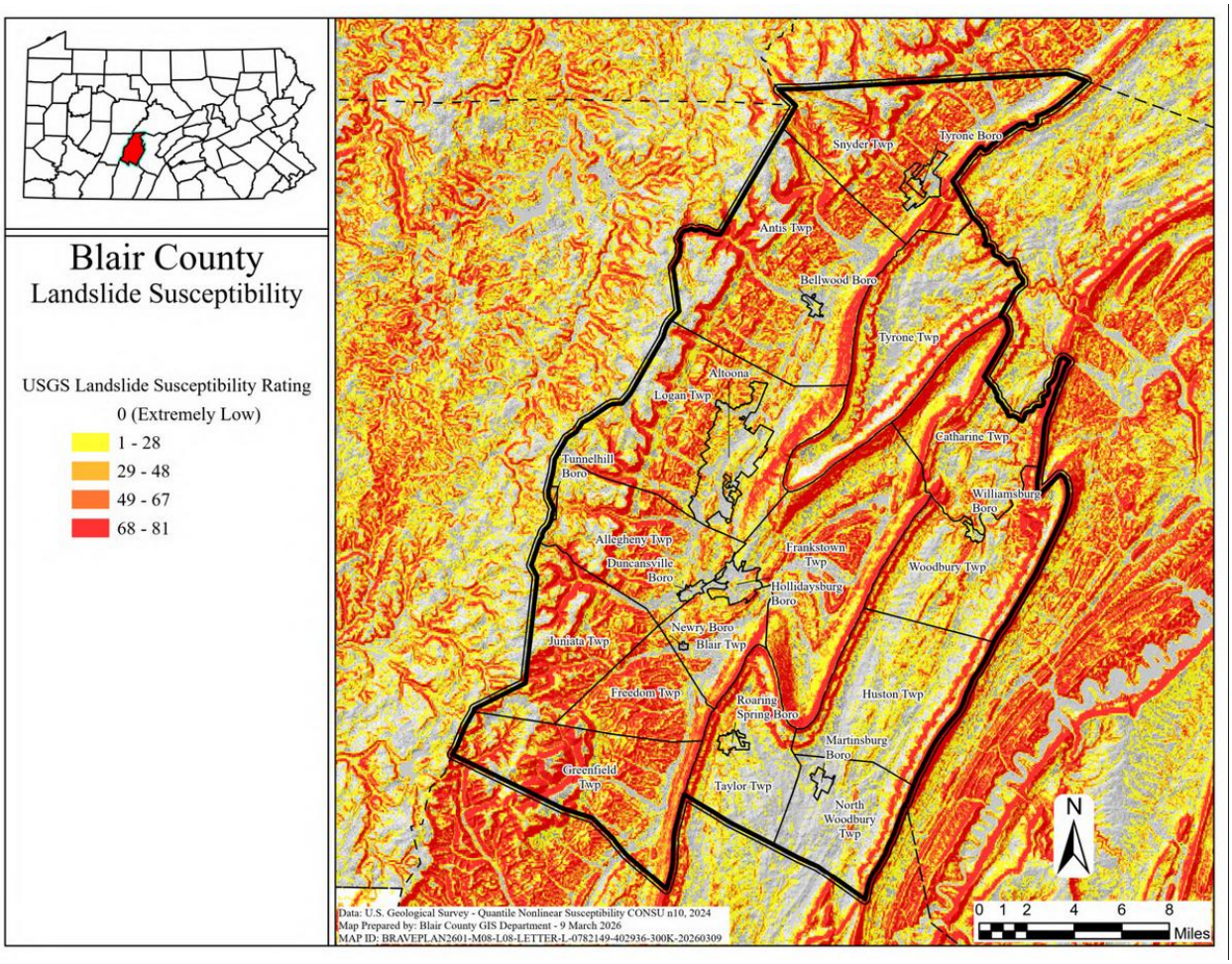
See Table 10: Blair County Planning Regions for communities that make up each Planning Region

4.3.17. LANDSLIDE

4.3.17.1 Location and Extent

Landslides are described as downward and outward movement of slope-forming soil, rock and vegetation reactive to the force of gravity. Rockfalls, rockslides, rock topples, block glides, debris flows, mudflows and mudslides are all forms of landslides. Natural causes of landslides include heavy rain, rapid snow melt, erosion, earthquakes and changes in groundwater levels. Landslides occur most frequently in areas with moderate to steep slopes and high precipitation, and most often slope failures happen during or after periods of sustained above average precipitation or snowmelt events. Human activity can increase the likelihood of landslides by reducing vegetation cover, altering the natural slope gradient or increasing the soil water content. One location where this type of human activity is common are areas that were excavated along highways and other roadways. View Figure 30 for more details of landslide susceptibility to understand the potential locations for landslide.

Figure 30: Blair County Landslide Susceptibility



4.3.17.2 Range of Magnitude

Landslides can cause damage to utilities as well as transportation routes, resulting in road closure or travel delays. Fortunately, deaths and injuries due to landslides are rare in Pennsylvania. Most reported deaths due to landslides have occurred when rockfalls or other slides along highways have involved

vehicles. Storm-induced debris flows can also sometimes cause death and injury. As residential and recreational development increases on and near steep mountain slopes, the hazard from these rapid events will also increase. Most Pennsylvania landslides are moderate to slow moving and damage property rather than people.

The Pennsylvania Department of Transportation and large municipalities incur substantial costs due to landslide damage and to extra construction costs for new roads in known landslide-prone areas. A 1991 estimate showed an average of $10 million per year is spent on landslide repair contracts across the Commonwealth and a similar amount is spent on mitigation costs for grading projects. Several highway sites in Pennsylvania need permanent repair at estimated costs of $300,000 to $2 million each (Pennsylvania the Department of Conservation and Natural Resources, 2010).

Landslides can affect the natural environment by moving soil, rock, and vegetation downslope and altering the shape and stability of the land. They can damage forests, disturb wildlife habitat, bury streams or wetlands, and increase erosion and sediment runoff. Even small landslides can weaken slopes and create long-term instability in the surrounding area.

Potential impacts to the natural environment include:

- Loss of soil and slope stability
- Damage to trees, vegetation, and wildlife habitat
- Increased erosion and sediment runoff
- Sediment buildup in streams, wetlands, or low-lying areas
- Changes to drainage patterns or stream channels
- Localized burial or destruction of natural features and habitat

Landslides affect community lifelines mainly by blocking transportation routes and limiting access for emergency response and daily travel. Larger events can also damage homes and utilities, depending on where the slide occurs. The lifelines below summarize the services most likely to be affected by landslides in Blair County.

Table 82: Landslide Community Lifelines

Community Lifelines	Description
Transportation	Due to the high number of roads in PA, some of them in less ideal location and the amount of heavy rain in PA, the most likely landslide events would be impacting roads.
Safety and Security	An average of 25-50 people is killed by landslides each year in the US. Due to zoning laws dictating where buildings can be built, it is preventing people from being killed from landslides impacting buildings.
Food, Hydration, Shelter	Despite zoning laws, a series of events can cause destruction to homes that otherwise be safe. A steep hillside was burned by the Thomas Wildfire. Heavy rain triggered debris flows. A series of debris flow killed 23 people, injured 167, and damaged 400 homes.

Health and medical, communications, hazardous materials, and water systems are not typically directly impacted by landslides. Hospitals, hazardous material facilities, and wastewater treatment facilities are very unlikely to be placed next to areas of landslide risks. They can be impacted by second order effects when roads leading to a facility is impacted or if there is a mass casualty event for hospitals and health care responders.

4.3.17.3 Past Occurrence

There are no major landslides on record for Blair County. There are many examples of landslides in other counties in Pennsylvania.

Beaver County has had landslides events. In April 2025, a highly traveled shortcut was shut down after the weekend weather caused part of the road to crumble and slide. The heavy rains resulted in the massive landslide on Wildwood Road taking down several large trees as well as crumbling a portion of the road.

On March 6, 2026, a landslide shuts down part of a street in the South Side Slopes of Pittsburgh. Emergency crews were called to Josephine Street near Salisbury Street for reports of a tree that had fallen across a roadway just before 8 p.m. The tree brought part of a hillside down onto the road with it when it fell. Crews put barricades up to block off a stretch of Josephine Street that was the closest to the hillside. Traffic continued flowing once those barricades were set up. (Beaver County Radio News)

On September 10, 2018, a landslide caused by the construction of the pipeline produced an explosion, resulting in one of the largest civil penalties issued by the Pennsylvania state Department of Environmental Protection (DEP) against Energy Transfer. The investigation found Energy Transfer had violated numerous regulations during construction of the Revolution pipeline. The landslide triggered a gas explosion and fire that destroyed a home, a barn, several cars, and prompted an evacuation.

4.3.17.4 Future Occurrence

Based on historical events, landslides are not a serious risk for most land in Blair County, but some locations are prone to the possibility. Figure 30: Landslide Susceptibility shows the relative threat that landslides pose to regions in Pennsylvania. Blair County falls entirely within the zone of "generally low, but includes local areas of high to moderate" susceptibility. Areas of steep slopes associated with the banks of major watercourses in the county could collapse under heavy rainfall to produce a localized landslide. In addition, steep slopes without vegetation around the many roadcuts throughout the County are also at-risk areas for landslides. US 22 east of Canoe Creek is a known area where minor landslide have occurred, and will likely continue intermittently, although recent work by the Pennsylvania Department of Transportation should mitigate both the threat and the impact in this location. Mismanaged intense development in steeply sloped areas could increase the frequency of occurrence.

4.3.17.5 Vulnerability Assessment

The majority of Blair County is not particularly vulnerable to landslides. However, transportation routes throughout the county located at the base or crest of cliffs should be considered vulnerable to this hazard. A well-documented database of these locations is not available currently. Landslides are often precipitated by other natural hazards such as earthquakes or floods, and a serious landslide can cause millions of dollars in damages. Continued enforcement of floodplain management and proper road and building construction helps to mitigate the threat of landslides. Surface water may permeate into areas that have open fractures and the build-up of surface water in fractures could lead to unexpected slide events.

Table 83: Landslide Vulnerability Assessment by Region

Municipal Hazard Vulnerability Assessment	
Jurisdiction	**Summary of Potential Impact**
Planning Region 1	Moderate vulnerability. This region includes a wide range of USGS landslide susceptibility values, from very low to high, depending on local terrain and slope conditions. Impacts would likely be localized and focused on steep slopes, road cuts, stream banks, and areas where development is near unstable ground.
Planning Region 2	Consistent with the countywide profile. Landslide impacts are expected to be localized and most likely where steep slopes, drainage areas, or disturbed ground create unstable conditions.
Planning Region 3	Consistent with the countywide profile. Potential impacts are generally tied to slope failure along roads, cut/fill areas, stream valleys, and other steep terrain rather than widespread countywide effects.
Planning Region 4	Consistent with the countywide profile. Landslide risk is present mainly in localized areas with steeper slopes or erosion, with the greatest concern for roads, access routes, and nearby structures.
Planning Region 5	Consistent with the countywide profile. Potential impacts are expected to be localized and related mainly to steep slopes, transportation corridors, and areas where runoff or erosion weakens the ground.
Planning Region 6	Low vulnerability. Most of this region has low to very low USGS landslide susceptibility, with somewhat higher susceptibility only near the edges. Landslide impacts are considered less likely here than in other parts of the county.
Planning Region 7	Consistent with the countywide profile. Landslide risk is mainly limited to isolated steep-slope areas and would most likely affect roads, drainage areas, or nearby structures if slope failure occurs.

See Table 10: Blair County Planning Regions for communities that make up each Planning Region

4.3.18. CYBERTERRORISM (CYBER INCIDENT RESPONSE)

4.3.18.1 Location and Extent

FEMA in collaboration with Cybersecurity and Infrastructure Security Agency (CISA) states their main objective with cyberterrorism is to develop emergency management personnel to prepare and respond to cyber incidents. Emergency personnel are unlikely and not expected to be technical experts on cyber incidents. They need to understand and prepare for the impacts of a cyber incident. Knowing whom to engage when a cyber incident occurs, whether it occurs from cyberterrorism or from downed communications from a storm, having a cybersecurity plan is the role of an emergency manager.

There is a difference between cybersecurity and cyber incident response. "Cybersecurity is the art of protecting networks, devices, and data from unauthorized access or criminal use and the practice of ensuring confidentiality, integrity, and availability of information." (CISA) Cyber incidents can be caused by not just a malicious agent, but incidents from natural disasters or human error. Cyber incident response is encompassing of cybersecurity and refers to the process and actions taken by an organization to detect, manage, and recover from a cyber incident. Below are three common cyber incident types.

- **Hardware Destruction or Loss**: A jurisdiction's critical services often depend upon the hardware (computers, storage devices, network infrastructure, industrial control system) that perform critical functions. This hardware can control drinking water system, water filtration,

payment systems, traffic systems, 911 services, radio transmitters, and managing court processes. They can be damaged by natural hazards and malicious agents.

- **Network Unavailability, Compromise, Degradation, or Destruction**: Networks enable computers to communicate and share information. Most critical services rely on networks. Incidents affecting networks may occur because of both natural disasters and malicious attacks. Communities that rely on third-party systems can be affected because of using that third party's system. Impact can include unreliable communication to complete loss of communication.
- **Software Malfunction, Compromise, or Exploitation**: Incidents affecting software may cause the loss or compromise of critical functions. Most of these incidents are caused by human error or accidental misconfigurations. However, incidents affecting software may also result from malicious attacks. Malicious agents may steal information, modify and violate the integrity of information, or deny access to information by encrypting it and demanding money (ransom) to decrypt it. They can also compromise physical systems such as security cameras, streetlights, and facility management.

The location and extent of cyber incidents is countywide. Cyber incidents are not geographically constrained and any networks/systems in Blair County dependent on a third party outside of Blair County could affect Blair County if those third parties were to be compromised. The extent depends on the attack. Hacking a middle school system would impact that school, and hacking a power plant could affect thousands for an extended duration.

4.3.18.2 Range of Magnitude

A major cyber incident could disrupt Blair County's operations, economy, and public safety. Cyber impacts can affect government services, utilities, emergency response, healthcare, businesses, and residents. Most cyber disruptions are caused by non-malicious events such as human error, equipment failure, or damage from storms and other hazards. These can still cause serious downtime if systems are not backed up and recovery plans are weak.

A less likely but higher-impact scenario is a deliberate attack by a capable actor. In that case, systems could be disabled or corrupted across multiple sectors at once, and recovery could take weeks or months depending on backups, replacement hardware, and the ability to restore networks safely. The magnitude of impact depends on what systems are affected, how long services are interrupted, and how quickly contingency operations can be implemented.

Cyberterrorism usually has little direct impact on the natural environment, but it can cause indirect environmental harm if it disrupts systems that monitor or control utilities, water treatment, wastewater treatment, dams, pipelines, or hazardous materials facilities. If these systems fail or are operated incorrectly, contamination or releases could affect soil, water, air, and habitat. The environmental impact depends on what system is targeted and how long the disruption lasts.

Potential impacts to the natural environment include:

- Water quality impacts if water or wastewater systems are disrupted
- Accidental releases from industrial, utility, or hazardous materials systems
- Soil or groundwater contamination if monitoring or control systems fail
- Air quality impacts if emissions controls are disrupted
- Secondary environmental damage from failure of pumps, alarms, or containment systems

Cyber incidents affect community lifelines by disrupting the digital systems that keep essential services operating. When control systems, communications, or data networks fail, services may slow down, operate manually, or stop entirely. The lifelines below summarize the services most likely to be directly affected by cyber incidents in Blair County.

Table 84: Cyberterrorism Community Lifelines

Community Lifelines	Description
Communications	911 Dispatch Centers, EOCs, Alert warning & messages, are examples of communications that are susceptible to cyberattacks. Attack on communications slows down the response and can impact everything else.
Energy	The power grid uses computer to improve efficiency and monitor various operations. A powerplant could supply energy to a whole town making it prime target.
Water Systems	Water systems and facilities are reliant on computer systems for monitoring, data collection, and process control to improve efficacy. These systems can automate tasks and operate largely without human input. Wastewater management is irreplaceable.

Other community lifelines may be at stake such as hazardous materials, specifically facilities sites reliant upon computer systems to automate task, monitor system, collect data, and operate system. Transportation can be impacted if computer systems from Air Traffic Control are targeted. Health and medical, and safety and security are typically not impacted directly. Communications are tied in with electronics and software heavily, so it is listed as the priority. Communications have the highest attack surface. Energy sectors tend to centralize around a power grid/power generating facility with no redundancy. This increases the need to harden the energy sector in the cyber realm. Water systems also have no redundancy, but delays in service in one facility tend to impact a smaller population than the energy grid.

4.3.18.3 Past Occurrence

In 2025, Cambria and Somerset counties experienced a cyber-attack on their previous system, CodeRED. CodeRED is a third-party messaging platform used by emergency and public safety organizations to issue notifications to residents. Crisis24, the vendor that operates the system reported certain user information such as names, addresses, email addresses, phone numbers, and passwords may have been accessed without authorization.

In July 2025, Pennsylvania officials reported statewide 911 service outage. Individuals experiencing issues were asked to contact 911 centers on non-emergency lines. Blair County individuals reported 911 service outage during this time. Next Gen 911 service provider has a tremendous amount of redundancy and performs flawlessly during severe weather incidents. This was an anomaly. The system was restored quickly within a day. The root cause has not been confirmed publicly, but this would be under a cyber incident.

The Altoona Area School District (AASD) reported a cybersecurity attack of the district's internal system in 2022. Superintendent Charles Prijatelj reported that their IT department took several steps to contain

the incident upon realization of a sophisticated attack. Third-party forensic advisors and external legal counsel were engaged to assist. Anonymous phone calls reported that "All personal information got leaked on the dark web" including social security numbers, full names, addresses, telephone numbers, and insurance ID numbers.

4.3.18.4 Future Occurrence

The surrounding counties, Cambria and Somerset, experienced a cyber-attack on a system (CodeRED) trusted nationally by emergency and public safety organization. Although there have been no deaths that resulted from cyberterrorism in the US to date, attacking software like CodeRED, software that inform citizens of hazards, can easily cause injury or loss of human life in the future. The most likely occurrence from a malicious cyber incident could be like the cyber-attack in Altoona Area School District. However, the most likely cyber incident would be non-malicious human error, which may be underreported or a cyber incident from a natural hazard that damages hardware controlling water system, traffic system, or communication system.

Data leak cyberattacks do not happen (or is not reported) very frequently. Given that Altoona Area School District was targeted in 2022 and the CodeRED system used by Cambria and Somerset had a data leak in 2025, we can expect a data leak cyberattack once every few years.

4.3.18.5 Vulnerability Assessment

Several assets that would be vulnerable but are not limited to

- County and municipal government networks
- Emergency communications systems (9/11, dispatch software, CodeRED)
- Public records, tax and financial management systems
- School districts and higher education institutions (AASD)
- Healthcare systems (hospital, clinics, patient data systems)
- Energy utilities (controlled by software)
- Waste and wastewater systems (controlled by software)
- Banks, small & medium sized businesses (limited or non-existent cybersecurity)
- Any digital software or services used

The most vulnerable place would be Altoona. Altoona has a third of the population of the entire county at around 42,000 people. Altoona has the largest number of vulnerable assets of any place in Blair County. Logan would be the second largest with a population of ~12,107 and a sizeable cyber vulnerable asset. The rest of the cities and towns in Blair County have a population of less than 10,000 people.

Table 85: Cyberterrorism Vulnerability Assessment by Region

Municipal Hazard Vulnerability Assessment	
Jurisdiction	**Summary of Potential Impact**
Planning Region 1	Lower vulnerability than the countywide profile because of its smaller population and fewer concentrated digital assets. Cyber impacts are still possible, but they are more likely to affect individual organizations or services rather than cause broad regional disruption.
Planning Region 2	Lower vulnerability than the countywide profile due to its smaller population and more rural character. Fewer large institutions and less concentrated

	infrastructure reduce the scale of potential impacts, although local government, schools, utilities, and businesses could still be affected.
Planning Region 3	Highest vulnerability in the county because it contains the largest population and the greatest concentration of government services, schools, businesses, utilities, and other digital assets. This region has already experienced a known malicious cyber incident involving Altoona Area School District, showing that cyber disruption is a real local concern. A major incident here could affect the largest number of people and have the greatest impact on public services and daily operations.
Planning Region 4	Lowest vulnerability in the county due to its smaller population, rural development pattern, and lower concentration of vulnerable assets. Cyber incidents could still occur, but the scale of disruption would likely be limited compared with more populated regions.
Planning Region 5	Higher vulnerability than the countywide profile because of its larger population and greater number of public, private, and utility-related assets that rely on digital systems. A cyber incident here could disrupt operations and services for a large number of residents, especially if schools, government functions, or utility systems are affected.
Planning Region 6	Lower vulnerability than the countywide profile due to its smaller population and more rural character. Most cyber impacts would likely be localized to specific organizations, facilities, or service providers rather than widespread across the region.
Planning Region 7	Lower vulnerability than the countywide profile because of its smaller population and lower concentration of digital assets. While critical services still depend on computers and communications, the potential scale of disruption is lower than in the county's more urbanized regions.
*Cyberterrorism vulnerability is driven less by physical geography and more by the concentration of digital assets, critical services, and interconnected systems. For that reason, more populated regions with more schools, businesses, utilities, and government facilities generally have greater consequence potential.	

See Table 10: Blair County Planning Regions for communities that make up each Planning Region

4.4. HAZARD VULNERABILITY SUMMARY

4.4.1. METHODOLOGY

Ranking hazards helps communities set goals and priorities for mitigation based on their vulnerabilities. A risk factor is a tool used to measure the degree of risk for identified hazards in a particular planning area. The risk factor can also assist local community officials in ranking and prioritizing hazards that pose the most significant threat to a planning area based on a variety of factors deemed important by the planning team and other stakeholders involved in the hazard mitigation planning process. The system relies mainly on historical data, empirical knowledge, and information collected through development of the hazard profiles included above. The risk factor approach produces numerical values that allow identified hazards to be ranked against one another; the higher the risk factor, the greater the hazard risk.

Risk factor values were obtained by assigning varying degrees of risk to five categories for each of the hazards profiled in the plan update. Those categories include probability, impact, spatial extent, warning time and duration. Each degree of risk was assigned a value ranging from one to four. To calculate the risk factor value for a given hazard, the assigned risk value for each category was multiplied by the weighting factor. The sum of all five categories equals the final risk factor value. As an example, if a hazard was ranked a 1 for probability, a 3 for Impact, a 2 for Extent, a 4 for Warning, and a 2 for duration, it would be calculated as (1 x 0.3) + (3 x 0.3) +(2 x 0.2) + (4 x 0.1) + (2 x 0.1) yielding a risk factor value of 2.2. Table 82: Risk Factor Approach Summary summarizes each of the five categories used for calculating a RF for each hazard. According to the weighting scheme applied, the highest possible risk factor value is 4.0.

Table 86: Risk Factor Approach Summary

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% and 49.9% annual probability	2	
	Likely	Between 50% and 90% annual probability	3	
	Highly Likely	Greater than 90% annual probability	4	
Impact *In terms of injuries, damage, or death, would you anticipate impacts to be minor, limited, critical, or*	Minor	Very few injuries, if any. Only minor property damage and 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	

catastrophic when a significant hazard event occurs?	Critical	Multiple deaths and 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 and 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% and 10.9% of area affected	2	
	Moderate	Between 11% and 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?*	> 24 Hours	Self-Defined: Levels of warning time and the criteria that define them may be adjusted based on the hazard addressed	1	10%
	12-24 Hours		2	
	6-12 Hours		3	
	< 6 Hours		4	
Duration *How long does the hazard event usually last?*	< 6 Hours	Self-Defined: Levels of duration time and the criteria that define them may be adjusted based on the hazard addressed	1	10%
	< 24 Hours		2	
	< 1 Week		3	
	> 1 Week		4	

4.4.2. RANKING RESULTS

Using the methodology described in Section 4.4.1, Table 83: Countywide Risk Factor Assessment lists the risk factor calculated for each of the nineteen potential hazards identified in the 2025 plan. Hazards identified as high risk have risk factors greater than 2.9. Risk Factors ranging from 2.0 to 2.9 were deemed moderate risk hazards. Hazards with Risk Factors 1.9 and less are considered low risk.

Based on these results, there are seven (7) high risk hazards, nine (9) moderate risk hazards and three (3) low risk hazards in Blair County. The threat posed to life and property for 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 events.

Table 87: Countywide Risk Factor Assessment

Hazard	Risk Assessment Category					Risk	
	Probability	Impact	Geography	Warning	Duration	Rank	Class
Drought (D3)	1	3	3	1	4	**2.3**	**Med**
Earthquake (>5.5 Richter Scale)	1	2	4	4	1	**2.2**	**Med**
Wildfire	4	2	2	4	2	**2.8**	**Med**
Floods, Flash Floods, and Ice Jams	4	3	4	4	4	**3.7**	**High**
Hazardous Material Release	2	1	1	4	2	**1.7**	**Low**
Invasive Species	4	2	4	1	4	**3.1**	**High**
Pandemic & Infectious Disease	4	4	4	1	4	**3.7**	**High**
Radon Exposure	4	2	4	1	4	**3.1**	**High**
Tornado & Windstorms	4	2	2	1	3	**2.6**	**Med**
Subsidence & Sinkholes	2	1	1	4	4	**1.9**	**Low**
Terrorism	1	4	1	4	4	**2.5**	**Med**
Utility Interruptions	4	2	2	4	3	**2.9**	**Med**
Winter Storms	4	2	4	1	3	**3**	**High**
Dam Failure	1	3	2	4	4	**2.4**	**Med**
Substance Use Disorder	4	4	4	1	4	**3.7**	**High**
Hurricane, Tropical Storm, Nor'easter	2	2	3	1	3	**2.2**	**Med**
Landslide	2	1	1	4	3	**1.8**	**Low**
Cyberterrorism (Cyber Incidents)	2	2	2	4	3	**2.3**	**Med**

A similar assessment was undertaken for each of the planning regions in the county. Where the regional ranking was calculated higher than the countywide ranking, a greater than symbol is input. These generally correspond to entries in the regional hazard assessment tables at the conclusion of each hazard profile. This exercise assists those implementing the plan to think and act municipally with a countywide perspective, while also recognizing that there are variations of risk between the planning regions. The Risk Factor results are aggregated in Table 84 Regional Risk Factor Assessment.

Table 88: Regional Risk Factor Assessment

Hazard	Risk Level	Planning Regions						
		1	2	3	4	5	6	7
Extreme Drought (D3)	2.3	>	=	>	=	>	>	=
Earthquake (5.5 to 6.0 Richter Scale)	2.2	=	=	=	=	=	=	=
Wildfire	2.8	=	=	=	=	>	=	=
Floods, Flash Floods, and Ice Jams	3.7	>	=	>	=	=	=	=
Hazardous Material Release	1.7	=	=	>	=	>	=	=
Invasive Species	3.1	=	=	=	=	=	=	=
Pandemic & Infectious Disease	3.7	=	=	>	=	=	>	=
Radon Exposure	3.1	=	=	=	=	=	=	=
Tornado & Windstorms	2.6	=	=	=	=	=	=	=
Subsidence & Sinkholes	1.9	>	=	=	=	=	>	=
Terrorism	2.5	=	=	=	=	=	=	=
Utility Interruptions	2.9	=	=	>	>	=	=	=
Winter Storms	3	=	=	=	=	=	=	=
Dam Failure	3.7	=	=	=	=	=	=	=
Substance Use Disorder	3.7	=	=	>	=	>	=	=
Hurricane, Tropical Storm, Nor'easter	2.3	=	=	>	=	>	=	=
Landslide	1.8	=	=	=	=	=	=	=
Cyberterrorism (Cyber Incident)	2.3	=	=	=	=	=	=	=

4.4.3. POTENTIAL LOSS ESTIMATES

Based on various kinds of available data, potential loss estimates were established for flood, flash flood, and ice jam flooding, tornado and windstorms. Estimates provided in this section are based on HAZUS, geospatial analysis, and previous events. 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. Potential loss estimates have four basic components, including:

- Replacement Value: Current cost of returning an asset to its pre-damaged condition, using present-day cost of labor and materials.
- Content Loss: Value of building's contents, typically measured as a percentage of the building replacement value.
- Functional Loss: The value of a building's use or function that would be lost if it were damaged or closed.
- Displacement Cost: The dollar amount required for relocation of the function (business or service) to another structure following a hazard event.

Flooding Loss Estimation:

Flooding is both a moderate risk natural hazard and a moderate risk man-made hazard in Blair County. The estimation of potential loss in this assessment focuses on the monetary damage that could result from flooding. The potential property loss was determined for each municipality and for the entire county.

A county wide flood study was conducted using the Hazards U.S. Multi-Hazard software, commonly called HAZUS, which is provided by the Federal Emergency Management Agency. This software is a standardized loss estimation software deriving economic loss, building damage, content damage and other economic impacts that can be used in local flood mitigation planning activities.

Using HAZUS, total building-related losses from a 1%-annual-chance flood in Blair County are estimated to equal $312,510,000. Residential occupancies make up 33.50% of the total estimated building-related losses. Total economic loss, including replacement value, content loss, functional loss and displacement cost, from a countywide 1%-annual-chance flood are estimated to equal $594,010,000. The full HAZUS Methodology and Results Report is presented in Appendix F. Additional HAZUS analysis will be conducted during the next five-year cycle with local data.

4.4.4. FUTURE DEVELOPMENT AND VULNERABILITY

Population in Blair County has been decreasing since the end of World War II, although the rate of the decrease has slackened since 1990. Altoona and the boroughs have (and will continue to have) the highest population densities in the county, meaning that hazard vulnerability and loss estimates will be relatively higher in those municipalities. Development in the county is relatively uniform and stable; however Blair County has not seen a major subdivision for over a decade, and even most site planning is modest in size. The last large commercial development was the Martins Plaza in Blair Township, unless independent development is taken into consideration. In that case the industrial area along PA 764 and Theatre Drive in Allegheny Township is larger and ongoing.

These trends suggest that the increased risk that is inherent in development is somewhat self-mitigated due to the low levels of new development. Retrofitting existing properties as they change hands or uses

and conducting the mitigation efforts outlined in Section 4 should advance mitigation efforts in Blair County for the duration of this plan update.

- SECTION 5 -

CAPABILITY ASSESSMENT

5.0 CAPABILITY ASSESSMENT

5.1 UPDATE PROCESS SUMMARY

The capability assessment summarizes Blair County's and participating municipalities' ability to reduce risk from hazards. It reviews the resources and systems that support mitigation, including governmental structure, legal authority, funding, staff and technical capacity, and existing policies, programs, ordinances, and planning tools. The assessment identifies strengths, gaps, and practical limits that affect which mitigation actions are feasible.

Capability information was built on past information and updated with information collected during the planning process through interviews and surveys with local municipal officials along with Municipal Outreach Meeting and Committee Meetings. These discussions focused on municipal and county legal, fiscal, technical, and administrative capacity. Public outreach also raised capability concerns, including interest in shared services and pooled resources, concerns about perspectives hazards not threats not identified in state defined list.

Because Blair County includes 25 municipalities that operate relatively independently, each with its own governing body, ordinances, and resources, the capabilities vary across jurisdictions. This assessment helps the planning team understand what existing tools can support mitigation actions and where improvements may be needed. Overall, the capability assessment informs the mitigation strategy by showing what can be implemented now, what will require support or coordination, and what gaps should be addressed through future actions. Each mitigation action can then be further evaluated through an economic lens to find the "best bang for your buck" mitigation action. These evaluations can then inform the existing programs effectiveness and justification for stopping one program or starting another.

5.2 CAPABILITY ASSESSMENT FINDING

Most municipalities also participated in most of the regular meetings held throughout the update process. A Capability Self-Assessment Matrix was sent out in 2026 to each Municipality.

2025 Blair County Capability Self-Assessment Matrix

This is each jurisdiction's self-perceived ability to plan, fund, and carry out mitigation and preparedness projects and activities. This includes whether a jurisdiction can carry apply for grants, manage projects, enforce regulations, maintain infrastructure, etc. For the Capability Self-Assessment Matrix, the scale ranges from 1 to 4.

- 4 – High Capability: Strong resources and capacity; can implement mitigation projects independently
- 3 – Moderate Capability: Some resources available; may need limited outside assistance
- 2 – Low Capability: Minimal staff, funding, or tools; significant assistance needed
- 1 – Very Limited/None: Little or no capacity in this area
- n/a – Data not available

There are 4 capability categories. Below is the definition used for each category.

Planning & Regulatory Capability: Ability to guide development through plans, policies, and ordinances.

Administrative and Technical Capability: Availability of staff, expertise, and technical resources to manage projects and activities.

Fiscal Capability: Ability to fund and financially support projects, activities, and personnel.

Community Political Capability: Level of leadership support and public willingness to influence projects and politics.

Table 89: 2025 Capability Self-Assessment Matrix

Blair County Municipalities Capability Self-Assessment				
Municipality Name	**Capability Category**			
	Planning and Regulatory Capability	**Administrative and Technical Capability**	**Fiscal Capability**	**Community Political Capability**
Allegheny Township	**n/a**	**n/a**	**n/a**	**n/a**
Altoona Home Rule	**n/a**	**n/a**	**n/a**	**n/a**
Antis Township	**3**	**3**	**3**	**3**
Bellwood Borough	**2**	**3**	**2**	**2**
Blair Township	**n/a**	**n/a**	**n/a**	**n/a**
Catharine Township	**n/a**	**n/a**	**n/a**	**n/a**
Duncansville Borough	**n/a**	**n/a**	**n/a**	**n/a**
Frankstown Township	**n/a**	**n/a**	**n/a**	**n/a**
Freedom Township	**n/a**	**n/a**	**n/a**	**n/a**
Greenfield Township	**2**	**2**	**2**	**2**
Hollidaysburg Borough	**3.5**	**3.5**	**3.5**	**3.5**
Huston Township	**n/a**	**n/a**	**n/a**	**n/a**
Juniata Township	**2**	**2**	**1**	**2**
Logan Township	**n/a**	**n/a**	**n/a**	**n/a**
Martinsburg Borough	**3**	**2**	**2**	**3**
Newry Borough	**n/a**	**n/a**	**n/a**	**n/a**

North Woodbury Township	**3**	**2**	**3**	**1**
Roaring Spring Borough	**n/a**	**n/a**	**n/a**	**n/a**
Snyder Township	**n/a**	**n/a**	**n/a**	**n/a**
Taylor Township	**n/a**	**n/a**	**n/a**	**n/a**
Tunnelhill Borough	**n/a**	**n/a**	**n/a**	**n/a**
Tyrone Borough	**3**	**4**	**2**	**4**
Tyrone Township	**n/a**	**n/a**	**n/a**	**n/a**
Williamsburg Borough	**2**	**1**	**1**	**2**
Woodbury Township	**2**	**1**	**1**	**2**

After self-assessment forms were received to develop an understanding of realities faced by each municipality, we defined the capabilities they have. We then develop ways municipalities can do to expand and improve the capabilities. Although stronger actions can be done, we focused on realistic achievable actions that municipalities can do today.

Planning and regulatory capability is the ability of the County and municipalities to guide development and reduce future risk through plans, policies, and ordinances. In Blair County, this includes comprehensive plans, zoning, SALDO, floodplain and stormwater ordinances, building codes, and how consistently hazards are considered during permitting and development review.

Administrative and technical capability is the ability to manage mitigation work through staffing, training, coordination, data, and technical resources. In Blair County, capacity varies by municipality; many jurisdictions rely on part-time staff and shared resources with the bulk of coordination, planning, and technical support ability residing with Altoona.

Fiscal capability is the ability to pay for mitigation projects, match grants, and sustain staffing and maintenance over time. In Blair County, fiscal capacity varies widely, and smaller municipalities often depend on outside funding, shared services, or County-led grant efforts.

Community & political capability is the level of leadership support and public willingness to adopt and fund mitigation actions. This capability affects whether mitigation projects move forward, especially when actions involve new ordinances, land use changes, or long-term investment.

Table 90: 2025 Expanding / Improving Capability

Capabilities Improvement Actions			
Planning and Regulatory Capability	**Administrative and Technical Capability**	**Fiscal Capability**	**Community Political Capability**
• Compliance with floodplain management practices • Coordinate the resources to develop a relationship with each other	• Designate a primary contact in each municipality and develop relationship with • Offer and market training and exercises • Improve documentation, data management, and outreach	• Maintain a list of projects/concerns from residents and develop a scope, rough cost range, and benefit of each project to propose to Altoona • Prioritize projects that all/many municipalities could benefit from	• Sending leaders community members to participate in county meetings • Take initiative to be in the loop on County projects/issues and build relationship with Commissioners

5.2.1 PLANNING AND REGULATORY CAPABILITY

Municipalities may adopt and enforce regulations that are more restrictive than state or county minimums, if they comply with applicable laws and codes, including the Pennsylvania Municipalities Planning Code, the Storm Water Management Act, the Floodplain Management Act, and the Airport Zoning Act. Municipalities can also create local policies and programs to protect residents. These are typically set in a comprehensive plan, adopted through ordinances, and enforced by the governing body or its designee.

Municipalities manage land use through zoning, subdivision and land development rules, building codes and permits, and floodplain and stormwater ordinances. When properly administered, these tools support hazard mitigation. For example, the National Flood Insurance Program (NFIP) sets minimum floodplain management standards, and Pennsylvania's Floodplain Management Act (Act 166 of 1978) establishes higher standards. To participate in NFIP, a municipality must adopt and enforce the required minimum criteria, either through a standalone floodplain ordinance or by incorporating the requirements into zoning, subdivision and land development, or building codes.

This capability assessment summarizes the existing county and municipal legal authorities and planning documents that support mitigation of the profiled hazards and helps inform the plan's mitigation actions.

Projects Within Planning & Regulation

For hazards and threats identified, 9 projects have been adopted or suggested to fill the capability gaps identified after a capability assessment. Our current projects/actions include Comprehensive Plan, Capital Improvements Plan, Zoning Ordinance, Airport Hazard Ordinance, Official Map Adoption, Subdivision Ordinance, Storm Water Management & Ordinance, Building Codes, and Participation in the National Flood Insurance Program.

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 the community in the

coming decade. It examines how the past led to the present and charts the community's future path. The Pennsylvania Municipalities Planning Code requires counties to prepare and maintain a county comprehensive plan and update it at least every ten years.

Blair County is one of six counties participating in *Alleghenies Ahead: Shared Strategies for a Stronger Region*, a regional comprehensive plan covering the entire Southern Alleghenies region. The plan was adopted by each of the six counties over the summer of 2018 and is designed with implementation in mind. There are eight primary goal areas, of which Blair County is focused on five: Agriculture, Broadband and Wireless, Cooperation and Coordination, Health, and Housing. Article III of the Municipalities Planning Code enables municipalities to prepare a comprehensive plan; however, development of a comprehensive plan is voluntary.

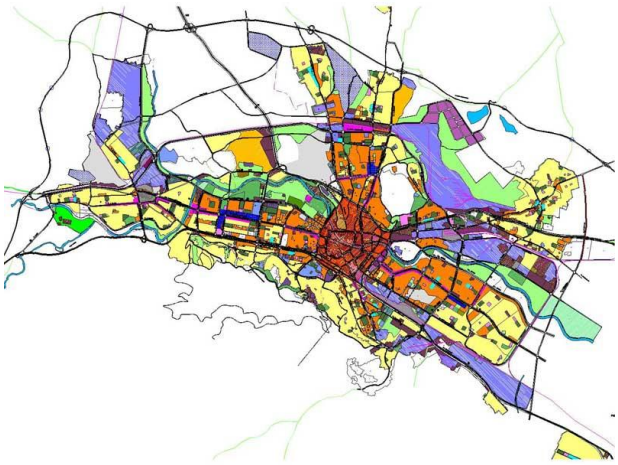
The follow up to *Alleghenies Ahead: Shared Strategies for a Stronger Region* comes in several segments. Southern Alleghenies Workforce Development Board 2025-2028 Local Area Plan (Not complete), 2025-2029 Comprehensive Economic Development Strategy, Alleghenies Outdoors: Moving the Recreation Economy Forward March 2024, Southern Alleghenies Recovery & Resilience Plan 2022, and Alleghenies Ahead on Housing: A Regional Housing Strategy February 2023. Blair County also just adopted the Blair County 2025-2050 Long Range Transportation Plan on December 15, 2025.

Capital Improvements Plan

The capital improvements plan is a multi-year policy guide that identifies needed capital projects and is used to coordinate the financing and timing of public improvements. Capital improvements relate to streets, storm-water systems, water distribution, sewage treatment and other major public facilities. A capital improvements plan should be prepared by the respective county's planning department and should include a capital budget. This budget identifies the highest priority projects recommended for funding in the next annual budget. The capital improvements plan is dynamic and can be tailored to specific circumstances. Altoona is the only Blair County municipality with a published capital improvement plan: it is focused primarily on public works projects such as street paving.

Zoning Ordinance

The Municipalities Planning Code (MPC) authorizes municipalities to prepare and enact zoning to regulate land use. Its regulations can apply to: the permitted use of land; the height and bulk of structures; the percentage of a lot that may be occupied by buildings and other impervious surfaces; yard setbacks; the density of development; the height and size of signs; the parking regulations. A zoning ordinance has two parts, including the zoning map that delineates zoning districts and the text that sets forth the regulations that apply to each district. Of the 25 municipalities in Blair County, ten indicated that they have a zoning ordinance.



Airport Hazard Ordinance

A safe and reliable network of public-use airports is essential to the economic stability of this Commonwealth. Unfortunately, a substantial number of Pennsylvania municipalities located near airports have not utilized land use and zoning ordinances to preserve and protect these transportation resources. Furthermore, many have not complied with Pennsylvania's Airport Hazard Zoning law, which requires those municipalities that fall within an airport hazard area to adopt, administer, and enforce airport zoning regulations (ordinances). Action must be taken to reverse the trend at the local level to allow development that is incompatible with airport operations, safety and growth. (Pennsylvania Department of Transportation, 2011)

Despite efforts from various state, regional, and local agencies, a majority of municipalities in the Commonwealth that have an airport hazard area within its boundaries have not adopted an Airport Hazard Zoning Ordinance. Based on 2006 data (the latest year published data are available):

- There are 2570 municipalities in Pennsylvania.
- There are 126 public use airports.
- About 680 municipalities are required to enact airport hazard zoning.
- 159 municipalities have hazard zoning in effect (23% compliance rate).

As a result of the study, the Pennsylvania Department of Transportation Bureau of Aviation provided grant monies, maps, and model ordinances to individual municipalities to improve compliance and make for safer airspace around the airports in the Commonwealth. Blair Planning participated as a liaison between the Bureau of Aviation and the municipalities in 2014, providing the technical assistance needed to develop and adopt the appropriate Airport Hazard Ordinance for each. Of the thirteen municipalities falling under the requirement, as of 2018 nine have adopted the appropriate ordinance: Martinsburg Borough, Newry Borough, Williamsburg Borough, Allegheny Township, Blair Township, Catharine Township, Frankstown Township, Juniata Township, and Woodbury Township.

In March 2026, the latest zoning study done was published on March 17, 2014. These zoning ordinances seems to be of low priority for most counties. Only a small percentage of residents would regularly go to these airports. Other land use or development ordinance tends to take higher priority. Act 164, Chapter 59, Airport Operation and Zoning was added October 10, 1984, for Pennsylvania to validate its commitment to protect and preserve aviation facilities within the Commonwealth.

Table 91: Status of Airport Hazard Zoning in Blair County (2014)

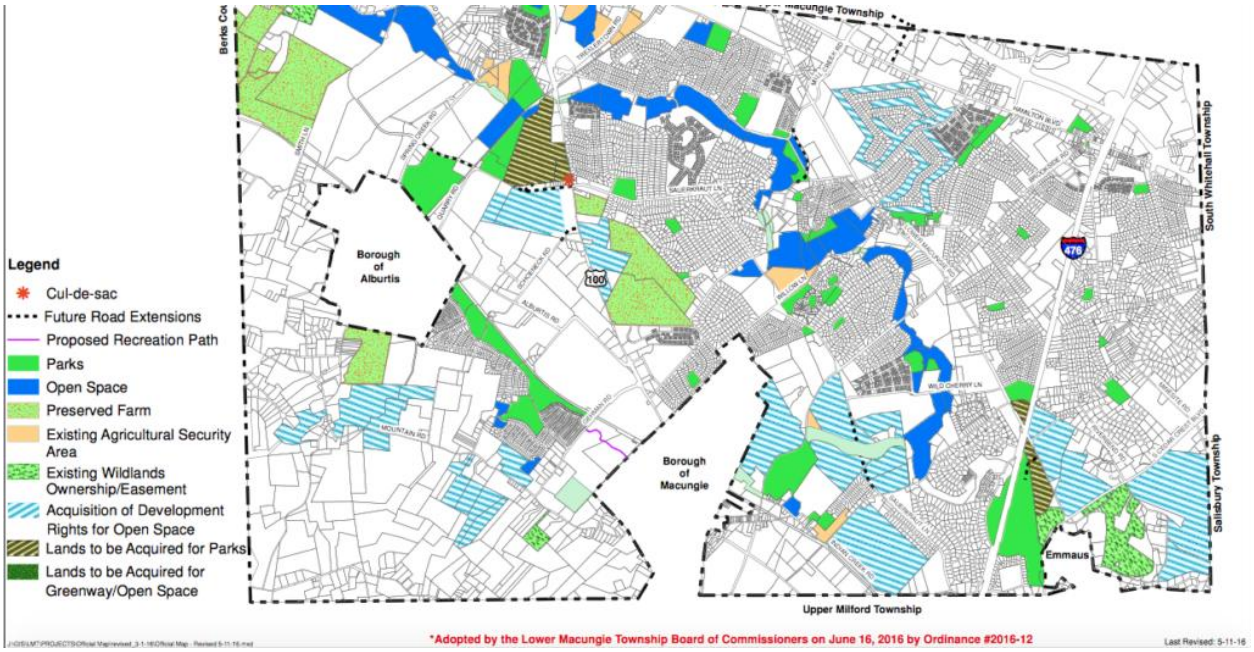
Airport	Municipality	Owner	Airport Use	Act 164 Ord?
Altoona-Blair County Airport	Huston Township	PUB	PUB	No
Altoona-Blair County Airport	North Woodbury Township	PUB	PUB	No
Altoona-Blair County Airport	Woodbury Township	PUB	PUB	No
Altoona-Blair County Airport	Frankstown Township	PUB	PUB	No
Altoona-Blair County Airport	Martinsburg Borough	PUB	PUB	Yes
Altoona-Blair County Airport	Taylor Township	PUB	PUB	No
Altoona-Blair County Airport	Woodbury Township	PUB	PUB	No
Blue Knob Valley Airport	Allegheny Township	PVT	PUB	No

Blue Knob Valley Airport	Newbry Borough	PVT	PUB	No
Blue Knob Valley Airport	Juniata Township	PVT	PUB	No
Blue Knob Valley Airport	Blair Township	PVT	PUB	No
Blue Knob Valley Airport	Freedom Township	PVT	PUB	No
Cove Valley Airport	Williamsburg Borough	PVT	PUB	No
Cove Valley Airport	Woodbury Township	PVT	PUB	No
Cove Valley Airport	Frankstown Township	PVT	PUB	No
Cove Valley Airport	Catharine Township	PVT	PUB	No

Pennsylvania Department of Transportation: Airport Zoning and Compatible Land Use

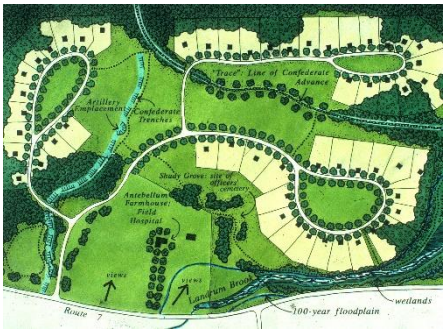
Official Map

An Official Map shows the locations of planned future public lands and facilities such as streets, trails, parks and open space. Unlike a Zoning Map, the Official Map expresses a municipality's interest in acquiring easements or lands for public purposes sometime in the future and notifies developers and property owners of this interest. An Official Map is not a municipal base map, existing or future land use map, a zoning map, or any map in a comprehensive plan, though these can be used to help identify areas for the Official Map ordinance. Title IV of the Municipalities Planning Code authorizes an Official Map as a "land use ordinance" with the map as the primary component of an Official Map ordinance. If a landowner seeks to build on or subdivide land noted on the Official Map, the municipality has up to a year to acquire the land from the owner before the owner may freely build or subdivide. As of 2025, no Blair County municipalities have adopted an Official Map.



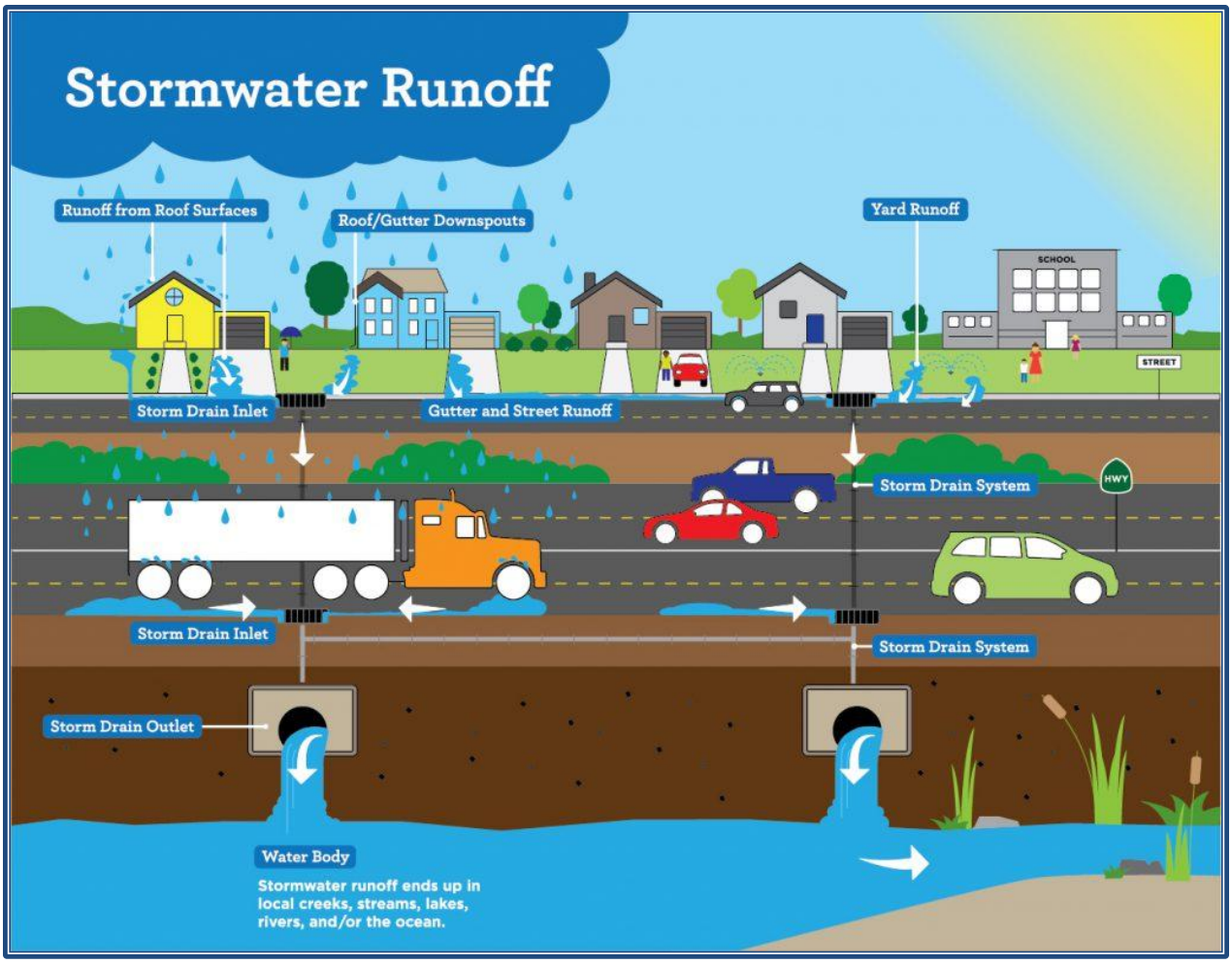
Subdivision Ordinance

Subdivision and land development ordinances include regulations to control the layout of streets, the planning of lots and the provision of utilities and other site improvements. The objectives of a subdivision and land development ordinance are to: coordinate street patterns; assure adequate utilities and other improvements are provided in a manner that will not pollute streams, wells and/or soils; reduce traffic congestion; and provide sound design standards as a guide to developers, the elected officials, planning commissions and other municipal officials. Article V of the Municipality Planning Code authorizes municipalities to prepare and enact a subdivision and land development ordinance. Subdivision and land development ordinances provide for the division and improvement of land. To date, seventeen of the municipalities in Blair County have developed their own subdivision ordinance.



Storm Water Management Plan

The proper management of storm water runoff can improve conditions and decrease the chance of flooding. Pennsylvania's Storm Water Management Act (Act 167) confers on the county planning commission the responsibility for development of watershed plans. A county planning commission must prepare the watershed plans in consultation with municipalities and residents. The counties must also establish a mechanism to periodically review and revise watershed plans, so they are current. Plan revisions must be done every five years or sooner, if necessary. As of 2025, the county has a completed but outdated watershed management plan in place for the Beaverdam Branch, and Bob's Creek. A Phase I study was completed for the Little Juniata, but the main study has never been completed. No studies have been done for the remaining watersheds, including the Frankstown Branch. The Department of Environmental Protection has shifted to a countywide focus instead of a watershed focus. A countywide watershed management plan is now in progress. The Phase I Plan was completed in August 2024 and the Phase II Plan has been funded and is underway as of the writing of this document.



Municipalities have an obligation to implement the criteria and standards developed in the storm water management plan by amending or adopting laws and regulation for land use and development. The implementation of storm water management criteria and standards at the local level are necessary, since municipalities are responsible for local land use decisions and planning. The degree of detail in the ordinances depends on the extent of existing and projected development. The watershed storm water management plan is designed to aid the municipality in setting standards for the land uses it has proposed. Municipalities within rapidly developing watersheds will benefit from the watershed storm water management plan and will use the information for sound land use considerations. A major goal of the watershed plan and the attendant municipal regulations is to prevent future drainage problems and avoid the aggravation of existing problems.

There are eight watersheds in Blair County. Blair County and other local municipalities have general (non-Act 167 compliant) storm-water management regulations as part of either the county or local subdivision and land development plan. Of the 25 municipalities within Blair County, thirteen have a storm water management plan and eight do not or were unsure when responding to the capability assessment.

Building Codes

Building codes are important in mitigation because they are developed for a region of the country in respect to the hazards existing in that area. Consequently, structures that are built according to applicable codes are inherently resistant to many hazards, such as strong winds, floods and earthquakes; and can help mitigate regional hazards, such as wildfires. In 2003, Pennsylvania implemented the Uniform Construction Code (Act 45), a comprehensive building code that establishes minimum regulations for most new construction, including additions and renovations to existing structures.

The code applies to almost all buildings, excluding manufactured and industrialized housing (which are covered by other laws), agricultural buildings and certain utility and miscellaneous buildings. The Uniform Construction Code has many advantages. It requires builders to use materials and methods that have been professionally evaluated for quality and safety, as well as inspections to ensure compliance.

The initial election period, during which all of Pennsylvania's 2,565 municipalities were allowed to decide whether the Uniform Construction Code would be administered and enforced locally, officially closed on August 7, 2004. The codes adopted for use under the Uniform Construction Code are the 2003 International Codes issued by the International Code Council. Supplements to the 2003 codes have been adopted for use over the years since.

If a municipality has "opted in", all Uniform Construction Code enforcement is local, except where municipal (or third party) code officials lack the certification necessary to approve plans and inspect commercial construction for compliance with Uniform Construction Code accessibility requirements. If a municipality has "opted out", the PA Department of Labor and Industry is responsible for all commercial code enforcement in that municipality; and all residential construction is inspected by independent third-party agencies selected by the owner. The department also has sole jurisdictions for all state-owned buildings no matter where they are located. Historical buildings may be exempt from such inspections and Act 45 provides quasi-exclusion from Uniform Construction Code requirements. The municipalities in Blair County adhere to the standards of the Pennsylvania Uniform Construction Code (Act 45). All municipalities, except for one, have opted in on building code enforcement.

Participation in the National Flood Insurance Program

Floodplain management is the operation of programs or activities that may consist of both corrective and preventive measures for reducing flood damage, including but not limited to such things as emergency preparedness plans, flood control works and flood plain management regulations. The Pennsylvania Floodplain Management Act (Act 166) requires every municipality identified by the Federal Emergency Management Agency to participate in the National Flood Insurance Program and permits all municipalities to adopt floodplain management regulations. It is in the interest of all property owners in the floodplain to keep development and land usage within the scope of the floodplain regulations for their community. This helps keep insurance rates low and makes sure that the risk of flood damage is not increased by property development. As shown in Table 88 below, all municipalities in Blair County participate in the program and Table 89 shows the Floodplain Coordinator for each municipality.

Table 92: Policy and Loss Data by Community as of December 31, 2023

Policy and Loss Data by Community as of December 31, 2023									
Community	**ID**	**Program Entry**	**FIRM Date**	**CRS Status**	**Total Policies**	**Premium Paid**	**Coverage Total**	**Total Claims**	**Payout Total**
Allegheny Township	420961	8/2/1974	3/2/2012	No	63	$139,555	$11,550,718	61	$515,307
Altoona City	420159	6/28/1974	3/2/2012	Yes	142	$179,227	$22,347,561	149	$518,494
Antis Township	421385	12/27/1974	5/2/2018	No	42	$85,682	$ 11,038,451	38	$111,962
Bellwood Borough	420160	6/1/1979	3/2/2012	No	5	$6,921	$1,034,150		$0
Blair Township	421386	11/22/1974	3/2/2012	No	52	$65,493	$8,979,272	82	$690,314
Catharine Township	420962	1/18/1974	5/2/2018	No	7	$14,516	$1,230,768	12	$126,606
Duncansville Borough	420161	6/28/1974	3/2/2012	No	83	$127,842	$14,031,150	69	$643,691
Frankstown Township	421387	12/13/1974	3/20/2012	No	41	$64,812	$8,189,633	186	$2,107,315
Freedom Township	421388	1/31/1975	3/2/2012	No	59	$73,428	$10,394,040	58	$427,086
Greenfield Township	421389	2/14/1975	3/2/2012	No	57	$64,397	$8,618,040	48	$285,130
Hollidaysburg Borough	420162	10/12/1973	3/2/2012	No	39	$99,163	$5,593,593	158	$1,517,297
Huston Township	422332	1/10/1975	3/2/2012	No	8	$9,355	$1,635,030	0	$0
Juniata Township	421390	12/27/1974	3/2/2012	No	5	$5,598	$753,690	0	$0
Logan Township	421391	1/3/1975	3/2/2012	No	71	$75,739	$15,431,506	37	$102,918
Martinsburg Borough	421384	12/20/1974	3/2/2012	No	0	$0	$0	0	$0
Newry Borough	422333	2/7/1975	3/2/2012	No	1	$800	$238,650	0	$0
North Woodbury Township	421392	1/24/1975	3/2/2012	No	2	$1,321	$155,400	0	$0
Roaring Spring Borough	420163	2/1/1974	3/2/2012	No	6	$7,009	$576,090	3	$16,298
Snyder Township	421393	1/10/1975	5/2/2018	No	36	$82,878	$6,134,431	21	$468,921
Taylor Township	421394	1/17/1975	3/2/2012	No	7	$6,067	$869,130	10	$26,603
Tunnelhill Borough	422689	*Tunnelhill Borough is Listed in Cambria County for NFIP Purposes*							
Tyrone Borough	420164	12/21/1973	5/2/2018	No	101	$137,301	$16,492,097	108	$912,584
Tyrone Township	421395	12/13/1974	5/2/2018	No	6	$6,052	$684,315	9	$116,397
Williamsburg Borough	420165	11/30/1973	3/2/2012	No	18	$30,933	$2,057,940	61	$786,697
Woodbury Township	420963	3/15/1974	3/2/2012	No	4	$6,681	$553,520	7	$36,696
Blair County	**427777**				**855**	**$1,290,768**	**$148,589,174**	**1117**	**$9,410,318**

Table 93: Floodplain Coordinators

Municipality	Coordinator	Email	Phone Number
City of Altoona	Rob Crossman Engineer Dept.	rcrossman@altoonapa.gov	814-949-2483
Borough of Bellwood	Hope Ray	hrapy@bellwoodborough.com	814-742-8591
Borough of Duncansville	Jerrica Grance	jerrica@duncansvillepa.org	814-695-7543
Borough of Martinsburg	n/a	n/a	n/a
Borough of Newry	n/a	n/a	n/a
Borough of Roaring Spring	Joe Keller	jkeller@keller-engineers.com	814-696-7430
Borough of Tunnelhill	Allen Lego	Legoakl007@gmail.com	814-505-9204
Borough of Tyrone	Colby Pannebaker	cpannebaker@tyroneboropa.com	814-684-1330
Borough of Williamsburg	Joseph Lansberry	Jll16693@gmail.com	814-832-2051 (TWP) 814-312-7837 (C)
Township of Allegheny	Silke Morrison	secretary@alleghenytownship.us	814-695-9563
Township of Antis	Chris Dutrow	cdutrow@stiffler-mcgraw.com	814-696-6280
Township of Blair	Jeff Shaffer	Code10@pacodealliance.com	717-496-4996
Township of Catharine	n/a	n/a	n/a
Township of Frankstown	Roger White	roger@frankstowntwonship.com	814-695-7151 (twp) 814-330-6367
Township of Freedom	Edward Bender	twp@freedomtownshippa.com	814-329-1108
Township of Greenfield	Ami Fether	afether@greenfieldtownshippa.gov	814-239-5313 x2
Township of Huston	Nicole Stolzfus	Hustwp@outlook.com	814-793-2381
Township of Juniata	Dawn Brawley	juniatatwpblairctysecretary@outlook.com	814-693-0620
Township of Logan	Cassandra Schmick	cshmick@logantownship-pa.gov	814-944-5349
Township of No Woodbury	Cary Shaw	secretary@northwoodburytwp.com	814-793-4357
Township of Snyder	Dixie Confer	dixie.syndertwp@comcast.net	814-683-1048
Township of Taylor	Tim Laird	Taylor16673@gmail.com	814-932-6649
Township of Tyrone	Andrew Harpster	Andrewharpster24@gmail.com	814-329-6845
Township of Woodbury	Kelsie Lego	woodburyblair@comcast.net	814-832-2296

Substantial Damage

Substantial damage means damage of any origin sustained by a structure whereby the cost of restoring the structure to its before damaged condition would equal or exceed 50 percent of the market value of the structure before the damage occurred. (Code of Federal Regulation Title 44 59.1) If your home or business is damaged by a flood, you may be required to meet certain building requirements in your community to reduce future flood damage before you repair or rebuild. To help you cover the costs of meeting those requirements, the National Flood Insurance Program offers Increased Cost of Compliance (ICC) coverage. (FEMA) Flood insurance policyholders in high-risk flood areas (AKA flood hazard areas) may receive up to 30,000 USD to help offset the costs to bring their home or business into compliance with their local community's floodplain management ordinance or regulation. Four options are covered:

- Elevation – Raising your home to or above the flood elevation level adopted by your community.
- Demolition – Tears down and removes flood-damaged buildings.
- Relocation – Moves your home or business out of harm's way.
- Floodproofing – Option is available primarily for non-residential buildings. Involves making a building watertight through a combination of adjustments or additions of features to the building that reduces the potential for flood damage.

Written Plan for Substantial Damage

We currently do not have a county level consistent process to determine substantial damage, but this is in our Mitigation Actions Plan Section 6.4. Determining substantial damage and filing for ICC is delegated to each floodplain coordinators station in each region. Each floodplain coordinator will work with the person filing for claim to help getting accurate estimates from contractors for each of the four options. Floodplain coordinators will either inspect or work with a contractor to inspect and issue a certificate of occupancy or a confirmation letter.

Floodplain Capability

Our current resources for floodplain capability varies greatly by each Floodplain Coordinator (some municipalities do not even have one), location (some regions do not have a large river through their area), administrative capabilities, funding, and access to training (For example the city of Altoona's floodplain manager is head of Engineering Department and regularly attends floodplain management training, but others do not have that educational background and access to training). The capability planners do have is imposing floodplain ordinances through building permit process but lacks the detailed knowledge of a floodplain manager.

Checking In with NFIP Information

To understand our capability with the National Flood Insurance Program, we sent a NFIP worksheet to each of our floodplain coordinator on a short notice. We received 4 responses stored in Appendix C. The most detailed response with almost every question answered was from our floodplain coordinator in Altoona – our largest town with the most resources. From the Borough of Williamsburg and Woodbury Township we only got confirmation that we do not have a substantial damage/substantial improvement procedure without our worksheet filled out. Although this isn't confirmation of our limited capability in this area, it strongly suggests that we have limited capability in this neglected area and could do much more to ensure each floodplain coordinators have access to training and take training offered.

Region III of the Federal Emergency Management Agency makes available to communities, an ordinance review checklist which lists required provisions for floodplain management ordinances. This checklist helps communities develop an effective floodplain management ordinance that meets federal requirements for participation in the National Flood Insurance Program.

Act 166 mandates municipal participation in and compliance with the National Flood Insurance Program. It also establishes higher regulatory standards for new or substantially improved structures which are used for the production or storage of dangerous materials (as defined by Act 166) by prohibiting them in the floodway. Additionally, Act 166 establishes the requirement that a Special Permit be obtained prior to any construction or expansion of any manufactured home park, hospital, nursing home, jail and prison if said structure is located within a special flood hazard area. As new Digital Flood Insurance Rate Maps are published, the Pennsylvania State National Flood Insurance Program Coordinator at the Department of Community and Economic Development works with communities to ensure the timely and successful adoption of an updated floodplain management ordinance by reviewing and providing feedback on existing and draft ordinances.

As a direct result of the 2012 Flood Insurance Rate Map updates, the Mayor of Tyrone engaged the United States Army Corps of Engineers Silver Jackets Team to undertake a full floodplain analysis of the Little Juniata River and certain tributaries that have a flooding impact on Tyrone. This resulted in a five-year project that provided specific floodplain delineations for the study area that reflected a much more accurate depiction of the floodplain in the Tyrone Area. The study impacted a half dozen municipalities in two counties and was completed in 2017 with the adoption of floodplain ordinance amendments recognizing the new maps.

The Pennsylvania Department of Community and Economic Development provides communities with suggested model ordinances to assist municipalities in meeting the minimum requirements of the National Flood Insurance Program along with the Pennsylvania Flood Plain Management Act. These model ordinances were recently updated with enhanced requirements and are being distributed to the municipalities of the Commonwealth, with Blair County among the first to receive them. In 2018, all Blair County municipalities are in full compliance with this new Department of Community and Economic Development effort. These new model ordinances contain provisions that are more restrictive than state and federal requirements, including:

- Prohibition of manufactured homes in the floodway
- Prohibition of manufactured homes within the area measured fifty feet landward from the top-of bank of any watercourse within a special flood hazard area
- New standards on fill within the special flood hazard area
- Special requirements for recreational vehicles within the special flood hazard area
- Special requirement for accessory structures
- Prohibition of new construction and development within the area measured fifty feet landward from the top-of bank of any watercourse within a special flood hazard area
- Providing the Blair County Conservation District an opportunity to review and comment on all applications and plans for proposed construction or development in identified floodplain areas

The National Flood Insurance Program's Community Rating System provides discounts on flood insurance premiums in those communities that establish floodplain management programs that go beyond National Flood Insurance Program minimum requirements. Under the Community Rating System, communities

receive credit for more restrictive regulations; acquisition, relocation, or floodproofing of flood-prone buildings; preservation of open space; and other measures that reduce flood damages or protect the natural resources and functions of floodplains.

The Community Rating System was implemented in 1990 to recognize and encourage community floodplain management activities that exceed the minimum National Flood Insurance Program standards. Subsequent program amendments specifically include incentives to reduce the risk of flood-related erosion and to encourage measures that protect natural and beneficial floodplain functions. These goals have been incorporated into the Community Rating System and communities now receive credit toward premium reductions for activities that contribute to them.

Under the Community Rating System, flood insurance premium rates are adjusted to reflect the reduced flood risk resulting from community activities that meet a minimum of three of the following Community Rating System goals:

- Reduce flood losses
- Protect public health and safety
- Reduce damage to property
- Prevent increases in flood damage from new construction
- Reduce the risk of erosion damage
- Protect natural and beneficial floodplain functions
- Facilitate accurate insurance rating
- Promote the awareness of flood insurance

There are ten Community Rating System classes. Class 1 requires the most credit points and gives the largest premium reduction; Class 10 receives no premium reduction. Community Rating System premium discounts on flood insurance range from five percent for Class 9 communities up to 45 percent for Class 1 communities. The Community Rating System recognizes 18 credible activities, organized under four categories: Public Information, Mapping and Regulations, Flood Damage Reduction and Flood Preparedness.

Table 94: Community Rating System

CRS Class	Discount in 100-year floodplain	Discount outside 100-year floodplain	Credit points required
1	45%	10%	4,500
2	40%	10%	4,000
3	35%	10%	3,500
4	30%	10%	3,000
5	25%	10%	2,500
6	20%	10%	2,000
7	15%	5%	1,500
8	10%	5%	1,000
9	5%	5%	500
10	0%	0%	0

All municipalities indicated that they participate in the National Flood Insurance Program, although two boroughs have no regulatory floodplains within their boundaries. Currently, Altoona is the only municipality that has successfully entered the Community Rating System program. Additional promotion will be conducted on the Community Rating System program and mitigation actions will be developed in support of the Community Rating System.

5.2.2 ADMINISTRATIVE AND TECHNICAL CAPABILITY

There are two home rule municipalities, eight boroughs, and fifteen townships within Blair County. Each of these municipalities conducts its daily operations and provides various community services according to local needs and limitations. Some of these municipalities have formed cooperative agreements and work jointly with their neighboring municipalities to provide services such as equipment purchase and maintenance, emergency response, infrastructure maintenance, water and sewer supply management, and regulatory compliance. Others choose to operate on their own. Municipalities vary in staff size, resource availability, fiscal status, service provision, constituent population, overall size and vulnerability to the profiled hazards.

County Planning Department

In Pennsylvania, planning responsibilities traditionally have been delegated to each county and local municipality through the Municipalities Planning Code. A planning agency acts as an advisor to the governing body on matters of community growth and development. In Blair County, the municipalities petitioned the county commissioners, and a unique form of planning was created in 1964. Blair Planning is the county planning agency but is financially supported by and provides services to all municipal governments in the county. The organization is independent from the county, and provides for its own staff functions, payroll, and work assignments. Each municipality provides a local contribution at an equal rate, currently 42¢ per capita. The county is also to provide space and utilities *ex gratia* in addition to its financial contribution.

Blair Planning is assigned to undertake the necessary studies and research necessary for policy, programmatic, and regulatory efforts. These generally include the comprehensive plan, storm water management, floodplain administration, housing, hazard mitigation, solid waste, transportation, public health, recreation, and energy. Additionally, the organization assists municipalities with the development of zoning, subdivision, land development, floodplain, storm water, airport hazard, and similar ordinances as well as addressing local issues as they may arise.

Geographer

A geographer is concerned with site, situation, and spatial relationships. They study the Earth and the distribution of its land, features, and inhabitants. They also examine political or cultural structures and study the physical and human geographic characteristics of regions ranging in scale from local to global. One of the tools used heavily by geographers is a geographic information system. A geographic information system is an integrated, computer-based system designed to capture, store, edit, analyze and display geographic information. Some examples of uses for this technology in local government are land use planning, land records management, infrastructure management, and natural resources planning. A geographic information system automates existing operations such as map production and maintenance, saving a great deal of time and money. The geographic information system also includes information

about map features such as the capacity of a municipal water supply or the acres of public land. It is utilized by most of the Blair County Departments and Offices. In addition to Blair Planning, the county and three municipalities have this capability. The other units of local government are served by Blair Planning through their local share contributions.

Design Professionals

A municipal engineer performs duties as directed in the areas of construction, reconstruction, maintenance and repair of streets, roads, pavements, sanitary sewers, bridges, culverts and other engineering work. The municipal engineer prepares plans, specifications and estimates of the work undertaken by the municipality. Every municipality within Blair County subcontracts a municipal engineer.

Other design professionals that occasionally perform work for municipal governments include architects, surveyors, and landscape architects. Each has a specific role in design. Architects are concerned with buildings and structures. Landscape architects generally design around the building and up to a neighborhood level. Surveyors focus on the location of objects and lines on the surface of the planet. These design professions are contracted out on an as needed basis by all municipalities in the county as well as the county itself. One exception is that Altoona has its own survey corps.

Because design plays a large role in resiliency, it is important that all design professionals understand how their designs can impact – or be impacted by – the various hazards possible in the community. Many of the professionals practicing in Blair County are aware of these elements and strive to include mitigation measures in their designs at all levels.

Emergency Management Coordinator

Emergency Management is a comprehensive, integrated program of preparedness, response and recovery for emergencies/disasters of any kind. No public or private entity is immune to disasters and no single segment of society can meet the complex needs of a major emergency or disaster on its own.

A municipal emergency management coordinator is responsible for emergency management – preparedness, response, and recovery within the respective authority having jurisdiction. The responsibilities of the emergency management coordinator include:

- Prepare and maintain a current disaster emergency management plan
- Establish, equip and staff an emergency operations center
- Provide individuals and organizational training programs
- Organize and coordinate all locally available manpower, materials, supplies, equipment and services necessary for disaster emergency readiness, response and recovery
- Adopt and implement precautionary measures to mitigate the anticipated effects of a disaster
- Cooperate and coordinate with any public and private agency or entity
- Provide prompt information regarding local disaster emergencies to appropriate Commonwealth and local officials or agencies and the public
- Participate in all tests, drills and exercises, including remedial drills and exercises, scheduled by the agency or by the federal government

Blair County and its municipalities are required by law to have an emergency management coordinator. The Blair County Department of Emergency Services coordinates countywide emergency management efforts. Currently, all municipalities in Blair County have an appointed Emergency Management Coordinator.

5.2.3 POLITICAL CAPABILITY

Political capability is difficult to measure with no objective universal standard. However, we can use perceived political capability by each municipality to gauge their ability while acknowledging its flaws of personal bias. Mitigation actions and projects can be viewed as unnecessary cost and a lower priority than other objectives – until emergencies happen. Local perspective must be considered when selecting mitigation actions to pursue since political capability is a major barrier for regions with small population and unheard perspectives.

Most officials interviewed (and public participating) understand the need for administration, regulation, policies, and investment to reduce, mitigate, or prevent risk before disasters or emergencies occur. However, this support can change depending on each official and public's understanding of emergency management. This especially difficult if a project needs a shared understanding among many officials, delegation of project to an individual for accountability, time spend learning, grant writing, and public inclusion, economical cost, expected timeframe, and benefits gained. This complexity can lead to projects pursued in places with high political capability leaving small regions neglected.

Overall, local leaders appear willing to consider the mitigation measures identified in this plan. At the same time, recent reassessment has increased sensitivity to additional spending, and funding long-term mitigation with local tax dollars may be difficult without outside assistance.

5.2.4 FINANCIAL CAPABILITY

Financial capability is significant to the implementation of hazard mitigation activities. Every jurisdiction must operate within the constraints of limited financial resources. The following information pertains to various financial sources relevant to hazard mitigation.

Local Funds

A community must be willing to invest before it can reasonably expect others to make a similar investment. This is a basic premise of the comprehensive plan, and it is true with mitigation projects. Local investment comes from either the tax levy or municipal bonds and must be committed prior to the request for outside assistance. The following discuss potential methods for local financing.

Because most capital investments involve the outlay of substantial funds, local governments can seldom pay for these facilities through annual appropriations in the annual operating budget. Therefore, numerous techniques have evolved to enable local government to pay for capital improvements over a period exceeding one year. The state Department of Community and Economic Development publishes literature on municipal financing tools, which classifies techniques that are used to finance capital improvements. The techniques include revenue bonds, lease-purchase, authorities, special districts, current revenue, reserve funds, and tax increment financing. Most municipalities have very limited local tax funds for capital projects, however with some forethought and creativity, reliance on others (and the loss of local control that comes with that reliance) can be limited.

Capital Improvement Plan

The capital improvements plan is a multi-year policy guide that identifies needed capital projects and is used to coordinate the financing and timing of public improvements. Capital improvements relate to streets, storm-water systems, water distribution, sewage treatment and other major public facilities. A capital improvements plan should be prepared by the respective county's planning department and should include a capital budget. This budget identifies the highest priority projects recommended for funding in the next annual budget. The capital improvements plan is dynamic and can be tailored to specific circumstances.

The plan identifies the needs, prioritizes those needs based on community-driven criteria, and provides a blueprint for the community to follow when developing annual budgets and considering bonds, loans, cooperative agreements, amortization, and grants. The plan may include the type of financing anticipated with the municipality preparing such legal instruments as are necessary in advance to obtain the monies for the project or equipment in a timely manner. The capital improvement plan helps to eliminate the surprises that can arise with municipal turnover and long-lived equipment or installations.

General Obligation Bonds

Some projects may be financed with general obligation bonds. A general obligation bond is secured by an issuing government's pledge to use all available resources — even tax revenues — to repay holders of the bond.

At the local government level, pledges may include a pledge to levy property taxes to meet the local government's obligation on the bondholders. For example, since property owners avoid losing their stake on their respective properties because of unpaid property tax bills, credit rating agencies rate general obligation pledges with strong credit qualities and assign them high investment grade ratings. If the property owners cannot pay their property taxes on or before the designated due date, the government is legally allowed to increase the property tax rate to make up for any delinquencies. On the designated due date, the general obligation pledge requires the local government to cover the debt with its available resources.

General obligation bonds also serve as a way for local governments to raise funds for projects that create streams of income for things such as roads, parks, equipment, and bridges. General obligation bonds are usually used to fund government projects that will serve the public community.

Municipal Authorities

Municipal authorities are most often used when major capital investments are required. In addition to water and sewage treatment, municipal authorities have been formed for airports, bus transit systems, industrial development, parking, swimming pools and other purposes. Joint authorities have the power to receive grants, borrow money and operate revenue generating programs. Municipal authorities are authorized to sell bonds, acquire property, sign contracts and take similar actions. Authorities are governed by authority board members, who are appointed by the elected officials of the member municipalities. Blair County has twenty-four identified authorities.

General Authorities are formed for the purpose of raising revenue, incurring debt, financing, and managing municipal capital projects. The can take on an open format to accommodate future needs, or can be formed for a specific purpose, such as funding support for transportation, health care, or recreation.

Revenue is derived from the facility or service provided such as transit fares, hospital charges, or pool passes in the park.

Sewer Authorities include multi-purpose authorities with sewer projects. They sell bonds to finance acquisition of existing systems or for construction, extension, or system improvement. 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 by 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.



Water Authorities are multi-purpose 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 construction or extending water supply lines can be funded by special assessments against abutting property owners. Tapping fees also help fund water system capital costs.

Redevelopment Authorities are governed by the Urban Redevelopment Act of 1945, the first of its kind in the nation. Limited to counties, cities, and boroughs large enough to convert to a third-class city, the redevelopment authority has broad powers to reshape a city block or entire neighborhood. If the area is blighted (by the definition in state law), the redevelopment authority can, in conjunction with the relevant planning agency, produce a redevelopment plan for the area. Through this plan, the redevelopment authority can overcome past mistakes in development; redesign housing, businesses, streets, and utilities; identify and obtain financing; and partner with a redeveloper to carry out the redevelopment plan. This can be a powerful tool in areas prone to such hazards as flooding where redesign is the best long-tern option. A more recent amendment allows for removal of spot blight on an individual property basis.

Storm Water Authorities are special-purpose authorities that essentially convert storm water management into a utility. Since many areas pipe and control storm water through infrastructure similar to drinking water and waste water, the use of an authority for a similar purpose is a logical extension of the traditional municipal authority. The storm water authority supports storm water planning, implementation, and management through its own fee structure, thereby relieving the municipality of the storm water burden. They are particularly useful in MS4 areas where financing for mitigation projects and maintenance of facilities to higher standards can be difficult otherwise.

Depreciation

Tangible capital assets represent a significant investment for local governments. Presently there is no generally accepted definition of a tangible capital asset, and local government practices surrounding capital assets can vary quite considerably. Financial information about the stock and use of tangible capital assets is generally not being provided in the financial statements of local governments. This information is seen to be vital for purposes of stewardship, accountability, benchmarking, performance reporting and asset management plans, including ongoing maintenance and replacement requirements.

Depreciation is the expensing of a fixed asset over its useful life. Fixed assets are tangible assets, meaning they are physical assets that can be touched. Some examples of fixed or tangible assets that are commonly

depreciated include buildings, equipment, office furniture, vehicles, land, and machinery. Since tangible assets might have some value at the end of their life, depreciation is calculated by subtracting the asset's salvage value or resale value from its original cost. The difference is removed in equal intervals over the years of the expected life of the asset. By taking this amount and placing it in savings, a large portion of the replacement cost will be available when the need arises at the end of the life-cycle of the asset.

Municipal Cooperation and Coordination

Intermunicipal cooperation allows municipalities the ability to join together to accomplish a common goal. The goal is to provide equipment, staff, or municipal fixtures that benefit multiple municipalities by sharing the cost. Many municipalities are too small to make such purchases for their own operations, yet need the item in question to provide expected municipal services. Municipalities can jointly obtain what no one municipality could obtain on its own. An example in Blair County is the Intermunicipal Storm Water Committee, formed by thirteen municipalities to provide the required elements of the National Pollutant Discharge Elimination System permit for those municipalities Municipal Separate Storm Sewer Systems (MS4). There are others, such as in northern Morrison Cove, where three municipalities have an agreement to share road equipment and staff as needed.

The new comprehensive plan calls for increased municipal cooperation and coordination, and the Blair County Chamber of Commerce Policy Committee has taken the lead on implementing that element. When Blair Planning was created, it was placed under the guidance of the Government Advisory Committee, which is a cooperative body. That body is identified in the comprehensive plan as eventually taking the lead on the cooperation issue.

Municipal cooperation can also assist in emergency response. Emergency Medical Services are provided throughout the county through intergovernmental agreements and authorities. Similar solutions could be available for police and fire services; an identified concern through both the outreach workshops and public surveys. This could overcome the lack of local police in some areas as well as the lack of volunteers in many of the fire companies.

State and Federal Grants

During the 1960s and 1970s, state and federal grants-in-aid were available to finance a large number of municipal programs, including streets, water and sewer facilities, airports, parks and playgrounds. During the early 1980s, there was a significant change in federal policy, based on rising deficits and a political philosophy that encouraged states and local governments to raise their own revenues for capital programs. This trend is continuing at both the state and Federal levels, leaving many municipalities needing to provide projects and services on their own, or forego them completely.

This plan will not attempt to identify individual grant and loan programs. This was done in a previous planning effort, only to see over half the programs zero-funded in the subsequent fiscal year. Following is a list of state and Federal agencies that provide relevant funding for the projects in this plan.

- CFA/DCED Flood Mitigation Program
- CFA/DCED H2O PA Flood Control Projects
- CFA/DCED H2O PA High Hazard Unsafe Dam Projects
- CFA/DCED H2O PA Water Supply, Sanitary Sewer and Storm Water Projects
- CFA/DCED PA Small Water and Sewer

- DCNR Community Conservation Partnerships Program
- DCNR Pennsylvania Heritage Areas Program
- DCNR Pennsylvania Recreational Trails Program
- DCNR Land & Water Conservation Fund
- DCED Business Financing
- DCED Keystone Communities Program
- DCED Local Government Capital Project Loan Program
- DCED Municipal Assistance Program
- DEP Growing Greener Program
- Land Use Planning and Technical Assistance Program
- PennDOT Pennsylvania Infrastructure Bank Loan
- Pennsylvania Infrastructure Investment Authority (PENNVEST)
- Pennsylvania Redevelopment Assistance Capital Program
- US Department of Commerce/Economic Development Authority Construction Grant Program
- US Department of Commerce/Economic Development Authority Planning Grants
- US Department of Commerce/Economic Development Authority Revolving Loan Fund
- US Department of Commerce/Economic Development Authority Technical Assistance Grants
- US Department of Energy Weatherization Assistance Program
- US Department of Homeland Security Grant Program
- US Department of Housing and Urban Development Community Development Block Grant
- US Department of Transportation/Federal Highway Administration Emergency Relief Program
- FEMA Community Assistance Program – State Support Services Element
- FEMA Community Disaster Loan Program
- FEMA Community Rating System
- FEMA Emergency Management Performance Grants
- FEMA Environmental Planning and Historic Preservation Program
- FEMA Flood Mitigation Assistance Program
- US Small Business Administration

5.2.5. EDUCATION AND OUTREACH

Blair County has an expansive education and outreach program. It was one of the primary work elements of the 2013 hazard mitigation plan which was continued in the 2018 and 2026 HMP. Blair Planning has a preparedness section on its webpage and maintains a hazard mitigation awareness section in each of the eight public libraries in the county. The Blair County Department of Emergency Services conducts some public outreach at public events to update the citizens and visitors of the county on natural and human-caused hazards and hosts the annual SARA Summit each spring. The county conservation district conducts outreach on various activities and projects in the county, many of which are related to or directly impact hazard mitigation projects.

Education and outreach on the National Flood Insurance Program continues to be necessary. The new ordinances relative to floodplain management endorsed by the Department of Community and Economic Development, updated digital flood insurance rate maps, and new rate structures for insurance policies, necessitate continues outreach not only to the elected officials, but municipal staff, and the public as well. Outreach is needed for the Community Rating System to reduce the cost of flood insurance in some income-critical areas.

5.2.6. PLAN INTEGRATION

There are numerous existing regulatory and planning mechanisms in place at the state, county and municipal level of government which support hazard mitigation planning efforts. These tools include the 2023 Commonwealth of Pennsylvania Standard All-Hazard Mitigation Plan, *Alleghenies Ahead*, the Long-Range Transportation Plan, Blair County Emergency Operations Plan, local emergency operation plans, local zoning ordinances, local subdivision and land development ordinances, local floodplain management ordinances, and similar efforts.

Blair County Planning Commission are involved in hazard mitigation planning, comprehensive/strategic planning, and transportation planning. The former planning director who was involved with the Alleghenies Ahead, The Blair County 2025-2050 Long Range Transportation Plan, other planning related events, worked along with stakeholders finalized the mitigation actions in the 2025 Mitigation Action Plan. As opposed to just relying on the planning director being involved in all local plans, an existing plan review can be conducted to integrate elements of hazard mitigation from all local plans before the hazard mitigation plan update.

One of the major Blair County goals in the Alleghenies Ahead comprehensive plan have been fully considered and addressed in this hazard mitigation plan update – cooperation and coordination. Recommendations from this plan update will be considered for the storm water management plan. Information from the Community Rating System for NFIP was used to inform and understand floodplain management strategy.

Storm-water management plans are essentially non-existent in Blair County. Two watersheds were completed nearly twenty years ago and never kept up to date. One watershed had a preliminary study completed, but the actual management plan and subsequent ordinances were never started. None of the other watersheds – including the largest – were ever considered. Blair Planning is currently developing a countywide storm water management plan. As part of the development of the storm water management plan, Blair Planning will ensure that hazard mitigation data and principles – particularly flood hazard issues – are implemented where appropriate.

Blair County is a smaller county with a very limited amount of population and resources to appropriately ensure and implement hazard mitigation principles into all regulatory tools. Blair Planning will continue to explore options to further enhance the implementation of these principals utilizing already multi-tasked staff and resources and will review other local and state plans that could be impacted with hazard mitigation principals over the next five-year planning period.

Alleghenies Ahead: Shared Strategies for a Stronger Region

Article III of the Pennsylvania Municipalities Planning code requires all Pennsylvania counties, except Philadelphia, to adopt a comprehensive plan and update it at least every ten years. The Blair County Commissioners adopted *Alleghenies Ahead: Shared Strategies for a Stronger Region* as the county's comprehensive plan in July 2018. Five follow up plans from the Alleghenies Ahead have been published since then, all which Blair County was involved in – Southern Alleghenies Region CEDS (2025-2029), Alleghenies Ahead on Housing: A Regional Housing Strategy (Feb 2023), Alleghenies Outdoors: Moving the Recreation Economy Forward (Mar 2024), and Southern Alleghenies Recovery & Resilience Plan (Mar 2022).

Broadband and Wireless Service. Broadband and cellular services that are reliable and high quality are essential to economic competitiveness and public safety. Anecdotes abound about their shortcomings in the Southern Alleghenies. Of the six counties in the Southern Alleghenies, Blair County is the 'best served' although that level of service is still inadequate as compared to the larger urban areas and unreliable outside of the immediate Altoona area. Incidents like the active shooter in Reese and the CSX derailment in Hyndman exposed quite explicitly how inadequate the wireless communications system is in the region. AT&T has been selected by the First Responder Network Authority (FirstNet) to build and manage the first broadband network dedicated to America's police, firefighters and emergency medical services. The FirstNet network will cover all fifty states, five territories and the District of Columbia, including rural communities and tribal lands in those states and territories. It has already been implemented in the region because of the Hyndman incident.

The Southern Alleghenies Planning and Development Commission has formed a broadband task force to implement this goal of the plan. The task force is currently identifying gaps in coverage, funding sources, innovative methods to expand coverage, and economies of scale. A pilot system was initiated in Huntingdon County to test the viability of the co-op model for local rural service, and the task force is actively seeking relationships with the four electric co-ops in the region to emulate the service setup implemented in Tioga County around Wellsboro and Mansfield. With the adoption of this plan, greater focus will be given to the effects service gaps have on first responders on-site as well as the ability to disseminate information to the public regarding lockdowns, shelter in place orders, and general announcements. It is likely that Williamsburg will be the target of these considerations due to known communication issues in that area.

Cooperation and Coordination. The region's ability to implement its priorities and maintain critical asses is tied to how well a variety of partners work together. Many issues cut across municipal boundaries and require productive working relationships between multiple entities and sectors. Alleghenies Ahead represents acknowledgement by the entire region of the importance of collaboration and the potential power of a unified regional voice on select issues and the economic benefits when services, materials, and

equipment are shared. Many respondents had a concern on the capacity of two of three primary emergency response services: police and fire. Concern is that there are not enough personnel to serve a county where the demographics have shifted significantly since the current setup was implemented. Regional cooperation is one tool that could be used to address these concerns.

The Blair County Chamber of Commerce has a Policy Committee that has had intermunicipal coordination and cooperation as its focus for several years. This committee has agreed to undertake the implementation responsibilities for the cooperation and coordination goal of the comprehensive plan. The committee is aware of the prominence the issue has gained with the hazard mitigation planning process and is ready to assist with implementing a hazard mitigation focus as well. This element is more difficult to implement than most since it requires some surrendering of autonomy for the greater good. Many people in positions of authority recognize the value of this concept, but often feel it is best implemented elsewhere. Since some of the issues surrounding cooperation and coordination are new for the first responder community and are likely to directly impact positions of authority, the committee will be undertaking the implementation with great care and may lean on others where the first responder community is concerned.

Blair County 2025-2050 Long Range Transportation Plan

The Blair County 2025–2050 Long Range Transportation Plan is the Blair Metropolitan Planning Organization's (MPO) long-term guide for maintaining and improving the county's transportation system over the next 25 years. It was prepared by the Blair County Planning Commission with PennDOT, Federal Highway Administration, Altoona Metro Transit, and adopted by the Blair MPO on December 15, 2025. The preparation of this report has been financed in part through grants from the Federal Highway Administration and Federal Transit Administration, US Department of Transportation, under the State Planning and Research Program.

The plan describes how the MPO sets transportation priorities across Blair County by coordinating with municipalities, PennDOT, transit providers, and the public. It lays out a vision and a set of goals:

1. Support the economic vitality of the region
2. Increase the safety/security of the system
3. Increase accessibility and mobility
4. Protect and enhance the environment
5. Enhance the integration and connectivity of the transportation system
6. Promote efficient system management and operation
7. Emphasize the preservation of the existing transportation system
8. Improve the resiliency and reliability of the transportation system and reduce or mitigate storm water impacts
9. Enhance travel and tourism

It summarizes existing conditions and trends that shape transportation needs, including population and travel-demand context, major employers/industry mix, and the transportation network (highways/bridges, freight rail, passenger rail, transit, aviation, and walking/biking facilities). The plan emphasizes preserving and improving existing infrastructure while also addressing safety issues, access for seniors and people with disabilities, freight movement, and multimodal connections.

Finally, the plan presents a financially constrained program of projects and funding assumptions, including highway/bridge projects, interstate items, and the transit element, along with the process used to select projects. It also includes a system performance report tied to federal performance measures, plus documentation of public participation and comments in the appendix.

Southern Alleghenies Region Comprehensive Economic Development Strategy (CEDS) 2025-2029

The Southern Alleghenies Region Comprehensive Economic Development Strategy (CEDS) 2025–2029 (Advancing the Alleghenies) is a regional economic roadmap for Bedford, Blair, Cambria, Fulton, Huntingdon, and Somerset Counties. An up-to-date EDA-approved CEDS is required for the region to be eligible for certain Economic Development Administration funding which SAP&DC fulfilled. CEDS committee members from Blair County include Marty M. (ACTS-Altoona Office, private sector rep), Stephen M. (Altoona Blair County Development Corporation), Natalie T. (Penn Highlands Community College, Blair Center Director), Diana M. (Keller Engineers, private sector rep), and Beth Futrick (Blair County Conservation District).

Southern Alleghenies region is mostly rural and mountainous, with about 430,415 residents (2022 estimates) and a long-term population decline since 2000. Blair County is one of the two largest counties in the region (about 121,032 residents in 2022 estimates), the region is older than Pennsylvania and the U.S. overall. The workforce supply is tightening over time.

The aging and dated housing stock is a barrier to attracting residents and businesses. Vacancy is growing while demand exists for both market-rate and affordable units. Housing production has dropped since 2000 and that “new forms” of housing, especially multi-household housing are not being built often enough outside the more urbanized areas.

Infrastructure priorities include broadband. Broadband is identified as a key input for recruiting employers and talent. For Blair County specifically, the plan shows broadband structures as largely served (48,517 served; 352 underserved; 2,786 unserved) and contrasts this with counties in the region where access gaps are much larger. The plan describes the region’s broadband coordination work (task force efforts, a nonprofit structure, and leveraging multiple funding sources).

Regarding economy, there are workforce constraints (aging/declining demographics, people commuting out, difficulty attracting outsiders and young people) while also noting that productivity has increased even when population and employment drop. Using GDP as a key success metric we see that regional GDP increased from 2019 to 2022; it also summarizes wage levels and how Blair County compares within the region (Blair listed with higher average weekly wages than most peer counties in the region).

The plan uses a SWOT (strengths, weaknesses, opportunities, threats) plus a public survey approach to set direction. Examples of strengths include outdoor recreation, reliable highway infrastructure, and a strong agricultural sector; weaknesses include housing, childcare, and inconsistent broadband; opportunities include housing production/rehab, broadband expansion, business attraction/expansion, and regional branding; threats include an aging/declining workforce, brain drain, and limited local funding/tax base. Those themes are intended to shape the goals, objectives, and implementation/action plan sections for 2025–2029.

Alleghenies Ahead on Housing: A Regional Housing Strategy (February 2023)

Alleghenies Ahead on Housing is the Southern Alleghenies region's regional housing strategy. It explains why housing is a priority and provides a framework for counties and municipalities to make better decisions about housing policies and investments. Housing conditions, vacancy, and the ability to build or rehabilitate homes affect community stability, economic resilience, and long-term recovery after disasters. The Housing Advisory Committee had 2 Blair County person, Matt Pacifico (Mayor, City of Altoona) and Steve McKnight (President, Altoona Blair County Development Corp.)

The plan finds a long-term pattern of "soft demand" across the region. This means the private market often does not fix blight, improve housing conditions, or produce needed new housing on its own. Across the Southern Alleghenies, household totals have generally been stagnant or declining, while chronic vacancies increased sharply over time. Changing these outcomes requires deliberate, targeted interventions rather than waiting for the market to correct problems.

For Blair County there are mixed signals: since 2000, the number of households grew slightly (about 0.3%), and the home value-to-income ratio improved, suggesting healthier demand than some neighboring counties. At the same time, Blair County experienced the region's largest increase in chronically vacant housing units (a 339% increase between 2000 and 2020). The plan notes that relatively low prices and rents can create a financing gap. Housing may be affordable, but it can still be difficult to fund new construction or major rehabilitation at today's costs.

The plan lays out a practical vision and toolkit focused on:

1. Reducing vacancy and blight
2. Strengthen demand and private investment
3. Improving housing conditions for lower-income households in ways that support community vitality

Some range of tools to improve includes including stronger code enforcement approaches, targeted demolition/land banking, rehabilitation incentives, and strategies to make new housing feasible when costs exceed what the market will pay.

BRAVE incorporates Alleghenies Ahead on Housing by treating housing condition, vacancy/blight, and neighborhood stability as factors that shape hazard vulnerability and recovery capacity. In practice, this supports mitigation actions that reduce risk in the built environment (e.g., reducing blight that can contribute to fires and unsafe structures; improving housing quality so homes withstand hazards better; and using planning/code tools to guide safer reinvestment). The plan's emphasis on coordinating local partners and choosing the right tools for local market conditions aligns with BRAVE's approach to prioritize feasible actions that reduce long-term disaster losses and improve resilience.

Alleghenies Outdoors: Moving the Recreation Economy Forward (March 2024)

The Alleghenies Outdoors plan is an effort to define the current outdoor economy of Alleghenies region of Pennsylvania, to examine its strengths, weaknesses, and areas of opportunity, and to lay out a set of principles, strategies, and actions that can serve as catalysts. Other plans may place the environment as a lower priority. This plan prioritizes both environment and economy. 3 Blair County persons are represented in the Project Steering Committee, Matthew Fox (Altoona Blair County Development

Corporation), Rachel Prosser (Altoona Blair County Development Corporation), and Steve McKnight (Altoona Blair County Development Corporation).

The Alleghenies region of Pennsylvania hosts a diverse offering of outdoor recreation experiences, often located near the region's historic downtowns, residential areas and commercial centers. The economic impact of outdoor recreation in the region is seen in the 240+ private businesses that are directly involved in providing outdoor recreation goods, services, and experiences. Improving the outdoor recreation experience helps economically and with the environment.

Outdoor recreation is an economic driver in the region, but shared challenges has been revealed including:

- Increasing costs, uncertain funding streams, and limited volunteer capacity are challenges for maintaining recreational trails and facilities to a high standard of quality.
- Residents and visitors aren't always aware of recreational opportunities and aren't always welcomed in.
- There is limited state-level support for this economic sector compared to others.

Table 95: Number of Outdoor Recreation Business

Outdoor Recreation Provider Businesses by Category	
Category	**Count**
Biking	1
Whitewater/Paddle Sports	1
ATV/Off-Road	1
Campground	10
Fishing	1
Archery/Shooting/Hunting	1
Horseback Riding	1
Sleepaway Summer Camps	1

Blair County is a hub for outdoor enthusiasts. With many key trails such as Lower Trail, Mid State Trail, 9/11 National Memorial Trail, Bell's Gap Trail, and Upper Juniata River Water Trail. Blair County is defined by a strong population based and excellent access to regional trails. Some of the opportunities, needs, and initiatives are:

- Develop the mountain bike trails at Horseshoe Curve and Connect to Altoona
- Support the development of 9/11 Trail
- Develop consistent Trail Town standards along the Lower Trail and 9/11 Trail
- Expand offerings at Canoe Creek State Park
- Complete the Logan Valley Streetcar Trail

Southern Alleghenies Recovery & Resilience Plan (March 2022)

The Southern Alleghenies Recovery & Resilience Plan (March 15, 2022) is a regional strategy developed for the six-county Southern Alleghenies region (including Blair County) to strengthen long-term resilience after the COVID-19 disruption. It summarizes regional trends and identifies practical strategies meant to

improve the region's ability to withstand future economic shocks. The plan is organized around strategic priorities and includes best practices, socioeconomic trends, and implementation-focused guidance.

It is organized around 4 themes, Housing & Blight, Workforce Retention & Attraction, Quality of Place, and Remote Workers. Much of the region's housing stock is older (many homes built prior to 1940) and that housing options are not well-matched to modern needs, especially "middle-density" options like townhomes and cottage-style housing. It also identifies blight as a multi-faceted problem affecting property values and community identity, and it stresses that progress requires the right legal and funding tools plus targeted redevelopment strategies. The plan specifically flags Blair County as having the largest proportion of cost-burdened households among the counties studied.

The second major theme is workforce retention and attraction. The plan describes a tightening workforce driven by demographic trends and outmigration, and it notes that many employers would expand if more workers were available. It also observes that remote work trends accelerated during the pandemic, creating an opportunity for rural regions like the Southern Alleghenies—if housing supply and broadband capacity can support new residents. The plan includes guidance on how to approach worker attraction realistically (targeting, community buy-in, linking worker attraction to housing, and quality-of-place improvements).

A third theme is "quality of place," meaning the physical and social conditions that make communities attractive to live in (downtown vitality, arts/culture, recreation, amenities, and community identity). The plan notes that the region has strong natural and cultural assets but lacks a cohesive identity and clear "threads" connecting assets across counties. It recommends continued investment in amenities and better marketing/wayfinding so the region can convert those strengths into sustained economic momentum, especially in the area's main population centers such as Altoona and Johnstown.

BRAVE incorporates this plan by using it as a supporting reference for community vulnerability and resilience. Its findings reinforce why housing condition, blight, workforce capacity, and quality-of-place are relevant to hazard mitigation: they affect a community's ability to prepare, absorb impacts, and recover. The Recovery & Resilience Plan also aligns with the BRAVE capability and lifelines approach by emphasizing institutional coordination, housing and infrastructure capacity, and community resilience factors that influence how well Blair County can function during and after disruptive events.

Storm Water Management

As mentioned earlier, storm water management planning in Blair County has been lacking. This is primarily due to a lack of funding and an inability to do such a plan in-house. With the advent of the York County approach to storm water management planning and its endorsement by the Pennsylvania Department of Environmental Protection, staff is now able to undertake this important project.

The Pennsylvania Department of Environmental Protection entered a contract with Blair Planning in 2010 to complete a countywide storm water management plan, dependent on state funding for the project. In an odd twist, the intended funding source was zero-funded within a month of that agreement being signed. As a result, the countywide project has been deferred. Two watersheds have completed, but outdated, storm water management plans which are discussed below. The Little Juniata watershed has a phase one study, which was completed in 2003. The remaining watersheds have had no planning.

The Beaverdam Branch encompasses the southern half of Altoona and Logan Township, the vast majority of Duncansville, Hollidaysburg, and Allegheny Township, and portions of Blair Township and Frankstown Township. Appropriate ordinances were put in place in accordance with the plan, but those ordinances are out of date with current practice. The plan has not been updated since it was adopted in 1998.

The Bobs Creek watershed, which is one of the main headwaters of the Raystown Branch of the Juniata River, was completed by the Bedford County Planning Commission in 2003. It covers Greenfield and Juniata Townships in Blair County. Ordinances are in place that conform to the plan but again are not in conformance with modern practice. This plan has also not been updated since it was adopted.

Storm water management planning ties directly into hazard mitigation because of its close relationship to man-made flooding. Much of our flooding issues are exacerbated by poor development practices, some of which were done in ignorance. We now deal with these legacy developments, which should be retrofitted with modern storm water management facilities to reduce flooding impacts throughout the county. The countywide plan, proposed to begin in 2021, will directly make the connection between good storm water practices and flood mitigation.

We see the storm water management plan as a critical part of the flood mitigation activities throughout the county, as well as downstream. Flooding in the county is a natural phenomenon exacerbated by human activity. Much of the development built prior to 2000 directly contributes to the flooding problems the county experiences today. In defense of those developers, much was built in ignorance of the impact the development would have on flooding since much of the knowledge we now have was gained subsequent to the building activity.

The plan is expected to address the standard elements required by a storm water management plan in Pennsylvania, but also specifically include elements to address future development from a flood mitigation perspective. With the data available, an argument can also be put forth for the retrofitting of existing development to reduce its contribution to the current problem. Part of the storm water management planning process is the requirement that all municipalities within the jurisdiction of the plan adopt a storm water ordinance that implements the plan. As part of the plan development, (a) model ordinance(s) will be developed and recommended for municipal adoption.

Blair County Emergency Operations Plan

The Pennsylvania Emergency Management Services Code requires each county and municipality to prepare, maintain and keep current an Emergency Operations Plan. The Blair County Office of Emergency Services is responsible for preparing and maintaining the county's Emergency Operations Plan, which applies to both the county and municipal emergency management operations and procedures.

The Emergency Operations Plan is reviewed annually. Whenever portions of the plan are implemented in an emergency event or training exercise, a review is performed and changes are made where necessary. These changes are then distributed to the county's municipalities.

The complete risk assessment section, mitigation actions and mitigation project opportunities identified in the Blair County Hazard Mitigation Plan will assist with decreasing hazard specific risk and

vulnerability. Understanding the risks and vulnerability in the county and municipalities will allow for emergency management and other response agencies to better direct planning, response and recovery aspects.

Local Ordinances

The importance of local ordinances in hazard mitigation was discussed earlier; however, it bears repeating that coordinating the content of local ordinances – particularly those that deal with the built environment – can have a dramatic long-term benefit for communities in avoiding or reducing certain hazard situations.

Zoning: Zoning regulates the use of land and the height, bulk, and density of development. Most boroughs in the county have adopted a zoning ordinance, but only two townships have. In the rural areas, zoning is unwelcome and given recent development trends, unnecessary. Many of the municipalities that have zoning have integrated flood management into the ordinance. No mass amendments to zoning are anticipated as an implementation step to this plan.

Subdivision and Land Development: This ordinance regulates the actual development of the land. It generally includes provisions for street design, lot layout, environmental protection, and parking. Most townships have such an ordinance, but few boroughs do. Many have included storm water management requirements within the subdivision and land development ordinance. There are a few implementation steps that would benefit from some adjustments to some of the local subdivision and land development ordinances. These will be identified specifically, and Blair Planning will work with those municipalities needing an adjustment to adopt the needed amendment.

Floodplain Management: This ordinance regulates development activity within the regulatory floodplain as delineated on the Flood Insurance Rate Map and is a requirement for participation in the National Flood Insurance Program. All Blair County municipalities updated their flood management requirements to comply with the Pennsylvania Department of Community and Economic Development model in 2018. Additional adjustments may become necessary once the storm water management plan is completed. The extent of these adjustments cannot be determined at this time.

Storm Water Management Ordinance: Most municipalities have some form of storm water management ordinance loosely based on the requirements of the Beaverdam Branch Storm Water Management Plan. This plan is very much out of date and was not intended to provide policy direction outside its namesake watershed. All municipalities will be required to update their storm water management requirements once the new countywide plan is complete. Changes to these ordinances may impact the subdivision and land development ordinances and floodplain management ordinances as well.

Ensuring consistency between these planning mechanisms is critical. To that end, Blair County and its municipalities must ensure that the components of the hazard mitigation plan are integrated into existing community planning mechanisms and are generally consistent with goals, policies and recommended actions. Blair Planning will utilize the existing maintenance schedule of each plan to incorporate the goals, policies and recommended actions as each plan is updated.

Table 96: Local Emergency Management Coordinators

Municipality	Name	Address	City	Zip	Home	Work	Cell	Email
City of Altoona	Adam Free	1319 Washinton Avenue	Altoona	16601		949-2433	931-6670	afree@altoonapa.gov
City of Altoona	Arlene Kuntz					949-2230	931-7992	akuntz@altoonapa.gov
Allegheny Township	Silke Morrison	3293 Colonial Dr	Duncansville	16635		695-9563	502-4461	silkem09@gmail.com
Allegheny Township	Michael Luther						215-0138	michaelluther9@gmail.com
Antis Township	Jeff Farber	136 Franklin Circle	Altoona	16601	949-8788		949-8788	jfarber@antistownship.org
Antis Township	Jeff Mayers	2507 Trickey Ln.	Altoona	16601			660-4348	jeffmayers@verizon.net
Bellwood Borough	Jeff Farber	136 Franklin Circle	Altoona	16601	949-8788		949-8788	jfarber@antistownship.org
Bellwood Borough	Jeff Mayers	2507 Trickey Ln.	Altoona	16601			660-4348	jeffmayers@verizon.net
Blair Township	Lou Lusk				942-3447		207-1518	citseccon@gmail.com
Catharine Township	Bill Deters	305 East 2nd Street	Williamsburg	16693	832-9436	937-2761	937-2761	mrdeitz2003@gmail.com
Duncansville Borough	Eizu Fredrickson	1208 5th Avenue	Duncansville	16635	425-583-3231			eizu.fredrickson@gmail.com
Duncansville Borough	Rod Estep		Duncansville					restep@duncansvillepa.org
Frankstown Township	William Lightner	286 Jessica Street	Hollidaysburg	16648	814-317-7967		937-3734	billl40506@aol.com
Freedom Township	James Lang	2474 Everett Road	East Freedom	16637			502-3348	jlang28@yahoo.com
Freedom Township	Ed Bender	131 Municipal Street	East Freedom	16637			329-1108	twp@freedomtownshippa.org
Greenfield Township	Joe Claar		Claysburg	16625				jaclaar@atlanticbb.net
Hollidaysburg Borough	Chris Storm						329-4749	cstorm@hollidaysburgpa.org
Huston Township	Kari Chesney							
Juniata Township	Bruce Walters	985 Knob Road	Portage	15946	317-5057		312-7941	ramfire42@atlanticbb.net
Logan Township	Jeff Blake	100 Chief Logan Circle	Altoona	16602	946-4022	949-3359	931-0170	blake.jeff@verizon.net
Logan Township	Karen Hamel		Altoona				329-5175	khamel@ltfire.com
Martinsburg Borough	Rich Brantner, Jr		Martinsburg	16662	793-4689	793-3213	505-8582	rbrantner@martinsburgpa.org
Martinsburg Borough	Dustin Russell	628 Countryside Road	Martinsburg	16662	381-6290	793-3213	381-6290	drussell@martinsburgpa.org
Newry Borough	Allen Dodson	1016 Shamrock Lane	Newry	16665	695-5417		414-6571	Dlhutfles62@outlook.com

North Woodbury Township	Jeffery Ketner	113 Cranberry Road	Martinsburg	16662	695-6330	793-4897	329-7448	nwtpd@atlanticbbn.net
North Woodbury Township	Brandon Garman					660-3608		bgarmanbobcat@gmail.com
Roaring Spring	Shawn Dick							shawndick
Snyder Township	Samantha Kimberling				330-8622			smnthjo37@gmail.com
Snyder Township	Dixie Confer					684-1048		dixie.snydertwp@comcast.net
Taylor Township	Corey Eicher						330-7433	E3echoems@yahoo.com
Taylor Township								
Tyrone Borough	Michael Beckwith		Tyrone	16686				mbbb2020@gmail.com
Tyrone Township	Nick Delozier						931-0259	NickDelozier@gmail.com
Williamsburg Borough	Bill Deters	305 East 2nd Street	Williamsburg	16693	832-9436	937-2761	937-2761	mrdeitz2003@gmail.com
Woodbury Township	Bill Deters	305 East 2nd Street	Williamsburg	16693	832-9436	937-2761	937-2761	mrdeitz2003@gmail.com
County EMA Director	Mark Taylor				635-2312	940-5903	381-4193	mtaylor@blairco.org
EMA Ops/Training Coordinator	Cris Fredrickson				799-3929	940-5905	381-8433	cfredrickson@blairco.org
EMA Planner	Jeff Farber				949-8788	940-5902	505-8658	jfarber@blairco.org
EMA Admin	Hannah Mitchell					940-5901	656-3527	hmitchell@blairco.org

- SECTION 6 -

MITIGATION STRATEGY

6.0 MITIGATION STRATEGY

6.1 UPDATE PROCESS SUMMARY

The Blair County Hazard Mitigation Planning Committee reviewed the plan's goals, objectives, and actions during regular committee meetings as part of the five-year update. Committee members, public, stakeholders, local government officials, and first responders were invited to comment throughout the update process. The former draft plan was also posted on the Blair Planning website (www.blairplanning.org), and municipal correspondence directed communities to the website for meeting information and encouraged engagement and participation in the hazard mitigation planning process.

BRAVE 2025 Plan update was based in PEMA's *Pennsylvania: HMP Standard Operating Guide Update* (June 2025) and the older version from 2020. We supplemented PEMA's guide with these 3 FEMA documents: *FEMA: State Mitigation Planning Policy Guide* (May 19, 2025), *FEMA: Local Mitigation Planning Policy Guide* (April 11, 2025), and *FEMA: Local Mitigation Planning Handbook* (June 2025). For the High Hazard Potential Dam profile, we also utilized with *FEMA Region 3 High Hazard Potential Dams: Local and Tribal Mitigation Planning Tips* (June 2025). The update process followed these 4 main steps:

1. **Review of Goals and Objectives**: Goals and objectives from BRAVE 2018 Plan were reviewed in a public meeting open to public, stakeholders, first responders, and governmental officials. With their input, we updated the current hazard profiles, vulnerability and risk assessment results while comparing perspectives with updated data in each hazard profile. A comparison was then made with Pennsylvania's Hazard Mitigation Plan.
2. **Develop and Update Mitigation Strategies:** Mitigation actions were identified based on the risk assessment, goals and objectives, existing policies, public input, committee input, and municipal partners.
3. **Prioritization and Implementation:** Actions were evaluated qualitatively (see Section 6.4) and ranked as high, medium, or low priority. While high and medium actions are generally addressed first, final implementation depends on local needs, cost estimates, and available funding.
4. **Document the Process:** The entire mitigation planning process is documented throughout this Plan, particularly in Section 3.

6.1.1 2020 MITIGATION GOALS AND OBJECTIVES REVIEW

Mitigation goals are general guidelines that explain what the County wants to achieve. Goals are usually expressed as broad policy statements representing desired long-term results. Mitigation objectives describe strategies or implementation steps to attain the identified goals. Objectives are more specific statements than goals; the described steps are usually measurable and can have a defined completion date.

The 2020 Plan included 5 goals and 24 objectives; many of the goals and objectives had the same wording and intent but were hazard specific. During the 2020 update process, the Committee decided to condense the overlapping entries into one entry that addresses reductions in the possibility of damage and loss to existing community assets stemming from all hazards. This approach ensures that additional goals would not have to be added to the mitigation strategy if more hazards were added to the plan in the future and makes the mitigation goals and objectives easier to track during implementation. This section includes a review of the 2020 goals and objectives for inclusion in the 2025 Plan Update. A detailed discussion of goals and objective for the 2025 Plan is included in Section 6.2.

Table 97: 2020 Mitigation Goals and Objectives

2020 Mitigation Goals and Objectives		
Goals & Objectives	**Description**	**Status**
Goal 1	Continue public education and awareness of existing and potential hazards.	Ongoing
Objective 1A	Continue the annual SARA Summit	Suspended During COVID; Resumed and Ongoing Carried Forward to 2025 Plan
Objective 1B	Provide public outreach, training, and education relative to property owners' vulnerability as well as strategies to mitigate the risks from these hazards.	Suspended During COVID; Resumed and Ongoing Carried Forward to 2025 Plan
Objective 1C	Increase public awareness of which actions should be taken during an emergency	Ongoing Carried Forward to 2025 Plan
Objective 1D	Maintain a database that identifies a caller's medical conditions to 911	Ongoing Modified in 2025 Plan
Goal 2	Prevent injury and property damage from existing and potential hazards.	Ongoing
Objective 2A	Maintain database of critical facilities, structures, and populations including source(s) of vulnerability, level(s) of vulnerability, and protection measures needed.	Ongoing Modified in 2025 Plan
Objective 2B	Enhance planning efforts to identify and correct areas of increased transportation incidents across all modes.	Ongoing Carried Forward to 2025 Plan
Objective 2C	Direct new growth away from hazard-prone areas, or mitigate hazards in-place.	Ongoing Carried Forward to 2025 Plan
Objective 2D	Modify the regulatory environment to recognize and accommodate hazardous areas and situations.	Ongoing Carried Forward to 2025 Plan

Goal 3	Reduce the risk of flood damage throughout the county	Ongoing
Objective 3A	Encourage removal of man-made development in identified flood hazard areas	Ongoing Carried Forward to 2025 Plan
Objective 3B	Retrofit all developed areas with state-of-the-art best management practices, particularly at times of construction, demolition, change of use, or change of lease.	Ongoing Carried Forward to 2025 Plan May Shift into Act 167 Planning
Objective 3C	Maintain compliance with the National Flood Insurance Program requirements	Ongoing Modified in 2025 Plan
Objective 3D	Continue to promote and expand participation in the Community Rating System	Suspended During COVID; Resumed and Ongoing Modified in 2025 Plan
Objective 3E	Recognize and address the direct link between local flooding and storm water management practices	Ongoing Modified in 2025 Plan May Shift into Act 167 Planning
Objective 3F	Ensure existing drainage systems such as ponds, pipes, culverts, channels, and such are both adequate and functioning properly	Ongoing Carried Forward to 2025 Plan May Shift into Act 167 Planning
Objective 3G	Implement storm water mitigation projects in conjunction and/or cooperation with the Municipal Separate Storm Sewer System permit requirements under the National Pollution Discharge and Elimination System	Ongoing Carried Forward to 2025 Plan May Shift into Act 167 Planning
Goal 4	Enhance emergency services throughout the county	Ongoing
Objective 4A	Maintain high-quality responder training	Suspended During COVID; Resumed and Ongoing Carried Forward to 2025 Plan
Objective 4B	Monitor and ensure all high-hazard dams have a current emergency action plan	Ongoing Modified in 2025 Plan
Objective 4C	Promote participation in the local volunteer fire and rescue companies throughout Blair County	Ongoing Carried Forward to 2025 Plan
Objective 4D	Develop a plan to evaluate, identify, and address capacity overlaps and deficiencies in fire, police, and medical responder services	Ongoing Carried Forward to 2025 Plan
Objective 4E	Develop air hazard ordinances for helipads designated for emergency support services, including those at the various hospitals	Dropped
Objective 4F	Develop wireless and broadband infrastructure to provide communications support for emergency responders and critical personnel and facilities	Ongoing Modified in 2025 Plan
Goal 5	Protect natural areas that contribute to hazard mitigation	Ongoing

Objective 5A	Develop replicable stream bank stabilization and riparian buffer best management practices to eliminate erosion and reduce surface runoff into streams	Initial Documents Complete Modified in 2025 Plan
Objective 5B	Adopt a storm water management plan in compliance with the requirements of the Pennsylvania Department of Environmental Protection that also focuses on storm water management to mitigate flood impacts	Funded and Contracted Carried Forward to 2025 Plan
Objective 5C	Ensure highway maintenance and operations do not contribute to the degradation of natural areas and do not contribute to hazard situations	Ongoing Modified in 2025 Plan

6.1.2 2020 MITIGATION ACTION REVIEW

Mitigation actions provide detailed descriptions of specific work tasks to accomplish to achieve the mitigation goals and objectives. There were 55 actions identified in the 2020 Plan, which all participants and stakeholders discussed and/or reviewed during the planning process. This section provides a review of the status of the 2018 mitigation actions, and the determination on if the action is to be continued into the 2025 Mitigation Action Plan.

Table 98: Blair County 2020 Mitigation Actions Review

Blair County Mitigation Actions Review Worksheet						
No.	Former Mitigation Actions (2020 HMP)	STATUS				Location
		Deferred	Ongoing	Complete	Cancelled	
1.	Participate in the Regional Broadband Task Force		X			Countywide
2.	Work with FirstNet to install missing wireless infrastructure				X	Countywide
3.	Provide first responder and Emergency Operations Center training on a regular basis		X			Countywide
4.	Develop a capacity plan for first responders		X			Countywide
5.	Develop Continuity of Operations plans for all municipal governments, districts, and authorities		X			Countywide
6.	Develop a flood-inclusive storm water management plan		X			Countywide
7.	Offer and promote Smart 911		X			Countywide
8.	Maintain public awareness materials in the public library system		X			Countywide
9.	House a countywide flood administrator at / Blair Planning		X			Countywide

10.	Monitor high-hazard dam Emergency Action Plans		X			Countywide
11.	Continue NFIP Compliance		X			Each Municipality
12.	Implement program to remove dangerous trees killed by invasive species that are now a threat to roadways and community assets				X	Countywide
13.	Host the annual SARA Summit		X			Countywide
14.	Establish countywide radon awareness and testing program			X		Countywide
15.	Ensure the Metropolitan Transportation Plan includes freight analysis and identifies areas in the system with increased potential for incidents		X			Countywide
16.	Adopt air hazard ordinance to ensure access to the hospital helipads				X	Altoona, Roaring Spring and Taylor, Tyrone and Snyder
17.	Remove blighted properties to reduce the risk of urban fires and clandestine labs		X			Altoona, Bellwood, Martinsburg, Williamsburg
18.	Update land-based plans and ordinances		X			Blair, Catharine, Williamsburg, Woodbury
19.	Install dry hydrants in identified areas	X				Antis, Catharine, Frankstown, Freedom, Huston, North Woodbury, Taylor, Tyrone Twp, Williamsburg
20.	Implement a voluntary floodplain buyout program		X			Allegheny, Altoona, Blair, Duncansville, Frankstown, Freedom, Greenfield, Roaring Spring, Tyrone, Williamsburg
21.	Acquire generator for continuity of operations and/or shelters		X			Greenfield, Martinsburg, North Woodbury, Taylor, Williamsburg
22.	Establish an emergency shelter			X		Greenfield, Williamsburg
23.	Develop hazard response plan and work with railroad to address the bisection of the community by the Bald Eagle Railroad			X		Tyrone and Snyder
24.	Develop plan to lessen time the train is blocking Wye Switches area, Blair Street and consider eliminating Jones Street rail crossing	X				Hollidaysburg and Blair
25.	Address digital communication deficiencies (wired & wireless)			X		Williamsburg

26.	Study stream management on Brush Run between 5th and 17th Streets			X		Altoona
27.	Enhance participation in the Community Rating System and promote it to others		X			Altoona
28.	Increase storage capacity in Lakemont Pon in conjunction with Intermunicipal Storm Water Committee			X		Logan
29.	Implement obstruction removal, bank stabilization, and riparian buffer programs on all three streams in the borough		X			Duncansville
30.	Implement obstruction removal, bank stabilization, and riparian buffer programs along Poplar Run (Newry)		X			Newry
31.	Implement obstruction removal, bank stabilization, and riparian buffer programs along Poplar Run (Blair)		X			Blair
32.	Implement obstruction removal, bank stabilization, and riparian buffer programs along Juniata River and Beaverdam Branch	X				Frankstown
33.	Implement obstruction removal, bank stabilization, and riparian buffer programs along Poplar Run (Freedom)		X			Freedom
34.	Develop and provide program for invasive insect removal from houses, focusing on bedbugs				X	Altoona
35.	Commercial Vehicle Management Plan on Tunnelhill Street	X				Tunnelhill
36.	Study stream management on Spring Run relative to volume and velocity threatening adjacent housing			X		Altoona
37.	Establish better traffic control on High Street at First Street and Second Street	X				Williamsburg
38.	Address frequent wrecks and truck tip-overs on the Short Mountain S-Curves (US 22)			X		Catharine
39.	Address Plank Road flooding through a retrofit of best management practices onto commercial properties between PA 36 and I-99	X				Logan
40.	Address Plank Road flooding through a retrofit of best management practices onto commercial properties south of I-99	X				Allegheny
41.	Address runoff-induced flooding through a retrofit of best management practices onto commercial properties along PA-764	X				Allegheny
42.	Improve storm water drainage on Piney Creek Road at the south end of town to eliminate roadway damage and flooding of adjacent properties			X		Williamsburg
43.	Improve storm water drainage on Clover Creek Road as it descends into town to eliminate roadway damage and flooding of downhill properties			X		Woodbury

44.	Conduct study and upgrade or replace storm facilities on Ski Gap Road and Polecat Road		X			Greenfield
45.	Adress bridge on T-371 over Bobs Creek		X			Juniata
46.	Study Stream management on Mill Run along Union Avenue		X			Altoona
47.	Monitor progress and support implementation of freight traffic improvements along PA-764 between US-22 and the intermodal tank farm		X			Allegheny
48.	Remove retaining wall and re-grade area on Main Street near paper mill to stabilize the hillside and retain access on the highway and railroad			X		Roaring Spring
49.	Address rail tunnel safety concerns		X			Tunnelhill
50.	Provide new access to Woodland Terrace				X	Allegheny
51.	Provide new access to Penn Farms area via PA 36		X			Blair
52.	Install flashing signals and advance warning signs at rail siding crossing US 22 at Scotch Valley Road		X			Hollidaysburg
53.	Remove the eastern rail bridge at the wye near Tyrone Station to eliminate the obstruction the center pylon creates in the Little Juniata River	X				Tyrone
54.	Remove abandoned rail bridge at Plummer Hollow to eliminate obstruction the center pylon creates in the Little Juniata River	X				Snyder
55.	Address beaver dam flooding on the Bald Eagle Creek along Bald Eagle Valley Road			X		Snyder

As relates to the placement of dry hydrants, the following locations in the county were identified throughout the planning process:

- Antis Township: Little Juniata River at Tipton and Pinecroft as well as the Bells Gap Run at Tuckahoe Street and Grandview Road
- Catharine Township: Juniata River at Ganister and Mount Etna as well as Yellow Springs Run along Polecat Hollow Road
- Frankstown Township: Juniata River at Lind's Crossing, Reese, and Flowing Springs, and the Canoe Creek in Canoe Creek upstream and downstream at the reservoir
- Freedom Township: Poplar Run in the Puzzletown area
- Huston Township: Clover Creek at Miller Road and Piney Creek in Clappertown
- North Woodbury Township: Clover Creek in Henrietta and Fredericksburg, and the bridge in Millerstown if stream capacity is sufficient
- Taylor Township: Plum Creek in East Sharpsburg
- Tyrone Township: Multiple locations along the interaction between Sinking Run and Kettle Road
- Williamsburg Borough: in the industrial area

6.1.3 STATUS OF IDENTIFIED RELATED ACTIVITIES

Countywide Certified Floodplain Manager

The consensus remains that a countywide manager would be beneficial since many of the municipalities have limited staff and limited number of properties impacted by the regulatory floodplain. Blair Planning investigated housing the function within its organization, however the legal structure of the organization does not easily permit enforcement of regulations. This concept has been identified in the county comprehensive plan in 2018 as well as the planning commission's own strategic plan in 2020. Unfortunately, other issues facing the organization took priority. This remains a keen interest and will be further explored as part of the storm water management planning, and a framework for implementing a countywide manager implemented after adoption of the storm water plan.

Storm Water Management Planning

Thirteen municipalities that make up the Altoona urban area that are subject to the Municipal Separate Storm Sewer System (MS4) requirements of the National Pollution Discharge and Elimination System (NPDES) have formed an intergovernmental committee to deal with specific storm water funding and projects within that urban area. These efforts have gained widespread attention and are used as a model for other Multi-municipal regions. This committee has successfully completed several projects that have greatly improved storm water management and have had a positive impact on flooding. The most notable of these has been the reclamation of the pond in Lakemont, impounded by a county-owned high hazard potential dam. The reclamation of this pond has improved storm water management, the dam, and well as aquatic habitat and recreation opportunities.

Changes in some grant funding as well as changes in the approach the Pennsylvania Department of Environmental Protection takes toward the development of storm water management plans has made completing an Act 167-compliant storm water management plan for Blair County a reality in the early portion of the 2025 plan update cycle. Development of a storm water management plan is included on the Action Plan, and is a critical piece in addressing both water management and flood control throughout Blair County.

COVID-19 Pandemic

The Blair County Department of Emergency Services equipped municipalities and other organizations with personal protection equipment to proactively mitigate the spread of COVID-19. Additionally, the Department of Emergency Services coordinated with the Pennsylvania Department of Health to establish COVID-19 testing and vaccination sites. It also worked to make the public aware of the availability of the COVID-19 vaccine.

Municipal Comprehensive Plan Updates

During the 2020 plan cycle the City of Altoona and Hollidaysburg Borough have both completed a full redevelopment of their respective comprehensive plans. Both have undertaken an implementable approach and have included elements that will be impactful on development activities, local investment, and allocation of public funds to better each community. In 2025, Altoona also completed a comprehensive rewrite of its zoning ordinance and its subdivision and land development ordinance to further assist in implementing the comprehensive plan. This was the first comprehensive rewrite of development codes in over two decades and brought the city's ordinances in line with current state of practice for such ordinances. Hollidaysburg has indicated that will follow up its planning effort with a similar rewrite as well.

In 2025, Bellwood Borough and Antis Township entered into a joint agreement to create a new regional comprehensive plan for that area of Blair County (locally designated as Region 2). This effort is in the early stages of development but represents a major step forward for this section of Blair County. It will provide

both municipalities with a unified community vision to guide decision-making for the next decade and beyond.

Embedded Planning

Embedded Planning is a fresh perspective on planning for the people we serve that emphasizes planners' presence in the field, and direct action to address community issues. Jonathan Pacheco Bell, an urban planner credited with promoting and embodying this praxis actively, advocates for more field-based planning. Embedded planning encourages impromptu interaction with community members in the field, recognizing that traditional outreach such as town hall forums and community group meetings tend to attract and prioritize the loudest voices in the room. It also acknowledges that online outreach efforts are only open to those with internet skills and access, thus minimizing the input from marginalized populations. Embedded Planning bridges that divide by situating the planner's day-to-day work on the street level instead of in the office.

Blair Planning and Hollidaysburg Borough introduced the concepts of embedded planning to Blair County through the borough's comprehensive planning process. The new comprehensive plan is based on (and calls for continued implementation of) embedded planning to ensure the local government is responsive to the needs of the people of the community, and that the people are informed and involved in decisions. This strengthens hazard mitigation planning by having a well-informed population in place when mitigation measures are necessary, or when disaster strikes. Blair Planning will be integrating these principles into hazard mitigation planning efforts going forward.

6.2 2025 MITIGATION GOALS AND OBJECTIVES

During the 2025 plan update, Blair County reviewed the 2020 mitigation goals and objectives and revised them based on updated risk information, municipal input, and current planning priorities. The 2025 goals were reorganized to better match how the County manages risk today, including stronger alignment with community lifelines and the hazards most likely to strain emergency services and critical infrastructure. We took care to review the 2023 Pennsylvania Hazard Mitigation Plan to align our plan with State goals and objectives. Many 2020 objectives were carried forward but were reworded, combined, or reassigned under new goal headings to improve clarity and accountability.

Several updates reflect changes in community priorities since 2020. Flooding and stormwater resilience remain a leading concern, so flood-related objectives were expanded and grouped under a dedicated goal focused on flooding and stormwater management. The County also elevated High Hazard Potential Dams as a priority area due to FEMA/PEMA expectations and the potential for high-consequence impacts. County planners developed situational awareness regarding Dam Failure such as emergency action plans to include owner coordination, documentation, and maintenance planning. In addition, the plan increased emphasis on lifeline resilience and social vulnerability by adding objectives related to community health and resilience needs that were raised during the planning process, such as healthcare capacity, homelessness, and human trafficking.

Overall, the 2026 goals and objectives reflect the County's updated priorities: maintaining strong emergency services capability, reducing flood losses, improving land use and regulatory tools, protecting lifelines, addressing high-consequence hazards, and strengthening community health and resilience.

The 2026 Blair County Hazard Mitigation Plan goals and objectives are listed below in Table 99:

Table 99: 2026 Mitigation Goals & Objectives

Goals & Objectives	Description
Goal 1	**Protect life, wellbeing, and public safety from all hazards**
Objective 1A	Improve warning, communication, evacuation, sheltering, emergency access, transportation safety, pedestrian safety, wayfinding, mapping, and emergency traffic management.
Objective 1B	Reduce public health risks from disease, substance use, radon, tobacco, vaping, hazardous materials, homelessness, and other community health concerns.
Objective 1C	Strengthen fire prevention, wildfire prevention, terrorism prevention, cyber preparedness, hazardous materials readiness, and first responder training.
Objective 1D	Improve, enforce, and accomplish actions to mitigate or prevent flood, flash floods, and ice jams damages to life and wellbeing of county residents.
Goal 2	**Reduce damage to property, infrastructure, and community lifelines**
Objective 2A	Reduce flood and stormwater impacts through buyouts, elevation, floodproofing, drainage, stream restoration, sewer separation, and green & grey infrastructure.
Objective 2B	Protect critical facilities, public buildings, shelters, utilities, roads, bridges, culverts, water systems, emergency service facilities, and other community lifelines.
Objective 2C	Reduce dam failure, utility interruption, winter storm, windstorm, hurricane, landslide, sinkhole, and infrastructure failure risks through maintenance, hardening, backup power, vegetation management, and continuity planning.
Objective 2D	Improve roads, bridges, culverts, stormwater systems, sewer systems, broadband, wireless service, and other infrastructure where failure would increase hazard risk or isolate residents.
Goal 3	**Incorporate hazard mitigation in planning to reduce future risk**
Objective 3A	Create, integrate, and enforce hazard mitigation into planning, zoning, SALDOs, programs, comprehensive plans, stormwater plans, water plan, transportation plans, damage assessment, maintenance codes, and local ordinances.
Objective 3B	Limit or condition development in floodplains, dam inundation areas, unstable slopes, karst areas, hazardous materials exposure areas, airport hazard areas, and other hazard-prone locations.
Objective 3C	Encourage redevelopment, adaptive reuse, housing conversion, blight removal, pervious surfaces, and bicycle/pedestrian infrastructure.
Objective 3D	Improve county and municipal development review capacity so hazard risk, infrastructure capacity, accessibility, and community resilience are integrated before development.

Goal 4	**Strengthen local capability to implement mitigation and maintain essential services**
Objective 4A	Improve county, municipal, emergency service, healthcare, utility, transportation, conservation, and partner capacity through staffing, funding, training, equipment, planning, and coordination.
Objective 4B	Maintain regular training for floodplain administrators, responders, EOC staff, municipal officials, public works staff, hospital partners, schools, and community lifeline partners.
Objective 4C	Develop and maintain continuity of operations plans, emergency service capacity plans, municipal capacity plans, and shelter/support plans.
Objective 4D	Support sustainable funding for emergency services, mitigation projects, infrastructure upgrades, public health programs, and long-term plan implementation.
Goal 5	**Improve natural resilience, risk data, and public awareness**
Objective 5A	Use green infrastructure, riparian buffers, streambank stabilization, floodplain restoration, wetland protection, watershed planning, water management, well standards, and conservation to reduce risk.
Objective 5B	Reduce invasive species, wildfire, erosion, drought, agricultural, water-quality, and natural-resource impacts through better land, vegetation, stormwater management, and coordination/partnership.
Objective 5C	Study, collect, maintain data (Water Trail maps, dam inundation maps, floodplain maps, stream gauge installation, etc.) and have data readily available on website / online.
Objective 5D	Improve public outreach through preparedness materials, Smart911 or similar tools, fire safety, radon awareness, flood awareness, cyber awareness, SARA Summit, and community education.
Goal 6	**Prevent and mitigate incidents from HHPD**
Objective 6A	Establish and maintain communication with dam owners to develop situational awareness of HHPD. (Obtain annual dam reports, know condition assessments, problems, maintenance, etc.)
Objective 6B	Fund maintenance and fixes to HHPD in need

6.3 IDENTIFICATION & ANALYSIS OF MITIGATION TECHNIQUES

The mitigation strategy in the updated Hazard Mitigation Plan should include analysis of a comprehensive range of specific techniques or actions. The Federal Emergency Management Agency, through the April 2025 Local Mitigation Handbook, and the Pennsylvania Emergency Management Agency, through the June 2025 Standard Operating Guide, identify four categories of hazard mitigation techniques.

Table 100: Mitigation Techniques and Descriptions

Mitigation Technique	Description	Examples
Local Plans & Regulation	These actions include government authorities, policies, or codes that influence the way land and buildings are developed and built.	• Comprehensive plans • Land use ordinances • Subdivision regulations • Development review • Building codes and enforcement • NFIP and CRS • Capital improvement programs • Open space preservation • Stormwater management regulation and master plans
Structure & Infrastructure	These actions involve modifying existing structures and infrastructures or constructing new structures to reduce hazard vulnerability.	• Acquisitions and elevations of flood prone structures • Utility undergrounding • Structural retrofits • Floodwalls and retaining walls • Detention and retention structures • Bridges and culverts • Safe rooms
Natural Systems Protection	These actions minimize damage and losses and preserve or restore the functions of natural systems.	• Sediment and erosion control • Stream corridor restoration • Forest management • Conservation easements • Wetland restoration and preservation
Education and Awareness	These actions inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them and may also include participation in national programs.	• Radio or television spots • Websites with maps and information • Real estate disclosure • Training NFIP outreach • StormReady • Firewise Communities

Table 101: Mitigation Strategy Matrix

Hazard	Local Plans and Regulation	Structure and Infrastructure	Natural Systems Protection	Education and Awareness
Drought	X	X	X	
Earthquake	X	X		
Wildfire			X	X
Flood, Flash Flood and Ice Jam	X	X	X	X
Hazardous Materials Release	X			X
Invasive Species	X		X	X
Pandemic and Infectious Disease	X	X		X
Radon Exposure	X			X
Tornados and Windstorms	X	X		
Subsidence and Sinkholes	X			
Terrorism	X			X
Utility Interruptions	X	X	X	
Winter Storms		X	X	
Dam Failure	X	X		X
Substance Use Disorder	X			X
Hurricane, Tropical Storm, Nor'easter	X	X		X
Landslide	X	X		
Cyberterrorism (Cyber Incidents)	X			X
Transportation	X	X	X	

Table 102: Mitigation Actions Per Hazard for Each Municipality

Municipality	Drought (2.3)	Earthquake (2.2)	Wildfire (2.8)	Flood, Flash Floods, Ice Jams (3.7)	Hazardous Materials Release (1.7)	Invasive Species (3.1)	Pandemic & Infectious Disease (3.7)	Radon Exposure (3.1)	Tornado & Windstorm (2.6)	Subsidence & Sinkhole (1.9)	Terrorism (2.5)	Utility Interruption (2.9)	Winter Storms (3)	Dam Failure (2.4)	Substance Use Disorder (3.7)	Hurricane & Tropical Storm (2.2)	Landslide (1.8)	Cyberterrorism (2.3)
Snyder Township	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X
Tyrone Borough	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X
Tyrone Township	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X
Antis Township	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X
Bellwood Borough	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X
Altoona City	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Logan Township	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X
Cathrine Township	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X
Williamsburg Borough	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X
Woodbury Township	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X
Allegheny Township	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X
Blair Township	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X
Duncansville Borrough	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X
Frankstown Township	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X
Hollidaysburg Borough	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X
Newry Borough	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X
Tunnelhill Borough	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X
Huston Township	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X
Martinsburg Borough	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X
North Woodbury Township	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X

Roaring Spring Township	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X
Taylor Township	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X
Freedom Township	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X
Greenfield Township	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X
Juniata Township	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X

6.4 2025 MITIGATION ACTION PLAN

The Hazard Mitigation Planning Committee developed a framework for the Mitigation Action Plan. The attendees reviewed current risk assessment for the county and their municipalities, and the four new Mitigation Techniques identified by the Federal Emergency Management Agency. The attendees were then provided with a progress report on 2020 mitigation actions to review the previous actions identified in 2018 to determine if these were still relevant to their current conditions. Subsequently, the Committee and municipal officials were asked to identify new actions to address risks in their community. The public was also asked to identify new actions or hazards through the public survey and the three outreach sessions.

The final list of 119 mitigation actions in the table below is made up of actions developed by the Committee along with actions developed by municipalities and other stakeholders. In addition, the list includes 2018 actions and projects that were identified as still viable or not yet complete. At least one mitigation action was established for each municipality in Blair County. At least one mitigation action was established for each hazard profiled. More than one action is identified for several municipalities. Each mitigation action is intended to address one or more of the goals and objectives identified in Section 6.2.

Mitigation actions were evaluated using the Multi-Objective Mitigation Action Prioritization criteria from the Pennsylvania Emergency Management Agency's Standard Operating Guide. The criteria are as follows:

- Effectiveness: The extent to which an action reduces the vulnerability of people and property. This is 20% of the total score.
- Efficiency: The extent to which time, effort, and cost is well used as a means of reducing vulnerability. This is 30% of the total score
- Multiple Hazards: The action reduces vulnerability for more than one hazard. This is 20% of the total score.
- High Risk: The action reduces vulnerability for people and property from a hazard(s) identified as high risk. This is 15% of the total score.
- Criticality: The action pertains to the maintenance of critical functions and structures such as transportation, supply chain management, data circuits, etc. This is 15% of the total score.

Scores of 1, 2, or 3 were assigned for each multi-objective mitigation action prioritization criterion where 1 is a low score and 3 is a high score. Only whole numbers were assigned. Actions were prioritized using the cumulative score assigned to each. For example, an action receiving scores of 3 for Effectiveness, 3 for Efficiency, 2 for Multiple Hazards, 1 for High Risk, and 2 for Criticality would be calculated as

(3*0.2)+(3*0.3)+(2*0.2)+(1*0.15)+(2*0.15) for a total score of 2.35. Each mitigation action was given a priority ranking as follows:

- High Priority 2.5 and up Red
- Medium Priority 1.9 – 2.49 Yellow
- Low Priority Below 1.9 Green

The Mitigation Action Plan, detailed in the table below, includes the details of each identified action, the municipality that the action pertains to, the mitigation technique the action pertains to, the hazard the action addresses, the department or agency likely to participate, the lead person held accountable if the project/action is started, the schedule that the action will be implemented in, and the priority score derived using the Multi-Objective Mitigation Action Prioritization criteria.

The 2026 Mitigation Action Plan is created intentionally with far more actions available than can reasonably be completed. It is created with the expectations that the priority scores are simply a heuristic for gauging an action. It is expected that further deep research be done before committing to a mitigation action. Low priority actions could easily make more sense to complete before many high priority actions in practice. Certain mitigation actions are meant to be completed before another but are not stated in the tables below due to formatting and limited spaces.

Table 103: 2026 Mitigation Action Plan

#	Action	Location	Objectives	Hazard	Designated Lead (Name)	Agency	Schedule	Score
1	Blair County Well Construction Standards in local ordinances for private wells	Countywide	Objective 3A	Drought		Blair Planning	TBD	1.6
2	Address stormwater runoff and flooding with restoration and expansion of green infrastructure / grey infrastructure	Countywide	Objective 5A	Drought / Stormwater / Flooding		Blair Planning	TBD	2.45
3	Work water management into land use management (zoning / SALDO)	Countywide	Objective 3A	Drought / Stormwater / Flooding		Blair Planning	TBD	2.00
4	Develop a drought management plan. Use PA State Water Plan 2022 as base.	Blair County	Objective 3A	Drought		Blair Planning Blair Conservation	2028-2029	1.5
5	Construct best practices along Brush Run in accordance with recent studies	Altoona	Objective 1C	Floods, Flash Floods, Ice Jams		Municipality	2027	2.30
6	Provide fire safety education & training. Use Firewise program as a starting point.	Countywide	Objective 1C	Wildfire / Urban Fires & Explosion		Local Emergency Services	TBD	1.95
7	Develop stormwater management plan	Countywide	Objective 3A	Stormwater Flood, Flash Floods, and Ice Jams / Drought		Blair Planning Blair Conservation	TBD	2.45

#	Action	Location	Objectives	Hazard	Designated Lead (Name)	Agency	Schedule	Score
8	Annual Floodplain Administrator meeting & provide/encourage training and coordination	Countywide	Objective 4B	Flood, Flash Flood, Ice Jam		Blair Planning	2026-2027	2.30
9	Ensure NFIP Compliance & Increase community rating system by accomplishing actions that earn points	Countywide	Objective 1D	Flood, Flash Flood, Ice Jam		Blair Planning Blair EMA Municipality	Ongoing	1.80
10	Start a buyout loss program and boy out RL properties	Countywide	Objective 2A & Objective 1D	Flood, Flash Flood, Ice Jam		Municipality Federal & State Partners	Ongoing	2.60
11	Restrictions or conditions for zoning ordinances & SALDO in flood zones or inundation zones	Countywide	Objective 3A & Objective 3B	Flood, Flash Flood, Ice Jams, High Hazard Potential Dams		Blair Planning	TBD	2.60
12	Update the DCNR Water Trail maps and trip sheets for both branches of the Juniata in Blair County, and go the entire way upstream on both	Countywide	Objective 5C	Flood, Flash Flood, Ice Jam Related		Blair Planning Allegheny Ridge Corporation	2025-2026	1.30

#	Action	Location	Objectives	Hazard	Designated Lead (Name)	Agency	Schedule	Score
13	Install stream gauges at strategic points on the Frankstown Branch and Little Juniata in consultation with USGS	County Altoona Bellwood Duncansville Hollidaysburg Tyrone Antis Blair Freedom Frankstown Greenfield Williamsburg	Objective 5C	Flood, Flash Flood, Ice Jam		Municipality Fire Company Water Authority Federal Partners	2026-2028	2.30
14	Implement obstruction removal, bank stabilization, and riparian buffer programs along Poplar Run, 3 streams in Duncansville, Juniata River, and Beaverdam Branch	Newry Blair Freedom Duncansville Frankstown	Objective 5A	Flood, Flash Flood, Ice Jam		Municipality Blair County Conservation District	Ongoing - 2028	2.30
15	Study stream management on Spring Run relative to volume and velocity threatening adjacent housing	Altoona	Objective 5A	Flood, Flash Flood, Ice Jams		Municipality	2026-2027	1.95
16	Address Plank Road flooding through a retrofit of best management practices onto commercial properties between PA 36 and I-99 (south of I-99 and Along PA-764)	Logan Allegheny	Objective 2D & Objective 1D & Objective 5A	Flood, Flash Flood, Ice Jams		Municipality ISC Blair MPO PennDOT	Ongoing	1.95

#	Action	Location	Objectives	Hazard	Designated Lead (Name)	Agency	Schedule	Score
17	Improve storm water drainage on Clover Creek Road as it descends into town to eliminate roadway damage and flooding of downhill properties	Woodbury	Objective 2D & Objective 1D & Objective 5A	Flood, Flash Flood, Ice Jams		Municipality PennDOT	TBD	2.45
18	Study stream management on Mill Run along Union Avenue	Altoona	Objective 5C	Flood, Flash Flood, Ice Jams		Municipality Water Authority	Ongoing	1.90
19	County wide consistent process to determine substantial damage and permit repair and improvement (Train on SDE Tool)	Countywide	Objective 3A	Flood, Flash Flood, Ice Jams		Blair Planning Floodplain Coordinators	Ongoing	2.15
20	Develop a program for elevating structures in flood zones	Countywide	Objective 2A	Flood, Flash Flood, Ice Jam		Blair EMA & Blair Planning	TBD	2.15
21	Promote flood protection measures such as berms, floodwalls, floodproofing, etc. in flood zones	Areas inside floodplain	Objective 2A	Flood, Flash Flood, Ice Jam		Blair EMA & Blair Planning	TBD	1.95
22	Include safety information in the emergency preparedness outreach materials placed in the libraries (USDOT Pipeline and Hazardous Materials Safety Administration)	Countywide	Objective 5D	Hazardous Materials Release		Blair Planning	2026	2.45

#	Action	Location	Objectives	Hazard	Designated Lead (Name)	Agency	Schedule	Score
23	Encourage zoning / SALDO to minimize population growth near hazardous materials site	Countywide	Objective 3B	Hazardous Materials Release		Blair Planning	TBD	2.30
24	Improve coordination with local municipalities and conduct trainings to prepare for hazards materials incidents	Countywide	Objective 1C	Hazardous Materials Release		Blair EMA	TBD	1.45
25	Establish Partnership for Regional Invasive Species Management (PRISM) for Blair County	Altoona	Objective 5B	Invasive Species		County HBCC Blair Alliance Blair County Conservation District	TBD	2.30
26	Develop an Invasive Species Management Plan with Blair County Conservation using PA Invasive Species Management Plan as a base	Countywide	Objective 3A	Invasive Species		County HBCC Blair Alliance Blair County Conservation District	TBD	2.30
27	Implement program to remove dangerous trees killed by invasive species that are now a threat to roadways and community assets	County Altoona Hollidaysburg Martinsburg Roaring Spring Antis Blair Catharine Greenfield Huston Woodbury	Objective 3A	Invasive Species		County HBCC Blair Alliance Blair County Conservation District	2030	1.95

#	Action	Location	Objectives	Hazard	Designated Lead (Name)	Agency	Schedule	Score
28	Develop and provide program(s) for invasive insect removal from houses, focusing on bedbugs	Altoona	Objective 3A	Invasive Species		Municipality	2026	1.30
29	Address staffing issues at the four hospitals	County Altoona Roaring Spring Tyrone Logan Snyder Taylor	Objective 4A	Pandemic & Infectious Disease		Hospitals Unions County Municipality Blair Alliance	2027-2028	2.60
30	Develop facilities that encourage and support an active lifestyle or connect sidewalks/bike lanes to existing parks / trails / etc.	All	Objective 3C	Pandemic & Infectious Disease		Municipality County Blair Planning Blair Alliance Allegheny Ridge	Ongoing	1.95
31	Maintain stockpile of PPE at Altoona. Develop a plan for coordination and distribution of PPE to all municipalities.	Altoona	Objective 4A	Pandemic & Infectious Disease		Blair EMA, Hospitals	TBD	1.95
32	Implement or fund existing policies, programs to reduce smoking and vaping. Increase unit price for tobacco products by 20%. Adopt smoke free policies. Fund family-based interventions. Etc.	Countywide	Objective 1B	Substance Use and Disorder Pandemic & Infectious Diseases		Healthy Blair County Coalition	2026	2.5

#	Action	Location	Objectives	Hazard	Designated Lead (Name)	Agency	Schedule	Score
33	Maintain the countywide radon awareness and testing program	Countywide	Objective 1B	Radon Exposure		Blair Planning	Ongoing	2.10
34	Evaluation public buildings and community lifeline infrastructure. Maintain or improve infrastructure to mitigate hazard damages.	Countywide	Objective 2B	Earthquake Winter Storm Utility Interruption Hurricane Tropical Storm Nor'easter Tornado Windstorm		Blair EMA	TBD	2.35
35	Add provision to conduct geologic testing in identified Karts topography areas as a requirement within SALDO	Countywide	Objective 3B	Subsidence & Sinkhole		Blair Planning	TBD	2.30
36	Work with vendors to secure high-speed internet and enhance reliability of connection. Check Allegheny Ahead version is ongoing or not.	Countywide	Objective 1A	Utility Interruption		Blair Planning &	TBD	1.30
37	Consider burying power lines at risk or repetitively damaged power lines to reduce utility interruption.	Countywide	Objective 2C	Utility Interruption		Blair Planning &	TBD	2.40

#	Action	Location	Objectives	Hazard	Designated Lead (Name)	Agency	Schedule	Score
38	Vegetation management around power lines to community lifelines to prevent utility interruption during storms.	Countywide	Objective 2C	Winter Storm Utility Interruption Hurricane Tropical Storm Nor'easter Tornado Windstorm		Blair Planning &	TBD	2.20
39	Fund totality of anti-icing operations as 24% of weather-related vehicle crashes occur on snowy, slushy, or icy pavement. Priority for community lifelines facilities and high traffic areas.	Countywide	Objective 1A	Winter Storm		Blair Planning &	TBD	2.45
40	All HHPD dam owners must have annual dam reports readily available with condition assessment & EAP	All HHPD Locations	Objective 6A	High Hazard Potential Dams		Blair EMA & Blair Planning	TBD	2.05
41	Immediately fix HHPD with "Poor" or "Unsatisfactory" condition assessment	Any HHPD Locations meeting requirements	Objective 6B	High Hazard Potential Dams		Blair EMA & Blair Planning	TBD	2.6
42	Restrictions or conditions for zoning, SALDO in flood zones or inundation zones	Countywide	Objective 3B	High Hazard Potential Dams & Flood, Flash Flood, Ice Jams		Blair Planning	TBD	2.45
43	Communicate with HHPD owners to assist or enforce with HHPD maintenance	Countywide	Objective 6B	High Hazard Potential Dams & Flood, Flash Flood, Ice Jams		Blair Planning	TBD	1.95

#	Action	Location	Objectives	Hazard	Designated Lead (Name)	Agency	Schedule	Score
44	Engage in a community based coordinated substance use prevention effort. Use Community Preventive Services Task Force Study as a base.	Countywide	Objective 1B	Substance Use Disorder		Blair Planning &	TBD	2.30
45	Identify areas in floodplains, mobile homes, any structure more susceptible to hazards and inform them of evacuation shelters.	Countywide	Objective 1A	Hurricane, Tropical Storm, Nor'easter Flood, Flash Flood, Ice Jams		Blair Planning &	TBD	2.45
46	Ensure SALDO ordinance does not permit development on or near unstable slopes.	Countywide	Objective 3B	Landslide		Blair Planning	TBD	2.30
47	Poor drainage and areas of high stormwater runoff can cause erosion. Prioritize fixing areas of erosion near any infrastructure.	Countywide	Objective 2A & Objective 2D	Landslide		Blair Planning &	TBD	1.65
48	Provide cyber-security and awareness training to county and municipal staff (include school)	Countywide	Objective 4A	Cyberterrorism		Blair Planning &	TBD	2.00

#	Action	Location	Objectives	Hazard	Designated Lead (Name)	Agency	Schedule	Score
49	Buy and train county officials to use hardware security key (example Titan Key) 2 or 3 sets for each personnel	Altoona	Objective 4A	Cyberterrorism		Blair Planning &	TBD	2.00
50	Train and enforce county officials and municipal staff on password manager (such as Bitwarden)	Altoona	Objective 4A	Cyberterrorism		Blair Planning &	TBD	1.80
51	Construct a storm water management system to assist the Gaysport neighborhood with flooding issues	Hollidaysburg Blair	Objective 2A & Objective 2D	Storm Water Management		Municipality Blair County Conservation District	2027	2.60
52	Separate the sewer water from the storm water in the older sewer systems	Boroughs	Objective 2D	Storm Water Management		Municipality Municipal Authority	Ongoing	1.80
53	Conduct study and upgrade or replace storm water facilities on Ski Gap Road and Polecat Road	Greenfield	Objective 5C & Objective 2D	Storm Water Management		Municipality PennDOT	2028	1.90
54	Provide first responder and Emergency Operations Center training on a regular basis	Countywide	Objective 4A	All Hazard		Blair EMA	Ongoing	3.00

#	Action	Location	Objectives	Hazard	Designated Lead (Name)	Agency	Schedule	Score
55	Develop a capacity plan for first responders	Countywide	Objective 4C	All Hazards		Blair Planning Blair EMA Municipalities Ambulance Co Fire Companies	2026	2.80
56	Develop capacity plans for municipalities	Each Jurisdiction	Objective 4C	All Hazards		Blair Planning Municipalities	2028-2030	2.80
57	Offer and promote Smart 911 (or similar)	Countywide	Objective 5D	All Hazards		Blair EMA	Ongoing	2.70
58	Host the annual SARA Summit	Countywide	Objective 5D	All Hazard		Blair EMA	Ongoing	2.00
59	Work with Cellular Carriers to install missing wireless infrastructure	Martinsburg, Roaring Spring, Tyrone, Williamsburg, Antis, Catharine, Greenfield, Huston, Juniata, North Woodbury, Snyder, Tyrone Twp., Woodbury	Objective 1A	All Hazard		Municipal Officials, Allegheny Broadband, Carriers	Ongoing	3.00
60	Acquire generator or equipment for continuity of operations of community lifelines and shelters	Martinsburg Williamsburg Greenfield North Woodbury Taylor	Objective 2C	All Hazard		Municipality Blair EMA Blair Planning	Ongoing	2.80

#	Action	Location	Objectives	Hazard	Designated Lead (Name)	Agency	Schedule	Score
61	Develop Continuity of Operations plans for local government entities	All	Objective 2C	All Hazard		Municipality Blair EMA Blair Planning	Ongoing	2.50
62	Raise taxes to support emergency services personnel and equipment	All	Objective 4D	All Hazard		Municipality County Fire Companies EMS Companies	2028-2030	2.70
63	Establish an emergency shelter	Williamsburg Greenfield	Objective 1A	All Hazard		Municipality	2027	2.80
64	Address the parking lots and clearly name the roads in the state game lands, including the areas permanently gated off	Countywide	Objective 1A	Transportation		Blair Planning	2026	1.75
65	Adopt & enforce airport hazard ordinances to protect air lanes in and around the three public access airports in the County	Countywide	Objective 3A	Transportation		Blair Planning Municipalities	2027	1.75
66	Get Street View (or similar) on every named roadway in the county to better facilitate emergency response (quantity and quality)	Countywide	Objective 1A	Transportation		Blair Planning	Life of the Plan	1.75

#	Action	Location	Objectives	Hazard	Designated Lead (Name)	Agency	Schedule	Score
67	Automate traffic detours during emergencies via GPS to cut down on the number of volunteers necessary at the scene. Mandate its use in all vehicles	Countywide	Objective 1A	Transportation		Blair EMA PEMA / State	Develop over the Life of the Plan	1.30
68	Conduct a study to identify redundant or unnecessary bridge infrastructure to redirect transportation funding to higher priority structures	Countywide	Objective 5C	Transportation		Blair Planning	2028-2029	1.90
69	Ensure the Metropolitan Transportation Plan includes freight analysis and identifies areas in the system with increased potential for incidents	Countywide	Objective 3A	Transportation		Blair Planning	Each Cycle	1.60

#	Action	Location	Objectives	Hazard	Designated Lead (Name)	Agency	Schedule	Score
70	Eliminate the Plummer Hollow Road bridge and rail crossing and combine with a new road to Quarry Road from Thomson town to also eliminate the crossing at Tyrone station thereby bolstering emergency access to both dead-end areas behind the railroad mainline	County Tyrone Snyder Tyrone T	Objective 1A	Transportation		Municipality Railroad Potential State and Federal Partners	2029-2030	1.45
71	Put pedestrian signals on all traffic signals	County Altoona Duncansville Hollidaysburg Martinsburg Roaring Spring Tyrone Allegheny Antis Blair Freedom Greenfield Logan Snyder Taylor	Objective 1A	Transportation		Municipality Blair MPO PennDOT	2026-2030	1.45

#	Action	Location	Objectives	Hazard	Designated Lead (Name)	Agency	Schedule	Score
72	Conduct traffic and speed studies in plain sect areas to ensure a safe interaction between motor and non-motor transportation options	County Martinsburg Roaring Spring Williamsburg Catharine Huston North Woodbury Snyder Taylor Tyrone T Woodbury	Objective 5C	Transportation		Municipality Blair MPO LTAP PennDOT	Ongoing	1.20
73	Install school zone signals at plain sect schools throughout the Cove, Sinking Valley, and other needful areas	County Altoona Tyrone Catharine Huston North Woodbury Taylor Tyrone T Woodbury	Objective 1A	Transportation		Municipality Blair MPO LTAP PennDOT Schools	Ongoing	1.50
74	Construct the Kettle Road Interchange and connect it across the tracks to Juniata Gap Road to provide access to the northern part of the city as well as three major employers	County Altoona Logan	Objective 2D	Transportation		Municipality Blair MPO LTAP PennDOT USDOT	TBD	1.30
75	Make PA-453 a four-lane road to accommodate the traffic from I-99 to Huntingdon.	County Tyrone Snyder Tyrone T	Objective 2D	Transportation		Municipality Blair MPO USDOT PennDOT	TBD	1.30

#	Action	Location	Objectives	Hazard	Designated Lead (Name)	Agency	Schedule	Score
76	Build sidewalks in built up areas to get foot traffic separated from motor vehicles	County Altoona All Boroughs Allegheny Blair Freedom Frankstown Greenfield Logan North Woodbury Snyder	Objective 3C	Transportation		Municipality Blair MPO Blair Planning	Ongoing	1.80
77	Reopen the White Bridge to eliminate the Cycle Alleghenies bicycle route detour through the Geeseytown Cemetery on US-22 and the Frankstown Intersection	County Frankstown	Objective 2D	Transportation		County Municipality Blair MPO Blair Planning SAPDC	2029	1.30
78	Save money and energy by putting most signals on blink overnight from 10 to 6	County Altoona Duncansville Hollidaysburg Martinsburg Roaring Spring Tyrone Allegheny Antis Blair Freedom Greenfield Logan Snyder Taylor	Objective 4D	Transportation		Municipality PennDOT	2026	1.30

#	Action	Location	Objectives	Hazard	Designated Lead (Name)	Agency	Schedule	Score
79	Please consider extending three route numbers for better wayfinding: PA-45 west through Sinking Valley to PA-764; PA 867 north on Reservoir and Frankstown to PA-36; and PA 865 east into Sinking Valley to end on the extended PA-45 (or out to PA-453 if PA-45 isn't extended)	County Altoona Roaring Spring Antis Blair Freedom Frankstown Logan Tyrone	Objective 1A	Transportation		Blair MPO Municipality PennDOT	2030	1.75
80	Activate or remove the perpetually-flashing signals at the various industrial parks throughout the county.	County Antis Frankstown Snyder	Objective 1A	Transportation		Municipality Blair Alliance PennDOT	2027	1.75
81	Make the train station platforms fully ADA accessible (full length)	County Altoona Tyrone	Objective 3C	Transportation		Blair MPO Municipality	2027	1.00
82	Install warning signals and advance warning signs at the rail siding crossing US-22 at Scotch Valley Road	Hollidaysburg	Objective 1A	Transportation		Municipality Railroad PennDOT	2027	1.95
83	Monitor progress and support implementation of freight traffic improvements along PA-764 between US-22 and the intermodal tank farm	Allegheny	Objective 2D	Transportation		Municipality Blair MPO PennDOT	Ongoing	1.75

#	Action	Location	Objectives	Hazard	Designated Lead (Name)	Agency	Schedule	Score
84	Connect Park Avenue directly across Frankstown Road to Logan Town Center	Logan	Objective 2D	Transportation		Municipality Blair MPO Interstate MPO PennDOT	TBD	1.00
85	Make 12th Avenue two-way, especially from 17th to 18th if the rest is out of reach	Altoona	Objective 1A	Transportation		Municipality Blair MPO PennDOT	2028	1.00
86	Address traffic conflict in Ganister between quarry trucks and adult day care access	Catharine	Objective 1A	Transportation		PennDOT	2028	1.35
87	Establish better traffic control on High Street at First Street and Second Street	Williamsburg	Objective 1A	Transportation		Municipality PennDOT	TBD	1.15
88	Align the PA-866 intersection in Royer	Woodbury	Objective 1A	Transportation		Municipality Blair MPO PennDOT	TBD	1.00
89	Install traffic signals on PA-36 at Closson Road and at Cross Cove Road	Taylor	Objective 1A	Transportation		Municipality PennDOT	2028	1.65
90	Eliminate the Porter Road rail crossing	Logan	Objective 1A	Transportation		Municipality Railroad	2027	1.35
91	Restrict Juniata Valley Road between the last house in Reese and the last house in Canoe Creek to non-motorized traffic and restore the riparian buffer	Frankstown	Objective 3C	Transportation		Municipality PennDOT State Partners	TBD	1.90

#	Action	Location	Objectives	Hazard	Designated Lead (Name)	Agency	Schedule	Score
92	Address rail tunnel safety concerns	Tunnelhill	Objective 1A	Transportation		Municipality Railroad	Ongoing	1.50
93	Extend Main Street to Fostoria	Antis	Objective 2D	Transportation		Municipality	TBD	1.30
94	Remove the eastern rail bridge at the wye near Tyrone station to eliminate the obstruction the center pylon creates in the Little Juniata River	Tyrone	Objective 2D	Transportation		Municipality Railroad State Partners	TBD	1.15
95	Remove the old rail bridge at Plummer Hollow Road to eliminate the obstruction the center pylon creates in the Little Juniata River	Snyder	Objective 2D	Transportation		Municipality County Railroad State Partners	TBD	1.15
96	Install better parking for the Tytoona Cave or improve road safety in this area	Tyrone T	Objective 1A	Transportation		Municipality Property Owner	2027	1.15
97	Provide solar farm response training to first responders	Countywide	Objective 4A	Response		Blair EMA	2026	1.50
98	Conduct study on the scope and extent of human trafficking in Blair County	Countywide	Objective 5D	Community Hazard Concern: Human Trafficking		Blair Planning Blair County Social Services	2027	1.50

#	Action	Location	Objectives	Hazard	Designated Lead (Name)	Agency	Schedule	Score
99	Identify homeless needs for shelter and support throughout the County	Countywide	Objective 5D	Community Hazard Concern: Homelessness		Blair Planning Blair County Social Services	With CDBG Planning Efforts	1.50
100	Replace fifteen culverts throughout Sinking Valley that are well beyond end of useful life and will strand people should they fail	Tyrone T	Objective 2D	Infrastructure		Municipality	2028	2.60
101	Provide new access to Woodland Terrace	Allegheny	Objective 1A	Infrastructure		Municipality Blair MPO	TBD	1.00
102	Replace the bridge on Dogwood Lane	Snyder	Objective 2D	Infrastructure		Municipality Blair MPO	2027	1.30
103	Tear down the former K-Mart and return the property to a pervious, flood-friendly condition (area behind the outparcels)	Altoona	Objective 3C	Infrastructure		Blair Planning Blair Housing & Urban Development	TBD	1.60
104	Construct a new prison facility to better accommodate those who are incarcerated	Countywide	Objective 3C	Infrastructure		Commissioners	Develop Over the Life of the Plan	1.00
105	Require all facilities that need to build car parking lots to also include bicycle parking	Countywide	Objective 3A	Planning / Ordinance		Blair Planning Municipalities	With SALDO or Zoning Updates	2.10

#	Action	Location	Objectives	Hazard	Designated Lead (Name)	Agency	Schedule	Score
106	Consider moving development reviews to the county level utilizing existing efforts in Somerset and Centre Counties as models	All	Objective 3D	Planning / Ordinance		Blair Planning County Municipality	2028-2030	1.95
107	Update land-based plans and ordinances	County Altoona Bellwood Hollidaysburg Williamsburg Antis Blair Catharine Woodbury	Objective 3A	Ordinance		Municipality Blair MPO Blair Planning	Ongoing	1.80
108	Adopt the International Property Maintenance Code, a Rental Inspection Ordinance, and a Time-of-Sale Inspection Ordinance to improve the quality of properties countywide	All	Objective 3A	Ordinance		Municipality Blair MPO Blair Planning	Ongoing	1.80
109	Install dry hydrants in designated areas	Williamsburg Antis Catharine Freedom Frankstown Huston North Woodbury Taylor Tyrone T	Objective 1C	Urban Fire & Explosion		Municipality Fire Company	2026-2030	1.75

#	Action	Location	Objectives	Hazard	Designated Lead (Name)	Agency	Schedule	Score
110	Remove blighted properties to reduce the risk of urban fires and clandestine labs	County Altoona Bellwood Hollidaysburg Martinsburg Williamsburg	Objective 3C	Urban Fire & Explosion		Municipality	Ongoing	2.10
111	Conduct housing inspection for compliance (fire & CO2 alarms) Ensure SALDO requires (fire & CO2 alarms)	Countywide	Objective 1C	Urban Fire & Explosion		Municipality Fire Company	TBD	1.95
112	Install communications technology on the Lower Trail to pick up cell signals in the event of an emergency	Williamsburg Catharine Frankstown Woodbury	Objective 1A	Communication		Municipality RTTCP	2029	1.80
113	Create a food hub in Altoona to market local produce. Connect farmers to a known food desert	County Altoona Cathartine Huston North Woodbury Taylor Tyrone T Woodbury	Other	Economic: Food		Municipality	2027	1.00

#	Action	Location	Objectives	Hazard	Designated Lead (Name)	Agency	Schedule	Score
114	Convert former retail commercial buildings to housing	Altoona Bellwood Hollidaysburg Tyrone Allegheny Logan	Objective 3C	Housing Development		Municipality Housing Agency Blair Alliance Blair Planning	Ongoing	1.30
115	Convert abandoned church facilities and schools into housing	County Altoona Bellwood Duncansville Hollidaysburg Martinsburg Tyrone Freedom Frankstown Greenfield Logan	Objective 3C	Housing Development		Municipality Housing Agency Blair Alliance Blair Planning	Ongoing	1.30
116	Establish a 311-call center to report non-emergency incidents like trash dumps, malfunctioning signals, potholes, etc.	Countywide	Objective 4A	Law Enforcement Related		Blair Planning Blair GIS	2029-2030	2.00
117	Provide better access to the Parkview Condos, Jethro's, the Summit, etc.	County Allegheny	Objective 4A	Disability Access		Commissioners Blair Planning Municipality	2030	1.30

#	Action	Location	Objectives	Hazard	Designated Lead (Name)	Agency	Schedule	Score
118	Initiate Behavioral threat assessment and management model to create a culture of prevention for targeted violence and terrorism.	Altoona	Objective 3A	Terrorism		Blair EMA partnership with DOH Center for Prevention Programs and Partnerships	TBD	1.50

Table 104: Multi-objective Mitigation Action Prioritization Criteria

#	Action	Hazard	Effectiveness	Efficiency	Multiple Hazard	High Risk	Criticality	Priority
1	Blair County Well Construction Standards in local ordinances for private wells	Drought	**1**	**3**	**1**	**1**	**1**	**1.6**
2	Address stormwater runoff and flooding with restoration and expansion of green infrastructure / grey infrastructure	Drought / Stormwater / Flooding	**3**	**3**	**1**	**3**	**2**	**2.45**
3	Work water management into land use management (zoning / SALDO)	Drought / Stormwater / Flooding	**3**	**2**	**1**	**2**	**2**	**2.00**
4	Develop a drought management plan. Use PA State Water Plan 2022 as base.	Drought	**2**	**2**	**1**	**1**	**1**	**1.5**
5	Construct best practices along Brush Run in accordance with recent studies	Floods, Flash Floods, Ice Jams	**3**	**3**	**1**	**3**	**1**	**2.30**
6	Provide fire safety education & training. Use Firewise program as a starting point.	Wildfire / Urban Fires & Explosion	**2**	**3**	**1**	**1**	**2**	**1.95**
7	Develop stormwater management plan	Stormwater Flood, Flash Floods, and Ice Jams / Drought	**3**	**3**	**1**	**3**	**2**	**2.45**

#	Action	Hazard	Effectiveness	Efficiency	Multiple Hazard	High Risk	Criticality	Priority
8	Annual Floodplain Administrator meeting & provide/encourage training and coordination	Flood, Flash Flood, Ice Jam	**3**	**3**	**1**	**3**	**1**	**2.30**
9	Ensure NFIP Compliance & Increase community rating system by accomplishing actions that earn points	Flood, Flash Flood, Ice Jam	**2**	**2**	**1**	**3**	**1**	**1.80**
10	Start a buyout loss program and boy out RL properties	Flood, Flash Flood, Ice Jam	**3**	**3**	**1**	**3**	**3**	**2.60**
11	Restrictions or conditions for zoning ordinances & SALDO in flood zones or inundation zones	Flood, Flash Flood, Ice Jams, High Hazard Potential Dams	**3**	**3**	**1**	**3**	**3**	**2.60**
12	Update the DCNR Water Trail maps and trip sheets for both branches of the Juniata in Blair County, and go the entire way upstream on both	Flood, Flash Flood, Ice Jam Related	**1**	**1**	**1**	**3**	**1**	**1.30**
13	Install stream gauges at strategic points on the Frankstown Branch and Little Juniata in consultation with USGS	Flood, Flash Flood, Ice Jam	**3**	**3**	**1**	**3**	**1**	**2.30**

#	Action	Hazard	Effectiveness	Efficiency	Multiple Hazard	High Risk	Criticality	Priority
14	Implement obstruction removal, bank stabilization, and riparian buffer programs along Poplar Run, 3 streams in Duncansville, Juniata River, and Beaverdam Branch	Flood, Flash Flood, Ice Jam	**3**	**3**	**1**	**3**	**1**	**2.30**
15	Study stream management on Spring Run relative to volume and velocity threatening adjacent housing	Flood, Flash Flood, Ice Jams	**2**	**2**	**1**	**3**	**2**	**1.95**
16	Address Plank Road flooding through a retrofit of best management practices onto commercial properties between PA 36 and I-99 (south of I-99 and Along PA-764)	Flood, Flash Flood, Ice Jams	**2**	**2**	**1**	**3**	**2**	**1.95**
17	Improve storm water drainage on Clover Creek Road as it descends into town to eliminate roadway damage and flooding of downhill properties	Flood, Flash Flood, Ice Jams	**3**	**3**	**1**	**3**	**2**	**2.45**
18	Study stream management on Mill Run along Union Avenue	Flood, Flash Flood, Ice Jams	**1**	**3**	**1**	**3**	**1**	**1.90**

#	Action	Hazard	Effectiveness	Efficiency	Multiple Hazard	High Risk	Criticality	Priority
19	County wide consistent process to determine substantial damage and permit repair and improvement (Train on SDE Tool)	Flood, Flash Flood, Ice Jams	**1**	**3**	**3**	**1**	**2**	**2.15**
20	Develop a program for elevating structures in flood zones	Flood, Flash Flood, Ice Jam	**3**	**2**	**1**	**3**	**2**	**2.15**
21	Promote flood protection measures such as berms, floodwalls, floodproofing, etc. in flood zones	Flood, Flash Flood, Ice Jam	**2**	**2**	**1**	**3**	**2**	**1.95**
22	Include safety information in the emergency preparedness outreach materials placed in the libraries (USDOT Pipeline and Hazardous Materials Safety Administration)	Hazardous Materials Release	**1**	**3**	**3**	**3**	**2**	**2.45**
23	Encourage zoning / SALDO to minimize population growth near hazardous materials site	Hazardous Materials Release	**3**	**3**	**1**	**1**	**3**	**2.30**

#	Action	Hazard	Effectiveness	Efficiency	Multiple Hazard	High Risk	Criticality	Priority
24	Improve coordination with local municipalities and conduct trainings to prepare for hazards materials incidents	Hazardous Materials Release	**1**	**2**	**1**	**1**	**2**	**1.45**
25	Establish Partnership for Regional Invasive Species Management (PRISM) for Blair County	Invasive Species	**3**	**3**	**1**	**3**	**1**	**2.30**
26	Develop an Invasive Species Management Plan with Blair County Conservation using PA Invasive Species Management Plan as a base	Invasive Species	**3**	**3**	**1**	**3**	**1**	**2.30**
27	Implement program to remove dangerous trees killed by invasive species that are now a threat to roadways and community assets	Invasive Species	**2**	**2**	**1**	**3**	**2**	**1.95**
28	Develop and provide program(s) for invasive insect removal from houses, focusing on bedbugs	Invasive Species	**1**	**1**	**1**	**3**	**1**	**1.30**
29	Address staffing issues at the four hospitals	Pandemic & Infectious Disease	**3**	**3**	**1**	**3**	**3**	**2.60**

#	Action	Hazard	Effectiveness	Efficiency	Multiple Hazard	High Risk	Criticality	Priority
30	Develop facilities that encourage and support an active lifestyle or connect sidewalks/bike lanes to existing parks / trails / etc.	Pandemic & Infectious Disease	**2**	**2**	**1**	**3**	**2**	**1.95**
31	Maintain stockpile of PPE at Altoona. Develop a plan for coordination and distribution of PPE to all municipalities.	Pandemic & Infectious Disease	**2**	**2**	**1**	**3**	**2**	**1.95**
32	Implement or fund existing policies, programs to reduce smoking and vaping. Increase unit price for tobacco products by 20%. Adopt smoke free policies. Fund family-based interventions. Etc.	Substance Use and Disorder Pandemic & Infectious Diseases	**3**	**3**	**2**	**3**	**1**	**2.5**
33	Maintain the countywide radon awareness and testing program	Radon Exposure	**2**	**3**	**1**	**3**	**1**	**2.10**
34	Evaluation public buildings and community lifeline infrastructure. Maintain or improve infrastructure to mitigate hazard damages.	Earthquake Winter Storm Utility Interruption Hurricane Tropical Storm Nor'easter Tornado Windstorm	**2**	**2**	**3**	**2**	**3**	**2.35**

#	Action	Hazard	Effectiveness	Efficiency	Multiple Hazard	High Risk	Criticality	Priority
35	Add provision to conduct geologic testing in identified Karts topography areas as a requirement within SALDO	Subsidence & Sinkhole	**3**	**3**	**1**	**1**	**3**	**2.30**
36	Work with vendors to secure high-speed internet and enhance reliability of connection. Check Allegheny Ahead version is ongoing or not.	Utility Interruption	**1**	**2**	**1**	**1**	**1**	**1.30**
37	Consider burying power lines at risk or repetitively damaged power lines to reduce utility interruption.	Utility Interruption Hurricane Tropical Storm Nor'easter Tornado Windstorm	**3**	**2**	**3**	**1**	**3**	**2.40**
38	Vegetation management around power lines to community lifelines to prevent utility interruption during storms.	Winter Storm Utility Interruption Hurricane Tropical Storm Nor'easter Tornado Windstorm	**2**	**2**	**3**	**1**	**3**	**2.20**

#	Action	Hazard	Effectiveness	Efficiency	Multiple Hazard	High Risk	Criticality	Priority
39	Fund totality of anti-icing operations as 24% of weather-related vehicle crashes occur on snowy, slushy, or icy pavement. Priority for community lifelines facilities and high traffic areas.	Winter Storm	**3**	**3**	**1**	**3**	**2**	**2.45**
40	All HHPD dam owners must have annual dam reports readily available with condition assessment & EAP	High Hazard Potential Dams	**1**	**3**	**1**	**2**	**3**	**2.05**
41	Immediately fix HHPD with "Poor" or "Unsatisfactory" condition assessment	High Hazard Potential Dams	**3**	**3**	**1**	**3**	**3**	**2.6**
42	Restrictions or conditions for zoning, SALDO in flood zones or inundation zones	High Hazard Potential Dams & Flood, Flash Flood, Ice Jams	**3**	**3**	**1**	**3**	**2**	**2.45**
43	Communicate with HHPD to assist or enforce with HHPD maintenance	High Hazard Potential Dams & Flood, Flash Flood, Ice Jams	**2**	**3**	**1**	**1**	**2**	**1.95**
44	Engage in a community based coordinated substance use prevention effort. Use Community Preventive Services Task Force Study as a base.	Substance Use Disorder	**3**	**3**	**1**	**3**	**1**	**2.30**

#	Action	Hazard	Effectiveness	Efficiency	Multiple Hazard	High Risk	Criticality	Priority
45	Identify areas in floodplains, mobile homes, any structure more susceptible to hazards and inform them of evacuation shelters.	Hurricane, Tropical Storm, Nor'easter Flood, Flash Flood, Ice Jams	**1**	**3**	**3**	**3**	**2**	**2.45**
46	Ensure SALDO ordinance does not permit development on or near unstable slopes.	Landslide	**3**	**3**	**1**	**1**	**3**	**2.30**
47	Poor drainage and areas of high stormwater runoff can cause erosion. Prioritize fixing areas of erosion near any infrastructure.	Landslide	**2**	**2**	**1**	**1**	**2**	**1.65**
48	Provide cyber-security and awareness training to county and municipal staff (include school)	Cyberterrorism	**3**	**3**	**1**	**1**	**1**	**2.00**
49	Buy and train county officials to use hardware security key (example Titan Key) 2 or 3 sets for each personnel	Cyberterrorism	**3**	**3**	**1**	**1**	**1**	**2.00**
50	Train and enforce county officials and municipal staff on password manager (such as Bitwarden)	Cyberterrorism	**2**	**3**	**1**	**1**	**1**	**1.80**

#	Action	Hazard	Effectiveness	Efficiency	Multiple Hazard	High Risk	Criticality	Priority
51	Construct a storm water management system to assist the Gaysport neighborhood with flooding issues	Storm Water Management	**3**	**3**	**1**	**3**	**3**	**2.60**
52	Separate the sewer water from the storm water in the older sewer systems	Storm Water Management	**2**	**2**	**1**	**3**	**1**	**1.80**
53	Conduct study and upgrade or replace storm water facilities on Ski Gap Road and Polecat Road	Storm Water Management	**1**	**2**	**1**	**3**	**3**	**1.90**
54	Provide first responder and Emergency Operations Center training on a regular basis	All Hazard	**3**	**3**	**3**	**3**	**3**	**3.00**
55	Develop a capacity plan for first responders	All Hazards	**2**	**3**	**3**	**3**	**3**	**2.80**
56	Develop capacity plans for municipalities	All Hazards	**2**	**3**	**3**	**3**	**3**	**2.80**
57	Offer and promote Smart 911 (or similar)	All Hazards	**3**	**2**	**3**	**3**	**3**	**2.70**
58	Host the annual SARA Summit	All Hazard	**2**	**2**	**2**	**2**	**2**	**2.00**
59	Work with Cellular Carriers to install missing wireless infrastructure	All Hazard	**3**	**3**	**3**	**3**	**3**	**3.00**

#	Action	Hazard	Effectiveness	Efficiency	Multiple Hazard	High Risk	Criticality	Priority
60	Acquire generator or equipment for continuity of operations of community lifelines and shelters	All Hazard	**2**	**3**	**3**	**3**	**3**	**2.80**
61	Develop Continuity of Operations plans for local government entities	All Hazard	**2**	**3**	**3**	**3**	**1**	**2.50**
62	Raise taxes to support emergency services personnel and equipment	All Hazard	**3**	**3**	**3**	**3**	**1**	**2.70**
63	Establish an emergency shelter	All Hazard	**2**	**3**	**3**	**3**	**3**	**2.80**
64	Address the parking lots and clearly name the roads in the state game lands, including the areas permanently gated off	Transportation	**1**	**3**	**1**	**1**	**2**	**1.75**
65	Adopt & enforce airport hazard ordinances to protect air lanes in and around the three public access airports in the County	Transportation	**1**	**3**	**1**	**1**	**2**	**1.75**
66	Get Street View (or similar) on every named roadway in the county to better facilitate emergency response (quantity and quality)	Transportation	**1**	**3**	**1**	**1**	**2**	**1.75**

#	Action	Hazard	Effectiveness	Efficiency	Multiple Hazard	High Risk	Criticality	Priority
67	Automate traffic detours during emergencies via GPS to cut down on the number of volunteers necessary at the scene. Mandate its use in all vehicles	Transportation	**1**	**2**	**1**	**1**	**1**	**1.30**
68	Conduct a study to identify redundant or unnecessary bridge infrastructure to redirect transportation funding to higher priority structures	Transportation	**1**	**3**	**1**	**1**	**3**	**1.90**
69	Ensure the Metropolitan Transportation Plan includes freight analysis and identifies areas in the system with increased potential for incidents	Transportation	**1**	**3**	**1**	**1**	**1**	**1.60**

#	Action	Hazard	Effectiveness	Efficiency	Multiple Hazard	High Risk	Criticality	Priority
70	Eliminate the Plummer Hollow Road bridge and rail crossing and combine with a new road to Quarry Road from Thomson town to also eliminate the crossing at Tyrone station thereby bolstering emergency access to both dead-end areas behind the railroad mainline	Transportation	**1**	**2**	**1**	**1**	**2**	**1.45**
71	Put pedestrian signals on all traffic signals	Transportation	**1**	**2**	**1**	**1**	**2**	**1.45**
72	Conduct traffic and speed studies in plain sect areas to ensure a safe interaction between motor and non-motor transportation options	Transportation	**2**	**1**	**1**	**1**	**1**	**1.20**
73	Install school zone signals at plain sect schools throughout the Cove, Sinking Valley, and other needful areas	Transportation	**2**	**2**	**1**	**1**	**1**	**1.50**

#	Action	Hazard	Effectiveness	Efficiency	Multiple Hazard	High Risk	Criticality	Priority
74	Construct the Kettle Road Interchange and connect it across the tracks to Juniata Gap Road to provide access to the northern part of the city as well as three major employers	Transportation	**1**	**1**	**1**	**1**	**3**	**1.30**
75	Make PA-453 a four-lane road to accommodate the traffic from I-99 to Huntingdon.	Transportation	**1**	**1**	**1**	**1**	**3**	**1.30**
76	Build sidewalks in built up areas to get foot traffic separated from motor vehicles	Transportation	**2**	**2**	**1**	**1**	**3**	**1.80**
77	Reopen the White Bridge to eliminate the Cycle Alleghenies bicycle route detour through the Geeseytown Cemetery on US-22 and the Frankstown Intersection	Transportation	**1**	**1**	**1**	**1**	**3**	**1.30**
78	Save money and energy by putting most signals on blink overnight from 10 to 6	Transportation	**1**	**2**	**1**	**1**	**1**	**1.30**

#	Action	Hazard	Effectiveness	Efficiency	Multiple Hazard	High Risk	Criticality	Priority
79	Please consider extending three route numbers for better wayfinding: PA-45 west through Sinking Valley to PA-764; PA 867 north on Reservoir and Frankstown to PA-36; and PA 865 east into Sinking Valley to end on the extended PA-45 (or out to PA-453 if PA-45 isn't extended)	Transportation	**1**	**3**	**1**	**1**	**2**	**1.75**
80	Activate or remove the perpetually-flashing signals at the various industrial parks throughout the county.	Transportation	**1**	**3**	**1**	**1**	**2**	**1.75**
81	Make the train station platforms fully ADA accessible (full length)	Transportation	**1**	**1**	**1**	**1**	**1**	**1.00**
82	Install warning signals and advance warning signs at the rail siding crossing US-22 at Scotch Valley Road	Transportation	**2**	**3**	**1**	**1**	**2**	**1.95**
83	Monitor progress and support implementation of freight traffic improvements along PA-764 between US-22 and the intermodal tank farm	Transportation	**1**	**3**	**1**	**1**	**2**	**1.75**

#	Action	Hazard	Effectiveness	Efficiency	Multiple Hazard	High Risk	Criticality	Priority
84	Connect Park Avenue directly across Frankstown Road to Logan Town Center	Transportation	**1**	**1**	**1**	**1**	**1**	**1.00**
85	Make 12th Avenue two-way, especially from 17th to 18th if the rest is out of reach	Transportation	**1**	**1**	**1**	**1**	**1**	**1.00**
86	Address traffic conflict in Ganister between quarry trucks and adult day care access	Transportation	**2**	**1**	**1**	**1**	**2**	**1.35**
87	Establish better traffic control on High Street at First Street and Second Street	Transportation	**1**	**1**	**1**	**1**	**2**	**1.15**
88	Align the PA-866 intersection in Royer	Transportation	**1**	**1**	**1**	**1**	**1**	**1.00**
89	Install traffic signals on PA-36 at Closson Road and at Cross Cove Road	Transportation	**2**	**2**	**1**	**1**	**2**	**1.65**
90	Eliminate the Porter Road rail crossing	Transportation	**2**	**1**	**1**	**1**	**2**	**1.35**
91	Restrict Juniata Valley Road between the last house in Reese and the last house in Canoe Creek to non-motorized traffic and restore the riparian buffer	Transportation	**1**	**3**	**1**	**1**	**3**	**1.90**

#	Action	Hazard	Effectiveness	Efficiency	Multiple Hazard	High Risk	Criticality	Priority
92	Address rail tunnel safety concerns	Transportation	**2**	**1**	**1**	**1**	**3**	**1.50**
93	Extend Main Street to Fostoria	Transportation	**1**	**1**	**1**	**1**	**3**	**1.30**
94	Remove the eastern rail bridge at the wye near Tyrone station to eliminate the obstruction the center pylon creates in the Little Juniata River	Transportation	**1**	**1**	**1**	**1**	**2**	**1.15**
95	Remove the old rail bridge at Plummer Hollow Road to eliminate the obstruction the center pylon creates in the Little Juniata River	Transportation	**1**	**1**	**1**	**1**	**2**	**1.15**
96	Install better parking for the Tytoona Cave or improve road safety in this area	Transportation	**1**	**1**	**1**	**1**	**2**	**1.15**
97	Provide solar farm response training to first responders	Response	**2**	**2**	**1**	**1**	**1**	**1.50**
98	Conduct study on the scope and extent of human trafficking in Blair County	Community Hazard Concern: Human Trafficking	**2**	**2**	**1**	**1**	**1**	**1.50**

#	Action	Hazard	Effectiveness	Efficiency	Multiple Hazard	High Risk	Criticality	Priority
99	Identify homeless needs for shelter and support throughout the County	Community Hazard Concern: Homelessness	**2**	**2**	**1**	**1**	**1**	**1.50**
100	Replace fifteen culverts throughout Sinking Valley that are well beyond end of useful life and will strand people should they fail	Infrastructure	**3**	**3**	**1**	**3**	**3**	**2.60**
101	Provide new access to Woodland Terrace	Infrastructure	**1**	**1**	**1**	**1**	**1**	**1.00**
102	Replace the bridge on Dogwood Lane	Infrastructure	**1**	**1**	**1**	**1**	**3**	**1.30**
103	Tear down the former K-Mart and return the property to a pervious, flood-friendly condition (area behind the outparcels)	Infrastructure	**1**	**1**	**1**	**3**	**3**	**1.60**
104	Construct a new prison facility to better accommodate those who are incarcerated	Infrastructure	**1**	**1**	**1**	**1**	**1**	**1.00**
105	Require all facilities that need to build car parking lots to also include bicycle parking	Planning / Ordinance	**2**	**3**	**1**	**1**	**3**	**2.10**

#	Action	Hazard	Effectiveness	Efficiency	Multiple Hazard	High Risk	Criticality	Priority
106	Consider moving development reviews to the county level utilizing existing efforts in Somerset and Centre Counties as models	Planning / Ordinance	**1**	**3**	**2**	**2**	**1**	**1.95**
107	Update land-based plans and ordinances	Ordinance	**2**	**3**	**1**	**1**	**1**	**1.80**
108	Adopt the International Property Maintenance Code, a Rental Inspection Ordinance, and a Time-of-Sale Inspection Ordinance to improve the quality of properties countywide	Ordinance	**2**	**3**	**1**	**1**	**1**	**1.80**
109	Install dry hydrants in designated areas	Urban Fire & Explosion	**1**	**3**	**1**	**1**	**2**	**1.75**

#	Action	Hazard	Effectiveness	Efficiency	Multiple Hazard	High Risk	Criticality	Priority
110	Remove blighted properties to reduce the risk of urban fires and clandestine labs	Urban Fire & Explosion	**2**	**3**	**1**	**1**	**3**	**2.10**
111	Conduct housing inspection for compliance (fire & CO2 alarms) Ensure SALDO requires (fire & CO2 alarms)	Urban Fire & Explosion	**2**	**3**	**1**	**1**	**2**	**1.95**
112	Install communications technology on the Lower Trail to pick up cell signals in the event of an emergency	Communication	**1**	**2**	**2**	**1**	**3**	**1.80**
113	Create a food hub in Altoona to market local produce. Connect farmers to a known food desert	Economic: Food	**1**	**1**	**1**	**1**	**1**	**1.00**
114	Convert former retail commercial buildings to housing	Housing Development	**1**	**1**	**1**	**1**	**3**	**1.30**

#	Action	Hazard	Effectiveness	Efficiency	Multiple Hazard	High Risk	Criticality	Priority
115	Convert abandoned church facilities and schools into housing	Housing Development	**1**	**1**	**1**	**1**	**3**	**1.30**
116	Establish a 311-call center to report non-emergency incidents like trash dumps, malfunctioning signals, potholes, etc.	Law Enforcement Related	**2**	**3**	**2**	**1**	**1**	**2.00**
117	Provide better access to the Parkview Condos, Jethro's, the Summit, etc.	Disability Access	**1**	**1**	**1**	**1**	**3**	**1.30**
118	Initiate Behavioral threat assessment and management model to create a culture of prevention for targeted violence and terrorism.	Terrorism	**2**	**2**	**1**	**1**	**1**	**1.50**

- SECTION 7 -

PLAN MAINTENANCE

7.0 PLAN MAINTENANCE

7.1 UPDATE PROCESS SUMMARY

Monitoring, evaluating, and updating this plan is critical to maintaining its value and success in Blair County's hazard mitigation efforts. Ensuring effective implementation of mitigation activities paves the way for continued momentum in the planning process and gives direction for the future. This section explains who will be responsible for maintenance activities and what those responsibilities entail. It also provides a methodology and schedule of maintenance activities including a description of how the public will be involved on a continued basis. The Planning Committee elected to keep the methodology and schedule are similar to what is outlined in the 2018 Plan, but to put more emphasis on integrating the mitigation goals, objectives, and actions identified in the Mitigation Strategy into the other ongoing planning efforts to ensure implementation and tracking of actions throughout the five-year plan maintenance process.

7.2 MONITORING, EVALUATING, AND UPDATING THE PLAN

The Blair County Hazard Mitigation Planning Committee will remain intact as the organization responsible for monitoring, evaluating, and updating this plan. The Director of Blair Planning shall continue to serve as coordinator for the Committee. Each participating jurisdiction is also expected to appoint a municipal hazard mitigation representative to support the jurisdiction's input to the monitoring, evaluating, and updating responsibilities identified in this section. Additionally, members may be appointed from certain industries, areas, or employers to ensure a well-rounded perspective on the Committee so that no single viewpoint dominates.

Blair Planning will request a representative be named by each municipality each January, however knowing that individual commitments change during the year, each jurisdiction and its representatives are responsible for informing the Blair Planning of any changes in representation by formal letter. The Blair County Planning Commission Chairperson will strive to keep the Committee makeup as a uniform representation of planning partners and stakeholders within the planning area and ensure a representative cross-section of the community is seated. The following sections describe the monitoring, evaluating, and updating processes and protocols for the Blair County Hazard Mitigation Plan.

7.2.1 MONITORING

The Hazard Mitigation Planning Committee shall be responsible for monitoring progress on, and evaluating the effectiveness of, the Plan and documenting this progress in a series of semi-annual progress reports. The progress reports will be presented to the Blair County Planning Commission by the Planning Director or Committee representative on a semi-annual basis following a Hazard Mitigation Planning Committee meeting. The progress report shall include:

- Progress on the implementation of mitigation actions, including efforts to obtain outside funding for mitigation actions, and any obstacles or impediments to the implementation of actions;
- Incidents and losses from identified hazards occurring in Blair County, including their nature and extent, and the effects that hazard mitigation actions have had on such impacts and losses;
- Any new hazards or priorities that need to be addressed, included potential mitigation actions;
- Training or technical assistance needed to achieve mitigation goals

- Identification and description of any urgent funding needs; and
- Public and stakeholder input and comments on the plan.

Blair Planning will maintain records of each goal, objective, and action step on a continual basis so that an up-to-date assessment can be made of any of the elements of the plan, or the plan, on short notice. The Planning Director shall include brief updates to the Commission at each of its regularly scheduled monthly meetings. Municipalities and Committee members will assist in informing these records when requested.

To prepare the semi-annual progress report, each member of the Hazard Mitigation Planning Committee will ascertain the status of any projects slated for their appropriate jurisdiction. Municipal officials will supply the relevant information for the municipalities, and private sector representatives will supply relevant information in a manner that provides the needed information, but consistent with confidentiality expectations in the private sector. Information provided will directly inform the six major points of the progress report listed above, as well as any other items that may be relevant to hazard mitigation planning, including other planning efforts being undertaken.

The first semi-annual meeting of the Hazard Mitigation Planning Committee each year will be called by Blair Planning once all representatives have been identified for the calendar year. The second will be called approximately six months later. This will usually result in meetings in late winter and late summer. Additional meetings may be held when appropriate. Meetings of the Hazard Mitigation Planning Committee shall be advertised, open to the public, and include a public comment period. Records shall be filed in the files related to this Plan.

Presentation of the progress report to the Blair County Planning Commission shall be at the subsequent monthly meeting of the Commission. The Commission shall ensure that progress is made toward the plan goals and objectives, and that other planning efforts are integrated, and work well together. The Commission shall file the report, with any additional comments and findings it may wish to add, into the files related to this Plan.

Additionally, each municipality shall maintain vigilance relative to any action steps within its jurisdiction and report significant progress or setbacks to the Planning Director in a timely manner. Should the situation warrant, the Planning Director shall call an extra meeting of the Committee to address the situation, make any needed adjustments, or take any other appropriate action necessary. Included in this vigilance is any public input received that necessitates consideration and/or action before the next semi-annual meeting is held.

7.2.2 EVALUATING

The evaluation of the hazard mitigation plan is an assessment of whether the planning process and actions have been effective, the plan's goals are being reached, and changes are needed. An annual public meeting will be held for educational and informative purposes. These annual meetings will provide the public with an update on the status of the plan, implementation efforts, and action items. It will also solicit comments, suggestions, criticisms, and volunteers from the public regarding elements of the current plan as well as any new item(s) that may need to be added. This annual meeting will be publicized in accordance with the Blair Planning Public Participation Policy, which is adopted in accordance with obligations it has under Federal law. Records of the meeting will be kept with the hazard mitigation files for this iteration of the plan.

The status of the Plan will be discussed and documented at the annual public meeting that includes members of the Hazard Mitigation Planning Committee. Evaluations will be informed by the progress reports and ongoing monitoring of the plan and its goals, objectives, and action steps. From these reports and monitoring, the evaluations will assess whether:

- Goals and objectives address current and expected conditions;
- Documentation has been completed for any germane incidents that occurred during the last year;
- The nature or magnitude of the risks has changed;
- The Plan is being implemented into land use processes on the municipal level;
- Current resources are appropriate for implementing the Plan;
- Different or additional resources are now available;
- Actions are cost effective;
- Technical, political, legal, or coordination issues are hindering implementation;
- Outcomes have occurred as expected;
- Changes in personnel, financial, or physical resources have impacted plan; and
- New entities or personnel should be included, including other local governments.

As part of the annual meeting, the Committee will review the mitigation goals, objectives, activities, and projects using the following performance-based indicators:

- Achievement of the goals and objectives;
- Projects completed;
- Project evaluation based on current needs of the mitigation plan;
- Feasibility of goals, objectives, or actions;
- Resources required to implement mitigation activities;
- Timeframe sufficiency to address actions;
- Budget adequacy for action items;
- Resource availability to implement actions;
- Under/over spending regarding proposed mitigation action budgets;
- Lead or support agency commitment; and
- Newly created entities with the authority or ability to implement mitigation actions (or are required to meet goals, objectives, and actions.)

Finally, the Committee will evaluate the ways other programs and policies have conflicted or augmented planned or implemented measures, and shall identify policies, programs, practices, and procedures that could be modified to accommodate hazard mitigation actions. Other programs and policies can include

those that address economic development, the environment, historic preservation, land use, recreation, redevelopment, outreach, public education, public health, public safety, transportation, et cetera.

The meeting discussion will result in an annual evaluation report based on the local progress reports provided by each jurisdiction, monitoring information, prior progress reports, prior annual evaluation reports, information presented at the annual meeting, and other information as appropriate and relevant. These reports will provide data for the five-year update of this Plan and will assist in pinpointing implementation challenges.

Should the annual evaluation report indicate a need for a course change, a lagging action item, a change in budget, personnel, or responsible agency, the Hazard Mitigation Planning Committee shall meet more frequently to make the needed changes up to and including a formal plan amendment to properly accommodate the findings of the annual evaluation. The frequency and subject matter of these additional meetings will be dictated by the annual evaluation.

The plan will also be evaluated and revised following any major disasters to determine whether the recommended actions remain relevant and appropriate. The risk assessment will also 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) of this plan have been collected to facilitate the risk assessment. This is an opportunity to increase the community's disaster resistance and build a better and stronger community.

7.2.3 UPDATING

This plan update is expected to meet the hazard mitigation needs of Blair County for the next five years. With that stated, unfortunate events happen which could necessitate the need for an interim update. An interim update will be the result of a poor annual evaluation, an unexpected change in the situation, an incident related to one of the hazards in the plan, a major disaster, or a need to make a change to coordinate with another planning effort.

Informal interim updates will be noted in the annual evaluation reports and the resulting progress reports. These would include items such as a change in the lead agency, updating a timeline within the life of the plan, budgetary changes, and similar items. Once noted, implementation will proceed unless additional issues are flagged, at which time they will be reconsidered and updated once again.

A formal interim update will be treated similarly to the regulatory five-year update described below. Additional meetings of the Hazard Mitigation Planning Committee will be needed as well as additional outreach and public input. Issues requiring new assessments, mitigation strategies, and action steps will require a formal update and be developed as fits the issue mandating the need for such an update. The adoption process will also match the process for the five-year update.

Federal regulations require that, every five years, 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. This plan is updated on a five-year cycle from the date of plan adoption.

To facilitate the formal update process, the Planning Director shall designate the semi-annual Hazard Mitigation Planning Committee meeting nearest to three years from the date of plan approval to develop and commence with the implementation of a detailed plan update program. The Planning Director shall invite representatives from the Pennsylvania Emergency Management Agency to this meeting to provide

guidance on plan update procedures. This program shall, at a minimum, establish the parties responsible for managing and completing the plan update effort, features needed to be included in the updated plan, and a detailed timeline with milestones to ensure that the update is completed according to regulatory requirements .At this meeting, the Committee shall determine the financial and physical resources needed to complete the update.

Blair Planning and the Blair County Emergency Management Agency shall be jointly responsible for ensuring that needed resources are secured. The update process will entail additional meetings of the Hazard Mitigation Planning Committee during the update process. These meetings will be held in accordance with the established timeline and will include people not normally on the committee to ensure a broad representation of the community. Steps will be taken to ensure this broad representation so that no one viewpoint or industry has undue influence over the outcome of the updated plan.

Following each five-year update of the Plan, the updated plan will be distributed for public comment. After all comments are addressed, the Plan will be revised and distributed to all Committee members, municipalities, school districts, municipal authorities, and the Pennsylvania State Hazard Mitigation Officer. It will also be distributed to public outlets in accordance with the Blair Planning Public Participation Plan.

7.3 CONTINUED PUBLIC INVOLVEMENT

Blair County is committed to involving the public in the continual reshaping and updating of this hazard mitigation plan. Blair Planning is responsible for monitoring the plan and for the five-year review/update of the plan. In this capacity, it will also be the responsibility of Blair Planning to coordinate with the other parties in interest to implement long-term public participation activities.

Copies of this updated hazard mitigation plan will be catalogued and kept on file at public libraries and municipal buildings throughout the County. In addition, the updated plan will be posted on the Blair Planning web site. This site will also contain contact information to which people can direct their comments or concerns. These will be reviewed and discussed by the Committee at its semi-annual meetings, with any appropriate actions or responses documented. Additional public outreach will be made in accordance with the Blair Planning Public Participation Policy.

The Committee will continue to meet at least on a semi-annual basis to ensure the plan is being implemented and to stay on top of any issues that may arise. These meetings will be publicized in accordance with the Blair Planning Public Participation Policy, and a public comment period will be provided at the beginning of each meeting to allow any member of the public to address the Committee with concerns, ideas, or comments relative to hazard mitigation.

Blair Planning shall ensure the following:

- Compliance with the Blair Planning Public Participation Policy;
- Public comment and input on both the Plan and hazard mitigation in general are recorded, addressed, and filed, as appropriate;
- The Blair Planning website is maintained and updated, as appropriate;
- All public and stakeholder comments received are documented and maintained;
- Copies of the latest approved plan are available for review and distribution at the Blair Planning office, along with instructions to facilitate public input and comment on the plan; and

- Public notices, including media releases, are made to inform the public of the availability of the plan, particularly during plan update cycles.

An annual public meeting will be held for educational and informative purposes. These annual meetings will provide the public with an update on the current status of the plan, implementation efforts, and action items. It will also solicit comments, suggestions, criticisms, and volunteers from the public regarding elements of the current plan as well as any new item(s) that may need to be added. This annual meeting will be publicized in accordance with the Blair Planning Public Participation Policy, which is adopted in accordance with obligations it has under Federal law. Records of the meeting will be kept with the hazard mitigation files for this iteration of the plan.

Finally, similar to that which was completed for this hazard plan update, a public meeting will be held after each five-year review/update of the plan. This meeting will provide the public an opportunity to express concerns, opinions, or ideas about the plan.

The hazard mitigation planning cycle is unending. Hazards and threats will continue, and it is the responsibility of each person, company, government, and society to do what is reasonably necessary to mitigate those threats. Through this planning effort, Blair County and its constituent municipalities look forward to reducing vulnerability and exposure to its people, property and way of life.

SECTION 8

PLAN ADOPTION

8.0 PLAN ADOPTION

8.1 ADOPTION PROCESS SUMMARY

The plan was submitted to the Federal Emergency Management Agency and the Pennsylvania Emergency Management Agency for approval, and Blair Planning received the Approved Pending Adoption (APA) Letter on February 7, 20XX. Immediately upon receipt of this letter, Blair Planning distributed the approved plan with a resolution template to each municipality and the county for adoption. Each unit of local government then adopted the plan by resolution and submitted that resolution to Blair Planning, which then distributed the resolution document to the Federal Emergency Management Agency, the Pennsylvania Emergency Management Agency, and the Blair County Emergency Management Agency. The Federal Emergency Management Agency then issued an approval letter to each municipality as it adopted the plan. These documents were then aggregated and included in this plan document.

8.2 ADOPTION DOCUMENTS

The "Approved Pending Adoption" letter, the county resolution, each of the municipal resolutions, and each of the municipal approval letters are included in this section. For brevity, the municipal approval letters include only the first page as the subsequent pages are identical to pages two through five of the "Approved Pending Adoption" letter. The final approval letter was received November 10, 20XX.

8.2.1 BLAIR COUNTY "APPROVED PENDING ADOPTION" LETTER

U.S. Department of Homeland Security
Region III
One Independence Mall, Sixth Floor
615 Chestnut Street
Philadelphia, PA 19106-4404

FEMA

February 7, 2020

Ernest Szabo
State Hazard Mitigation Planner
Pennsylvania Emergency Management Agency
Bureau of Recovery and Mitigation
1310 Elmerton Avenue
Harrisburg, Pennsylvania 17110

Dear Mr. Szabo:

The Federal Emergency Management Agency (FEMA) has completed our review of the Blair County Hazard Mitigation Plan, based on the standards contained in 44 Code of Federal Regulations (CFR), Part 201, as authorized by the Disaster Mitigation Act of 2000 (DMA2K). These criteria address the planning process, hazard identification and risk assessment, mitigation strategies and plan maintenance requirements.

The plan received a "satisfactory" rating for all required criteria and is approvable pending adoption. However, prior to formal approval, each participating jurisdiction covered under the Blair County Hazard Mitigation Plan is required to provide FEMA with a resolution of adoption.

We commend you for your dedication demonstrated in supporting the DMA2K and your commitment to reduce future disaster losses. If you have questions, please contact Sarah Wolfe, Chief, Floodplain Management & Insurance Branch, at (215) 931-5532.

Sincerely,

April Cummings, Director
Mitigation Division
FEMA Region III

Enclosure

cc: Thomas Hughes, State Hazard Mitigation Officer, PEMA
David W. McFarland, III, AICP, Director, Blair County Planning Commission

www.fema.gov

Local Mitigation Plan Review Tool Annex
Recommendations for Improvement

FEMA Region III

Jurisdiction:	Title of Plan:	Date of Plan:
Blair County, Pennsylvania	BRAVE – Blair County Hazard Mitigation Plan	APA February 7, 2020

Element A: Planning Process

☒	Promote open and inclusive public awareness of the Hazard Mitigation Plan and seek public comment by utilizing social media and online outreach opportunities.
☐	Create an Executive Summary that can be used for outreach to citizens, elected officials and the media.
☐	Expand the planning team to include a broad range of stakeholders such as watershed organizations, business owners, regional planning councils, conservation districts, academia, utility providers, and other partners that can assist with mitigation implementation and community outreach.
☒	Add detail to how the Plan was prepared and who was involved in the planning process. Include contact information, position held by participant, methodologies, and detail of how and from whom data was collected. This information will streamline next update and help you focus on improvements and implementation.
☐	Consider engaging the local media to help increase public awareness and participation.
☒	Standardize long-term monitoring of hazard-related activities, integrate mitigation principles into community officials' daily job responsibilities and department roles, and maintain momentum through continued engagement and accountability in the Plan's progress during the five-year planning cycle. Share reviews with state and FEMA for training, funding, and mitigation actions.
☒	Include documentation of the annual Plan review meetings that should occur over the next five-year planning cycle. Sign-in sheets, agendas, meeting minutes, and progress reports can be added to an appendix.
☒	Integrate and incorporate the mitigation strategy into existing local planning mechanisms and provide documentation about how this was done. Utilize the document 'Plan Integration: Linking Local Planning Efforts' to step through the process of connecting local planning mechanisms. The mitigation strategy should be incorporated into the local comprehensive Plan in a way that informs land use and future development.
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Recommendations for Improvement
1

Local Mitigation Plan Review Tool Annex
Recommendations for Improvement

FEMA Region III

Element B: Hazard Identification and Risk Assessment	
☒	Compare National Flood Insurance Program (NFIP) Insurance Policies in Force with insurable structures in the Special Food Hazard Area (SFHA) for analysis of flood insurance coverage.
☒	Identify historic properties and/or cultural resources being incorporated into the Plan. Include a list of team members and stakeholders who participated in the planning process; the results of the risk assessment and loss estimation; mitigation goals and objectives aimed at reducing or avoiding the effects of natural and manmade hazards; mitigation actions that will help the Tribe, State, region, or community accomplish the established goals and objectives; and implementation strategies that detail how the mitigation actions will be executed.
☐	Incorporate and document new data obtained and/or developed into the next Plan update. Vulnerable structure data (i.e., lowest floor elevation, value, building materials) and other similar information can be used for mitigation grant applications. Be sure do document differing data sets (i.e. TEIF vs. HAZUS).
☒	Consider using Non-Regulatory Flood Risk products (NRFRP) to establish opportunities for discussion with local officials to attain a greater understanding of specific structure's vulnerabilities within the planning area and potential mitigation opportunities.
☒	Identify gaps or inaccuracies in existing data (i.e., such as natural hazards data, GIS mapping, and research on successful risk reduction methods) and develop mitigation actions to fill those gaps. Public agencies, such as regional planning agencies, geological surveys, forestry divisions, emergency management offices, dam safety agencies, and weather service offices, at the regional, State, and Federal government levels are key resources for data and technical information. Online resources, such as the National Climatic Data Center (part of NOAA), are also useful sources for hazard-related data.
☒	Provide more detailed citations for data sources used for tables, figures, and assessments which inform the risk and vulnerability analyses. In addition to validating the assessment, this will also make the next Hazard Mitigation Plan update easier.
☒	Assess the potential impacts of future conditions, such as changes in population, land use, weather, and natural disaster frequency and severity. Include a discussion about how changing conditions could impact long-term community resilience.
☐	Consider profiling additional hazards based on the State Hazard Mitigation Plan or other identified risks.
☒	More robust hazard profiles with an emphasis on future conditions

Recommendations for Improvement
2

Local Mitigation Plan Review Tool Annex
Recommendations for Improvement

FEMA Region III

Element C: Mitigation Strategy		
	☐	Include detailed information on how each community manages the NFIP to ensure compliance with the local floodplain ordinance. Each floodplain manager should complete the NFIP Survey to identify how their communities are continuing to comply with floodplain requirements and regulations.
	☒	Increase community-level interactions and risk-based discussions, by improving descriptions and connections between the outcome of the risk assessment/vulnerability analysis with non-regulatory Flood Risk Products and the mitigation strategy. Content should flow from problem identification (risk/vulnerability) to mitigation strategy (goals/objectives/actions).
	☐	Incorporate the four overarching hazard mitigation techniques (Local Plans and Regulations; Structure and Infrastructure; Natural Systems Protection; and Education and Awareness). Ensure the mitigation action plan includes actions that fall under all four categories to achieve a more robust mitigation strategy.
	☒	Provide specific information about why mitigation actions could not be completed (funding, staffing, political, etc.) to help document barriers or obstacles to successful implementation.
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Recommendations for Improvement
3

Local Mitigation Plan Review Tool Annex
Recommendations for Improvement

FEMA Region III

Element D: Plan Review, Evaluation, and Implementation

☒	Utilize the 5-Year Planning Wheel, which reflects the continuous development, implementation and enhancement of your Hazard Mitigation Plan.
☒	Submit annual progress reviews and plan discussion to state and FEMA
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Additional Comments

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Recommendations for Improvement
4

8.2.2 BLAIR COUNTY DOCUMENTS

RESOLUTION

A RESOLUTION ADOPTING
BLAIR RESILIENCE: ADDRESSING VULNERABILITY AND EXPOSURE (BRAVE)
AS THE
HAZARD VULNERABILITY ASSESSMENT AND HAZARD MITIGATION PLAN FOR
THE COUNTY OF BLAIR

WHEREAS, the County of Blair, Pennsylvania is vulnerable to natural and manmade hazards such as flooding, storms, hazardous materials spills, drought, wildfires, landslides, and radon; and

WHEREAS, these hazards can result in loss of life, injury, loss of property, economic hardship, and threats to public health and safety; and

WHEREAS, a hazard vulnerability assessment and mitigation plan entitled Blair Resilience: Addressing Vulnerability and Exposure (BRAVE) has been developed for the County of Blair and its constituent municipalities; and

WHEREAS, a series of public meetings and outreach efforts were undertaken to develop and review the plan document; and

FURTHER, Blair Resilience: Addressing Vulnerability and Exposure (BRAVE) is hereby adopted as the hazard vulnerability assessment and mitigation plan for the County of Blair and the respective municipal officials and agencies are hereby directed to implement the recommended activities in the plan and consult with Blair Planning and Blair County Department of Emergency Services on progress of these activities.

WE HEREBY CERTIFY that this resolution was passed by the Board of Commissioners of the County of Blair this 31 day of March 2020.

BLAIR COUNTY BOARD OF COMMISSIONERS

Bruce R. Erb, Chairman

Laura Burke, Vice-Chairman

Amy Webster, Secretary

Attest:
Nicole Hemminger, County Administrator

8.2.3 ALTOONA CITY DOCUMENTS

RESOLUTION No. 0018-20

Whereas, the City of Altoona, Blair County, Pennsylvania is vulnerable to natural and man-made hazards such as flooding, storms, hazardous materials spills, drought, wildfires, landslides, and radon; and

Whereas, these hazards can result in loss of life, injury, loss of property, economic hardship, and threats to public health and safety; and

Whereas a hazard vulnerability assessment and mitigation plan entitled, *Blair Resilience: Addressing Vulnerability and Exposure (BRAVE)*, has been developed for Blair County and its constituent municipalities; and

Whereas a series of public meetings and outreach efforts were undertaken to develop and review the plan document.

Now Therefore, Be it Resolved by the Governing Body of the City of Altoona that: the document entitled, *Blair Resilience: Addressing Vulnerability and Exposure (BRAVE)*, is hereby adopted as the hazard vulnerability assessment and mitigation plan for the City of Altoona, and the respective City officials and agencies are hereby directed to implement the recommended activities in the plan and consult with Blair Planning and the Blair County Department of Public Safety on the progress of these activities.

Roll Call	Yeas	Nays		Yeas	Nays
Butterbaugh	✓		Ickes	✓	
Cacciotti (via phone)	✓		Kelley	✓	
Carper	✓		Mayor Pacifico	✓	
Jordan	absent				
				6	0

Adopted MAR 11 2020

Mayor — MAR 12 2020 Date Signed

Attest: Linda Ricker Schellhammer, City Clerk — MAR 12 2020 Date Recorded

U.S. Department of Homeland Security
Region III
One Independence Mall, Sixth Floor
615 Chestnut Street
Philadelphia, PA 19106-4404

FEMA

May 6, 2020

The Honorable Matthew A. Pacifico
Mayor, City of Altoona
1301 Twelfth Street
Altoona, Pennsylvania 16601

Community:	City of Altoona, Blair County, Pennsylvania
Plan Adoption Date:	03/11/2020
Plan Approval Date:	02/11/2020
Plan Expiration Date:	02/10/2025

Dear Mayor Pacifico:

I am pleased to announce that your Hazard Mitigation Plan has been approved. The plan meets the requirements set forth in Title 44, Chapter 1, Section 201.6, of Code of Federal Regulations (44 CFR 201.6), as authorized by the Disaster Mitigation Act of 2000, by adequately addressing the following required elements: planning process, risk assessment and hazard identification, mitigation strategy, maintenance and implementation, and adoption.

Participating communities are hereby eligible for Hazard Mitigation Assistance grant programs. Funding from these grant programs can be used for qualified mitigation planning and projects that work to reduce disaster losses and protect life and property from future disaster damages. Approved mitigation plans may also be eligible for points under the National Flood Insurance Program Community Rating System.

Your community must revise its plan and obtain approval within 5 years to continue to be eligible for mitigation grant funding. This plan should be reviewed at least annually to keep it relevant to the mitigation goals in your community. Please consider the enclosed recommendations to further strengthen your plan during the next plan update.

I commend you and other members of the planning team for your hard work and continued commitment to building a safer, more resilient community. For questions about your plan or mitigation grant funding, please contact Ernest Szabo, State Hazard Mitigation Planner, at (717) 651-2159.

Sincerely,

Mari W. Radford

Mari Radford, Acting Branch Chief
Floodplain Management and Insurance Branch
FEMA Region III

Enclosure

cc: Thomas Hughes, State Hazard Mitigation Officer, PEMA
Ernest Szabo, State Hazard Mitigation Planner, PEMA
David W. McFarland, III, AICP, Director, Blair County Planning Commission

www.fema.gov

8.2.4 BELLWOOD BOROUGH DOCUMENTS

RESOLUTION NO.: 05-06-2020

WHEREAS, the Borough of Bellwood, Blair County, Pennsylvania is vulnerable to natural and man-made hazards such as flooding, storms, hazardous materials spills, drought, wildfires, landslides, and radon;

WHEREAS, these hazards can result in loss of life, injury, loss of property, economic hardship, and threats to public health and safety;

WHEREAS, a hazard vulnerability assessment and mitigation plan entitled *Blair Resilience: Addressing Vulnerability and Exposure (BRAVE)* has been developed for Blair County and its constituent municipalities; and

WHEREAS, a series of public meetings and outreach efforts were undertaken to develop and review the plan document.

NOW, THEREFORE, BE IT RESOLVED by the governing body of the Borough of Bellwood, Blair County, Pennsylvania, that the document entitled *Blair Resilience: Addressing Vulnerability and Exposure (BRAVE)* is hereby adopted as the hazard vulnerability assessment and mitigation plan for Bellwood Borough, and the respective municipal officials and agencies are hereby directed to implement the recommended activities in the plan and consult with Blair Planning and the Blair County Department of Public Safety on the progress of these activities.

Date Adopted: May 6, 2020

President: Paul Eckenrode, Jr.

Attest: Hope A. Ray, Secretary

Approved by me this 6th day of May 2020.

John E. Winesickle, Mayor

U.S. Department of Homeland Security
Region III
One Independence Mall, Sixth Floor
615 Chestnut Street
Philadelphia, PA 19106-4404

FEMA

June 30, 2020

The Honorable John Winesickle
President, Borough Council
Bellwood Borough
516 Main Street
Bellwood, Pennsylvania 16617

Community: Bellwood Borough, Blair County, Pennsylvania
Plan Adoption Date: 05/06/2020
Plan Approval Date: 02/11/2020
Plan Expiration Date: 02/10/2025

Dear Mr. Winesickle:

I am pleased to announce that your Hazard Mitigation Plan has been approved. The plan meets the requirements set forth in Title 44, Chapter 1, Section 201.6, of Code of Federal Regulations (44 CFR 201.6), as authorized by the Disaster Mitigation Act of 2000, by adequately addressing the following required elements: planning process, risk assessment and hazard identification, mitigation strategy, maintenance and implementation, and adoption.

Participating communities are hereby eligible for Hazard Mitigation Assistance grant programs. Funding from these grant programs can be used for qualified mitigation planning and projects that work to reduce disaster losses and protect life and property from future disaster damages. Approved mitigation plans may also be eligible for points under the National Flood Insurance Program Community Rating System.

Your community must revise its plan and obtain approval within 5 years to continue to be eligible for mitigation grant funding. This plan should be reviewed at least annually to keep it relevant to the mitigation goals in your community. Please consider the enclosed recommendations to further strengthen your plan during the next plan update.

I commend you and other members of the planning team for your hard work and continued commitment to building a safer, more resilient community. For questions about your plan or mitigation grant funding, please contact Ernest Szabo, State Hazard Mitigation Planner, at (717) 651-2159.

Sincerely,

Sarah Wolfe, Branch Chief
Floodplain Management and Insurance Branch
FEMA Region III

Enclosure

cc: Thomas Hughes, State Hazard Mitigation Officer, PEMA
Ernest Szabo, State Hazard Mitigation Planner, PEMA
David W. McFarland, III, AICP, Director, Blair County Planning Commission

www.fema.gov

8.2.5 DUNCANSVILLE BOROUGH DOCUMENTS

Borough of Duncansville

DUNCANSVILLE, PENNSYLVANIA

RESOLUTION

Resolution No.: 9-20-1

A Resolution of the Duncansville Borough Council Adopting the 2018 Blair County Hazard Mitigation Plan Update as the Borough's Hazard Vulnerability Assessment and Mitigation Plan

WHEREAS, the Borough of Duncansville is vulnerable to natural and man-made hazards such as flooding, storms, hazardous material spills, drought, wildfires, landslides and radon; and

WHEREAS, these hazards can result in loss of life, injury, loss of property, economic hardship and threats to public health and safety; and

WHEREAS, attached hereto is a hazard vulnerability assessment and mitigation plan entitled, *Blair Resilience: Addressing Vulnerability and Exposure* has been developed for Blair County and its constituent municipalities; and

WHEREAS, a series of public meetings and outreach efforts were undertaken by Blair County to develop and review the plan document.

NOW THEREFORE, **BE IT RESOLVED** by the Duncansville Borough Council as follows:

The attached Blair County 2018 Hazard Mitigation Plan Update is hereby adopted as the hazard vulnerability assessment and mitigation plan for the Borough of Duncansville and the respective municipal officials and agencies are hereby directed to implement the recommended activities in the plan and consult with Blair Planning and the Blair County Department of Public Safety on the progress of these activities.

RESOLVED, this fourteenth day of September, 2020

DUNCANSVILLE BOROUGH

By: _____
Eric P. Fritz - *Mayor*

Attest: _____ (Seal)
Paula J. Fox - *Secretary*

U.S. Department of Homeland Security
Region III
One Independence Mall, Sixth Floor
615 Chestnut Street
Philadelphia, PA 19106-4404

FEMA

October 5, 2020

The Honorable Dave Smith
Chair, Board of Supervisors
Duncansville Borough
1146 3rd Avenue
Duncansville, Pennsylvania 16635

Community: Duncansville Borough, Blair County, Pennsylvania
Plan Adoption Date: 09/14/2020
Plan Approval Date: 02/11/2020
Plan Expiration Date: 02/10/2025

Dear Mr. Smith:

I am pleased to announce that your Hazard Mitigation Plan has been approved. The plan meets the requirements set forth in Title 44, Chapter 1, Section 201.6, of Code of Federal Regulations (44 CFR 201.6), as authorized by the Disaster Mitigation Act of 2000, by adequately addressing the following required elements: planning process, risk assessment and hazard identification, mitigation strategy, maintenance and implementation, and adoption.

Participating communities are hereby eligible for Hazard Mitigation Assistance grant programs. Funding from these grant programs can be used for qualified mitigation planning and projects that work to reduce disaster losses and protect life and property from future disaster damages. Approved mitigation plans may also be eligible for points under the National Flood Insurance Program Community Rating System.

Your community must revise its plan and obtain approval within 5 years to continue to be eligible for mitigation grant funding. This plan should be reviewed at least annually to keep it relevant to the mitigation goals in your community. Please consider the enclosed recommendations to further strengthen your plan during the next plan update.

I commend you and other members of the planning team for your hard work and continued commitment to building a safer, more resilient community. For questions about your plan or mitigation grant funding, please contact Ernest Szabo, State Hazard Mitigation Planner, at (717) 651-2159.

Sincerely,

Sarah Wolfe, Branch Chief
Floodplain Management and Insurance Branch
FEMA Region III

Enclosure

cc: Thomas Hughes, State Hazard Mitigation Officer, PEMA
Ernest Szabo, State Hazard Mitigation Planner, PEMA
David W. McFarland, III, AICP, Director, Blair County Planning Commission

www.fema.gov

8.2.6 HOLLIDAYSBURG BOROUGH DOCUMENTS

RESOLUTION 2020-6

Hazard Mitigation Plan

WHEREAS the Borough of Hollidaysburg, Blair County, Pennsylvania is vulnerable to natural and man-made hazards such as flooding, storms, hazardous materials spills, drought, wildfires, landslides, and radon, and

WHEREAS these hazards can result in loss of life, injury, loss of property, economic hardship, and threats to public health and safety, and

WHEREAS a hazard vulnerability assessment and mitigation plan entitled *Blair Resilience: Addressing Vulnerability and Exposure (BRAVE)* has been developed for Blair County and its constituent municipalities, and

WHEREAS a series of public meetings and outreach efforts were undertaken to develop and review the plan document, now therefore be it

RESOLVED by the governing body of the Borough of Hollidaysburg that the document entitled *Blair Resilience: Addressing Vulnerability and Exposure (BRAVE)* is hereby adopted as the hazard vulnerability assessment and mitigation plan for the Borough of Hollidaysburg, and the respective municipal officials and agencies are hereby directed to implement the recommended activities in the plan and consult with Blair Planning and the Blair County Department of Public Safety on the progress of these activities.

Adopted: March 13, 2020

Joseph A. Pompa. Council President

Attest:

Patricia J. Duron, Borough Secretary

U.S. Department of Homeland Security
Region III
One Independence Mall, Sixth Floor
615 Chestnut Street
Philadelphia, PA 19106-4404

FEMA

May 1, 2020

The Honorable Joseph A. Pompa
President, Board of Supervisors
Hollidaysburg Borough
401 Blair Street
Hollidaysburg, Pennsylvania 16648

Community:	Hollidaysburg Borough, Blair County, Pennsylvania
Plan Adoption Date:	03/13/2020
Plan Approval Date:	02/11/2020
Plan Expiration Date:	02/10/2025

Dear Mr. Pompa:

I am pleased to announce that your Hazard Mitigation Plan has been approved. The plan meets the requirements set forth in Title 44, Chapter 1, Section 201.6, of Code of Federal Regulations (44 CFR 201.6), as authorized by the Disaster Mitigation Act of 2000, by adequately addressing the following required elements: planning process, risk assessment and hazard identification, mitigation strategy, maintenance and implementation, and adoption.

Participating communities are hereby eligible for Hazard Mitigation Assistance grant programs. Funding from these grant programs can be used for qualified mitigation planning and projects that work to reduce disaster losses and protect life and property from future disaster damages. Approved mitigation plans may also be eligible for points under the National Flood Insurance Program Community Rating System.

Your community must revise its plan and obtain approval within 5 years to continue to be eligible for mitigation grant funding. This plan should be reviewed at least annually to keep it relevant to the mitigation goals in your community. Please consider the enclosed recommendations to further strengthen your plan during the next plan update.

I commend you and other members of the planning team for your hard work and continued commitment to building a safer, more resilient community. For questions about your plan or mitigation grant funding, please contact Ernest Szabo, State Hazard Mitigation Planner, at (717) 651-2159.

Sincerely,

Mari W. Radford

Mari Radford, Acting Branch Chief
Floodplain Management and Insurance Branch
FEMA Region III

Enclosure

cc: Thomas Hughes, State Hazard Mitigation Officer, PEMA
Ernest Szabo, State Hazard Mitigation Planner, PEMA
David W. McFarland, III, AICP, Director, Blair County Planning Commission

www.fema.gov

8.2.7 MARTINSBURG BOROUGH DOCUMENTS

RESOLUTION NO. 2020 - 0302-01

RESOLUTION TO ADOPT
HAZARDOUS MITIGATION PLAN FOR
MARTINSBURG BOROUGH, BLAIR COUNTY, PA

WHEREAS, Martinsburg Borough, Blair County, Pennsylvania, is vulnerable to natural and man-made hazards such as flooding, storms, hazardous materials spills, drought, wildfires, landslides, and radon; and

WHEREAS, these hazards can result in loss of life, injury, loss of property, economic hardship, and threats to the public health and safety; and

WHEREAS, a hazard vulnerability assessment and mitigation plan entitled *Blair Resilience: Addressing Vulnerability and Exposure (BRAVE)* has been developed for Blair County and its constituent municipalities; and

WHEREAS, a series of public meetings and outreach efforts were undertaken to develop and review the plan document.

NOW, THEREFORE, be it resolved by the Council of the Borough of Martinsburg that the document entitled *Blair Resilience: Addressing Vulnerability and Exposure (BRAVE)* is hereby adopted as the hazard vulnerability assessment and mitigation plan for Martinsburg Borough, and the respective municipal officials and agencies are hereby directed to implement the recommended activities in the plan and consult with the Blair Planning Commission and the Blair County Department of Public Safety on the progress of these activities.

NOW, THEREFORE, BE IT ORDAINED AND ENACTED this 2nd day of March, 2020 this Resolution is approved.

ATTEST:

M. Jane Staily, Secretary/Treasurer

BOROUGH OF MARTINSBURG

By: P. Robert Dickson, President

U.S. Department of Homeland Security
Region III
One Independence Mall, Sixth Floor
615 Chestnut Street
Philadelphia, PA 19106-4404

FEMA

May 1, 2020

The Honorable P. Robert Dickson
President, Board of Supervisors
Martinsburg Borough
110 South Walnut Street
Martinsburg, Pennsylvania 16662

Community:	Martinsburg Borough, Blair County, Pennsylvania
Plan Adoption Date:	03/02/2020
Plan Approval Date:	02/11/2020
Plan Expiration Date:	02/10/2025

Dear Mr. Dickson:

I am pleased to announce that your Hazard Mitigation Plan has been approved. The plan meets the requirements set forth in Title 44, Chapter 1, Section 201.6, of Code of Federal Regulations (44 CFR 201.6), as authorized by the Disaster Mitigation Act of 2000, by adequately addressing the following required elements: planning process, risk assessment and hazard identification, mitigation strategy, maintenance and implementation, and adoption.

Participating communities are hereby eligible for Hazard Mitigation Assistance grant programs. Funding from these grant programs can be used for qualified mitigation planning and projects that work to reduce disaster losses and protect life and property from future disaster damages. Approved mitigation plans may also be eligible for points under the National Flood Insurance Program Community Rating System.

Your community must revise its plan and obtain approval within 5 years to continue to be eligible for mitigation grant funding. This plan should be reviewed at least annually to keep it relevant to the mitigation goals in your community. Please consider the enclosed recommendations to further strengthen your plan during the next plan update.

I commend you and other members of the planning team for your hard work and continued commitment to building a safer, more resilient community. For questions about your plan or mitigation grant funding, please contact Ernest Szabo, State Hazard Mitigation Planner, at (717) 651-2159.

Sincerely,

Mari W. Radford

Mari Radford, Acting Branch Chief
Floodplain Management and Insurance Branch
FEMA Region III

Enclosure

cc: Thomas Hughes, State Hazard Mitigation Officer, PEMA
Ernest Szabo, State Hazard Mitigation Planner, PEMA
David W. McFarland, III, AICP, Director, Blair County Planning Commission

www.fema.gov

8.2.8 NEWRY BOROUGH DOCUMENTS

Borough of Newry

NEWRY, PENNSYLVANIA

RESOLUTION

Resolution No.: 7-2020

A Resolution of the Newry Borough Council Adopting the 2018 Blair County Hazard Mitigation Plan Update as the Borough's Hazard Vulnerability Assessment and Mitigation Plan

WHEREAS, the Borough of Newry is vulnerable to natural and man-made hazards such as flooding, storms, hazardous material spills, drought, wildfires, landslides and radon; and

WHEREAS, these hazards can result in loss of life, injury, loss of property, economic hardship and threats to public health and safety; and

WHEREAS, attached hereto is a hazard vulnerability assessment and mitigation plan entitled, *Blair Resilience: Addressing Vulnerability and Exposure* that has been developed for Blair County and its constituent municipalities; and

WHEREAS, a series of public meetings and outreach efforts were undertaken by Blair County to develop and review the plan document.

NOW THEREFORE, **BE IT RESOLVED** by the Newry Borough Council as follows:

The attached Blair County 2018 Hazard Mitigation Plan Update is hereby adopted as the hazard vulnerability assessment and mitigation plan for the Borough of Newry and the respective municipal officials and agencies are hereby directed to implement the recommended activities in the plan and consult with Blair Planning and the Blair County Department of Public Safety on the progress of these activities.

RESOLVED this fourteenth day of October, 2020

BOROUGH OF NEWRY

By: Allen J. Dodson

Allen J. Dodson - *Mayor*

Attest: Kelly A. Moyer (Seal)

Kelly A. Moyer - *Secretary*

U.S. Department of Homeland Security
Region 3
One Independence Mall, Sixth Floor
615 Chestnut Street
Philadelphia, PA 19106-4404

FEMA

November 10, 2020

The Honorable Michael Seno
President, Borough Council
Newry Borough
P.O. Box 146
Newry, Pennsylvania 16665

Community:	Newry Borough, Blair County, Pennsylvania
Plan Adoption Date:	10/14/2020
Plan Approval Date:	02/11/2020
Plan Expiration Date:	02/10/2025

Dear Mr. Seno:

I am pleased to announce that your Hazard Mitigation Plan has been approved. The plan meets the requirements set forth in Title 44, Chapter 1, Section 201.6, of Code of Federal Regulations (44 CFR 201.6), as authorized by the Disaster Mitigation Act of 2000, by adequately addressing the following required elements: planning process, risk assessment and hazard identification, mitigation strategy, maintenance and implementation, and adoption.

Participating communities are hereby eligible for Hazard Mitigation Assistance grant programs. Funding from these grant programs can be used for qualified mitigation planning and projects that work to reduce disaster losses and protect life and property from future disaster damages. Approved mitigation plans may also be eligible for points under the National Flood Insurance Program Community Rating System.

Your community must revise its plan and obtain approval within 5 years to continue to be eligible for mitigation grant funding. This plan should be reviewed at least annually to keep it relevant to the mitigation goals in your community. Please consider the enclosed recommendations to further strengthen your plan during the next plan update.

I commend you and other members of the planning team for your hard work and continued commitment to building a safer, more resilient community. For questions about your plan or mitigation grant funding, please contact Ernest Szabo, State Hazard Mitigation Planner, at (717) 651-2159.

Sincerely,

Sarah Wolfe, Branch Chief
Floodplain Management and Insurance Branch
FEMA Region 3

Enclosure

cc: Thomas Hughes, State Hazard Mitigation Officer, PEMA
Ernest Szabo, State Hazard Mitigation Planner, PEMA
David W. McFarland, III, AICP, Director, Blair County Planning Commission

www.fema.gov

8.2.9 ROARING SPRING BOROUGH DOCUMENTS

BOROUGH OF ROARING SPRING
BLAIR COUNTY, PENNSYLVANIA
RESOLUTION TO ADOPT NEW HAZARD MITIGATION PLAN

RESOLUTION Number-2020-4

WHEREAS, the Roaring Spring Borough, Blair County, Pennsylvania is vulnerable to natural and man-made hazards such as flooding, storms, hazardous materials spills, drought, wildfires, landslides, and radon, and

WHEREAS, these hazards can result in loss of life, injury, loss of property, economic hardship, and threats to public health and safety, and

WHEREAS, a hazard vulnerability assessment and mitigation plan entitled *Blair Resilience: Addressing Vulnerability and Exposure (BRAVE)* has been developed for Blair County and its constituent municipalities, and

WHEREAS, a series of public meetings and outreach efforts were undertaken to develop and review the plan document, now therefore be it

RESOLVED, by the governing body of the Roaring Spring Borough that the document entitled *Blair Resilience: Addressing Vulnerability and Exposure (BRAVE)* is hereby adopted as the hazard vulnerability assessment and mitigation plan for the Roaring Spring Borough, and the respective municipal officials and agencies are hereby directed to implement the recommended activities in the plan and consult with Blair Planning and the Blair County Department of Public Safety on the progress of these activities.

IN WITNESS WHEREOF, this Resolved has been adopted by the Borough of Roaring Spring by majority vote at a legally scheduled meeting of Borough Council on this 9th day of March, 2020.

BOROUGH OF ROARING SPRING
BLAIR COUNTY, PA

Attested:

Lisa A. Peel, Borough Manager

Rodney Green, Council President

U.S. Department of Homeland Security
Region III
One Independence Mall, Sixth Floor
615 Chestnut Street
Philadelphia, PA 19106-4404

FEMA

May 1, 2020

The Honorable Rodney Green
President, Board of Supervisors
Roaring Spring Borough
616 Spang Street
Roaring Spring, Pennsylvania 16673

Community:	Roaring Spring Borough, Blair County, Pennsylvania
Plan Adoption Date:	03/09/2020
Plan Approval Date:	02/11/2020
Plan Expiration Date:	02/10/2025

Dear Mr. Green:

I am pleased to announce that your Hazard Mitigation Plan has been approved. The plan meets the requirements set forth in Title 44, Chapter 1, Section 201.6, of Code of Federal Regulations (44 CFR 201.6), as authorized by the Disaster Mitigation Act of 2000, by adequately addressing the following required elements: planning process, risk assessment and hazard identification, mitigation strategy, maintenance and implementation, and adoption.

Participating communities are hereby eligible for Hazard Mitigation Assistance grant programs. Funding from these grant programs can be used for qualified mitigation planning and projects that work to reduce disaster losses and protect life and property from future disaster damages. Approved mitigation plans may also be eligible for points under the National Flood Insurance Program Community Rating System.

Your community must revise its plan and obtain approval within 5 years to continue to be eligible for mitigation grant funding. This plan should be reviewed at least annually to keep it relevant to the mitigation goals in your community. Please consider the enclosed recommendations to further strengthen your plan during the next plan update.

I commend you and other members of the planning team for your hard work and continued commitment to building a safer, more resilient community. For questions about your plan or mitigation grant funding, please contact Ernest Szabo, State Hazard Mitigation Planner, at (717) 651-2159.

Sincerely,

Mari W. Radford

Mari Radford, Acting Branch Chief
Floodplain Management and Insurance Branch
FEMA Region III

Enclosure

cc: Thomas Hughes, State Hazard Mitigation Officer, PEMA
Ernest Szabo, State Hazard Mitigation Planner, PEMA
David W. McFarland, III, AICP, Director, Blair County Planning Commission

www.fema.gov

8.2.10 TUNNELHILL BOROUGH DOCUMENTS

RESOLUTION Number 2020-1

WHEREAS the Borough of Tunnelhill, Blair County, Pennsylvania is vulnerable to natural and man-made hazards such as flooding, storms, hazardous materials spills, drought, wildfires, landslides, and radon, and

WHEREAS these hazards can result in loss of life, injury, loss of property, economic hardship, and threats to public health and safety, and

WHEREAS a hazard vulnerability assessment and mitigation plan entitled *Blair Resilience: Addressing Vulnerability and Exposure (BRAVE)* has been developed for Blair County and its constituent municipalities, and

WHEREAS a series of public meetings and outreach efforts were undertaken to develop and review the plan document, now therefore be it

RESOLVED by the governing body of the Borough of Tunnelhill that the document entitled *Blair Resilience: Addressing Vulnerability and Exposure (BRAVE)* is hereby adopted as the hazard vulnerability assessment and mitigation plan for the Borough of Tunnelhill, and the respective municipal officials and agencies are hereby directed to implement the recommended activities in the plan and consult with Blair Planning and the Blair County Department of Public Safety on the progress of these activities.

Adopted: August 3 2020

{Official} Michael B Todd

Attest: Catherine M Kast, Sec.

U.S. Department of Homeland Security
Region III
One Independence Mall, Sixth Floor
615 Chestnut Street
Philadelphia, PA 19106-4404

FEMA

September 4, 2020

The Honorable Michael Taddei
President, Board of Supervisors
Tunnelhill Borough
P.O. Box 46
Gallitzin, Pennsylvania 16641

Community:	Tunnelhill Borough, Blair County, Pennsylvania
Plan Adoption Date:	08/03/2020
Plan Approval Date:	02/11/2020
Plan Expiration Date:	02/10/2025

Dear Mr. Taddei:

I am pleased to announce that your Hazard Mitigation Plan has been approved. The plan meets the requirements set forth in Title 44, Chapter 1, Section 201.6, of Code of Federal Regulations (44 CFR 201.6), as authorized by the Disaster Mitigation Act of 2000, by adequately addressing the following required elements: planning process, risk assessment and hazard identification, mitigation strategy, maintenance and implementation, and adoption.

Participating communities are hereby eligible for Hazard Mitigation Assistance grant programs. Funding from these grant programs can be used for qualified mitigation planning and projects that work to reduce disaster losses and protect life and property from future disaster damages. Approved mitigation plans may also be eligible for points under the National Flood Insurance Program Community Rating System.

Your community must revise its plan and obtain approval within 5 years to continue to be eligible for mitigation grant funding. This plan should be reviewed at least annually to keep it relevant to the mitigation goals in your community. Please consider the enclosed recommendations to further strengthen your plan during the next plan update.

I commend you and other members of the planning team for your hard work and continued commitment to building a safer, more resilient community. For questions about your plan or mitigation grant funding, please contact Ernest Szabo, State Hazard Mitigation Planner, at (717) 651-2159.

Sincerely,

Sarah Wolfe, Branch Chief
Floodplain Management and Insurance Branch
FEMA Region III

Enclosure

cc: Thomas Hughes, State Hazard Mitigation Officer, PEMA
Ernest Szabo, State Hazard Mitigation Planner, PEMA
David W. McFarland, III, AICP, Director, Blair County Planning Commission

www.fema.gov

8.2.11 TYRONE BOROUGH DOCUMENTS

RESOLUTION Number 2020-04

WHEREAS the Borough of Tyrone, Blair County, Pennsylvania is vulnerable to natural and man-made hazards such as flooding, storms, hazardous materials spills, drought, wildfires, landslides, and radon, and

WHEREAS these hazards can result in loss of life, injury, loss of property, economic hardship, and threats to public health and safety, and

WHEREAS a hazard vulnerability assessment and mitigation plan entitled *Blair Resilience: Addressing Vulnerability and Exposure (BRAVE)* has been developed for Blair County and its constituent municipalities, and

WHEREAS a series of public meetings and outreach efforts were undertaken to develop and review the plan document, now therefore be it

RESOLVED by the governing body of the Borough of Tyrone that the document entitled *Blair Resilience: Addressing Vulnerability and Exposure (BRAVE)* is hereby adopted as the hazard vulnerability assessment and mitigation plan for the Borough of Tyrone, and the respective municipal officials and agencies are hereby directed to implement the recommended activities in the plan and consult with Blair Planning and the Blair County Department of Public Safety on the progress of these activities.

Adopted: May 11, 2020

{Official}

William M. Latchford, Mayor

Attest:

Ardean C. Latchford, Borough Manager

U.S. Department of Homeland Security
Region III
One Independence Mall, Sixth Floor
615 Chestnut Street
Philadelphia, PA 19106-4404

FEMA

June 23, 2020

The Honorable William M. Latchford
President, Borough Council
Tyrone Borough
1100 Logan Avenue
Tyrone, Pennsylvania 16686

Community: Tyrone Borough, Blair County, Pennsylvania
Plan Adoption Date: 05/11/2020
Plan Approval Date: 02/11/2020
Plan Expiration Date: 02/10/2025

Dear Mr. Latchford:

I am pleased to announce that your Hazard Mitigation Plan has been approved. The plan meets the requirements set forth in Title 44, Chapter 1, Section 201.6, of Code of Federal Regulations (44 CFR 201.6), as authorized by the Disaster Mitigation Act of 2000, by adequately addressing the following required elements: planning process, risk assessment and hazard identification, mitigation strategy, maintenance and implementation, and adoption.

Participating communities are hereby eligible for Hazard Mitigation Assistance grant programs. Funding from these grant programs can be used for qualified mitigation planning and projects that work to reduce disaster losses and protect life and property from future disaster damages. Approved mitigation plans may also be eligible for points under the National Flood Insurance Program Community Rating System.

Your community must revise its plan and obtain approval within 5 years to continue to be eligible for mitigation grant funding. This plan should be reviewed at least annually to keep it relevant to the mitigation goals in your community. Please consider the enclosed recommendations to further strengthen your plan during the next plan update.

I commend you and other members of the planning team for your hard work and continued commitment to building a safer, more resilient community. For questions about your plan or mitigation grant funding, please contact Ernest Szabo, State Hazard Mitigation Planner, at (717) 651-2159.

Sincerely,

Sarah Wolfe, Branch Chief
Floodplain Management and Insurance Branch
FEMA Region III

Enclosure

cc: Thomas Hughes, State Hazard Mitigation Officer, PEMA
Ernest Szabo, State Hazard Mitigation Planner, PEMA
David W. McFarland, III, AICP, Director, Blair County Planning Commission

www.fema.gov

8.2.12 WILLIAMSBURG BOROUGH DOCUMENTS

RESOLUTION Number 2020-4

WHEREAS the Borough of Williamsburg, Blair County, Pennsylvania is vulnerable to natural and man-made hazards such as flooding, storms, hazardous materials spills, drought, wildfires, landslides, and radon, and

WHEREAS these hazards can result in loss of life, injury, loss of property, economic hardship, and threats to public health and safety, and

WHEREAS a hazard vulnerability assessment and mitigation plan entitled *Blair Resilience: Addressing Vulnerability and Exposure (BRAVE)* has been developed for Blair County and its constituent municipalities, and

WHEREAS a series of public meetings and outreach efforts were undertaken to develop and review the plan document, now therefore be it

RESOLVED by the governing body of the Borough of Williamsburg that the document entitled *Blair Resilience: Addressing Vulnerability and Exposure (BRAVE)* is hereby adopted as the hazard vulnerability assessment and mitigation plan for the Borough of Williamsburg, and the respective municipal officials and agencies are hereby directed to implement the recommended activities in the plan and consult with Blair Planning and the Blair County Department of Public Safety on the progress of these activities.

DULY ADOPTED THIS 2nd day of March, 2020 by the Borough of Williamsburg, Blair County, Borough Council.

WILLIAMSBURG BOROUGH

BY: _____
President

ATTEST:

_____
Secretary

U.S. Department of Homeland Security
Region III
One Independence Mall, Sixth Floor
615 Chestnut Street
Philadelphia, PA 19106-4404

FEMA

May 1, 2020

The Honorable Donald Zimmerman
President, Board of Supervisors
Williamsburg Borough
305 East Second Street
Williamsburg, Pennsylvania 16693

Community:	Williamsburg Borough, Blair County, Pennsylvania
Plan Adoption Date:	03/02/2020
Plan Approval Date:	02/11/2020
Plan Expiration Date:	02/10/2025

Dear Mr. Zimmerman:

I am pleased to announce that your Hazard Mitigation Plan has been approved. The plan meets the requirements set forth in Title 44, Chapter 1, Section 201.6, of Code of Federal Regulations (44 CFR 201.6), as authorized by the Disaster Mitigation Act of 2000, by adequately addressing the following required elements: planning process, risk assessment and hazard identification, mitigation strategy, maintenance and implementation, and adoption.

Participating communities are hereby eligible for Hazard Mitigation Assistance grant programs. Funding from these grant programs can be used for qualified mitigation planning and projects that work to reduce disaster losses and protect life and property from future disaster damages. Approved mitigation plans may also be eligible for points under the National Flood Insurance Program Community Rating System.

Your community must revise its plan and obtain approval within 5 years to continue to be eligible for mitigation grant funding. This plan should be reviewed at least annually to keep it relevant to the mitigation goals in your community. Please consider the enclosed recommendations to further strengthen your plan during the next plan update.

I commend you and other members of the planning team for your hard work and continued commitment to building a safer, more resilient community. For questions about your plan or mitigation grant funding, please contact Ernest Szabo, State Hazard Mitigation Planner, at (717) 651-2159.

Sincerely,

Mari W. Radford

Mari Radford, Acting Branch Chief
Floodplain Management and Insurance Branch
FEMA Region III

Enclosure

cc: Thomas Hughes, State Hazard Mitigation Officer, PEMA
Ernest Szabo, State Hazard Mitigation Planner, PEMA
David W. McFarland, III, AICP, Director, Blair County Planning Commission

www.fema.gov

8.2.13 ALLEGHENY TOWNSHIP DOCUMENTS

RESOLUTION NO.: 02-13-2020-1

WHEREAS, the Township of Allegheny, Blair County, Pennsylvania is vulnerable to natural and man-made hazards such as flooding, storms, hazardous materials spills, drought, wildfires, landslides, and radon;

WHEREAS, these hazards can result in loss of life, injury, loss of property, economic hardship, and threats to public health and safety;

WHEREAS, a hazard vulnerability assessment and mitigation plan entitled *Blair Resilience: Addressing Vulnerability and Exposure (BRAVE)* has been developed for Blair County and its constituent municipalities; and

WHEREAS, a series of public meetings and outreach efforts were undertaken to develop and review the plan document.

NOW, THEREFORE, BE IT RESOLVED by the governing body of the Township of Allegheny, Blair County, Pennsylvania, that the document entitled *Blair Resilience: Addressing Vulnerability and Exposure (BRAVE)* is hereby adopted as the hazard vulnerability assessment and mitigation plan for the Township, and the respective municipal officials and agencies are hereby directed to implement the recommended activities in the plan and consult with Blair Planning and the Blair County Department of Public Safety on the progress of these activities.

Date Adopted: 2-13-2020

Chairman:

Attest:

U.S. Department of Homeland Security
Region III
One Independence Mall, Sixth Floor
615 Chestnut Street
Philadelphia, PA 19106-4404

FEMA

May 1, 2020

The Honorable David E. Burchfield
Chair, Board of Supervisors
Allegheny Township
3131 Colonial Drive
Duncansville, Pennsylvania 16635

Community:	Allegheny Township, Blair County, Pennsylvania
Plan Adoption Date:	02/13/2020
Plan Approval Date:	02/11/2020
Plan Expiration Date:	02/10/2025

Dear Mr. Burchfield:

I am pleased to announce that your Hazard Mitigation Plan has been approved. The plan meets the requirements set forth in Title 44, Chapter 1, Section 201.6, of Code of Federal Regulations (44 CFR 201.6), as authorized by the Disaster Mitigation Act of 2000, by adequately addressing the following required elements: planning process, risk assessment and hazard identification, mitigation strategy, maintenance and implementation, and adoption.

Participating communities are hereby eligible for Hazard Mitigation Assistance grant programs. Funding from these grant programs can be used for qualified mitigation planning and projects that work to reduce disaster losses and protect life and property from future disaster damages. Approved mitigation plans may also be eligible for points under the National Flood Insurance Program Community Rating System.

Your community must revise its plan and obtain approval within 5 years to continue to be eligible for mitigation grant funding. This plan should be reviewed at least annually to keep it relevant to the mitigation goals in your community. Please consider the enclosed recommendations to further strengthen your plan during the next plan update.

I commend you and other members of the planning team for your hard work and continued commitment to building a safer, more resilient community. For questions about your plan or mitigation grant funding, please contact Ernest Szabo, State Hazard Mitigation Planner, at (717) 651-2159.

Sincerely,

Mari W. Radford

Mari Radford, Acting Branch Chief
Floodplain Management and Insurance Branch
FEMA Region III

Enclosure

cc: Thomas Hughes, State Hazard Mitigation Officer, PEMA
Ernest Szabo, State Hazard Mitigation Planner, PEMA
David W. McFarland, III, AICP, Director, Blair County Planning Commission

www.fema.gov

8.2.14 ANTIS TOWNSHIP DOCUMENTS

MUNICIPAL BUILDING
909 NORTH SECOND STREET
BELLWOOD, PA 16617

LUCAS L. MARTSOLF, ICMA-CM
TOWNSHIP MANAGER

LORI A. DEL BIONDO
SECRETARY/TREASURER

PHONE: 814-742-7361
FAX: 814-742-9820

ANTIS TOWNSHIP
Township of Antis
ROADWAY MILEAGE 45.47
POPULATION 6208
60.9 SQUARE MILES
BELLWOOD

SUPERVISORS
KENNETH W. HOSTLER
CHAIRMAN
CHARLES M. CARACCIOLO II
VICE CHAIRMAN
DAVID A. WORTHING
ROBERT E. SMITH JR.
JANET L. LANTZ

SOLICITOR
PATRICK J. FANELLI

RESOLUTION 5-2020

WHEREAS the Antis Township, Blair County, Pennsylvania is vulnerable to natural and man-made hazards such as flooding, storms, hazardous materials spills, drought, wildfires, landslides, and radon, and

WHEREAS these hazards can result in loss of life, injury, loss of property, economic hardship, and threats to public health and safety, and

WHEREAS a hazard vulnerability assessment and mitigation plan entitled *Blair Resilience: Addressing Vulnerability and Exposure (BRAVE)* has been developed for Blair County and its constituent municipalities, and

WHEREAS a series of public meetings and outreach efforts were undertaken to develop and review the plan document, now therefore be it

RESOLVED by the governing body of the Antis Township that the document entitled *Blair Resilience: Addressing Vulnerability and Exposure (BRAVE)* is hereby adopted as the hazard vulnerability assessment and mitigation plan for the Antis Township and the respective municipal officials and agencies are hereby directed to implement the recommended activities in the plan and consult with Blair Planning and the Blair County Department of Public Safety on the progress of these activities.

Adopted: **May 7, 2020**

Kenneth W Hostler
Kenneth W. Hostler, Chairman

Attest: Lori A Del Biondo
Lori A. Del Biondo, Secretary-Treasurer

U.S. Department of Homeland Security
Region III
One Independence Mall, Sixth Floor
615 Chestnut Street
Philadelphia, PA 19106-4404

FEMA

June 23, 2020

The Honorable Robert Smith, Jr.
Chair, Board of Supervisors
Antis Township
909 North Second Street
Bellwood, Pennsylvania 16617

Community:	Antis Township, Blair County, Pennsylvania
Plan Adoption Date:	05/07/2020
Plan Approval Date:	02/11/2020
Plan Expiration Date:	02/10/2025

Dear Mr. Smith:

I am pleased to announce that your Hazard Mitigation Plan has been approved. The plan meets the requirements set forth in Title 44, Chapter 1, Section 201.6, of Code of Federal Regulations (44 CFR 201.6), as authorized by the Disaster Mitigation Act of 2000, by adequately addressing the following required elements: planning process, risk assessment and hazard identification, mitigation strategy, maintenance and implementation, and adoption.

Participating communities are hereby eligible for Hazard Mitigation Assistance grant programs. Funding from these grant programs can be used for qualified mitigation planning and projects that work to reduce disaster losses and protect life and property from future disaster damages. Approved mitigation plans may also be eligible for points under the National Flood Insurance Program Community Rating System.

Your community must revise its plan and obtain approval within 5 years to continue to be eligible for mitigation grant funding. This plan should be reviewed at least annually to keep it relevant to the mitigation goals in your community. Please consider the enclosed recommendations to further strengthen your plan during the next plan update.

I commend you and other members of the planning team for your hard work and continued commitment to building a safer, more resilient community. For questions about your plan or mitigation grant funding, please contact Ernest Szabo, State Hazard Mitigation Planner, at (717) 651-2159.

Sincerely,

Sarah Wolfe, Branch Chief
Floodplain Management and Insurance Branch
FEMA Region III

Enclosure

cc: Thomas Hughes, State Hazard Mitigation Officer, PEMA
Ernest Szabo, State Hazard Mitigation Planner, PEMA
David W. McFarland, III, AICP, Director, Blair County Planning Commission

www.fema.gov

8.2.15 BLAIR TOWNSHIP DOCUMENTS

BLAIR TOWNSHIP
375 CEDARCREST DRIVE
DUNCANSVILLE, PA. 16635

The Township of Blair is an equal opportunity provider.

RESOLUTION No. 2020-03 B.R.A.V.E.

WHEREAS the Township of Blair, Blair County, Pennsylvania is vulnerable to natural and man-made hazards such as flooding, storms, hazardous materials spills, drought, wildfires, landslides, and radon, and

WHEREAS these hazards can result in loss of life, injury, loss of property, economic hardship, and threats to public health and safety, and

WHEREAS a hazard vulnerability assessment and mitigation plan entitled *Blair Resilience: Addressing Vulnerability and Exposure (BRAVE)* has been developed for Blair County and its constituent municipalities, and

WHEREAS a series of public meetings and outreach efforts were undertaken to develop and review the plan document, now therefore be it

RESOLVED by the governing body of the Township of Blair that the document entitled *Blair Resilience: Addressing Vulnerability and Exposure (BRAVE)* is hereby adopted as the hazard vulnerability assessment and mitigation plan for the Township of Blair, and the respective municipal officials and agencies are hereby directed to implement the recommended activities in the plan and consult with Blair Planning and the Blair County Department of Public Safety on the progress of these activities.

Adopted this 11th day of February, 2020

SECRETARY Elizabeth A. Robertson

CHAIRMAN Edward M. Silvetti

February 11, 2020
DATE

SEAL

U.S. Department of Homeland Security
Region III
One Independence Mall, Sixth Floor
615 Chestnut Street
Philadelphia, PA 19106-4404

FEMA

March 4, 2020

The Honorable Edward M. Silvetti
Chair, Board of Supervisors
Blair Township
375 Cedarcrest Drive
Duncansville, Pennsylvania 16635

Community:	Blair Township, Blair County, Pennsylvania
Plan Adoption Date:	02/11/2020
Plan Approval Date:	02/11/2020
Plan Expiration Date:	02/10/2025

Dear Mr. Silvetti:

I am pleased to announce that your Hazard Mitigation Plan has been approved. The plan meets the requirements set forth in Title 44, Chapter 1, Section 201.6, of Code of Federal Regulations (44 CFR 201.6), as authorized by the Disaster Mitigation Act of 2000, by adequately addressing the following required elements: planning process, risk assessment and hazard identification, mitigation strategy, maintenance and implementation, and adoption.

Participating communities are hereby eligible for Hazard Mitigation Assistance grant programs. Funding from these grant programs can be used for qualified mitigation planning and projects that work to reduce disaster losses and protect life and property from future disaster damages. Approved mitigation plans may also be eligible for points under the National Flood Insurance Program Community Rating System.

Your community must revise its plan and obtain approval within 5 years to continue to be eligible for mitigation grant funding. This plan should be reviewed at least annually to keep it relevant to the mitigation goals in your community. Please consider the enclosed recommendations to further strengthen your plan during the next plan update.

I commend you and other members of the planning team for your hard work and continued commitment to building a safer, more resilient community. For questions about your plan or mitigation grant funding, please contact Ernest Szabo, State Hazard Mitigation Planner, at (717) 651-2159.

Sincerely,

April Cummings, Director
Mitigation Division
FEMA Region III

Enclosure

cc: Thomas Hughes, State Hazard Mitigation Officer, PEMA
Ernest Szabo, State Hazard Mitigation Planner, PEMA
David W. McFarland, III, AICP, Director, Blair County Planning Commission

www.fema.gov

8.2.16 CATHARINE TOWNSHIP DOCUMENTS

RESOLUTION# 02-20-2020-01

WHEREAS the Catharine Township, Blair County, Pennsylvania is vulnerable to natural and man-made hazards such as flooding, storms, hazardous, materials spills, drought, wildfires, landslides, and radon, and

WHEREAS these hazards can result in loss of life, injury, loss of property, economic hardship, and threats to public health and safety, and

WHEREAS a hazard vulnerability assessment and mitigation plan entitled *Blair resilience: Addressing Vulnerability and Exposure (BRAVE)* has been developed for Blair County and its constituent municipalities, and

WHEREAS a series of public meetings and outreach efforts were undertaken to develop and review the plan document, now therefore be it

RESOLVED by the governing body of the Catharine Township that the document entitled *Blair Resilience: Addressing Vulnerability and Exposure (BRAVE)* is hereby adopted as the hazard vulnerability assessment and mitigation plan for the Catharine Township, and the respective municipal officials and agencies are hereby directed to implement the recommended activities in the plan and consult with Blair Planning and the Blair County Department of Public Safety on the progress of these activities.

RESOLVED this 20th day of February 2020 at a regular business meeting of the Catharine Township Board of Supervisors.

Heather L Flaig
Heather Flaig, Chairman

Kenneth Brenneman, Vice-Chairman

Ralph F Rispoli
Ralph F Rispoli, Supervisor

ATTEST:

Eleanor K Harclerode
Eleanor K Harclerode, Secretary/Treasurer

U.S. Department of Homeland Security
Region III
One Independence Mall, Sixth Floor
615 Chestnut Street
Philadelphia, PA 19106-4404

FEMA

June 30, 2020

The Honorable Kenneth Brenneman
Chair, Board of Supervisors
Catherine Township
1229 Recreation Drive
Williamsburg, Pennsylvania 16693

Community: Catherine Township, Blair County, Pennsylvania
Plan Adoption Date: 02/20/2020
Plan Approval Date: 02/11/2020
Plan Expiration Date: 02/10/2025

Dear Mr. Brenneman:

I am pleased to announce that your Hazard Mitigation Plan has been approved. The plan meets the requirements set forth in Title 44, Chapter 1, Section 201.6, of Code of Federal Regulations (44 CFR 201.6), as authorized by the Disaster Mitigation Act of 2000, by adequately addressing the following required elements: planning process, risk assessment and hazard identification, mitigation strategy, maintenance and implementation, and adoption.

Participating communities are hereby eligible for Hazard Mitigation Assistance grant programs. Funding from these grant programs can be used for qualified mitigation planning and projects that work to reduce disaster losses and protect life and property from future disaster damages. Approved mitigation plans may also be eligible for points under the National Flood Insurance Program Community Rating System.

Your community must revise its plan and obtain approval within 5 years to continue to be eligible for mitigation grant funding. This plan should be reviewed at least annually to keep it relevant to the mitigation goals in your community. Please consider the enclosed recommendations to further strengthen your plan during the next plan update.

I commend you and other members of the planning team for your hard work and continued commitment to building a safer, more resilient community. For questions about your plan or mitigation grant funding, please contact Ernest Szabo, State Hazard Mitigation Planner, at (717) 651-2159.

Sincerely,

Sarah Wolfe, Branch Chief
Floodplain Management and Insurance Branch
FEMA Region III

Enclosure

cc: Thomas Hughes, State Hazard Mitigation Officer, PEMA
Ernest Szabo, State Hazard Mitigation Planner, PEMA
David W. McFarland, III, AICP, Director, Blair County Planning Commission

www.fema.gov

8.2.17 FRANKSTOWN TOWNSHIP DOCUMENTS

RESOLUTION Number 041720

WHEREAS the Frankstown Township, Blair County, Pennsylvania is vulnerable to natural and man-made hazards such as flooding, storms, hazardous materials spills, drought, wildfires, landslides, and radon, and

WHEREAS these hazards can result in loss of life, injury, loss of property, economic hardship, and threats to public health and safety, and

WHEREAS a hazard vulnerability assessment and mitigation plan entitled *Blair Resilience: Addressing Vulnerability and Exposure (BRAVE)* has been developed for Blair County and its constituent municipalities, and

WHEREAS a series of public meetings and outreach efforts were undertaken to develop and review the plan document, now therefore be it

RESOLVED by the governing body of the Frankstown Township that the document entitled *Blair Resilience: Addressing Vulnerability and Exposure (BRAVE)* is hereby adopted as the hazard vulnerability assessment and mitigation plan for the Frankstown Township, and the respective municipal officials and agencies are hereby directed to implement the recommended activities in the plan and consult with Blair Planning and the Blair County Department of Public Safety on the progress of these activities.

Adopted: April 17, 2020

Chairman

Attest: Beverly J. Henderson

U.S. Department of Homeland Security
Region III
One Independence Mall, Sixth Floor
615 Chestnut Street
Philadelphia, PA 19106-4404

FEMA

May 6, 2020

The Honorable George W. Henry Jr.
Chair, Board of Supervisors
Frankstown Township
2122 Frankstown Road
Hollidaysburg, Pennsylvania 16648

Community:	Frankstown Township, Blair County, Pennsylvania
Plan Adoption Date:	04/17/2020
Plan Approval Date:	02/11/2020
Plan Expiration Date:	02/10/2025

Dear Mr. Henry:

I am pleased to announce that your Hazard Mitigation Plan has been approved. The plan meets the requirements set forth in Title 44, Chapter 1, Section 201.6, of Code of Federal Regulations (44 CFR 201.6), as authorized by the Disaster Mitigation Act of 2000, by adequately addressing the following required elements: planning process, risk assessment and hazard identification, mitigation strategy, maintenance and implementation, and adoption.

Participating communities are hereby eligible for Hazard Mitigation Assistance grant programs. Funding from these grant programs can be used for qualified mitigation planning and projects that work to reduce disaster losses and protect life and property from future disaster damages. Approved mitigation plans may also be eligible for points under the National Flood Insurance Program Community Rating System.

Your community must revise its plan and obtain approval within 5 years to continue to be eligible for mitigation grant funding. This plan should be reviewed at least annually to keep it relevant to the mitigation goals in your community. Please consider the enclosed recommendations to further strengthen your plan during the next plan update.

I commend you and other members of the planning team for your hard work and continued commitment to building a safer, more resilient community. For questions about your plan or mitigation grant funding, please contact Ernest Szabo, State Hazard Mitigation Planner, at (717) 651-2159.

Sincerely,

Mari W. Radford

Mari Radford, Acting Branch Chief
Floodplain Management and Insurance Branch
FEMA Region III

Enclosure

cc: Thomas Hughes, State Hazard Mitigation Officer, PEMA
Ernest Szabo, State Hazard Mitigation Planner, PEMA
David W. McFarland, III, AICP, Director, Blair County Planning Commission

www.fema.gov

8.2.18 FREEDOM TOWNSHIP DOCUMENTS

RESOLUTION Number **2020-03-01**

WHEREAS the **Township of Freedom**, Blair County, Pennsylvania is vulnerable to natural and man-made hazards such as flooding, storms, hazardous materials spills, drought, wildfires, landslides, and radon, and

WHEREAS these hazards can result in loss of life, injury, loss of property, economic hardship, and threats to public health and safety, and

WHEREAS a hazard vulnerability assessment and mitigation plan entitled *Blair Resilience: Addressing Vulnerability and Exposure (BRAVE)* has been developed for Blair County and its constituent municipalities, and

WHEREAS a series of public meetings and outreach efforts were undertaken to develop and review the plan document, now therefore be it

RESOLVED by the governing body of the **Township of Freedom** that the document entitled *Blair Resilience: Addressing Vulnerability and Exposure (BRAVE)* is hereby adopted as the hazard vulnerability assessment and mitigation plan for the **Township of Freedom**, and the respective municipal officials and agencies are hereby directed to implement the recommended activities in the plan and consult with Blair Planning and the Blair County Department of Public Safety on the progress of these activities.

Adopted: **March 3, 2020**

{Official} Maurice Hamm

Attest: Lisa Edmundson

U.S. Department of Homeland Security
Region III
One Independence Mall, Sixth Floor
615 Chestnut Street
Philadelphia, PA 19106-4404

FEMA

May 1, 2020

The Honorable Maureen Hamor
Chair, Board of Supervisors
Freedom Township
131 Municipal Street
East Freedom, Pennsylvania 16637

Community: Freedom Township, Blair County, Pennsylvania
Plan Adoption Date: 03/03/2020
Plan Approval Date: 02/11/2020
Plan Expiration Date: 02/10/2025

Dear Ms. Hamor:

I am pleased to announce that your Hazard Mitigation Plan has been approved. The plan meets the requirements set forth in Title 44, Chapter 1, Section 201.6, of Code of Federal Regulations (44 CFR 201.6), as authorized by the Disaster Mitigation Act of 2000, by adequately addressing the following required elements: planning process, risk assessment and hazard identification, mitigation strategy, maintenance and implementation, and adoption.

Participating communities are hereby eligible for Hazard Mitigation Assistance grant programs. Funding from these grant programs can be used for qualified mitigation planning and projects that work to reduce disaster losses and protect life and property from future disaster damages. Approved mitigation plans may also be eligible for points under the National Flood Insurance Program Community Rating System.

Your community must revise its plan and obtain approval within 5 years to continue to be eligible for mitigation grant funding. This plan should be reviewed at least annually to keep it relevant to the mitigation goals in your community. Please consider the enclosed recommendations to further strengthen your plan during the next plan update.

I commend you and other members of the planning team for your hard work and continued commitment to building a safer, more resilient community. For questions about your plan or mitigation grant funding, please contact Ernest Szabo, State Hazard Mitigation Planner, at (717) 651-2159.

Sincerely,

Mari W. Radford

Mari Radford, Acting Branch Chief
Floodplain Management and Insurance Branch
FEMA Region III

Enclosure

cc: Thomas Hughes, State Hazard Mitigation Officer, PEMA
Ernest Szabo, State Hazard Mitigation Planner, PEMA
David W. McFarland, III, AICP, Director, Blair County Planning Commission

www.fema.gov

8.2.19 GREENFIELD TOWNSHIP DOCUMENTS

RESOLUTION 2020-07

A Resolution Adopting the updated
2018 Hazard Mitigation Plan Update for the County of Blair

WHEREAS the Greenfield Township, Blair County, Pennsylvania is vulnerable to natural and man-made hazards such as flooding, storms, hazardous materials spills, drought, wildfires, landslides, and radon, and

WHEREAS these hazards can result in loss of life, injury, loss of property, economic hardship, and threats to public health and safety, and

WHEREAS a hazard vulnerability assessment and mitigation plan entitled *Blair Resilience: Addressing Vulnerability and Exposure (BRAVE)* has been developed for Blair County and its constituent municipalities, and

WHEREAS a series of public meetings and outreach efforts were undertaken to develop and review the plan document, now therefore be it

RESOLVED by the governing body of the Greenfield Township that the document entitled *Blair Resilience: Addressing Vulnerability and Exposure (BRAVE)* is hereby adopted as the hazard vulnerability assessment and mitigation plan for the Greenfield Township, and the respective municipal officials and agencies are hereby directed to implement the recommended activities in the plan and consult with Blair Planning and the Blair County Department of Public Safety on the progress of these activities.

WE HEREBY CERTIFY that this resolution was passed by the Board of Supervisors of Greenfield Township this 3rd day of March, 2020.

ATTEST:

Arlene Kuntz, Secretary-Treasurer

(SEAL)

GREENFIELD TOWNSHIP
BOARD OF SUPERVISORS

Matthew A. Treon, Chairman

Jordan C. Oldham, Vice-Chair

Joseph D. Claar, Supervisor

U.S. Department of Homeland Security
Region III
One Independence Mall, Sixth Floor
615 Chestnut Street
Philadelphia, PA 19106-4404

FEMA

May 1, 2020

The Honorable Matthew Treon
Chair, Board of Supervisors
Greenfield Township
P.O. Box 313
Claysburg, Pennsylvania 16625

Community:	Greenfield Township, Blair County, Pennsylvania
Plan Adoption Date:	03/03/2020
Plan Approval Date:	02/11/2020
Plan Expiration Date:	02/10/2025

Dear Mr. Treon:

I am pleased to announce that your Hazard Mitigation Plan has been approved. The plan meets the requirements set forth in Title 44, Chapter 1, Section 201.6, of Code of Federal Regulations (44 CFR 201.6), as authorized by the Disaster Mitigation Act of 2000, by adequately addressing the following required elements: planning process, risk assessment and hazard identification, mitigation strategy, maintenance and implementation, and adoption.

Participating communities are hereby eligible for Hazard Mitigation Assistance grant programs. Funding from these grant programs can be used for qualified mitigation planning and projects that work to reduce disaster losses and protect life and property from future disaster damages. Approved mitigation plans may also be eligible for points under the National Flood Insurance Program Community Rating System.

Your community must revise its plan and obtain approval within 5 years to continue to be eligible for mitigation grant funding. This plan should be reviewed at least annually to keep it relevant to the mitigation goals in your community. Please consider the enclosed recommendations to further strengthen your plan during the next plan update.

I commend you and other members of the planning team for your hard work and continued commitment to building a safer, more resilient community. For questions about your plan or mitigation grant funding, please contact Ernest Szabo, State Hazard Mitigation Planner, at (717) 651-2159.

Sincerely,

Mari W. Radford

Mari Radford, Acting Branch Chief
Floodplain Management and Insurance Branch
FEMA Region III

Enclosure

cc: Thomas Hughes, State Hazard Mitigation Officer, PEMA
Ernest Szabo, State Hazard Mitigation Planner, PEMA
David W. McFarland, III, AICP, Director, Blair County Planning Commission

www.fema.gov

8.2.20 HUSTON TOWNSHIP DOCUMENTS

RESOLUTION Number 2020-02

WHEREAS the Township of Huston, Blair County, Pennsylvania is vulnerable to natural and man-made hazards such as flooding, storms, hazardous materials spills, drought, wildfires, landslides, and radon, and

WHEREAS these hazards can result in loss of life, injury, loss of property, economic hardship, and threats to public health and safety, and

WHEREAS a hazard vulnerability assessment and mitigation plan entitled *Blair Resilience: Addressing Vulnerability and Exposure (BRAVE)* has been developed for Blair County and its constituent municipalities, and

WHEREAS a series of public meetings and outreach efforts were undertaken to develop and review the plan document, now therefore be it

RESOLVED by the governing body of the Township of Huston that the document entitled *Blair Resilience: Addressing Vulnerability and Exposure (BRAVE)* is hereby adopted as the hazard vulnerability assessment and mitigation plan for the Township of Huston, and the respective municipal officials and agencies are hereby directed to implement the recommended activities in the plan and consult with Blair Planning and the Blair County Department of Public Safety on the progress of these activities.

Adopted: June 11, 2020

{Official} Harold A Burket

Attest: Dorothy B Stahl

U.S. Department of Homeland Security
Region III
One Independence Mall, Sixth Floor
615 Chestnut Street
Philadelphia, PA 19106-4404

FEMA

June 30, 2020

The Honorable Gerald Burket
Chair, Board of Supervisors
Huston Township
1230 Piney Creek Road
Martinsburg, Pennsylvania 16662

Community: Huston Township, Blair County, Pennsylvania
Plan Adoption Date: 06/11/2020
Plan Approval Date: 02/11/2020
Plan Expiration Date: 02/10/2025

Dear Mr. Burket:

I am pleased to announce that your Hazard Mitigation Plan has been approved. The plan meets the requirements set forth in Title 44, Chapter 1, Section 201.6, of Code of Federal Regulations (44 CFR 201.6), as authorized by the Disaster Mitigation Act of 2000, by adequately addressing the following required elements: planning process, risk assessment and hazard identification, mitigation strategy, maintenance and implementation, and adoption.

Participating communities are hereby eligible for Hazard Mitigation Assistance grant programs. Funding from these grant programs can be used for qualified mitigation planning and projects that work to reduce disaster losses and protect life and property from future disaster damages. Approved mitigation plans may also be eligible for points under the National Flood Insurance Program Community Rating System.

Your community must revise its plan and obtain approval within 5 years to continue to be eligible for mitigation grant funding. This plan should be reviewed at least annually to keep it relevant to the mitigation goals in your community. Please consider the enclosed recommendations to further strengthen your plan during the next plan update.

I commend you and other members of the planning team for your hard work and continued commitment to building a safer, more resilient community. For questions about your plan or mitigation grant funding, please contact Ernest Szabo, State Hazard Mitigation Planner, at (717) 651-2159.

Sincerely,

Sarah Wolfe, Branch Chief
Floodplain Management and Insurance Branch
FEMA Region III

Enclosure

cc: Thomas Hughes, State Hazard Mitigation Officer, PEMA
Ernest Szabo, State Hazard Mitigation Planner, PEMA
David W. McFarland, III, AICP, Director, Blair County Planning Commission

www.fema.gov

8.2.21 JUNIATA TOWNSHIP DOCUMENTS

RESOLUTION NUMBER 2020-1

HAZARD MITIGATION PLAN

Whereas, Juniata Township, Blair County, Pennsylvania is vulnerable to natural hazards like flooding, wind and weather hazards, drought, earthquakes, wildfires, landslides that can result in property loss, loss of life, economic hardship and threats to public health and safety,

WHEREAS a Blair County Vulnerability Assessment and Mitigation Plan has been developed by Blair County Hazard Mitigation Planning Committee and the people of the County,

WHEREAS the Blair County Hazard Vulnerability Assessment and Mitigation Plan recommends mitigation activities that will reduce losses to life and property affected by natural hazards that face Juniata Township, and,

WHEREAS a series of public meetings were held to develop and review the plan,

NOW THEREFORE BE IT RESOLVED by the Chairman of the Supervisors of Juniata Township that:

- The Blair County Hazard Vulnerability Assessment and Mitigation Plan is hereby adopted as an official plan of Juniata Township.
- By September 30th each year, the Blair County Hazard Mitigation Planning Committee shall prepare an annual evaluation report to the Chairman of the Supervisors of Juniata Township.
- The respective Juniata Township officials and agencies identified in the strategy of the Plan are hereby directed to implement the recommended activities assigned to them. They will consult semi-annually with the Blair County Hazard Mitigation Planning Committee on the progress of their activities.

ADOPTED: February 3, 2020
DATE

David D. Kerr
CHAIRMAN

SUPERVISOR

ATTEST:

Mark T Sease
SUPERVISOR

Ronald E. Neff
SECRETARY-TREASURER

2/3/20.
DATE

U.S. Department of Homeland Security
Region III
One Independence Mall, Sixth Floor
615 Chestnut Street
Philadelphia, PA 19106-4404

FEMA

May 1, 2020

The Honorable David Kane
Chair, Board of Supervisors
Juniata Township
901 Poplar Run Road
Duncansville, Pennsylvania 16635

Community:	Juniata Township, Blair County, Pennsylvania
Plan Adoption Date:	02/03/2020
Plan Approval Date:	02/11/2020
Plan Expiration Date:	02/10/2025

Dear Mr. Kane:

I am pleased to announce that your Hazard Mitigation Plan has been approved. The plan meets the requirements set forth in Title 44, Chapter 1, Section 201.6, of Code of Federal Regulations (44 CFR 201.6), as authorized by the Disaster Mitigation Act of 2000, by adequately addressing the following required elements: planning process, risk assessment and hazard identification, mitigation strategy, maintenance and implementation, and adoption.

Participating communities are hereby eligible for Hazard Mitigation Assistance grant programs. Funding from these grant programs can be used for qualified mitigation planning and projects that work to reduce disaster losses and protect life and property from future disaster damages. Approved mitigation plans may also be eligible for points under the National Flood Insurance Program Community Rating System.

Your community must revise its plan and obtain approval within 5 years to continue to be eligible for mitigation grant funding. This plan should be reviewed at least annually to keep it relevant to the mitigation goals in your community. Please consider the enclosed recommendations to further strengthen your plan during the next plan update.

I commend you and other members of the planning team for your hard work and continued commitment to building a safer, more resilient community. For questions about your plan or mitigation grant funding, please contact Ernest Szabo, State Hazard Mitigation Planner, at (717) 651-2159.

Sincerely,

Mari W. Radford

Mari Radford, Acting Branch Chief
Floodplain Management and Insurance Branch
FEMA Region III

Enclosure

cc: Thomas Hughes, State Hazard Mitigation Officer, PEMA
Ernest Szabo, State Hazard Mitigation Planner, PEMA
David W. McFarland, III, AICP, Director, Blair County Planning Commission

www.fema.gov

8.2.22 LOGAN TOWNSHIP DOCUMENTS

RESOLUTION Number 02-13-2020
HAZARD MITIGATION PLAN UPDATE

WHEREAS the Township of Logan, Blair County, Pennsylvania is vulnerable to natural and man-made hazards such as flooding, storms, hazardous materials spills, drought, wildfires, landslides, and radon, and

WHEREAS these hazards can result in loss of life, injury, loss of property, economic hardship, and threats to public health and safety, and

WHEREAS a hazard vulnerability assessment and mitigation plan entitled *Blair Resilience: Addressing Vulnerability and Exposure (BRAVE)* has been developed for Blair County and its constituent municipalities, and

WHEREAS a series of public meetings and outreach efforts were undertaken to develop and review the plan document, now therefore be it

RESOLVED by the governing body of the Township of Logan that the document entitled *Blair Resilience: Addressing Vulnerability and Exposure (BRAVE)* is hereby adopted as the hazard vulnerability assessment and mitigation plan for the Township of Logan, and the respective municipal officials and agencies are hereby directed to implement the recommended activities in the plan and consult with Blair Planning and the Blair County Department of Public Safety on the progress of these activities.

I hereby certify that the foregoing is a true and correct copy of a resolution adopted by the Board of Supervisors of the Township of Logan at its meeting on February 13, 2020.

LOGAN TOWNSHIP BOARD OF SUPERVISORS

James A. Patterson, Chair

Joseph T. Metzgar, Vice-Chair

ATTEST:
Tiffany Noonan
Secretary/Treasurer

Edwin J. Frontino, Supervisor

Ronald C. Heller, Supervisor

Patrick T. Jones, Supervisor

U.S. Department of Homeland Security
Region III
One Independence Mall, Sixth Floor
615 Chestnut Street
Philadelphia, PA 19106-4404

FEMA

May 1, 2020

The Honorable James A. Patterson
Chair, Board of Supervisors
Logan Township
100 Chief Logan Circle
Altoona, Pennsylvania 16602

Community:	Logan Township, Blair County, Pennsylvania
Plan Adoption Date:	02/13/2020
Plan Approval Date:	02/11/2020
Plan Expiration Date:	02/10/2025

Dear Mr. Patterson:

I am pleased to announce that your Hazard Mitigation Plan has been approved. The plan meets the requirements set forth in Title 44, Chapter 1, Section 201.6, of Code of Federal Regulations (44 CFR 201.6), as authorized by the Disaster Mitigation Act of 2000, by adequately addressing the following required elements: planning process, risk assessment and hazard identification, mitigation strategy, maintenance and implementation, and adoption.

Participating communities are hereby eligible for Hazard Mitigation Assistance grant programs. Funding from these grant programs can be used for qualified mitigation planning and projects that work to reduce disaster losses and protect life and property from future disaster damages. Approved mitigation plans may also be eligible for points under the National Flood Insurance Program Community Rating System.

Your community must revise its plan and obtain approval within 5 years to continue to be eligible for mitigation grant funding. This plan should be reviewed at least annually to keep it relevant to the mitigation goals in your community. Please consider the enclosed recommendations to further strengthen your plan during the next plan update.

I commend you and other members of the planning team for your hard work and continued commitment to building a safer, more resilient community. For questions about your plan or mitigation grant funding, please contact Ernest Szabo, State Hazard Mitigation Planner, at (717) 651-2159.

Sincerely,

Mari W. Radford

Mari Radford, Acting Branch Chief
Floodplain Management and Insurance Branch
FEMA Region III

Enclosure

cc: Thomas Hughes, State Hazard Mitigation Officer, PEMA
Ernest Szabo, State Hazard Mitigation Planner, PEMA
David W. McFarland, III, AICP, Director, Blair County Planning Commission

www.fema.gov

8.2.23 NORTH WOODBURY TOWNSHIP DOCUMENTS

NORTH WOODBURY TOWSHIP
BLAIR COUNTY, PENNSYLVANIA
RESOLUTION Number 03-05-20(A)

WHEREAS, North Woodbury Township, Blair County, Pennsylvania is vulnerable to natural and man-made hazards such as flooding, storms, hazardous materials spills, drought, wildfires, landslides, and radon, and

WHEREAS, these hazards can result in loss of life, injury, loss of property, economic hardship, and threats to public health and safety, and

WHEREAS, a hazard vulnerability assessment and mitigation plan entitled *Blair Resilience: Addressing Vulnerability and Exposure (BRAVE)* has been developed for Blair County and its constituent municipalities; and

WHEREAS, a series of public meetings and outreach efforts were undertaken to develop and review the plan document.

NOW THEREFORE, BE IT RESOLVED by the Board of Supervisors of North Woodbury Township that the document entitled *Blair Resilience: Addressing Vulnerability and Exposure (BRAVE)* is hereby adopted as the hazard vulnerability assessment and mitigation plan for the Township and the respective municipal officials and agencies are hereby directed to implement the recommended activities in the plan and consult with Blair Planning and the Blair County Department of Public Safety on the progress of these activities.

ADOPTED THIS 5th day of March, 2020, at a duly conducted public meeting of North Woodbury Township.

NORTH WOODBURY TOWNSHIP

By_____
Chairman

ATTEST:_____
Township Secretary

U.S. Department of Homeland Security
Region III
One Independence Mall, Sixth Floor
615 Chestnut Street
Philadelphia, PA 19106-4404

FEMA

May 1, 2020

The Honorable Joseph Donaldson
Chair, Board of Supervisors
North Woodbury Township
113 North Cranberry Road
Martinsburg, Pennsylvania 16662

Community:	North Woodbury Township, Blair County, Pennsylvania
Plan Adoption Date:	03/05/2020
Plan Approval Date:	02/11/2020
Plan Expiration Date:	02/10/2025

Dear Mr. Donaldson:

I am pleased to announce that your Hazard Mitigation Plan has been approved. The plan meets the requirements set forth in Title 44, Chapter 1, Section 201.6, of Code of Federal Regulations (44 CFR 201.6), as authorized by the Disaster Mitigation Act of 2000, by adequately addressing the following required elements: planning process, risk assessment and hazard identification, mitigation strategy, maintenance and implementation, and adoption.

Participating communities are hereby eligible for Hazard Mitigation Assistance grant programs. Funding from these grant programs can be used for qualified mitigation planning and projects that work to reduce disaster losses and protect life and property from future disaster damages. Approved mitigation plans may also be eligible for points under the National Flood Insurance Program Community Rating System.

Your community must revise its plan and obtain approval within 5 years to continue to be eligible for mitigation grant funding. This plan should be reviewed at least annually to keep it relevant to the mitigation goals in your community. Please consider the enclosed recommendations to further strengthen your plan during the next plan update.

I commend you and other members of the planning team for your hard work and continued commitment to building a safer, more resilient community. For questions about your plan or mitigation grant funding, please contact Ernest Szabo, State Hazard Mitigation Planner, at (717) 651-2159.

Sincerely,

Mari W. Radford

Mari Radford, Acting Branch Chief
Floodplain Management and Insurance Branch
FEMA Region III

Enclosure

cc: Thomas Hughes, State Hazard Mitigation Officer, PEMA
Ernest Szabo, State Hazard Mitigation Planner, PEMA
David W. McFarland, III, AICP, Director, Blair County Planning Commission

www.fema.gov

8.2.24 SNYDER TOWNSHIP DOCUMENTS

RESOLUTION NO.: 2020-2

WHEREAS, the Township of Snyder, Blair County, Pennsylvania is vulnerable to natural and man-made hazards such as flooding, storms, hazardous materials spills, drought, wildfires, landslides, and radon;

WHEREAS, these hazards can result in loss of life, injury, loss of property, economic hardship, and threats to public health and safety;

WHEREAS, a hazard vulnerability assessment and mitigation plan entitled *Blair Resilience: Addressing Vulnerability and Exposure (BRAVE)* has been developed for Blair County and its constituent municipalities; and

WHEREAS, a series of public meetings and outreach efforts were undertaken to develop and review the plan document.

NOW, THEREFORE, BE IT RESOLVED by the governing body of the Township of Snyder, Blair County, Pennsylvania, that the document entitled *Blair Resilience: Addressing Vulnerability and Exposure (BRAVE)* is hereby adopted as the hazard vulnerability assessment and mitigation plan for Snyder Township, and the respective municipal officials and agencies are hereby directed to implement the recommended activities in the plan and consult with Blair Planning and the Blair County Department of Public Safety on the progress of these activities.

Date Adopted: May 4, 2020

Chairman: James Kost

Attest: Dixie J. Confer, Secretary

U.S. Department of Homeland Security
Region III
One Independence Mall, Sixth Floor
615 Chestnut Street
Philadelphia, PA 19106-4404

FEMA

June 30, 2020

The Honorable James Kost
Chair, Board of Supervisors
Snyder Township
108 Baughman Hollow Road
Tyrone, Pennsylvania 16686

Community:	Snyder Township, Blair County, Pennsylvania
Plan Adoption Date:	05/04/2020
Plan Approval Date:	02/11/2020
Plan Expiration Date:	02/10/2025

Dear Mr. Kost:

I am pleased to announce that your Hazard Mitigation Plan has been approved. The plan meets the requirements set forth in Title 44, Chapter 1, Section 201.6, of Code of Federal Regulations (44 CFR 201.6), as authorized by the Disaster Mitigation Act of 2000, by adequately addressing the following required elements: planning process, risk assessment and hazard identification, mitigation strategy, maintenance and implementation, and adoption.

Participating communities are hereby eligible for Hazard Mitigation Assistance grant programs. Funding from these grant programs can be used for qualified mitigation planning and projects that work to reduce disaster losses and protect life and property from future disaster damages. Approved mitigation plans may also be eligible for points under the National Flood Insurance Program Community Rating System.

Your community must revise its plan and obtain approval within 5 years to continue to be eligible for mitigation grant funding. This plan should be reviewed at least annually to keep it relevant to the mitigation goals in your community. Please consider the enclosed recommendations to further strengthen your plan during the next plan update.

I commend you and other members of the planning team for your hard work and continued commitment to building a safer, more resilient community. For questions about your plan or mitigation grant funding, please contact Ernest Szabo, State Hazard Mitigation Planner, at (717) 651-2159.

Sincerely,

Sarah Wolfe, Branch Chief
Floodplain Management and Insurance Branch
FEMA Region III

Enclosure

cc: Thomas Hughes, State Hazard Mitigation Officer, PEMA
Ernest Szabo, State Hazard Mitigation Planner, PEMA
David W. McFarland, III, AICP, Director, Blair County Planning Commission

www.fema.gov

8.2.25 TAYLOR TOWNSHIP DOCUMENTS

RESOLUTION Number 06-10-2020

WHEREAS the Township of Taylor, Blair County, Pennsylvania is vulnerable to natural and man-made hazards such as flooding, storms, hazardous materials spills, drought, wildfires, landslides, and radon, and

WHEREAS these hazards can result in loss of life, injury, loss of property, economic hardship, and threats to public health and safety, and

WHEREAS a hazard vulnerability assessment and mitigation plan entitled *Blair Resilience: Addressing Vulnerability and Exposure (BRAVE)* has been developed for Blair County and its constituent municipalities, and

WHEREAS a series of public meetings and outreach efforts were undertaken to develop and review the plan document, now therefore be it

RESOLVED by the governing body of the Township of Taylor that the document entitled *Blair Resilience: Addressing Vulnerability and Exposure (BRAVE)* is hereby adopted as the hazard vulnerability assessment and mitigation plan for the Township of Taylor and the respective municipal officials and agencies are hereby directed to implement the recommended activities in the plan and consult with Blair Planning and the Blair County Department of Public Safety on the progress of these activities.

Adopted: June 10, 2020

Joseph E. Dilling

Attest: Barbara M. Greenleaf

Barbara M. Greenleaf

U.S. Department of Homeland Security
Region III
One Independence Mall, Sixth Floor
615 Chestnut Street
Philadelphia, PA 19106-4404

FEMA

July 13, 2020

The Honorable Joseph E. Dilling
Chair, Board of Supervisors
Taylor Township
7217 Woodbury Pike
Roaring Spring, Pennsylvania 16673

Community: Taylor Township, Blair County, Pennsylvania
Plan Adoption Date: 06/10/2020
Plan Approval Date: 02/11/2020
Plan Expiration Date: 02/10/2025

Dear Mr. Dilling:

I am pleased to announce that your Hazard Mitigation Plan has been approved. The plan meets the requirements set forth in Title 44, Chapter 1, Section 201.6, of Code of Federal Regulations (44 CFR 201.6), as authorized by the Disaster Mitigation Act of 2000, by adequately addressing the following required elements: planning process, risk assessment and hazard identification, mitigation strategy, maintenance and implementation, and adoption.

Participating communities are hereby eligible for Hazard Mitigation Assistance grant programs. Funding from these grant programs can be used for qualified mitigation planning and projects that work to reduce disaster losses and protect life and property from future disaster damages. Approved mitigation plans may also be eligible for points under the National Flood Insurance Program Community Rating System.

Your community must revise its plan and obtain approval within 5 years to continue to be eligible for mitigation grant funding. This plan should be reviewed at least annually to keep it relevant to the mitigation goals in your community. Please consider the enclosed recommendations to further strengthen your plan during the next plan update.

I commend you and other members of the planning team for your hard work and continued commitment to building a safer, more resilient community. For questions about your plan or mitigation grant funding, please contact Ernest Szabo, State Hazard Mitigation Planner, at (717) 651-2159.

Sincerely,

Sarah Wolfe, Branch Chief
Floodplain Management and Insurance Branch
FEMA Region III

Enclosure

cc: Thomas Hughes, State Hazard Mitigation Officer, PEMA
Ernest Szabo, State Hazard Mitigation Planner, PEMA
David W. McFarland, III, AICP, Director, Blair County Planning Commission

www.fema.gov

8.2.26 TYRONE TOWNSHIP DOCUMENTS

RESOLUTION Number 2020-0003

WHEREAS the Tyrone Township, Blair County, Pennsylvania is vulnerable to natural and man-made hazards such as flooding, storms, hazardous materials spills, drought, wildfires, landslides, and radon, and

WHEREAS these hazards can result in loss of life, injury, loss of property, economic hardship, and threats to public health and safety, and

WHEREAS a hazard vulnerability assessment and mitigation plan entitled *Blair Resilience: Addressing Vulnerability and Exposure (BRAVE)* has been developed for Blair County and its constituent municipalities, and

WHEREAS a series of public meetings and outreach efforts were undertaken to develop and review the plan document, now therefore be it

RESOLVED by the governing body of the Tyrone Township that the document entitled *Blair Resilience: Addressing Vulnerability and Exposure (BRAVE)* is hereby adopted as the hazard vulnerability assessment and mitigation plan for the Tyrone Township, and the respective municipal officials and agencies are hereby directed to implement the recommended activities in the plan and consult with Blair Planning and the Blair County Department of Public Safety on the progress of these activities.

Adopted: July 14, 2020

Chairman

Attest: Susan A Zerbe

U.S. Department of Homeland Security
Region III
One Independence Mall, Sixth Floor
615 Chestnut Street
Philadelphia, PA 19106-4404

FEMA

September 4, 2020

The Honorable Michael Luther
Chair, Board of Supervisors
Tyrone Township
152 Burket Road
Tyrone Pennsylvania 16686

Community:	Tyrone Township, Blair County, Pennsylvania
Plan Adoption Date:	07/14/2020
Plan Approval Date:	02/11/2020
Plan Expiration Date:	02/10/2025

Dear Mr. Luther:

I am pleased to announce that your Hazard Mitigation Plan has been approved. The plan meets the requirements set forth in Title 44, Chapter 1, Section 201.6, of Code of Federal Regulations (44 CFR 201.6), as authorized by the Disaster Mitigation Act of 2000, by adequately addressing the following required elements: planning process, risk assessment and hazard identification, mitigation strategy, maintenance and implementation, and adoption.

Participating communities are hereby eligible for Hazard Mitigation Assistance grant programs. Funding from these grant programs can be used for qualified mitigation planning and projects that work to reduce disaster losses and protect life and property from future disaster damages. Approved mitigation plans may also be eligible for points under the National Flood Insurance Program Community Rating System.

Your community must revise its plan and obtain approval within 5 years to continue to be eligible for mitigation grant funding. This plan should be reviewed at least annually to keep it relevant to the mitigation goals in your community. Please consider the enclosed recommendations to further strengthen your plan during the next plan update.

I commend you and other members of the planning team for your hard work and continued commitment to building a safer, more resilient community. For questions about your plan or mitigation grant funding, please contact Ernest Szabo, State Hazard Mitigation Planner, at (717) 651-2159.

Sincerely,

Sarah Wolfe, Branch Chief
Floodplain Management and Insurance Branch
FEMA Region III

Enclosure

cc: Thomas Hughes, State Hazard Mitigation Officer, PEMA
Ernest Szabo, State Hazard Mitigation Planner, PEMA
David W. McFarland, III, AICP, Director, Blair County Planning Commission

www.fema.gov

8.2.27 WOODBURY TOWNSHIP DOCUMENTS

RESOLUTION 04-02-2020-01

WHEREAS the Woodbury Township, Blair County, Pennsylvania is vulnerable to natural and man-made hazards such as flooding, storms, hazardous materials spills, drought, wildfires, landslides, and redon, and

WHEREAS these hazards can result in loss of life, injury, loss of property, economic hardship, and threats to public health and safety, and

WHEREAS a hazard vulnerability assessment and mitigation plan entitled *Blair Resilience: Addressing Vulnerability and Exposure (BRAVE)* has been developed for Blair County and its constituent municipalities, and

WHEREAS a series of public meetings and outreach efforts were undertaken to develop and review the plan document, now therefore be it

RESOLVED by the governing body of the Woodbury Township that the document entitled *Blair Resilience: Addressing Vulnerability and Exposure (BRAVE)* is hereby adopted as the hazard vulnerability assessment and mitigation plan for the Woodbury Township, and the respective municipal officials and agencies are hereby directed to implement the recommended activities in the plan and consult with Blair Planning and the Blair County Department of Public Safety on the progress of these activities.

Adopted: APRIL 02, 2020

Joseph L Lansberry, Chairman

Edward Clark, Vice-Chairman

Craig L Hamilton, Supervisor

Attest:

Eleanor K Harclerode, Secretary/Treasurer

U.S. Department of Homeland Security
Region III
One Independence Mall, Sixth Floor
615 Chestnut Street
Philadelphia, PA 19106-4404

FEMA

May 1, 2020

The Honorable Edward Clark
Chair, Board of Supervisors
Woodbury Township
P.O. Box 56
Williamsburg, Pennsylvania 16693

Community:	Woodbury Township, Blair County, Pennsylvania
Plan Adoption Date:	04/02/2020
Plan Approval Date:	02/11/2020
Plan Expiration Date:	02/10/2025

Dear Mr. Clark:

I am pleased to announce that your Hazard Mitigation Plan has been approved. The plan meets the requirements set forth in Title 44, Chapter 1, Section 201.6, of Code of Federal Regulations (44 CFR 201.6), as authorized by the Disaster Mitigation Act of 2000, by adequately addressing the following required elements: planning process, risk assessment and hazard identification, mitigation strategy, maintenance and implementation, and adoption.

Participating communities are hereby eligible for Hazard Mitigation Assistance grant programs. Funding from these grant programs can be used for qualified mitigation planning and projects that work to reduce disaster losses and protect life and property from future disaster damages. Approved mitigation plans may also be eligible for points under the National Flood Insurance Program Community Rating System.

Your community must revise its plan and obtain approval within 5 years to continue to be eligible for mitigation grant funding. This plan should be reviewed at least annually to keep it relevant to the mitigation goals in your community. Please consider the enclosed recommendations to further strengthen your plan during the next plan update.

I commend you and other members of the planning team for your hard work and continued commitment to building a safer, more resilient community. For questions about your plan or mitigation grant funding, please contact Ernest Szabo, State Hazard Mitigation Planner, at (717) 651-2159.

Sincerely,

Mari W. Radford

Mari Radford, Acting Branch Chief
Floodplain Management and Insurance Branch
FEMA Region III

Enclosure

cc: Thomas Hughes, State Hazard Mitigation Officer, PEMA
Ernest Szabo, State Hazard Mitigation Planner, PEMA
David W. McFarland, III, AICP, Director, Blair County Planning Commission

www.fema.gov

- APPENDIX A -

BIBLIOGRAPHY

1. American Cancer Society. *Radon and Cancer*. Atlanta, GA: American Cancer Society, 2015
2. American Meteorological Society. "Waterspout." *Meteorology Glossary*. Boston, MA: American Meteorological Society Publications, 2018.
3. Bachhuber, M. A., Saloner, B., Cunningham, C. O., & Barry, C. L. "Medical Cannabis Laws and Opioid Analgesic Overdose Mortality in The United States, 1999-2010." *JAMA Internal Medicine*, *174*(10), 1668-1673. Chicago, IL: American Medical Association, 2014
4. Baker, D. et al. "A major solar eruptive event in July 2012: Defining extreme space weather scenarios." *Space Weather*, *11*(10), 585-591. Hoboken, NJ: American Geophysical Union, 2013.
5. Baker, D. et al. "Severe Space Weather Events-Understanding Societal and Economic Impacts: A Workshop Report." *The National Academy of Sciences.* Washington, DC: The National Academies Press, 2008.
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- APPENDIX B -LOCAL MITIGATION REVIEW TOOL

- APPENDIX C -MEETING & OTHER PARTICIPATION DOCUMENTS

Appendix C

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DAM INFORMATION

Blair County Planning Commission

High Hazard Potential Dam Data Collection

Dam Name: Allegheny Storage Dam

Municipality / Jurisdiction of Dam: Logan Township

Dam: Owner (Public/Private): Altoona Water Authority

Primary Contact Name & Title: Katie Semelsberger

Phone / Email: 814-949-2222, x2026/KSemelsberger@altoonawater.gov

☐ Dam Location & Downstream Area

- ☐ Dam address or general location: Along Old Mill Run Road
- ☐ Downstream municipalities potentially affected (if known):
  Logan Twp., South Altoona, Allegheny Twp., Blair Twp., Canan, Mill Run, Blair Twp., Fort Fetter, Gaysport, Hollidaysburg, Frankstown Twp., Frankstown

☐ Population & Facilities at Risk (Estimate): _____

- ☐ Unknown
- ☐ <10
- ☐ 10-50
- ☑ 50+

☐ Known Facilities downstream (check any that apply & Indicate location)

- ☑ Homes: 2,550
- ☑ Schools: 4
- ☐ Hospitals / healthcare: _____
- ☐ Roads / bridges: _____
- ☐ Utilities (water, power, wastewater): _____

- ☐ Emergency services
- ☑ Unknown

☐ Do you have a dam breach inundation map?

- ☑ Yes
- ☐ No
- ☐ Unknown

☐ Model of dam breach inundation map.

- ☐ HEC-RAS
- ☐ DSS-WISE
- ☐ FLO-2D
- ☑ Other:

☐ Does the plan have an Emergency Action Plan (EAP)?

- ☑ Yes
- ☐ No
- ☐ Other: _____

☐ When was EAP last updated (if known): 07/2022

☐ Known or potential causes of failure (check any)

- ☑ Severe storm / flooding
- ☑ Structural aging
- ☐ Erosion
- ☐ Seepage

Blair County Planning Commission

- ☐ Landslide
- ☐ Slope instability
- ☐ Earthquake
- ☐ Other: _____

☐ Known Structural issues or deficiencies (if known): None

☐ Most recent inspection conducted by: Gannett Fleming, Inc.

☐ Approximate inspection date (if known): May 2025

☐ Are condition assessments or reports available?

- ☐ Yes
- ☐ No
- ☑ Unknown

☐ Would your dam failure impact multiple jurisdictions?

- ☑ Yes
- ☐ No
- ☐ Unknown

☐ Document your approach and limitation to address deficiencies:

Quarterly and Annual Dam Inspections with a professional engineer.

☐ Estimated economic impact (economic damage) from dam failure based on community assets in HHPD inundation zone:

Blair County Planning Commission

☐ Estimated Environmental impact (wetland, parks, river, stream, lakes) from dam failure in inundation zone:

☐ Social Impact (population with functional needs, language barrier, poverty, infant, elderly in inundation zone) from dam failure in inundation zone:

☐ How would a proposed action reduce High Hazard Potential Dam risk?
Identifying potential emergency situations before they become an emergency

☐ How would the proposed action reduce the risks of dam's deficiency?

☐ Degree to which an action reduces Population At risk: _____

☐ Is your infrastructure under multiple jurisdiction?

☐ Yes

☑ No

☐ Please estimate share of authority: _____

Completed by: Katie Semelsberger

Date: 1/30/2026



Blair County Planning Commission

MacKenzie Caron mcaron@blairplanning.org

Ben Peng ben@stuartgroup.org

- ☐ Email **Emergency Action Plan** to MacKenzie and/or Ben
  - ☑ Sent! (Email subject title – "Hazard Dam Information")
- ☐ Email **Condition Report/Assessment** to MacKenzie and/or Ben
  - ☐ Sent! (Email subject title – "Hazard Dam Information")
- ☐ Email **any other relevant information** to MacKenzie and/or Ben
  - ☐ Sent! (Email subject title – "Hazard Dam Information")

Blair County Planning Commission

High Hazard Potential Dam Data Collection

Dam Name: Bellwood Dam

Municipality / Jurisdiction of Dam: Antis Township

Dam: Owner (Public/Private): Altoona Water Authority

Primary Contact Name & Title: Katie Semelsberger Land Manager

Phone / Email: 814-949-2222, x2026/KSemelsberger@altoonawater.gov

☐ Dam Location & Downstream Area

- ☐ Dam address or general location: Near Kelsey Road along SR-865
- ☐ Downstream municipalities potentially affected (if known):
  Antis Twp, Roots, Reightown, Bellwood Borough, Fostoria, Tipton, Charlottesville, Snyder, Grazierville, Gray, Tyrone Twp, Tyrone Borough, Tyrone Forge, Ironville, Spruce Creek

☐ Population & Facilities at Risk (Estimate): _____

- ☐ Unknown
- ☐ <10
- ☐ 10-50
- ☑ 50+

☐ Known Facilities downstream (check any that apply & Indicate location)

- ☑ Homes: 1,100
- ☑ Schools: 3
- ☐ Hospitals / healthcare: _____
- ☐ Roads / bridges: _____
- ☐ Utilities (water, power, wastewater): _____

- ☐ Emergency services
- ☑ Unknown

☐ Do you have a dam breach inundation map?

- ☑ Yes
- ☐ No
- ☐ Unknown

☐ Model of dam breach inundation map.

- ☐ HEC-RAS
- ☐ DSS-WISE
- ☐ FLO-2D
- ☑ Other:

☐ Does the plan have an Emergency Action Plan (EAP)?

- ☑ Yes
- ☐ No
- ☐ Other: _____

☐ When was EAP last updated (if known): 7/2022

☐ Known or potential causes of failure (check any)

- ☑ Severe storm / flooding
- ☐ Structural aging
- ☐ Erosion
- ☐ Seepage

Blair County Planning Commission

- ☐ Landslide
- ☐ Slope instability
- ☐ Earthquake
- ☐ Other: _____

☐ Known Structural issues or deficiencies (if known): None

☐ Most recent inspection conducted by: Gannett Fleming, Inc.

☐ Approximate inspection date (if known): May 2025

☐ Are condition assessments or reports available?

- ☐ Yes
- ☐ No
- ☑ Unknown

☐ Would your dam failure impact multiple jurisdictions?

- ☑ Yes
- ☐ No
- ☐ Unknown

☐ Document your approach and limitation to address deficiencies:

Quarterly and Annual Dam Inspections with a professional engineer.

☐ Estimated economic impact (economic damage) from dam failure based on community assets in HHPD inundation zone:

☐ Estimated Environmental impact (wetland, parks, river, stream, lakes) from dam failure in inundation zone:

☐ Social Impact (population with functional needs, language barrier, poverty, infant, elderly in inundation zone) from dam failure in inundation zone:

☐ How would a proposed action reduce High Hazard Potential Dam risk?
Identifying potential emergency situation before they become an emergency

☐ How would the proposed action reduce the risks of dam's deficiency?

☐ Degree to which an action reduces Population At risk: _____

☐ Is your infrastructure under multiple jurisdiction?

☐ Yes

☑ No

☐ Please estimate share of authority: _____

Completed by: Katie Semelsberger

Date: 1/30/2026



Blair County Planning Commission

MacKenzie Caron mcaron@blairplanning.org

Ben Peng ben@stuartgroup.org

- ☐ Email **Emergency Action Plan** to MacKenzie and/or Ben
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- ☐ Email **Condition Report/Assessment** to MacKenzie and/or Ben
  - ☐ Sent! (Email subject title – "Hazard Dam Information")
- ☐ Email **any other relevant information** to MacKenzie and/or Ben
  - ☐ Sent! (Email subject title – "Hazard Dam Information")

Blair County Planning Commission

High Hazard Potential Dam Data Collection

Dam Name: Blair Gap Dam

Municipality / Jurisdiction of Dam: Juniata Township

Dam: Owner (Public/Private): Altoona Water Authority

Primary Contact Name & Title: Katie Semelsberger Land Manager

Phone / Email: 814-949-2222, x2026/KSemelsberger@altoonawater.gov

☐ Dam Location & Downstream Area

- ☐ Dam address or general location: Along Old U.S. Route 22
- ☐ Downstream municipalities potentially affected (if known): Juniata Twp, Allegheny Twp, Foot of Ten, Fort Fetter, Duncansville, Blair Township, Gaysport, Hollidaysburg, Frankstown, Geesevtown, Reese, Horrell Canoe Creek

☐ Population & Facilities at Risk (Estimate): _____

- ☐ Unknown
- ☐ <10
- ☐ 10-50
- ☑ 50+

☐ Known Facilities downstream (check any that apply & Indicate location)

- ☑ Homes: 1,400
- ☑ Schools: 1
- ☐ Hospitals / healthcare: _____
- ☐ Roads / bridges: _____
- ☐ Utilities (water, power, wastewater): _____

Blair County Planning Commission

- ☐ Emergency services
- ☑ Unknown

☐ Do you have a dam breach inundation map?

- ☑ Yes
- ☐ No
- ☐ Unknown

☐ Model of dam breach inundation map.

- ☐ HEC-RAS
- ☐ DSS-WISE
- ☐ FLO-2D
- ☑ Other:

☐ Does the plan have an Emergency Action Plan (EAP)?

- ☑ Yes
- ☐ No
- ☐ Other: _____

☐ When was EAP last updated (if known): 7/2022

☐ Known or potential causes of failure (check any)

- ☑ Severe storm / flooding
- ☑ Structural aging
- ☐ Erosion
- ☑ Seepage

- ☐ Landslide
- ☐ Slope instability
- ☐ Earthquake
- ☐ Other: _____

☐ Known Structural issues or deficiencies (if known): None

☐ Most recent inspection conducted by: Gannett Fleming, Inc.

☐ Approximate inspection date (if known): May 2025

☐ Are condition assessments or reports available?

- ☐ Yes
- ☐ No
- ☑ Unknown

☐ Would your dam failure impact multiple jurisdictions?

- ☑ Yes
- ☐ No
- ☐ Unknown

☐ Document your approach and limitation to address deficiencies:

Quarterly and Annual Dam Inspections with a professional engineer.

☐ Estimated economic impact (economic damage) from dam failure based on community assets in HHPD inundation zone:

Blair County Planning Commission

☐ Estimated Environmental impact (wetland, parks, river, stream, lakes) from dam failure in inundation zone:

☐ Social Impact (population with functional needs, language barrier, poverty, infant, elderly in inundation zone) from dam failure in inundation zone:

☐ How would a proposed action reduce High Hazard Potential Dam risk?
Identifying potential emergency situation before they become an emergency

☐ How would the proposed action reduce the risks of dam's deficiency?

☐ Degree to which an action reduces Population At risk: _____

☐ Is your infrastructure under multiple jurisdiction?

☐ Yes

☑ No

☐ Please estimate share of authority: _____

Completed by: Katie Semelsberger

Date: 2/4/2026

Blair County Planning Commission

MacKenzie Caron mcaron@blairplanning.org

Ben Peng ben@stuartgroup.org

- ☐ Email **Emergency Action Plan** to MacKenzie and/or Ben
  - ☑ Sent! (Email subject title – "Hazard Dam Information")
- ☐ Email **Condition Report/Assessment** to MacKenzie and/or Ben
  - ☐ Sent! (Email subject title – "Hazard Dam Information")
- ☐ Email **any other relevant information** to MacKenzie and/or Ben
  - ☐ Sent! (Email subject title – "Hazard Dam Information")

Drive Search in Drive

EMERGENCY ACTION PLAN

SURVEILLANCE, WARNING AND EVACUATION PROCEDURES

CANOE CREEK DAM
CANOE CREEK STATE PARK
DEP NUMBER D07-084

LOCATED ACROSS CANOE CREEK
IN FRANKSTOWN TOWNSHIP, BLAIR COUNTY

LATITUDE: 40°28'38" LONGITUDE: -78°16'52"

SIZE CATEGORY "B"
HAZARD POTENTIAL CATEGORY "1"

OPERATED BY:	**JOSEPH BASIL, PARK MANAGER** **CANOE CREEK STATE PARK** **HOLLIDAYSBURG, PA 16648-9752**
TELEPHONE:	**BUSINESS: (814) 695-6807** **CELL: (814) 660-2361** **E-MAIL: JBASIL@PA.GOV**
OWNED BY:	**THE PENNSYLVANIA DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES** **BUREAU OF STATE PARKS**
ADDRESS:	**8TH FLOOR RACHEL CARSON STATE OFFICE BUILDING** **400 MARKET STREET** **HARRISBURG, PA 17105-8551**
TELEPHONE:	**BUSINESS: (717) 787-6640** **HOME: (724) 317-9990** **CELL: (717) 303-6752** **E-MAIL: JHALLAS@PA.GOV** **WEB PAGE: WWW.DCNR.PA.GOV**

DATE: 2024

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PROMULGATION AND CONCURRENCE

We, the undersigned, on date indicated, have reviewed the requested support activity in the Emergency Action Plan for the Canoe Creek Dam. Our support action will be executed in accordance with existing recommended operating guidelines and existing municipal or county emergency operation plans.

JOSEPH BASIL, DAM OPERATOR

2/2/24
DATE

PROMULGATION AND CONCURRENCE

We, the undersigned, on date indicated, have reviewed the requested support activity in the Emergency Action Plan for the Canoe Creek Dam. Our support action will be executed in accordance with existing recommended operating guidelines and existing municipal or county emergency operation plans.

MARK TAYLOR — DATE: 3/25/2024

EMERGENCY MANAGEMENT COORDINATOR/DIRECTOR OF PUBLIC SAFETY
BLAIR COUNTY DEPARTMENT OF EMERGENCY SERVICES

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PROMULGATION AND CONCURRENCE

We, the undersigned, on date indicated, have reviewed the requested support activity in the Emergency Action Plan for the Canoe Creek Dam. Our support action will be executed in accordance with existing recommended operating guidelines and existing municipal or county emergency operation plans.

John A. Hallas

JOHN HALLAS, DAM OWNER

1/23/2024

DATE


Dam 07-084 - Blair, Frankstown Township – DCNR - Canoe Creek
Add New Comment
-- Type to Search --
Tom Bold from PA Department of Environmental Protection
Commented on 4/22/2024 11:25 AM
Robert Then from Central
Commented on 4/18/2024 10:41 AM
Review Complete.
Robert Then from Central
Commented on 4/18/2024 10:41 AM
Concur with Lee Quittschreiber comment.
Lee Quittschreiber from Central
Commented on 4/18/2024 10:30 AM
Section VII, Item Q-EOP - The Directive refereenced D2007-1, is the old directive and should be replaced with D2018-01
« ‹ 1 › » showing 1 to 4 (of 4 records)

Drive Search in Drive

B. To provide for effective dam surveillance, prompt notification to local emergency management agencies, citizen warning and evacuation response, when required.

C. To identify emergency actions to be taken by the dam owner/operator, public officials, emergency personnel, and to outline response actions in the event of a potential or imminent failure of the dam.

II. SITUATION

A. Canoe Creek Dam consists of two independent dam structures, both of which are for recreational purposes. The main dam is a 35-foot high, 800- foot long earthen embankment recreation dam, maintaining a normal pool of 1,485 acre-feet of water with a maximum pool capacity of 4,350 acre-feet. The other retaining structure, a concrete gravity spillway (serving as both primary and emergency) is located approximately 2,000 feet northwest of the main dam.

B. The dam is located across Canoe Creek, approximately 12 miles east of Altoona and 6 miles west of Williamsburg. Refer to **Attachment C** - *Location Map*.

C. The inundation area resulting from a sudden dam failure will affect areas along Canoe Creek in Frankstown Township of Blair County, and areas along the Frankstown Branch Juniata River in Frankstown, Catharine, and Woodbury Townships, as well as Williamsburg Borough of Blair County. The affected area along Canoe Creek extends from the dam to the confluence of Canoe Creek with the Frankstown Branch Juniata River. Along the Frankstown Branch Juniata River, the inundation area extends approximately one mile upstream from its confluence with Canoe Creek and downstream to the Borough of Williamsburg. Roadways that would be affected by a dam failure include Turkey Valley Road (State Route 1011), U.S. Route 22, State Route 2022, Flowing Spring Road (T-444), State Route 866 and Riverside Drive. Refer to **Attachment A** - *Inundation Map*.

D. Within the inundation area are approximately 40 seasonal and full time homes 3 businesses the Canoe Creek Park Office and Sewage Treatment Plant with an approximate total population of 200 people. A power facility and sewage disposal site near the Borough of Williamsburg could potentially be affected by a dam failure. Refer to **Attachment A** - *Inundation Map*.

III. CONCEPT OF OPERATIONS

A. SURVEILLANCE – NORMAL CONDITIONS - (DAM OWNER OR OPERATOR)

1. The Canoe Creek State Park Manager or a designated representative will conduct an on-site visual inspection of the dam, the dam's spillway(s), control systems, and the toe area below the dam at a minimum of once every three months. Any abnormal or questionable conditions will be immediately brought to the attention of the owner's engineer and the Division of Dam Safety of DEP.

Drive Search in Drive

B. SURVEILLANCE – UNUSUAL EVENT CONDITIONS (DAM WATCH)

1. The Canoe Creek State Park Manger or a designated representative will commence surveillance of conditions at the dam site when:

    a. Severe thunderstorms or heavy rains with local flood warnings, tropical storms and hurricanes, or heavy rains with frozen ground and/or snow cover are occurring.
    b. The National Weather Service issues a flash flood watch or warning and conditions warrant.
    c. Any abnormal or questionable conditions as identified in Section III.D.1.

C. EARLY WARNING NOTIFICATION

1. The Canoe Creek State Park Manager or a designated representative is responsible for determining the dam's threat potential. The following conditions constitute early warning notification to the Blair County PSAP/911 and require 24-hour around-the-clock surveillance.

    a. The water level in the impoundment area has reached the threshold level of 6.5 feet below the top of the dam and is rising, or
    b. Following the occurrence of an earthquake in the general region of the dam.

2. Early warning notification will be relayed from the Blair County PSAP/911 to the Blair County DES, the PEMA CWWC and all applicable emergency responders and designated government officials and agencies. Refer to Section IV.B. for additional notifications.

D. WARNING AND EVACUATION NOTIFICATION

1. The Canoe Creek State Park Manager or a designated representative is responsible for determining the dam's threat potential. The following conditions constitute a dam emergency requiring warning and evacuation notification to the Blair County PSAP/911.

    a. The depth of flow in the emergency spillway has reached a depth of 11 feet. (Staff gage on the spillway might be needed), and
    b. The water level in the impoundment area has reached the threshold level of 2.5 feet below the top the dam, or
    c. Imminent failure of this dam might be indicated by observance of one or more of the following conditions at the dam site:

        i. The lake or pond level is at or near the top of the dam and water is flowing, or about to flow, over the top of the dam.
        ii. The overflow pipe or spillway is damaged, or clogged with debris or ice, which is resulting in a rapid rise in the lake or pond level.

Drive Search in Drive

iii. The primary spillway is experiencing heavy flows which are causing severe erosion to the spillway or the dam embankment.
iv. Any structural movement or failure of the concrete gravity spillway or the spillway abutment walls.
v. Any sloughing or sliding of the embankment's upstream or downstream slope. Also, earth slides in the spillway channel, either upstream or downstream of the dam's crest, which could impede the flow in the spillway.
vi. Subsidence, sinkholes or cracks found in any part of the dam's embankment or abutting slopes.
vii. Any new discharge of water is observed through the dam's embankment or abutting slopes, adjacent to any conduit outlets, or under the dam, which appears as a boil along the downstream toe. If a discharge occurs and the water is cloudy or muddy in color, then a very serious problem exists.

2. Warning and evacuation notification will be relayed from the Blair County PSAP/911 to the Blair County DES, the PEMA CWWC and all applicable emergency responders and designated government officials and agencies. Refer to Section IV.B. for additional notifications.
3. Emergency management officials will accomplish the needed actions, which are explained in this EAP, in accordance with their existing recommended operating guidelines and existing municipal or county emergency operation plans.
4. Warning and evacuation of the public must commence upon notification by the Canoe Creek State Park Manager or a designated representative of a potential or imminent failure of the dam. Emergency responders should initiate action in accordance with the plan outline and any existing internal organizational recommended operating guidelines, and existing municipal or county operation plans.

E. TERMINATION OF SURVEILLANCE AND NOTIFICATIONS

1. The Canoe Creek State Park Manger or a designated representative may terminate 24-hour surveillance of dam site conditions when:

a. All National Weather Service flash flood watches or warnings have expired, **and**
b. Heavy rains have ended and the water level in the lake has dropped 7 feet below the top of the dam and is receding.
c. After a personal inspection of the dam site has been conducted by a knowledgeable professional engineer following an earthquake, overtopping of the dam, or an evacuation of the inundation area as a result of this EAP, or other serious problems resulting in a

Drive Search in Drive

notify the Blair County PSAP/911.

3. Termination of notifications will be relayed from the Blair County PSAP/911 to the Blair County DES, the PEMA CWWC and all applicable emergency responders and designated government officials and agencies. Refer to Section IV.B. for additional notifications.

IV. RESPONSIBILITIES AND DUTIES

A. DAM OWNER OR DAM OPERATOR (DAM SITE EMERGENCY)

1. The Canoe Creek State Park Manger or a designated representative will provide for 24-hour on-site dam surveillance and monitoring as required in Section III.C.1. and initiate early warning notification to the Blair County PSAP/911.
2. When the situation meets the criteria under the warning and evacuation notification guidelines, presented in Section III.D.1, indicating a failure of the dam is possible or a significant threat condition is developing, the Canoe Creek State Park Manger or a designated representative will initiate warning and evacuation notification to the Blair County PSAP/911.

B. COUNTY PSAP - 911

1. The BLAIR COUNTY PSAP/911 will notify:

    a. Blair County DES
    b. PEMA CWWC
    c. Williamsburg Police Department
    d. Geeseytown Fire Department
    e. Williamsburg Fire Department
    f. Hollidaysburg EMS
    g. PA State Police – Hollidaysburg Barracks
    h. AMED EMS
    i. Williamsburg EMS
    j. Duncansville EMS

C. COUNTY EMA

1. The BLAIR COUNTY DES will contact the following personnel and agencies:

    a. National Weather Service
    b. Frankstown Township EMA
    c. Catharine Township EMA
    d. Woodbury Township EMA

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f. Media - Warning and/or Evacuation (Activate EAS). Refer to **Attachment E**
g. Blair County EOC staff, as necessary
h. American Red Cross – Blair County Chapter (when mass care or family assistance is required). Coordinate sheltering per ESF 6 of County EOP.
i. Blair County elected officials
j. Hollidaysburg Area School District (regarding closure of school bus routes)
k. Williamsburg Area School District (regarding closure of school bus routes)
l. Pennsylvania Emergency Management Agency
m. PennDOT – Blair County Maintenance District 9-2

2. The BLAIR COUNTY DES will ascertain and report to PEMA any unmet needs requirements.
3. The BLAIR COUNTY DES will initiate Damage Assessment and Recovery procedures as the situation requires.

D. LOCAL MUNICIPAL EMAS

FRANKSTOWN TOWNSHIP EMA
CATHARINE TOWNSHIP EMA
WOODBURY TOWNSHIP EMA
WILLIAMSBURG BOROUGH EMA

1. Advise facilities with special needs individuals as outlined in the Emergency Operations Plan (EOP) and identified by the Hazard Vulnerability Analysis (areas impacted due to a dam failure and indicated on **Attachment A** - *Inundation Map*).
2. Notify municipal elected officials and municipal services (water, sewer, etc.).
3. Keep the County DES apprised of the situation.
4. Coordinate the evacuation (where appropriate).
5. Provide damage reporting to the Blair County EMC.

E. FIRE DEPARTMENTS

GEESEYTOWN FIRE DEPARTMENT
WILLIAMSBURG FIRE DEPARTMENT

1. Provide citizen notification and route alerting to advise residents living within their jurisdiction (See **Attachment A** - *Inundation Map*).
2. Assist in evacuation.
3. Assist police and EMS, as requested.
4. Provide communications support if feasible and requested.

Drive Search in Drive

F. POLICE SERVICES

WILLIAMSBURG POLICE DEPARTMENT
PENNSYLVANIA STATE POLICE – HOLLIDAYSBURG BARRACKS

1. Dispatch radio vehicle to dam site in order to provide alternate communications link to PSAP/911 - Williamsburg Police Department.
2. Assist evacuation traffic flow and establish traffic control points (TCP) at pre-designated locations (See **Attachment A** - *Inundation Map* and **Attachment B** -*Traffic Control Points*).
3. Prevent unauthorized entry and provide security of evacuated areas.
4. Provide assistance with route alerting, if requested.

G. EMERGENCY MEDICAL SERVICES (EMS)

HOLLIDAYSBURG EMERGENCY MEDICAL SERVICES (EMS)
AMED EMERGENCY MEDICAL SERVICES (EMS)
DUNCANSVILLE EMERGENCY MEDICAL SERVICES (EMS)
WILLIAMSBURG EMERGENCY MEDICAL SERVICES (EMS)

1. Provide evacuation transportation assistance and coordinate with designated fire services agencies for transportation of persons with disabilities and any special needs.
2. Assist fire and police departments as requested.
3. Provide EMS support to any mass care center as requested.

H. AMERICAN RED CROSS OR VOLUNTEER ORGANIZATION ACTIVE IN DISASTERS (VOAD)

BLAIR COUNTY CHAPTER (If requested by Blair County EMA)

1. Identify and activate an appropriate shelter, as necessary.
2. Support and maintain operations of the reception center.
3. Maintain communications with County EMC, local EMA and reception center.

I. PENNSYLVANIA DEPARTMENT OF TRANSPORTATION (PENNDOT)

BLAIR COUNTY MAINTENANCE DISTRICT 9-2

1. Provide services, signs, barricades and guidance on roads and bridges affecting the evacuation and recovery.

V. ADMINISTRATION AND LOGISTICS

A. The *NOTICE* (**Attachment F**) will be posted in the following public places located within or near the inundation area:

1. Frankstown Township Municipal Building
2. Catharine Township Municipal Building

[redacted]

3. Woodbury Township Municipal Building
4. Williamsburg Borough Building
5. Williamsburg Police Department
6. Geeseytown Fire Department
7. Williamsburg Fire Department
8. Williamsburg Post Office
9. American Legion – Williamsburg

B. The *NOTICE* must state that copies of the Emergency Action Plan for this dam are available for inspection at the following locations:

1. Blair County Emergency Management Agency Office
   615 Fourth Street
   Altoona, PA 16602
2. Frankstown Township Emergency Management Office
   2122 Frankstown Road
   Hollidaysburg, PA 16648
3. Catharine Township Emergency Management Office
   306 Dean Street
   Williamsburg, PA 16693
4. Woodbury Township Emergency Management Office
   6385 Clover Creek Rd
   Williamsburg, PA 16693
5. Canoe Creek State Park Office
   205 Canoe Creek Road
   Hollidaysburg, PA 16648-9752
6. PA DCNR
   Bureau of State Parks
   8th Floor, RCSOB
   400 Market Street
   Harrisburg, PA 17101-8551
7. Williamsburg Borough EMA
   305 East Second Street
   Williamsburg, PA 16693

C. A new *NOTICE* will be sent to those locations in paragraph "A" when the EAP is revised.

D. The dam owner is responsible to verify posting of the *NOTICE* and documenting the status in the annual inspection report.

VI. AUTHORITY AND REFERENCES

A. AUTHORITY

1. The Dam Safety and Encroachments Act (32 P.S. Sections 693.1-693.27), May 16, 1985.
2. The Pennsylvania Code - Title 25, Chapter 105 Dam Safety and

Waterways Management, Section 105.63 and 105.134.

3. Emergency Management Services Code, 35 Pa C.S. Section 7101 et seq., as amended.

B. REFERENCES

1. Guidelines for Developing an Emergency Action Plan for Hazard Potential Category 1, 2, & 3 Dams. Prepared by the Department of Environmental Protection, Water Management, Bureau of Waterways Engineering and Wetlands, Division of Dam Safety and the Pennsylvania Emergency Management Agency, January 2019.
2. Inspection, Maintenance and Operation of Dams in Pennsylvania. Prepared by the Department of Environmental Protection, Water Management, Bureau of Waterways Engineering and Wetlands, Division of Dam Safety, February 2009.
3. Blair County Emergency Operations Plan.

VII. DEFINITIONS

A. **ABUTMENT** - The part of the valley's hillside against which the dam abuts. Right and left abutments are those on respective sides of the dam as an observer looks downstream.

B. **AFFECTED COUNTIES/MUNICIPALITIES** – Those jurisdictions within Pennsylvania or adjoining states that, according to the inundation map, may experience flooding as a result of a failure of the dam.

C. **BOIL** - A disturbance in the surface layer of soil caused by water escaping under pressure from behind a water-retaining structure such as a dam or a levee. The boil may be accompanied by deposition of soil particles (usually sand or silt) in the form of a ring (miniature volcano) around the area where the water escapes.

D. **BREACH** - An opening or a breakthrough of a dam sometimes caused by rapid erosion of a section of earth embankment by water.

E. **COMMONWELATH RESPONSE COORDINATION CENTER (CRCC) -** Serves as the Commonwealth's primary coordination point for response and recovery operations during natural or human-caused disasters and other emergencies. When activated, state agencies, volunteer organizations, and other stakeholders send representatives to the CRCC where they work to coordinate state agency response and recovery efforts to support affected counties and local jurisdictions.

F. **COMMONWEALTH WATCH AND WARNING CENTER (CWWC) -** Serves as the 24/7 monitoring and emergency alerting hub for all-hazards incidents and events throughout the Commonwealth. The CWWC works with county Public Safety Answering Points (PSAP's), Emergency Management agencies, state agencies and other stakeholders to maintain Situational Awareness (SA) and provide a Common Operating Picture (COP) for agencies throughout the state.

G. **CONDUIT** - A pipe used to convey water through or around or under a dam.

H. **CONTROL TOWER** - A structure in the dam or reservoir used to control withdraw of water from the reservoir through pipes or culverts.

I. **CREST OF DAM** - The crown of an overflow section of the dam. In the United States, the term "crest of dam" is often used when "top of dam" is intended. To avoid confusion, the terms **crest of spillway** and **top of dam** should be used for referring to the overflow section and dam proper, respectively.

J. **CULVERT** - (a) A drain or waterway structure built transversely under a road, railway, or embankment. A culvert usually comprises a pipe or a covered channel of box section. (b) A gallery or waterway constructed through any type of dam, which is normally dry but is used occasionally for discharging water; hence the terms scour culvert, drawoff culvert and spillway culvert.

K. **DAM** - A barrier built across a watercourse for impounding or diverting the flow of water.

L. **DAM FAILURE** - The uncontrolled release of a dam's impounded water. It is recognized that there are degrees of failure. Any malfunction or abnormality, outside the design assumptions and parameters, which adversely affect a dam's primary function of impounding water is properly considered a failure. Minor malfunctions or abnormalities can result in a sudden failure of a dam.

M. **EARTH DAM (EARTHFILL DAM)** - An embankment dam in which more than 50% of the total volume is formed of compacted fine-grained earth.

N. **EMBANKMENT** - Fill material, usually earth or rock, placed with sloping sides.

O. **EMERGENCY** - A condition of serious nature which develops unexpectedly and endangers the structural integrity of a dam or endangers downstream property and human life. An emergency requires immediate action.

P. **EAP** – Emergency Action Plan - A formal document that identifies potential emergency conditions at a dam and specifies preplanned actions to be followed to minimize property damage and loss of life. It contains procedures and information to assist the dam owner in issuing early warning and notification messages to responsible downstream emergency management authorities of the emergency situation. It also contains inundation maps to show the emergency management authorities of the critical areas for action in case of an emergency.

Q. **EOP** – Emergency Operations Plan - "The document … which describes the hazards, vulnerabilities, emergency management situations and assumptions that affect the municipality, the concept of operations during an emergency, and the various roles and assignments of the elected officials, emergency management coordinator and other emergency response personnel, whether paid or volunteer." (From PEMA Directive D2007-1). The EOP includes checklists for known critical facilities, special facilities, critical personnel, hearing impaired residents, non-English speaking residents, residents requiring ambulance assistance, etc., as identified by local emergency management officials.

R. **FACE** - With reference to a structure, the external surface that limits the structure, e.g., the face of a wall or dam.

S. **FAILURE** - An incident resulting in the uncontrolled release of water from an operating dam. See "Dam Failure".

T. **FOUNDATION OF DAM** - The natural material on which the dam structure is placed.

U. **GROIN** - That area along the contact (or intersection) of the face of a dam with the abutment.

V. **HAZARD** - A situation which creates the potential for adverse consequences such as loss of life, property damage, and adverse social and environmental impacts. Impacts may be for a defined area downstream of a dam from flood-waters released through spillways and outlet works of the dam or waters released by partial or complete failure of the dam. This could include an area upstream of the dam from effects of backwater flooding or effects of landslides around the reservoir perimeter.

W. **INUNDATION AREA** - The downstream area that would be flooded or otherwise affected by the failure of a dam or large flows. This area can be subject to a fast moving flood wave, 20 to 50 MPH is common, with a height of 1 foot to tens of feet.

X. **INUNDATION MAP** - A map delineating the area that would probably be flooded in the event of a dam failure. This map must be prepared by a registered professional engineer.

Y. **NOTIFICATION** - To promptly inform appropriate individuals or emergency agency about an emergency condition so they can initiate appropriate actions.

Z. **NORMAL WATER LEVEL (NORMAL WATER POOL)** - For reservoir with a fixed overflow spillway crest, it is the lowest level of that crest.

AA. **OPERATOR** - The person or position in a company or organization, who is responsible for a dam's operation and surveillance.

BB. **OUTLET** - A constructed opening through which water can be safely discharged for a particular purpose from a reservoir.

CC. **OWNER** - Any person, authority or agency that manages a dam or reservoir.

DD. **PSAP** - Public Safety Answering Point - an agency in the United States, typically county or city controlled, responsible for answering 9-1-1 calls for emergency assistance from police, fire, and ambulance services.

EE. **SEEPAGE** - The movement of water that might occur through the dam, its foundation or its abutments. Small amounts of clear water seepage is normal. Increase in the amount of water flow or change in color is a concern for a dam's safety.

FF. **SLIDE** - The movement of a mass of earth down a slope. In embankments and abutments, this involves the separation of a portion of the slope from the surrounding materials.

GG. **SPILLWAY** - A structure over or through which flows are discharged. If the flow is controlled by gates, it is considered a controlled spillway; if the elevation of the spillway crest is the only control, it is considered an uncontrolled spillway.

HH. **SPILLWAY CHANNEL** - A channel conveying water from the spillway crest to the river downstream.

II. **TOE OF DAM** - The junction of the downstream face of a dam with the ground surface. Also, referred to as downstream toe. For an embankment dam, the junction of the upstream face with ground surface is called the upstream toe.

JJ. **TOP OF DAM** - The elevation of the uppermost surface of a dam, usually a road or walkway, excluding any parapet wall, railings, etc.

KK. **TRAFFIC CONTROL POINT (TCP)** – Manned or unmanned posts established at critical road junctions for the purpose of controlling or limiting traffic. TCPs

are used to control evacuation movement and also limit entry into the inundation area when an emergency situation requires it.

LL. **VOAD** - Voluntary Organizations Active in Disasters - collaboration of diverse organizations and citizens trained to meet community needs in the wake of a large-scale disaster.

VIII. EXERCISE AND TRAINING

The dam owner will advise and cooperate with the Blair County DES of any exercises scheduled, and coordinate with the Blair County DES to exercise all or portions of this EAP as part of the county's all-hazard exercise program schedule.

IX. PLAN MAINTENANCE AND DISTRIBUTION

A. This EAP will be reviewed every five years by the owner or the owner's engineer. During the five year review:

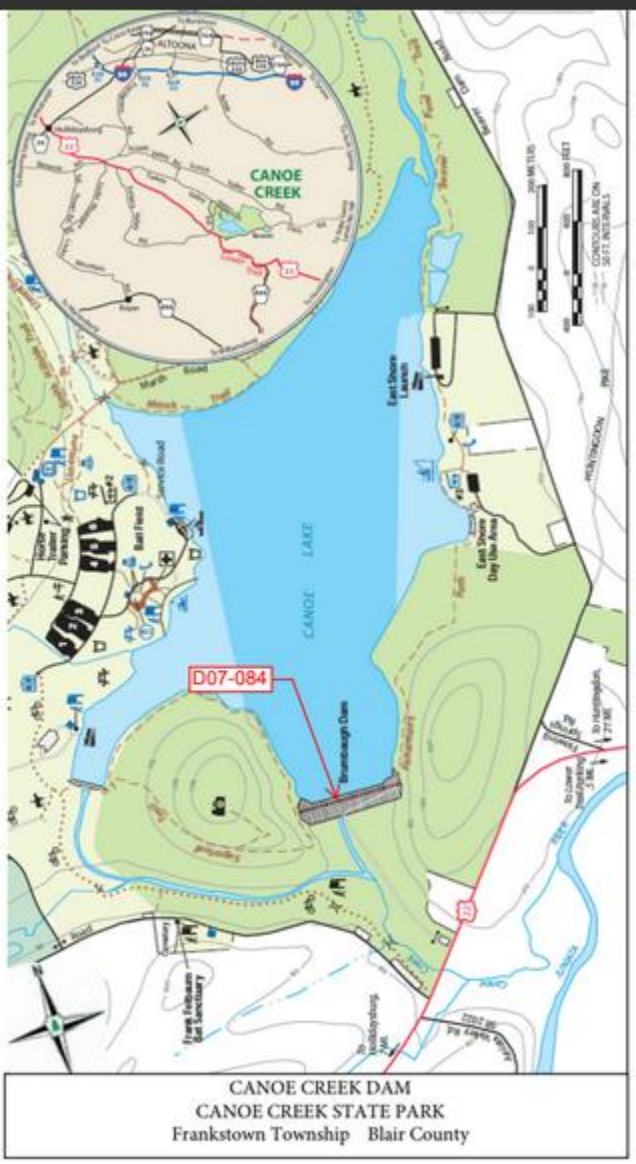
1. The owner or the owner's engineer will conduct an on-site review of the flood (inundation) area for any increase in downstream development and revise **Attachment A** - *Inundation Map*, as needed.
2. The owner's engineer will review and revise surveillance conditions as needed.
3. The owner will coordinate with the Blair County DES if population increase or development within the inundation area could affect the emergency response requirements. If so, a new or revised plan must be developed.
4. The owner will meet with and obtain concurrence from the Blair County EMC.
5. The owner will submit the revised/updated EAP to DEP, via the virtual planning program, for review and acknowledgment.

B. A copy of the EAP will be distributed by the dam owner to those emergency response agencies listed in Section IV. The dam owner will also distribute a copy of the EAP to the affected county Emergency Management Agency(s) and PSAP/911 Center(s), the National Weather Service, and the DEP's Regional Office. Within 60 days, the dam owner will submit a letter certifying distribution of the EAP and posting of NOTICE(s) to the DEP, Division of Dam Safety.

ATTACHMENT B - TRAFFIC CONTROL POINTS

Abbrev.	Description
TCP	Traffic Control Point
PSP-H	Pennsylvania State Police, Hollidaysburg Barracks
GFD	Geeseytown Fire Department
WPD	Williamsburg Police Department
WFD	Williamsburg Fire Department

Control Point	Roadway/Location	Agency Responsibility
TCP – 1	On Turkey Valley Road (SR 1011), at the intersection of Turkey Valley Road (SR 1011) and Mattern Road (T-449).	GFD
TCP – 2	On State Route 1016, at the intersection of State 1016 & Turkey Valley Road (SR 1011) Route 1016 & Turkey Valley Road (SR 1011).	GFD
TCP – 3	On State Route 2022, approx. 600' from the intersection of State Route 2022 and U.S. Route 22.	PSP-H
TCP – 4	On Beaver Dam Road (SR 1011), at the intersection of Beaver Dam Road (SR 1011) and Flowing Spring Road (T-444).	PSP-H
TCP – 5	On State Route 2015, at the intersection of State Route 2015 and Riverside Drive.	WPD
TCP – 6	On State Route 2015, at the intersection of State Route 2015 & Recreation Drive.	WPD
TCP – 7	On U.S Route 22, at the intersection of U.S. Route 22 & an unnamed private driveway.	PSP-H
TCP – 8	On U.S Route 22, at the intersection of U.S. and State Route 866.	PSP-H
TCP – 9	On U.S. Route 866, at the intersection of State Route 866& Lower Piney Creek Road (T-378).	WFD


CANOE CREEK
CANOE LAKE
D07-084
CANOE CREEK DAM
CANOE CREEK STATE PARK
Frankstown Township Blair County

ATTACHMENT D - TELEPHONE ROSTER

	NON-EMERGENCY	EMERGENCY
DAM OWNER: JOHN HALLAS	717-787-6640	717-303-6752
DAM OPERATOR: JOSEPH BASIL	814-695-6807	814-660-2361
BLAIR COUNTY PSAP/911	814-940-5900	911
BLAIR COUNTY EMA	814-940-5903	911
DEP - SOUTHCENTRAL REGION	717-705-4741	717-705-4741 866-825-0208
DEP - DIVISION OF DAM SAFETY	717-787-8568	717-787-4343 800-541-2050 717-805-3057
PEMA	717-651-2001 800-424-7362	717-651-2001 800-424-7362

ATTACHMENT E - MEDIA ANNOUNCEMENT

EARLY WARNING MESSAGE:

The Blair County Emergency Management Agency advises that due to conditions at the Canoe Creek Dam in Frankstown Township, the public should avoid the area downstream of the dam in areas along Canoe Creek in Frankstown Township of Blair County, and areas along the Frankstown Branch Juniata River in Frankstown, Catharine, and Woodbury Townships, as well as Williamsburg Borough of Blair County. The affected area along Canoe Creek extends from the dam to the confluence of Canoe Creek with the Frankstown Branch Juniata River. Along the Frankstown Branch Juniata River, the inundation area extends approximately one mile upstream from its confluence with Canoe Creek and downstream to the Borough of Williamsburg. Roadways that would be affected by a dam failure include Turkey Valley Road (State Route 1011), U.S. Route 22, State Route 2022, Flowing Spring Road (T-444), State Route 866 and Riverside Drive. Stay tuned for further information.

REPEAT PERIODICALLY

WARNING AND EVACUATION MESSAGE:

The Blair County Emergency Management Agency is advising all residents living downstream of the Canoe Creek Dam in Frankstown Township to evacuate the area immediately. Evacuate the area downstream of the dam in areas along Canoe Creek in Frankstown Township of Blair County, and areas along the Frankstown Branch Juniata River in Frankstown, Catharine, and Woodbury Townships, as well as Williamsburg Borough of Blair County. The affected area along Canoe Creek extends from the dam to the confluence of Canoe Creek with the Frankstown Branch Juniata River. Along the Frankstown Branch Juniata River, the inundation area extends approximately one mile upstream from its confluence with Canoe Creek and downstream to the Borough of Williamsburg. Roadways that would be affected by a dam failure include Turkey Valley Road (State Route 1011), U.S. Route 22, State Route 2022, Flowing Spring Road (T-444), State Route 866 and Riverside Drive. If you require shelter during this emergency you should report to (location of reception/mass care center to be determined by county EMC, American Red Cross or other VOAD at time of emergency).

REPEAT PERIODICALLY

INCIDENT RESOLVED - SAFE TO RETURN:

The Blair County Emergency Management Agency is advising residents of the area downstream of the Canoe Creek Dam in Frankstown Township that the problem at the dam has been resolved and that residents may return to their homes.

REPEAT PERIODICALLY

NOTE: The above messages should be modified as necessary to fit the situation.

ATTACHMENT F - NOTICE

NOTICE

CANOE CREEK DAM HAS BEEN CLASSIFIED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION, DIVISION OF DAM SAFETY, AS A HIGH HAZARD DAM; THIS IS A DAM SO LOCATED AS TO ENDANGER POPULATED AREAS DOWNSTREAM BY ITS FAILURE.

AN EMERGENCY ACTION PLAN HAS BEEN DEVELOPED FOR

CANOE CREEK DAM

A COPY OF THIS PLAN, INCLUDING AN INUNDATION MAP NOTING AREAS IN FRANKSTOWN, CATHARINE, WOODBURY TOWNSHIPS AND WILLIAMSBURG BOROUGH

SUBJECT TO FLOODING IN THE EVENT OF FAILURE, IS AVAILABLE FOR PUBLIC INSPECTION AT THE FOLLOWING LOCATIONS:

PA DCNR
BUREAU OF STATE PARKS
8TH FLOOR, RCSOB
400 MARKET STREET
HARRISBURG, PA 17105-8551

CANOE CREEK STATE PARK
205 CANOE CREEK ROAD
HOLLIDAYSBURG, PA 16648-9752

BLAIR COUNTY EMA
615 FOURTH STREET
ALTOONA, PA 16602

CATHARINE TOWNSHIP EMA
306 DEAN STREET
WILLIAMSBURG, PA 16693

FRANKSTOWN TOWNSHIP EMA
2122 FRANKSTOWN ROAD
HOLLIDAYSBURG, PA 16648

WOODBURY TOWNSHIP EMA
6385 CLOVER CREEK RD
WILLIAMSBURG, PA 16693

WILLIAMSBURG BOROUGH EMA
305 EAST SECOND STREET
WILLIAMSBURG, PA 16693

This NOTICE is posted per Department of Environmental Protection's Chapter 105 Dam Safety and Waterway Management §105.134(c).

DEPARTMENT OF CONSERVATION
AND NATURAL RESOURCES

MEMO

TO: Kirk A. Kreider, P.E.
Chief
Division of Dam Safety
Bureau of Waterways Engineering and Wetlands
Department of Environmental Protection

FROM: Charles D. Lutter, P.E.
Senior Civil Engineer
Division of Dams, Bridges and Roadways Engineering

DATE: October 30, 2025

RE: Annual Dam Inspection Report

A complete set of the dam inspection report and color photos are attached for the following dam:

D07-084 Canoe Creek Dam
Canoe Creek State Park
Frankstown Township
Blair County

Please call me at 717.783.3318 if any additional information is required.

Attachments

cc: Joe Basil, w/ Att. (via email)
James Sowerbrower, Region 3, w/ Att. (via email)
Andrew St. John, w/ Att. (via email)

Bureau of Facility Design and Construction
Rachel Carson State Office Building | PO Box 8451 | Harrisburg, PA 17105 | 717.787.7398 | F 717.705.5549 | www.dcnr.state.pa.us

DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES
BUREAU OF FACILITY DESIGN AND CONSTRUCTION

DAM INSPECTION REPORT REVIEW

DAM: Canoe Creek Dam **INSPECTION DATE:** June 11, 2025

FILE NO. D07-084 **REPORT DATE:** September 4, 2025

ENGINEERING INSPECTION & REPORT BY: Charles D. Lutter, P.E.

ACKNOWLEDGEMENT:

REPORT REVIEW/APPROVING ENGINEER: [signature]

Date: 10/27/2025

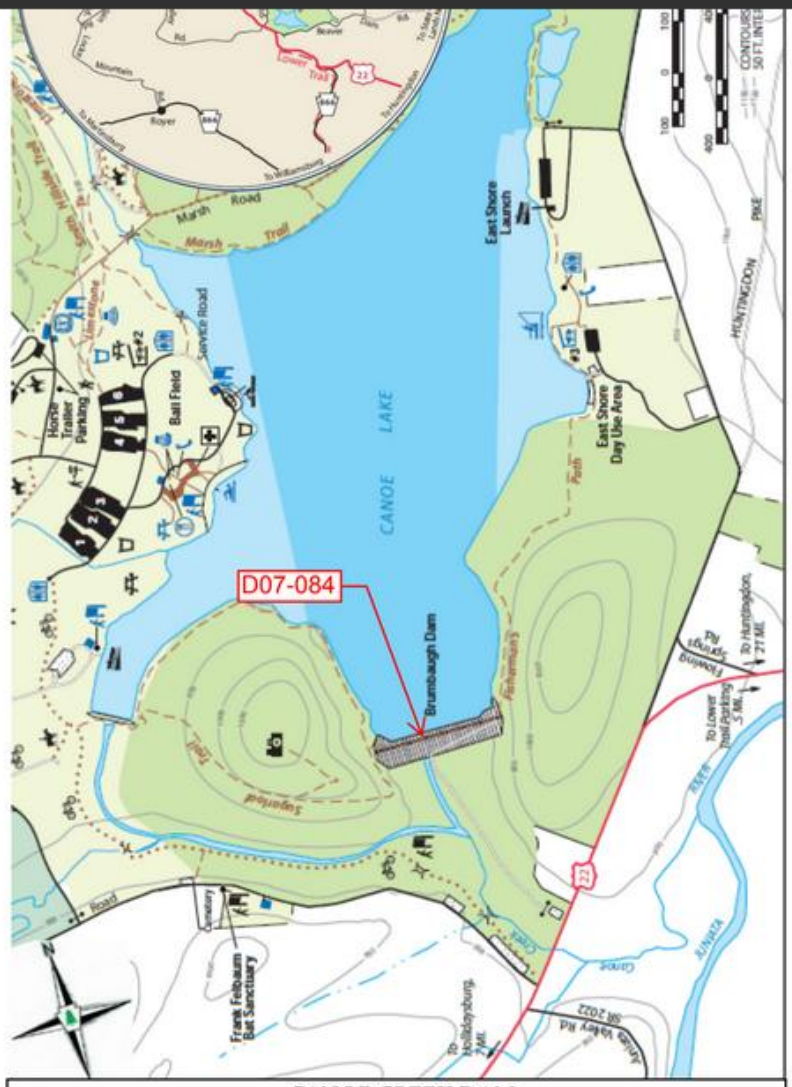
REVIEW BY THE DIVISION CHIEF: [signature]

Date: 10/29/2025

CANOE CREEK DAM June 11, 2025

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CANOE CREEK DAM
CANOE CREEK STATE PARK
Frankstown Township Blair County

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2025 ANNUAL INSPECTION REPORT

DEP File No. D07-084

CANOE CREEK DAM

Canoe Creek State Park

Frankstown Township Blair County

INSPECTION DATE: June 11, 2025

PREVIOUS INSPECTION: June 4, 2024

GENERAL INFORMATION: Canoe Creek Dam is located on Canoe Creek approximately 3,000 feet upstream of its confluence with the Frankstown Branch Juniata River in Frankstown Township, Blair County, Pennsylvania. The dam, situated within Canoe Creek State Park, is owned by the PA Department of Conservation and Natural Resources. It was built in 1971 for recreational purposes. The dam consists of two independent dam structures. The main dam embankment is a 35-foot-high earth embankment structure measuring approximately 800 feet in length. The other structure consists of a 240-foot-wide concrete spillway with earthen embankments at the abutments, located about 2000 feet northwest of the main dam. Canoe Creek Dam has a normal storage capacity of 1,485 acre-feet creating a lake having a surface area of 155 acres. The dam is classified as **"High Hazard"** (B-1 structure).

EMBANKMENT – The dam consists of a homogeneous earth fill structure with a 2-foot-thick granular filter blanket beneath the downstream slope. The filter blanket starts 20 feet downstream of the center of the embankment and exits into a rock-fill toe drain. The upstream side of the embankment is sloped 2 to 1 from crest level (elevation 918.50) to elevation 905.00, flattening to 3 to 1 below this elevation. The surface is covered with an 18-inch-thick blanket of rock riprap from the lakebed up to elevation 910.00. The grass covered downstream side of the embankment is sloped 2 to 1. The dam crest is grass covered.

The grass/vegetation covered embankment slopes are cut twice a year using a remote-controlled spider mower. A herbicide spray should be applied to all rock riprapped areas on the embankment slopes to control both woody and vegetation growth. Brush and trees were cut at a distance of 20 feet from the groins and crest of the dam in 2022 as part of a contract. An eroded area exists on the downstream face near the dam center. The park has installed a sign preventing pedestrians from trespassing on the grass covered embankment and it seems to be more vegetated than in past years.

One of the main concerns at the dam is the continued seepage from the left downstream groin area (located just below the normal pool level). This seepage, as measured by two 90-degree V-notch weirs along the downstream toe of the dam, was estimated to be 24,000 gallons/day (2.25 inches left weir) and 31,200 gallons/day (2.5 inches at the

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maintenance should continue to monitor the seepage along with lake levels at least once/month and report any significant increases to this office (717-787-7398). Records of the seepage readings should be kept at the Park Office.

OUTLET WORKS – The outlet works for the dam consist of an intake structure, a concrete valve chamber on the upstream side of the dam crest, a 48-inch reinforced concrete outlet pipe and an outlet structure located through the middle of the main embankment. The 48-inch outlet pipe constitutes the drawdown facility for the dam. A 30-inch draw down gate valve located at the bottom of the valve chamber, controls flow through the outlet pipe. The valve has a slight leak. Park personnel regularly operate the gate about 4 times/year as part of routine maintenance. The gate is electrically operated and powered by a portable electric generator. The electric operator can open/close the gate at the rate of 4 inches/minute. In 2020, the gate was opened to 25% and when it was closed it kept kicking off. It was then opened to 50% and closed with no problem. A technician replaced the sight glass in 2020 and looked at the control mechanism. He said that the torque is the greatest around 25% and that is probably why it was kicking off. The technician provided a remote so the real time torque could be read. The remote was used in 2021 and the torque was much lower at 50% than at 25% so the gate should be opened more than 25%. The gate was opened/closed 50% at this inspection with no problems.

Two minor seeps were observed within the 48-inch concrete outlet conduit. One near the 4th joint and one near the 5th joint from the downstream end of the conduit, the seeps are clear with a small spall. An attempt was made to seal them in 2022 as part of the design/build project but caulk was used and it was not the appropriate material for the repair.

The concrete outlet structure appears to be in good condition; the basin is generally free of rocks and debris. Seepage has been observed from both the drains at the bottom of the outlet walls. Seepage could not be observed from the weep holes as the water was too high. The flow rates are normally approx. 5 gpm from the left and < 1 gpm from the right.

A close inspection of the outlet/drawdown conduit, appurtenant gates, valves, etc, was conducted during an underwater inspection that was completed in 2016. No major deficiencies were noted.

SPILLWAY – The spillway consists of a concrete gravity structure built about 2000 feet northwest of the main dam. The spillway control structure is a 240-foot-wide reinforced concrete ogee section. The spillway discharges into a riprapped earth channel.

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are some minor cracks and efflorescence and some missing expansion joint material throughout the walls and the ogee weir itself. There is approx. 1 inch of settlement of the 8-inch drainpipe at the right spillway wall and approx. 1.5 inches at the left spillway wall. This should be monitored. The cracks and separations should be monitored. The outsides of both the left and the right spillway walls are subject to erosion from foot traffic. The park plans to repair the erosion and construct timber steps at these locations. The woody growth on the embankment and around the spillway walls was mostly cut in 2022 as part of a contract but it still needs cut at a distance of 20 feet from the left crest and upstream and downstream groins.

The basin at the bottom of the spillway is generally clean except for some minor stones and rocks which are thrown in by Park visitors. Woody growth along the spillway discharge channel was cut in 2016 from the stilling basin downstream to where the rip rap ends on the left bank. It should continue to be cut or sprayed.

EMERGENCY ACTION PLAN – An Emergency Action Plan (EAP) for this dam was acknowledged by DEP – Dam Safety on April 22, 2024. The EAP will need to be reviewed/updated in CEM Planner after 5 years from the date of acknowledgment or whenever changes need made such as a change in the Park Manager.

RECOMMENDATIONS FOR PROJECTS REQUIRING FUNDING AND ENGINEERING ASSISTANCE:

1. The dam spillway is capable of passing 100% of the required spillway design flood (SDF) which, in this case, is the full Probable Maximum Flood (PMF). The spillway originally passed 62% of the SDF. The increase is due to updating the Hydrologic and Hydraulic model based on results of a Probable Maximum Precipitation (PMP) Study which was released by DEP Dam Safety in the fall of 2019.

2. Inject the cracks in the outlet conduit. An attempt was made to seal them in 2022 as part of the design/build project but caulk was used and it was not the appropriate material for the repair.

3. Consider removing the sediment from Mary Anne's Creek. **This should be done when funding is available.**

CANOE CREEK DAM June 11, 2025

ADDITIONAL RECOMMENDATIONS:

1. Continue to monitor the two steel weirs along the toe of the downstream embankment slope on a monthly basis. Monitor the seepage from the wall drains at the outlet structure. Include lake levels and rainfall data with this information. Report any significant increase in seepage rates, cloudiness, or new areas of seepage to this office (717-787-7398). Keep the information at the Park Office.

2. Continue to cut woody growth at a distance of 20 feet from the crest, groins and the toe of the dam.

3. Continue to control vegetation along and in the channel where the monitoring weirs are located. Spray or remove cattails.

4. Continue to remove the woody vegetation from around the outlet structure and in the outlet channel for a distance of 100 feet downstream.

5. Continue to control vegetation in the spillway outlet channel from the stilling basin downstream to where the rip rap ends on the left bank.

6. Cut woody growth at a distance of 20 feet from the left crest, left upstream groin and left downstream groin at the spillway location.

7. Continue to cut woody growth from the spillway fence.

8. Monitor the seeping cracks in the outlet pipe for any cloudy seepage.

9. Repair all erosion caused by foot traffic along the downstream face of the dam and along the left and right spillway wall. Construct timber steps along the right spillway wall to keep foot traffic away from the area subject to erosion.

10. Monitor all cracking and separation of the joints at the spillway walls and weir. Contact this office if the cracks and separations enlarge or any new cracks form.

11. Monitor the settlement of the pipes for the 8-inch drains at the left and right spillway walls.

12. Remove the rocks from the spillway stilling basin as necessary.

13. Spray all vegetation in the rip rap at the main dam and the spillway area.

14. Fill the animal burrow under the concrete extension on the upstream side of the control tower and any others on dam embankment as necessary. Eliminate the groundhogs.

CANOE CREEK DAM June 11, 2025

NOTES: I inspected the dam on June 11, 2025, accompanied by Chris Reighard – Park Maintenance Supervisor and Joe Basil – Park Manager from Canoe Creek State Park. The previous inspection was conducted on June 4, 2024.

Submitted by,

Charles D. Lutter

Charles D. Lutter, P.E.
PA Dept. of Conservation and Natural Resources
Bureau of Facility Design and Construction

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NAME OF DAM: CANOE CREEK DAM **DEP DAM NO.:** D07-084

LOCATION: **Municipality:** Frankstown Township **County:** Blair County

DEP CLASSIFICATION DATA: **Size:** B **Hazard:** 1

PHYSICAL DATA:
Type of Dam: Earth **Height of Dam:** 35 Feet **Normal Pool Storage Capacity:** 1,485 A-F

ELEVATIONS:
Normal Pool: 905.00 **Pool at Inspection:** 905.25 **Tailwater at Inspection:** None

DAM OWNER: PA Dept. of Conservation & Natural Resources **OPERATOR:** Joe Basil, Park Manager Canoe Creek State Park

ADDRESS: Canoe Creek S.P. – RR 2 Box 560 – Rt. 22 Hollidaysburg, PA 16648-9752

PHONE: 814-695-6807 **FAX NO.:** 814-696-6023 **E-MAIL ADDRESS:** jbasil@pa.gov

A completed and signed Dam Owners Notice Checklist is to accompany this Inspection Checklist.

PERSONS PRESENT AT INSPECTION:

Name	Title/Position	Representing
Charles D. Lutter P.E.	Senior Civil Engineer	DCNR - BFDC
Chris Reighard	Park Maintenance Supervisor	DCNR – Canoe Creek S.P.
Joe Basil	Park Manager	DCNR – Canoe Creek S.P.

DATE OF INSPECTION: 6/11/2025

WEATHER: Sunny

TEMPERATURE: 65 F

COMMONWEALTH OF PENNSYLVANIA
REGISTERED
PROFESSIONAL
CHARLES DAVID LUTTER
ENGINEER
PE060065

This is to certify that the above dam has been inspected and the following are the results of this inspection.

Charles D. Lutter — 9/4/2025

Signature of Registered Professional Engineer (P.E. Seal Required) — Date

Date Revised: 1/2009

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NAME OF DAM: CANOE CREEK DAM	DEP DAM NO.: D07-084	DATE: June 11, 2025

ITEM	CONDITION	COMMENTS	MONITOR	INVESTIGATE	REPAIR
EMBANKMENT: CREST					
1	Surface Cracking	No surface cracking was observed on the crest.	☐	☐	☐
2	Sinkhole, Animal Burrow	No sinkholes or animals burrows were observed on the crest.	☐	☐	☐
3	Low Area(s)	A low area at the helicopter landing pad at the right edge of the main dam has resulted in poor drainage and has saturated the underlying soil and is difficult to mow in normal years. This area was fixed in 2022.	☐	☐	☐
4	Horizontal Alignment	The horizontal alignment of the embankment appears good.	☐	☐	☐
5	Ruts and/or Puddles	No ruts or puddles were observed on the crest.	☐	☐	☐
6	Vegetation Condition	The grass cover of the crest is well maintained. The tire tracks are gravel covered. Woody growth was removed at the left and right side in 2022. Continue to woody growth at a distance of 20 feet from the crest	☐	☐	☒
7	Warning Signs	None	☐	☐	☐
8			☐	☐	☐
9			☐	☐	☐
Additional Comments (Refer to item number if applicable):					
EMBANKMENT: UPSTREAM FACE					
10	Slide, Slough, Scarp	No slide, slough, or scarp was observed on the upstream face.	☐	☐	☐
11	Slope Protection	There is riprap on the lower section of the main dam that is stable but vegetation should be sprayed. There is grass on the upper section.	☐	☐	☒
12	Sinkhole, Animal Burrow	Fill the animal burrow under the concrete extension on the upstream side of the control tower and any others as necessary when they appear.	☐	☐	☒
13	Emb.-Abut. Contact	Woody growth was cut within 20 feet of the groins in 2022 and it should continue to be cut. Wooden/gravel steps were constructed to control the erosion at the left upstream embankment-abutment.	☐	☐	☒
14	Erosion	No erosion was noted at the upstream face.	☐	☐	☐
15	Vegetation Condition	The riprap should be sprayed with herbicide once per year. Vegetation should be regularly removed.	☐	☐	☒
16			☐	☐	☐
17			☐	☐	☐
Additional Comments (Refer to item number if applicable):					

NAME OF DAM: CANOE CREEK DAM	DEP DAM NO.: D07-084	DATE: June 11, 2025

ITEM	CONDITION	COMMENTS	MONITOR	INVESTIGATE	REPAIR
EMBANKMENT: DOWNSTREAM FACE					
18	Wet Area(s) (No Flow)	No wet areas were observed on the downstream face.	☐	☐	☐
19	Seepage	Seepage was observed along the left downstream groin. It has been observed for many years and measured to be 24,000 gallons/day (2.25 inches left weir) and 31,200 gallons/day (2.5 inches at the center weir). They are 90-degree V-notches.	☒	☐	☐
20	Slide, Slough, Scarp	No slide, slough, or scarp was observed on the downstream face.	☐	☐	☐
21	Emb. - Abut. Contact	Woody growth was cut within 20 feet of the groins in 2022 and it should continue to be cut.	☐	☐	☒
22	Sinkhole, Animal Burrow	No animal burrows were observed on the downstream face but they should be filled as necessary when they appear.	☐	☐	☒
23	Erosion	An eroded foot path exists at the dam center of the downstream face. The park has installed a sign preventing pedestrians from trespassing on the grass covered embankment and it seems to be helping.	☐	☐	☒
24	Unusual Movement	No unusual movement was observed on the downstream face.	☐	☐	☐
25	Vegetation Control	The grass is normally cut twice per year and is generally well maintained. Cut the vegetation at the toe of the slope on the right side and in the channel where the weirs are. Spray or remove cattails in the channel where the weirs are.	☐	☐	☒
26			☐	☐	☐
27			☐	☐	☐

Additional Comments (Refer to item number if applicable):

NAME OF DAM: CANOE CREEK DAM	DEP DAM NO.: D07-084	DATE: June 11, 2025

ITEM	CONDITION	COMMENTS	MONITOR	INVESTIGATE	REPAIR
EMBANKMENT: INSTRUMENTATION					
28	Piezometers/Observ. Wells	No piezometers or observation wells are located on the dam.	☐	☐	☐
29	Staff Gauge and Recorder	There is one staff gauge on the left upstream spillway wall and three staff gauges at the upstream left groin of the main dam, including one in the reservoir, which is bent and has peeling markers.	☐	☐	☐
30	Weirs	There are two 90-degree steel v-notch weirs in the drainage channel along the downstream toe to measure seepage from the left downstream groin of the main dam. 2.25 inches of flow was measured at the left weir; 2.5 inches of flow was measured at the weir near the center of the dam.	☒	☐	☐
31	Survey Monuments	There are no survey monuments on either embankment.	☐	☐	☐
32	Drains	There is no instrumentation associated with the drains, other than the v-notch weirs mentioned in item #30.	☐	☐	☐
33	Low Flow Release	No low-flow release is required.	☐	☐	☐
34	Frequency of Readings	The weirs are read once per month.	☐	☐	☐
35	Location of Records	The records are kept at the Park Wastewater Treatment Plant.	☐	☐	☐
36			☐	☐	☐
37			☐	☐	☐

Additional Comments (Refer to item number if applicable):

#29 – Ice action in the winter prevents the staff gauge from standing upright. Since the water level is also measured by the gage on the spillway, the staff gauge within the reservoir could be removed.

#30 - The park should continue to monitor the seepage of the dam using the v-notch weirs.

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40	Slide, Slough, Scarp	No slide, slough, or scarp was observed on the downstream areas on either embankment.	☐	☐	☐
41	Drainage System	There is a drainage swale along the left downstream toe with the two weirs noted in Item #30. There are also two toe drains that discharge into outlet structure. They are noted in Item #79.	☒	☐	☐
42	Boils	No boils were observed in the downstream area of either embankment.	☐	☐	☐
43	Wet Areas	No wet areas were observed in the downstream area other than the drainage swale.	☐	☐	☐
44	Reservoir Slopes	N/A	☐	☐	☐
45	Access Roads	The access roads are dirt and gravel and are in good condition.	☐	☐	☐
46	Security Devices	The control tower access door on the main dam is locked.	☐	☐	☐
47	Act 91 Run-of-the-River Signs or Buoys	N/A	☐	☐	☐
48			☐	☐	☐
49			☐	☐	☐

Additional Comments (Refer to item number if applicable): There are no issues with the downstream area.

SPILLWAYS: ERODABLE CHANNEL

50	Slide, Slough, Scarp	N/A	☐	☐	☐
51	Erosion	N/A	☐	☐	☐
52	Vegetation Condition	N/A	☐	☐	☐
53	Debris	N/A	☐	☐	☐
54			☐	☐	☐
55			☐	☐	☐

Additional Comments (Refer to item number if applicable): N/A

NAME OF DAM: CANOE CREEK DAM	DEP DAM NO.: D07-084	DATE: June 11, 2025

ITEM	CONDITION	COMMENTS	MONITOR	INVESTIGATE	REPAIR
SPILLWAYS: NON-ERODABLE CHANNEL					
56	Sidewalls	The sidewalls are showing their age (Built in 1971), but are in generally good condition. There is an old crack on the left upstream wall. There is a ¼-inch separation at one of the contraction joints with exposed dowels in both the right wall and the left wall. There are some minor cracks and efflorescence and some missing expansion joint material throughout the walls. Vegetation at the fences on the walls was removed in 2022 and should continue to be removed. There is approx. 1 inch of settlement of the 8-inch drainpipe at the right spillway wall and approx. 1.5 inches at the left spillway wall. They were not able to be viewed at this inspection	☒	☐	☒
57	Channel Floor	The channel floor appears to be in good condition with some rocks in both sides of the stilling basin that should be removed.	☐	☐	☒
58	Unusual Movement	No unusual movement was noted in the concrete spillway	☐	☐	☐
59	Approach Area	The approach area to the concrete spillway is clear with no obstructions.	☐	☐	☐
60	Weir or Control	The concrete ogee weir is in generally good condition but has several shallow cracks and efflorescence.	☒	☐	☐
61	Discharge Channel	Thick brush and woody growth along both sides of the channel and on the channel floor was removed in 2016 downstream to the rip rap on the left side of the channel. This should continue to be controlled by cutting or spraying.	☐	☐	☒
62	Boils	No boils were observed on the spillway.	☐	☐	☐
63	Emb. - Abut. Contact	Erosion was also noted along both the left and right walls. The right groins and crest are clear of woody growth. There is woody growth within 20 feet of the crest and left groins.	☐	☐	☒
64			☐	☐	☐
Additional Comments (Refer to item number if applicable): #56-60: All cracking and separation of the joints should be monitored. Contact this office (717-787-7398) if the cracks and separations enlarge or any new cracks form. #63 - The park may install a set of timber steps to help promote pedestrians to walk on them instead of the embankment which will help control the erosion.					
SPILLWAYS: DROP INLET					
65	Intake Structure	N/A	☐	☐	☐
66	Trashrack	N/A	☐	☐	☐
67	Stilling Basin	N/A	☐	☐	☐
68			☐	☐	☐
69			☐	☐	☐
Additional Comments (Refer to item number if applicable): N/A					

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OUTLET WORKS					
70	Intake Structure	The outlet structure is submerged. It was inspected by divers in 2016. No major deficiencies were found.	☐	☐	☐
71	Trashrack	The trash rack is submerged. When last inspected by divers in 2016, it was found to be in fair condition.	☐	☐	☐
72	Stilling Basin	The stilling basin is in good condition.	☐	☐	☐
73	Primary Closure	The primary closure is a 30-inch gate valve, which has a slight leak. It was opened/closed 50% with no problems. After the gate valve is operated there normally is a small amount of leakage which is normal for this dam.	☐	☐	☐
74	Secondary Closure	There is no secondary closure.	☐	☐	☐
75	Control Mechanism	The electric operator for the sluice gate kept kicking off in 2020 while trying to close the gate so the park had a technician troubleshoot the problem. He said that the torque is less the more the gate is open and that may be why it was kicking off at 25%. The gate should be opened more than 25%. The sight glass on the operator was replaced in 2020 and the technician provided a remote so the real time torque could be read.	☐	☐	☐
76	Outlet Pipe	The outlet pipe is a 48-inch reinforced concrete pipe. Minor seeps were observed near the 4th and 5th joint. An attempt was made to seal them in 2022 as part of the design/build project but caulk was used and it was not appropriate for the repair.	☒	☐	☒
77	Outlet Tower	The concrete control tower is in generally good condition. The valve body is showing slight corrosion. Metal studs supporting the grated platforms were replaced in 2022.	☐	☐	☐
78	Outlet Structure	The concrete outlet structure is generally in good condition.	☐	☐	☐
79	Seepage	Seepage could not be observed from the weep holes as the water was too high. The flow rates are normally approx. 5 gpm from the left and < 1 gpm from the right.	☒	☐	☐
80	Unusual Movement	None observed	☐	☐	☐
81			☐	☐	☐
82			☐	☐	☐

Additional Comments (Refer to item number if applicable):

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ITEM	CONDITION	COMMENTS	MONITOR	INVESTIGATE	REPAIR
CONCRETE/MASONRY DAMS: UPSTREAM FACE					
83	Surface Conditions	N/A	☐	☐	☐
84	Condition of Joints	N/A	☐	☐	☐
85	Unusual Movement	N/A	☐	☐	☐
86	Abutment-Dam Contacts	N/A	☐	☐	☐
87			☐	☐	☐
88			☐	☐	☐
Additional Comments (Refer to item number if applicable): N/A					
CONCRETE/MASONRY DAMS: DOWNSTREAM FACE					
89	Surface Conditions	N/A	☐	☐	☐
90	Condition of Joints	N/A	☐	☐	☐
91	Unusual Movement	N/A	☐	☐	☐
92	Abutment-Dam Contacts	N/A	☐	☐	☐
93	Drains	N/A	☐	☐	☐
94	Leakage	N/A	☐	☐	☐
95			☐	☐	☐
96			☐	☐	☐
Additional Comments (Refer to item number if applicable): N/A					
CONCRETE/MASONRY DAMS: CREST					
97	Surface Conditions	N/A	☐	☐	☐
98	Horizontal Alignment	N/A	☐	☐	☐
99	Vertical Alignment	N/A	☐	☐	☐
100	Condition of Joints	N/A	☐	☐	☐
101	Unusual Movements	N/A	☐	☐	☐
102			☐	☐	☐
103			☐	☐	☐
Additional Comments (Refer to item number if applicable): N/A					

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NAME OF DAM: CANOE CREEK DAM	DEP DAM NO.: D07-084	DATE: June 11, 2025

ITEM	CONDITION	COMMENTS	MONITOR	INVESTIGATE	REPAIR
RESERVOIR AREA					
104	Sedimentation	Sedimentation has been observed at the inlet of Mary Anne's Creek.	☐	☐	☒
105	Slope Stability	Reservoir slopes are stable.	☐	☐	☐
106	Sinkholes	No sinkholes were noted.	☐	☐	☐
107	Fractures	No fractures were noted.	☐	☐	☐
108	Unwanted Growth	No unwanted growth was noted	☐	☐	☐
109	Storage Gage	N/A	☐	☐	☐
110			☐	☐	☐
111			☐	☐	☐

Additional Comments (Refer to item number if applicable):

Final Comments:

For recommendations see the report narrative.

DAM OWNERS NOTICE CHECKLIST
Department of Environmental Protection
Bureau of Waterways Engineering
Division of Dam Safety

NAME OF DAM: Canoe Creek Dam | **DEP DAM NO.:** D07-084

This is to certify that both the Downstream Hazard Description is accurate and the Posted Notice locations listed below have been inspected and the following are the results of these inspections.

DCNR | 06/10/2025

Name of Dam Owner | Signature of Dam Owner | Date

This Dam Owners Notice Checklist is to accompany the Inspection Checklist filed by the Engineer.

EMERGENCY ACTION PLAN

Date of Last Update of Emergency Plan: EAP dated 2024, DEP approval 4/22/2024

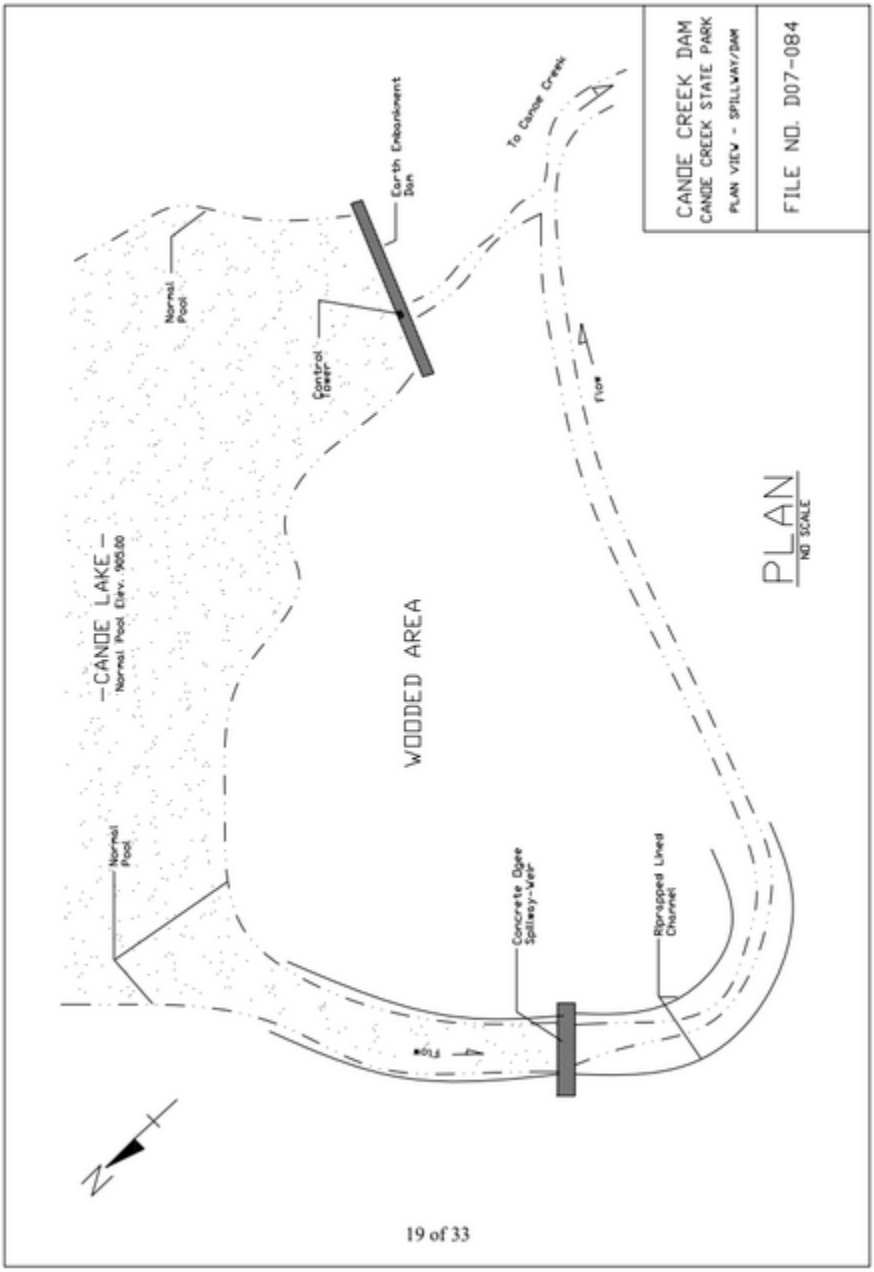
Downstream Hazard Description (Refer to sections II.C and II.D in the EAP), additionally, specify any new developments, structures, etc. downstream within the inundation area:

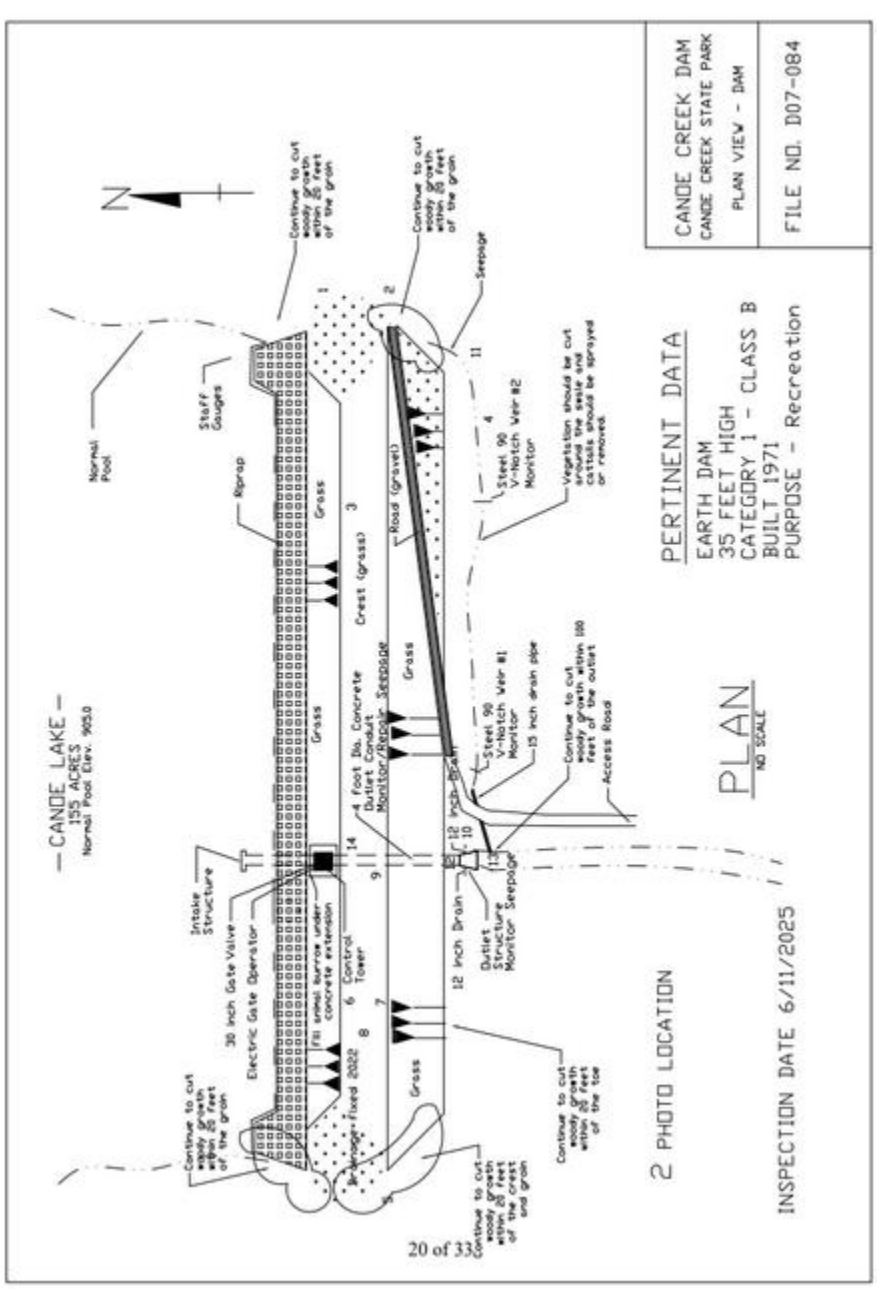
Within the inundation area are approximately 40 seasonal and full time homes 3 businesses the Canoe Creek Park Office and Sewage Treatment Plant with an approximate total population of 200 people. A power facility and sewage disposal site near the Borough of Williamsburg could potentially be affected by a dam failure. Refer to Attachment A - Inundation Map.

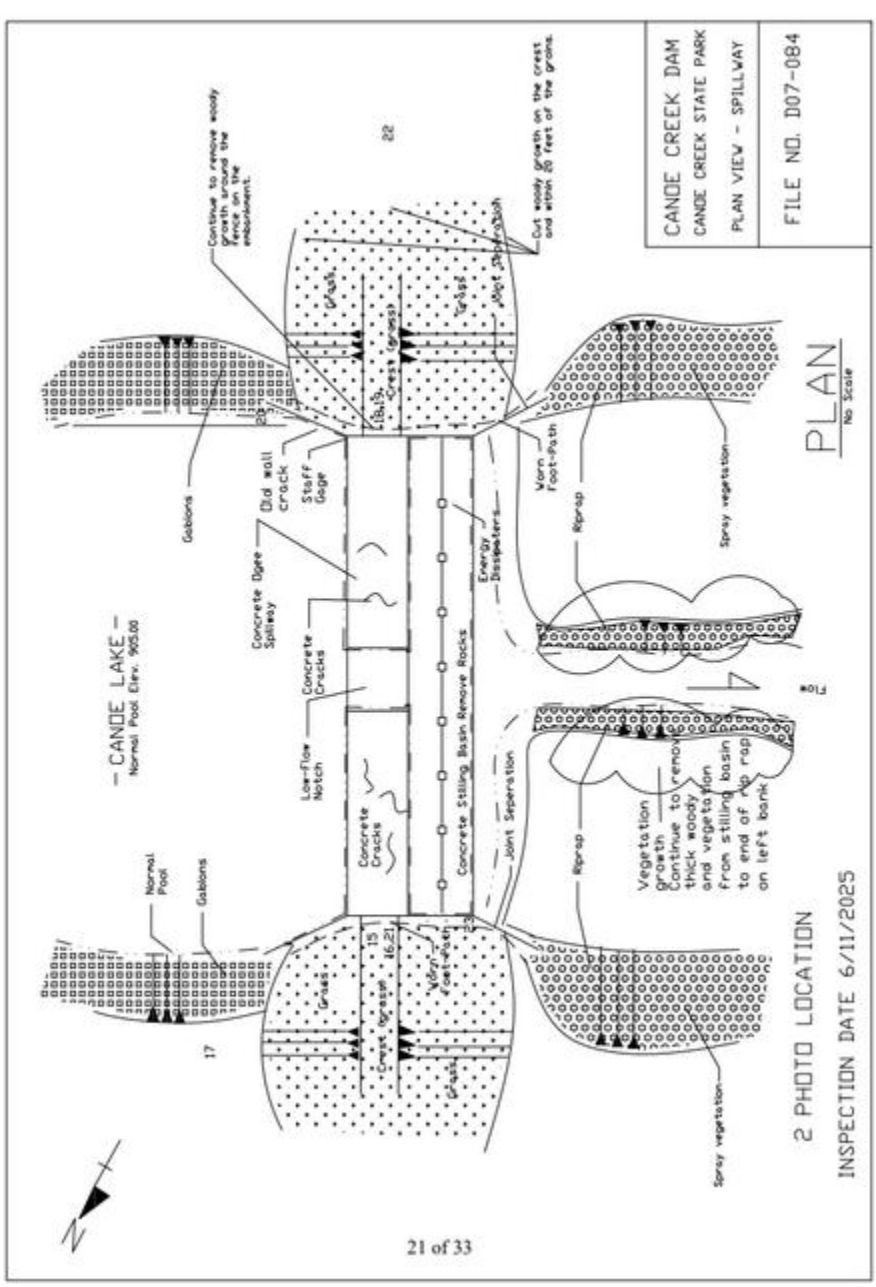
POSTED NOTICES (Refer to section V.A in the EAP)

ITEM	DATE INSPECTED	LOCATION	COMMENTS	EXISTING	MISSING	REPLACED
1	06/05/2025	Frankstown Township Municipal Building		☒	☐	☐
2	06/05/2025	Catharine Township Municipal Building		☒	☐	☐
3	06/05/2025	Woodbury Township Municipal Building		☒	☐	☐
4	06/05/2025	Williamsburg Borough Building		☒	☐	☐
5	06/05/2025	Williamsburg Police Department		☒	☐	☐
6	06/05/2025	Geeseytown Fire Department		☒	☐	☐
7	06/05/2025	Williamsburg Fire Department		☒	☐	☐
8	06/05/2025	Williamsburg Post Office		☒	☐	☐
9	06/05/2025	American Legion – Williamsburg		☒	☐	☐
10				☐	☐	☐
11				☐	☐	☐
12				☐	☐	☐

Additional Comments (Refer to item number if applicable):


CANDE CREEK DAM
CANDE CREEK STATE PARK
PLAN VIEW - SPILLWAY/DAM
FILE NO. D07-084
Earth Embankment Dam
To Cande Creek
Normal Pool
Control Tower
Flow
CANDE LAKE
Normal Pool Elev. 905.00
WOODED AREA
PLAN
NO SCALE
Normal Pool
Concrete Ogee Spillway-Weir
Riprapped Lined Channel
Flow
N
19 of 33


CANDE CREEK DAM
CANDE CREEK STATE PARK
PLAN VIEW - DAM
FILE NO. D07-084
PERTINENT DATA
EARTH DAM
35 FEET HIGH
CATEGORY 1 - CLASS B
BUILT 1971
PURPOSE - Recreation
PLAN
NO SCALE
2 PHOTO LOCATION
INSPECTION DATE 6/11/2025
CANDE LAKE
155 ACRES
Normal Pool Elev. 903.0
N
Normal Pool
Staff Gauges
Riprap
Grass
Road (gravel)
Crest (grass)
Seepage
Steel 90 V-Notch Weir #2 Monitor
Vegetation should be cut around the seale and cattails should be sprayed or removed.
Steel 90 V-Notch Weir #1 Monitor
15 inch drain pipe
Continue to cut woody growth within 100 feet of the outlet
Access Road
4 Foot Dia. Concrete Outlet Conduit
Monitor Repair Seepage
12 Inch Drain
Outlet Structure Monitor Seepage
Intake Structure
30 inch Gate Valve
Electric Gate Operator
Fill around barrow under concrete extension
Control Tower
Repair-fixed 2022
Continue to cut woody growth within 25 feet of the crest and grass
Continue to cut woody growth within 25 feet of the toe
Continue to cut woody growth within 25 feet of the grass


CANDE CREEK DAM
CANDE CREEK STATE PARK
PLAN VIEW - SPILLWAY
FILE NO. D07-084
PLAN
No Scale
2 PHOTO LOCATION
INSPECTION DATE 6/11/2025
- CANDE LAKE -
Normal Pool Elev. 905.00
Gabions
Normal Pool
Did wall crack
Staff Gage
Concrete Dgte Spillway
Concrete Cracks
Low-flow Notch
Concrete Cracks
Concrete Stilling Basin Remove Rocks
Joint Seperation
Energy Dissipaters
Worn Foot-Path
Riprap
Spray vegetation
Riprap
Vegetation growth — Continue to remove thick woody and vegetation from stilling basin to end of rip rap on left bank
Spray vegetation
Continue to remove woody growth around the perimeter on the embankment.
Cut woody growth on the crest and within 20 feet of the grains.
Grass
Crest (grass)
Rock slope protection
Bare
Very short grass
Crest (grass)
Grass
22
21
20
19
17
15
16.2
23
N

File No. 07-084
Canoe Creek Dam
6/11/2025



1. Looking to the right across the upstream face.
Continue to cut or spray vegetation on the rip rap.



2. Looking to the right across the downstream face.

22 of 33

File No. 07-084
Canoe Creek Dam
6/11/2025



3. Continue to cut woody growth within 20 feet of the upstream left groin and crest.



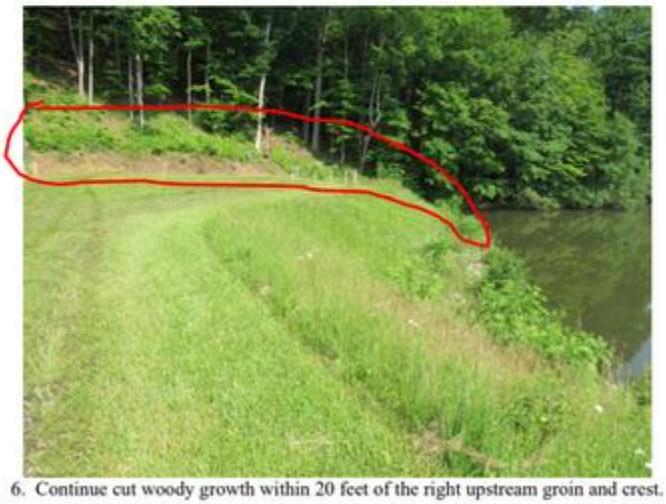
4. Looking up the left downstream groin. Continue to cut woody growth within 20 feet of the groin and crest and monitor seepage.

23 of 33

File No. 07-084
Canoe Creek Dam
6/11/2025



5. Looking to the left across the downstream face.



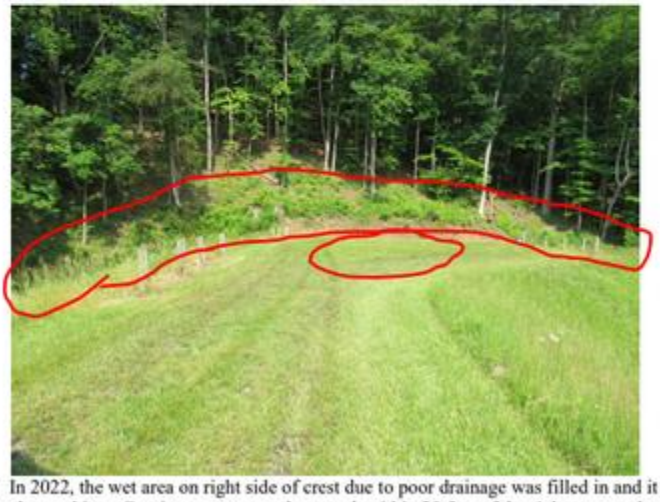
6. Continue cut woody growth within 20 feet of the right upstream groin and crest.

24 of 33

File No. 07-084
Canoe Creek Dam
6/11/2025



7. Continue to cut woody growth within 20 feet of the right crest and downstream groin.



8. In 2022, the wet area on right side of crest due to poor drainage was filled in and it seems to be working. Continue to cut woody growth within 20 feet of the right crest and groins.

25 of 33

File No. 07-084
Canoe Creek Dam
6/11/2025



9. Outlet channel. Continue to remove woody growth around the outlet structure and from the outlet channel for a distance of 100 feet downstream.



10. Toe of slope looking to the left groin and at the weirs at the toe of the dam. Spray or remove cattails in the channel.

26 of 33

File No. 07-084
Canoe Creek Dam
6/11/2025



11. Toe of slope looking to the right. Spray or remove cattails in the channel.



12. Toe of slope looking toward the right groin from the outlet.

27 of 33

File No. 07-084
Canoe Creek Dam
6/11/2025



13. Outlet Structure. The drains were not visible but the flow rates are normally approx. 5 gpm from the left drain and < 1 gpm from the right.



14. Top of control tower with operator.

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File No. 07-084
Canoe Creek Dam
6/11/2025



15. Looking to the right at the dam spillway.



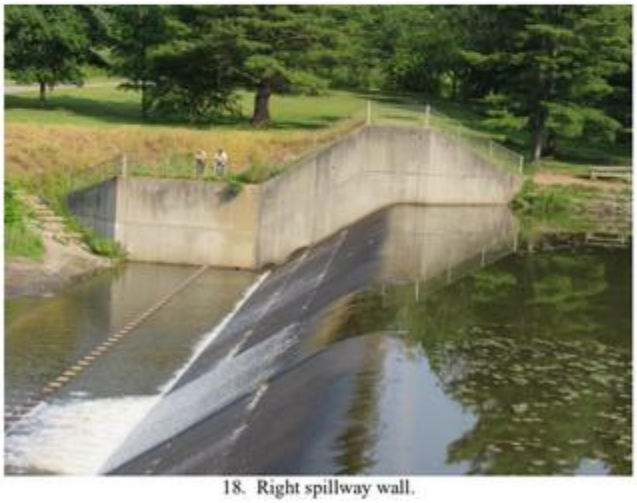
16. Erosion from pedestrians at the downstream side of the right spillway wall.

29 of 33

File No. 07-084
Canoe Creek Dam
6/11/2025



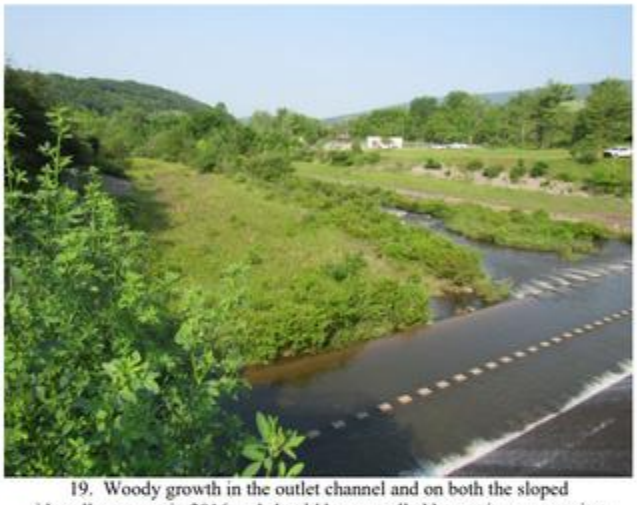
17. Erosion from pedestrians at the upstream side of the right spillway wall.



18. Right spillway wall.

30 of 33

File No. 07-084
Canoe Creek Dam
6/11/2025



19. Woody growth in the outlet channel and on both the sloped sidewalls was cut in 2016 and should be controlled by cutting or spraying.



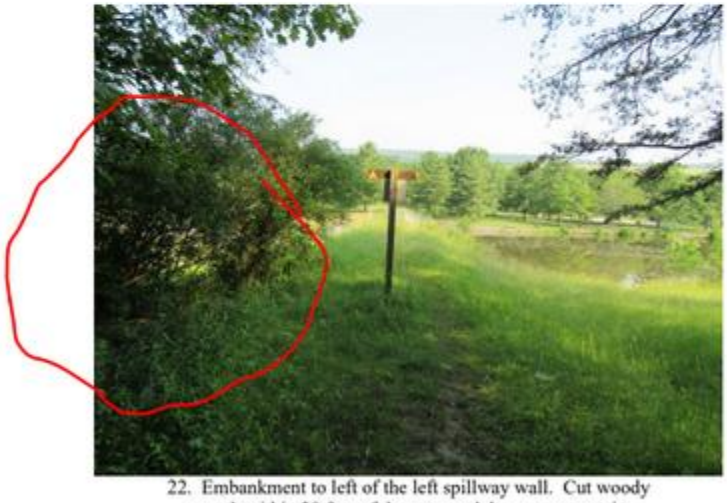
20. Minor crack at upstream left spillway wall. No change.

31 of 33

File No. 07-084
Canoe Creek Dam
6/11/2025



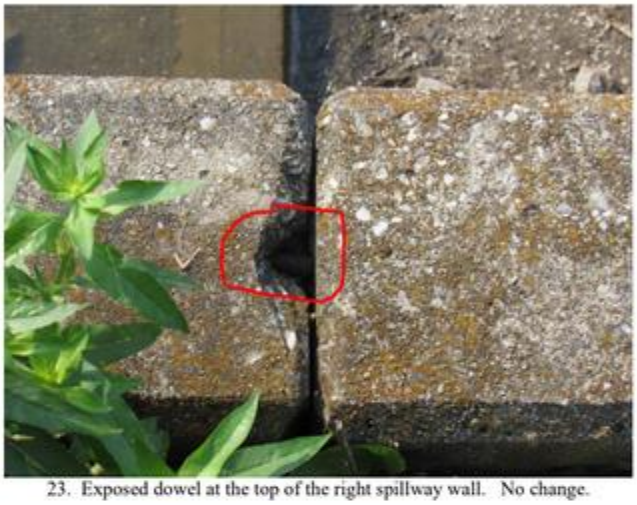
21. Looking across the dam toward the left spillway wall. Cut woody growth within 20 feet of the crest and downstream groin. Staff gauge on left spillway wall.



22. Embankment to left of the left spillway wall. Cut woody growth within 20 feet of the crest and downstream groin.

32 of 33

File No. 07-084
Canoe Creek Dam
6/11/2025



23. Exposed dowel at the top of the right spillway wall. No change.

Blair County Planning Commission

High Hazard Potential Dam Data Collection

Dam Name: Canoe Creek Dam

Municipality / Jurisdiction of Dam: Frankstown Township

Dam: Owner (Public/Private): Public

Primary Contact Name & Title: Joseph Basil, Park Manager

Phone / Email: 814-660-2361 / jbasil@pa.gov

☐ Dam Location & Downstream Area

- ☐ Dam address or general location: Lat: 40 deg 28' 38" Long: -78 deg 16' 52"
- ☐ Downstream municipalities potentially affected (if known):

Catherine Twp./Woodbury Twp./Williamsburg Boro

☐ Population & Facilities at Risk (Estimate): 200

- ☐ Unknown
- ☐ <10
- ☐ 10-50
- ☒ 50+

☐ Known Facilities downstream (check any that apply & Indicate location)

- ☒ Homes: Frankstown Twp, Catherine Twp, Woodbury Twp, Williamsburg Boro
- ☐ Schools: _____
- ☐ Hospitals / healthcare: _____
- ☒ Roads / bridges: SR 22, SR 866, Turkey Valley Rd, Juniata Valley Rd, Canoe Creek Rd
- ☒ Utilities (water, power, wastewater): Canoe Creek State Park, Williamsburg Boro

Page 1 / 5

- ☐ Emergency services
- ☐ Unknown

☐ Do you have a dam breach inundation map?

- ☒ Yes
- ☐ No
- ☐ Unknown

☐ Model of dam breach inundation map.

- ☐ HEC-RAS
- ☐ DSS-WISE
- ☐ FLO-2D
- ☐ Other:

☐ Does the plan have an Emergency Action Plan (EAP)?

- ☒ Yes
- ☐ No
- ☐ Other: _____

☐ When was EAP last updated (if known): April 22, 2024

☐ Known or potential causes of failure (check any)

- ☒ Severe storm / flooding
- ☐ Structural aging
- ☐ Erosion
- ☐ Seepage

Page 2 / 5

- ☐ Landslide
- ☐ Slope instability
- ☐ Earthquake
- ☐ Other: _____

☐ Known Structural issues or deficiencies (if known): None

☐ Most recent inspection conducted by: PA DCNR Engineer Charles Lutter P.E.

☐ Approximate inspection date (if known): 06/11/2025

☐ Are condition assessments or reports available?

- ☒ Yes
- ☐ No
- ☐ Unknown

☐ Would your dam failure impact multiple jurisdictions?

- ☒ Yes
- ☐ No
- ☐ Unknown

☐ Document your approach and limitation to address deficiencies:

☐ Estimated economic impact (economic damage) from dam failure based on community assets in HHPD inundation zone:

Blair County Planning Commission

☐ Estimated Environmental impact (wetland, parks, river, stream, lakes) from dam failure in inundation zone:

☐ Social Impact (population with functional needs, language barrier, poverty, infant, elderly in inundation zone) from dam failure in inundation zone:

☐ How would a proposed action reduce High Hazard Potential Dam risk?

☐ How would the proposed action reduce the risks of dam's deficiency?

☐ Degree to which an action reduces Population At risk: _____

☐ Is your infrastructure under multiple jurisdiction?

☐ Yes

☒ No

☐ Please estimate share of authority: 100% DCNR Canoe Creek State Park

Completed by: Joseph Basil, Park Manager

Date: 01/30/2025

Blair County Planning Commission

MacKenzie Caron mcaron@blairplanning.org

Ben Peng ben@stuartgroup.org

☐ Email **Emergency Action Plan** to MacKenzie and/or Ben

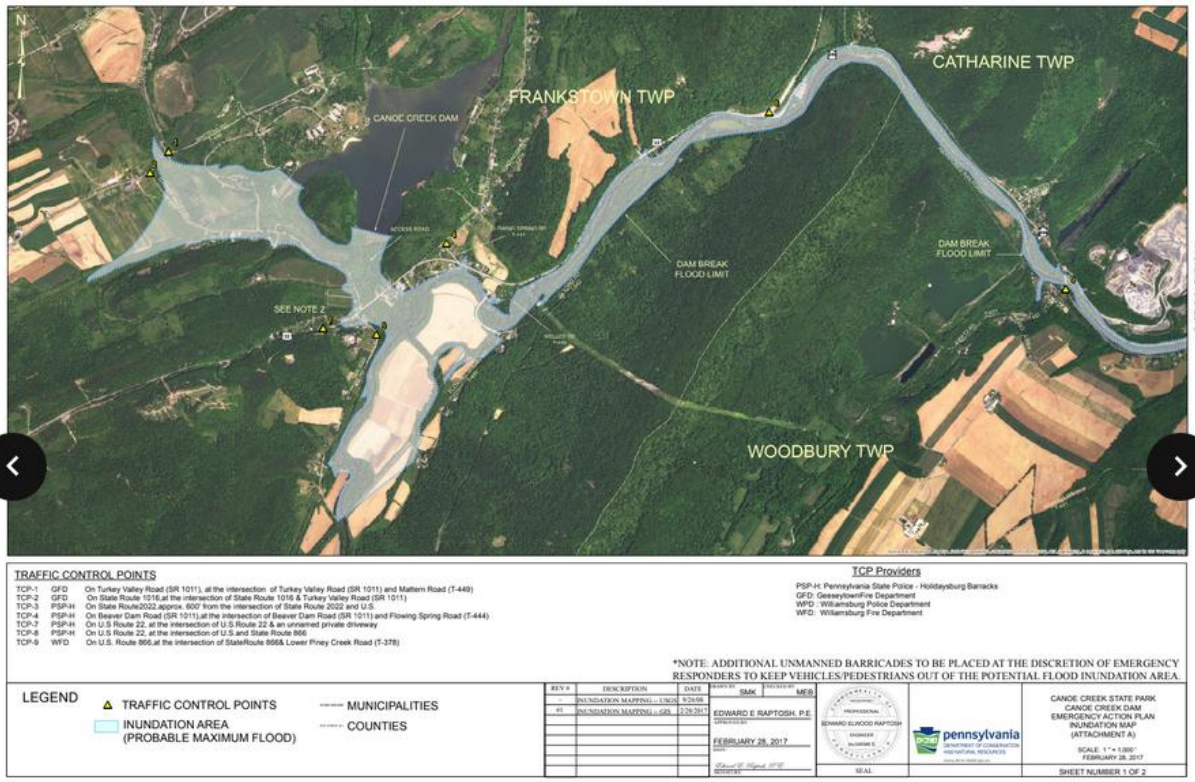
☒ Sent! (Email subject title – "Hazard Dam Information")

☐ Email **Condition Report/Assessment** to MacKenzie and/or Ben

☒ Sent! (Email subject title – "Hazard Dam Information")

☐ Email **any other relevant information** to MacKenzie and/or Ben

☒ Sent! (Email subject title – "Hazard Dam Information")


N
CANOE CREEK DAM
FRANKSTOWN TWP
CATHARINE TWP
DAM BREAK
FLOOD LIMIT
DAM BREAK
FLOOD LIMIT
SEE NOTE 2
WOODBURY TWP
MATCHLINE TO SHEET 2
TRAFFIC CONTROL POINTS
TCP-1 GFD On Turkey Valley Road (SR 1011), at the intersection of Turkey Valley Road (SR 1011) and Mattern Road (T-449)
TCP-2 GFD On State Route 1016,at the intersection of State Route 1016 & Turkey Valley Road (SR 1011)
TCP-3 PSP-H On State Route2022,approx. 600' from the intersection of State Route 2022 and U.S.
TCP-4 PSP-H On Beaver Dam Road (SR 1011),at the intersection of Beaver Dam Road (SR 1011) and Flowing Spring Road (T-444)
TCP-7 PSP-H On U.S Route 22, at the intersection of U.S Route 22 & an unnamed private driveway
TCP-8 PSP-H On U.S Route 22, at the intersection of U.S.and State Route 866
TCP-9 WFD On U.S. Route 866,at the intersection of StateRoute 866& Lower Piney Creek Road (T-378)
TCP Providers
PSP-H: Pennsylvania State Police - Holidaysburg Barracks
GFD: GeeseytownFire Department
WPD : Williamsburg Police Department
WFD : Williamsburg Fire Department
*NOTE: ADDITIONAL UNMANNED BARRICADES TO BE PLACED AT THE DISCRETION OF EMERGENCY RESPONDERS TO KEEP VEHICLES/PEDESTRIANS OUT OF THE POTENTIAL FLOOD INUNDATION AREA.
LEGEND
TRAFFIC CONTROL POINTS
INUNDATION AREA (PROBABLE MAXIMUM FLOOD)
MUNICIPALITIES
COUNTIES
REV # DESCRIPTION DATE
- INUNDATION MAPPING – USGS 9/24/08
#3 INUNDATION MAPPING – GIS 2/28/2017
DRAWN BY SMK CHECKED MEB
EDWARD E RAPTOSH, P.E.
FEBRUARY 28, 2017
SEAL
pennsylvania
CANOE CREEK STATE PARK
CANOE CREEK DAM
EMERGENCY ACTION PLAN
INUNDATION MAP
(ATTACHMENT A)
SCALE: 1" = 1,000'
FEBRUARY 28, 2017
SHEET NUMBER 1 OF 2

Blair County Planning Commission

High Hazard Potential Dam Data Collection

Dam Name: Homer Gap Dam

Municipality / Jurisdiction of Dam: Logan Township

Dam: Owner (Public/Private): Altoona Water Authority

Primary Contact Name & Title: Katie Semelsberger Land Manager

Phone / Email: 814-949-2222, x2026/KSemelsberger@altoonawater.gov

☐ Dam Location & Downstream Area

- ☐ Dam address or general location: Along Homer Gap Road
- ☐ Downstream municipalities potentially affected (if known): Homer Gap, Orner's Corner, Pinecroft, Bellwood, Fostoria, Tipton, Charlottesville, Gray Grazierville, Tyrone, Nealmont, Ironville, Tyrone Forge, and Birmingham Borough

☐ Population & Facilities at Risk (Estimate): _____

- ☐ Unknown
- ☐ <10
- ☐ 10-50
- ☑ 50+

☐ Known Facilities downstream (check any that apply & Indicate location)

- ☑ Homes: 500
- ☐ Schools: _____
- ☐ Hospitals / healthcare: _____
- ☐ Roads / bridges: _____
- ☐ Utilities (water, power, wastewater): _____

Page 1 / 5

- ☐ Emergency services
- ☑ Unknown

☐ Do you have a dam breach inundation map?

- ☑ Yes
- ☐ No
- ☐ Unknown

☐ Model of dam breach inundation map.

- ☐ HEC-RAS
- ☐ DSS-WISE
- ☐ FLO-2D
- ☑ Other:

☐ Does the plan have an Emergency Action Plan (EAP)?

- ☑ Yes
- ☐ No
- ☐ Other: _____

☐ When was EAP last updated (if known): 7/2022

☐ Known or potential causes of failure (check any)

- ☑ Severe storm / flooding
- ☐ Structural aging
- ☐ Erosion
- ☐ Seepage

- ☐ Landslide
- ☑ Slope instability
- ☐ Earthquake
- ☐ Other: _____

☐ Known Structural issues or deficiencies (if known): None

☐ Most recent inspection conducted by: Gannett Fleming, Inc.

☐ Approximate inspection date (if known): May 2025

☐ Are condition assessments or reports available?

- ☐ Yes
- ☐ No
- ☑ Unknown

☐ Would your dam failure impact multiple jurisdictions?

- ☑ Yes
- ☐ No
- ☐ Unknown

☐ Document your approach and limitation to address deficiencies:

Quarterly and Annual Dam Inspections with a professional engineer.

☐ Estimated economic impact (economic damage) from dam failure based on community assets in HHPD inundation zone:

Blair County Planning Commission

☐ Estimated Environmental impact (wetland, parks, river, stream, lakes) from dam failure in inundation zone:

☐ Social Impact (population with functional needs, language barrier, poverty, infant, elderly in inundation zone) from dam failure in inundation zone:

☐ How would a proposed action reduce High Hazard Potential Dam risk?
Identifying potential emergency situation before they become an emergency

☐ How would the proposed action reduce the risks of dam's deficiency?

☐ Degree to which an action reduces Population At risk: _____

☐ Is your infrastructure under multiple jurisdiction?

- ☐ Yes
- ☑ No

☐ Please estimate share of authority: _____

Completed by: Katie Semelsberger

Date: 2/4/2026

Blair County Planning Commission

MacKenzie Caron mcaron@blairplanning.org

Ben Peng ben@stuartgroup.org

- ☐ Email **Emergency Action Plan** to MacKenzie and/or Ben
  - ☑ Sent! (Email subject title – "Hazard Dam Information")
- ☐ Email **Condition Report/Assessment** to MacKenzie and/or Ben
  - ☐ Sent! (Email subject title – "Hazard Dam Information")
- ☐ Email **any other relevant information** to MacKenzie and/or Ben
  - ☐ Sent! (Email subject title – "Hazard Dam Information")

Blair County Planning Commission

High Hazard Potential Dam Data Collection

Dam Name: Kettle Dam

Municipality / Jurisdiction of Dam: Tyrone Township

Dam: Owner (Public/Private): Altoona Water Authority

Primary Contact Name & Title: Katie Semelsberger Land Manager

Phone / Email: 814-949-2222, x2026/KSemelsberger@altoonawater.gov

☐ Dam Location & Downstream Area

☐ Dam address or general location: Along Kettle Road, S.R. 1013

☐ Downstream municipalities potentially affected (if known):
Logan Township, City of Altoona, Antis Township, Bellwood Borough and Charlottesville

☐ Population & Facilities at Risk (Estimate): _____

☐ Unknown

☐ <10

☐ 10-50

☑ 50+

☐ Known Facilities downstream (check any that apply & Indicate location)

☑ Homes: 350

☑ Schools: 1

☐ Hospitals / healthcare: _____

☐ Roads / bridges: _____

☐ Utilities (water, power, wastewater): _____

Blair County Planning Commission

- ☐ Emergency services
- ☑ Unknown

☐ Do you have a dam breach inundation map?

- ☑ Yes
- ☐ No
- ☐ Unknown

☐ Model of dam breach inundation map.

- ☐ HEC-RAS
- ☐ DSS-WISE
- ☐ FLO-2D
- ☑ Other:

☐ Does the plan have an Emergency Action Plan (EAP)?

- ☑ Yes
- ☐ No
- ☐ Other: _____

☐ When was EAP last updated (if known): 7/2022

☐ Known or potential causes of failure (check any)

- ☑ Severe storm / flooding
- ☐ Structural aging
- ☐ Erosion
- ☐ Seepage

Page 2 / 5

- ☐ Landslide
- ☑ Slope instability
- ☐ Earthquake
- ☐ Other: _____

☐ Known Structural issues or deficiencies (if known): None

☐ Most recent inspection conducted by: Gannett Fleming, Inc.

☐ Approximate inspection date (if known): May 2025

☐ Are condition assessments or reports available?

- ☐ Yes
- ☐ No
- ☑ Unknown

☐ Would your dam failure impact multiple jurisdictions?

- ☑ Yes
- ☐ No
- ☐ Unknown

☐ Document your approach and limitation to address deficiencies:

Quarterly and Annual Dam Inspections with a professional engineer.

☐ Estimated economic impact (economic damage) from dam failure based on community assets in HHPD inundation zone:

Blair County Planning Commission

☐ Estimated Environmental impact (wetland, parks, river, stream, lakes) from dam failure in inundation zone:

☐ Social Impact (population with functional needs, language barrier, poverty, infant, elderly in inundation zone) from dam failure in inundation zone:

☐ How would a proposed action reduce High Hazard Potential Dam risk?
Identifying potential emergency situation before they become an emergency

☐ How would the proposed action reduce the risks of dam's deficiency?

☐ Degree to which an action reduces Population At risk: _____

☐ Is your infrastructure under multiple jurisdiction?

☐ Yes

☑ No

☐ Please estimate share of authority: _____

Completed by: Katie Semelsberger

Date: 2/4/2026

Blair County Planning Commission

MacKenzie Caron mcaron@blairplanning.org

Ben Peng ben@stuartgroup.org

- ☐ Email **Emergency Action Plan** to MacKenzie and/or Ben
  - ☑ Sent! (Email subject title – "Hazard Dam Information")
- ☐ Email **Condition Report/Assessment** to MacKenzie and/or Ben
  - ☐ Sent! (Email subject title – "Hazard Dam Information")
- ☐ Email **any other relevant information** to MacKenzie and/or Ben
  - ☐ Sent! (Email subject title – "Hazard Dam Information")

Blair County Planning Commission

High Hazard Potential Dam Data Collection

Dam Name: Lake Altoona Dam

Municipality / Jurisdiction of Dam: Logan Township

Dam: Owner (Public/Private): Altoona Water Authority

Primary Contact Name & Title: Katie Semelsberger Land Manager

Phone / Email: 814-949-2222, x2026/KSemelsberger@altoonawater.gov

☐ Dam Location & Downstream Area

- ☐ Dam address or general location: Along S.R. 4008 Veterans Memorial Highway
- ☐ Downstream municipalities potentially affected (if known):
  Logan Township, Altoona, Eldorado, Allegheny, Canan, Blair, Fort Fetter, Gaysport, Horrell Hollidaysburg, Frankstown, Reese, Canoe Creek, Flowing Spring, Woodburry, Cove Dale, et

☐ Population & Facilities at Risk (Estimate): _____

- ☐ Unknown
- ☐ <10
- ☐ 10-50
- ☑ 50+

☐ Known Facilities downstream (check any that apply & Indicate location)

- ☑ Homes: 2,450
- ☑ Schools: 3
- ☐ Hospitals / healthcare: _____
- ☐ Roads / bridges: _____
- ☐ Utilities (water, power, wastewater): _____

Page 1 / 5

- ☐ Emergency services
- ☑ Unknown

☐ Do you have a dam breach inundation map?

- ☑ Yes
- ☐ No
- ☐ Unknown

☐ Model of dam breach inundation map.

- ☐ HEC-RAS
- ☐ DSS-WISE
- ☐ FLO-2D
- ☑ Other:

☐ Does the plan have an Emergency Action Plan (EAP)?

- ☑ Yes
- ☐ No
- ☐ Other: _____

☐ When was EAP last updated (if known): 7/2022

☐ Known or potential causes of failure (check any)

- ☑ Severe storm / flooding
- ☐ Structural aging
- ☐ Erosion
- ☐ Seepage

- ☐ Landslide
- ☑ Slope instability
- ☐ Earthquake
- ☐ Other: _____

☐ Known Structural issues or deficiencies (if known): None

☐ Most recent inspection conducted by: Gannett Fleming, Inc.

☐ Approximate inspection date (if known): May 2025

☐ Are condition assessments or reports available?

- ☐ Yes
- ☐ No
- ☑ Unknown

☐ Would your dam failure impact multiple jurisdictions?

- ☑ Yes
- ☐ No
- ☐ Unknown

☐ Document your approach and limitation to address deficiencies:

Quarterly and Annual Dam Inspections with a professional engineer.

☐ Estimated economic impact (economic damage) from dam failure based on community assets in HHPD inundation zone:

CLIENT:	Borough of Tyrone	**SITE LOCATION:**	Snyder Township, Blair County, PA
SITE NAME:	D7-002 Sink Run Reservoir No.2	**PROJECT NUMBER:**	1230003114

DATE:
October 10, 2025

DIRECTION VIEW:
Northwest
COMMENTS:
Photo No. 23
Primary Spillway
Right Approach Guard Wall

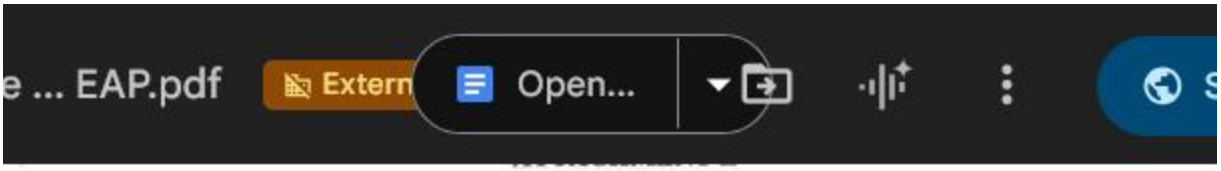


DATE:
October 10, 2025

VIEW DIRECTION:
East
COMMENTS:
Photo No. 24
Primary Spillway
Upstream Approach



2025 Sink Run Reservoir No. 2 Inspection Report Page 31 of 45



MEDIA ANNOUNCEMENT

EARLY WARNING MESSAGE:

The Blair County Emergency Management Agency advises that due to conditions at the Sink Run Reservoir No. 2 Dam in Snyder Township, the public should avoid the area downstream of the dam. The inundation area resulting from a sudden dam failure extends from the Sink Run Reservoir No. 2 Dam southeast along the Sink Run Valley into the Borough of Tyrone. Within the Borough of Tyrone, the flood area extends south from Madison Ave. & Adams Ave. to Rt. 220 and North to W. 23rd St. At W. 23rd St., the inundation area narrows to run along Bald Creek between Lincoln Ave. and the Old Rt. 220, north to the limits of the Borough of Tyrone. The flood area in the southern portion of the Borough of Tyrone is roughly contained between Lincoln St. and Cameron St. to the north and the CONRAIL tracks to the south. South of 3rd St., the flood area also threatens low lying areas along the Juniata River downstream of Tyrone, including Rt. 453, and the towns of Nealmont, Tyrone Forge, and Ironville. Stay tuned for further information.

REPEAT PERIODICALLY

WARNING AND EVACUATION MESSAGE:

The Blair County Emergency Management Agency is advising all residents living downstream of the Sink Run Reservoir No. 2 Dam in Snyder Township to evacuate the area immediately. Evacuate the area that extends from the Sink Run Reservoir No. 2 Dam southeast along the Sink Run Valley into the Borough of Tyrone. Within the Borough of Tyrone, the flood area extends south from Madison Ave. & Adams Ave. to Rt. 220 and North to W. 23rd St. At W. 23rd St., the inundation area narrows to run along Bald Creek between Lincoln Ave. and the Old Rt. 220, north to the limits of the Borough of Tyrone. The flood area in the southern portion of the Borough of Tyrone is roughly contained between Lincoln St. and Cameron St. to the north and the CONRAIL tracks to the

ATTACHMENT E

MEDIA ANNOUNCEMENT

NORFOLK SOUTHERN CORPORATION	814-949-1541	
PUBLIC SERVICES		
NORFOLK SOUTHERN CORPORATION RAIL SERVICES	814-949-1235 (Safety) 1-800-453-2530 (Police)	
TYRONE WASTEWATER TREATMENT PLANT	814-684-2110	
TYRONE HIGHWAY DEPARTMENT	814-684-7333	

DEP SOUTH-CENTRAL OFFICE DEP DAM SAFETY	717-787-4802	1-800-333-1904
PA EMERGENCY MGY. AGENCY AREA OFFICE	717-651-7060	717-651-2001
PA DEPT. OF TRANSPORTATION – DISTRICT 9	814-696-7250	
RADIO STATIONS: WTRN-AM WVAM/WPRR	 814-684-3200 814-941-9800	
TV STATIONS: WTAJ-TV 10 WJAC-TV 6	 814-944-2031 814-215-7600	
NEWSPAPERS: ALTOONA MIRROR TYRONE DAILY HERALD	 814-946-7411 814-684-4000	
TYRONE AREA SCHOOL DISTRICT	814-684-0710	
NURSING HOMES/SPECIAL NEEDS FACILITIES COLONIAL COURTYARD NURSING HOME EPWORTH MANOR NURSING HOME GREYSTONE COURT	 814-686-5970 814-684-0320 814-686-7464	
DAY CARE CENTERS CHURCH OF THE BRETHREN, A CHILD'S GARDEN TYRONE HEAD START CENTER, CHILD ADVOCATES OF BLAIR COUNTY CATERPILLAR CORNER DAYCARE	 814-684-7899 814-684-5559 814-329-4041	
BUSINESSES KUNZLER & CO. LOGAN BEVERAGE TEAM TEN TYRONE MILLING TYRONE MUNICIPAL BUILDING	 814-684-2270 814-684-2920 814-684-6134 814-684-3400 814-684-1300	

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ATTACHMENT D

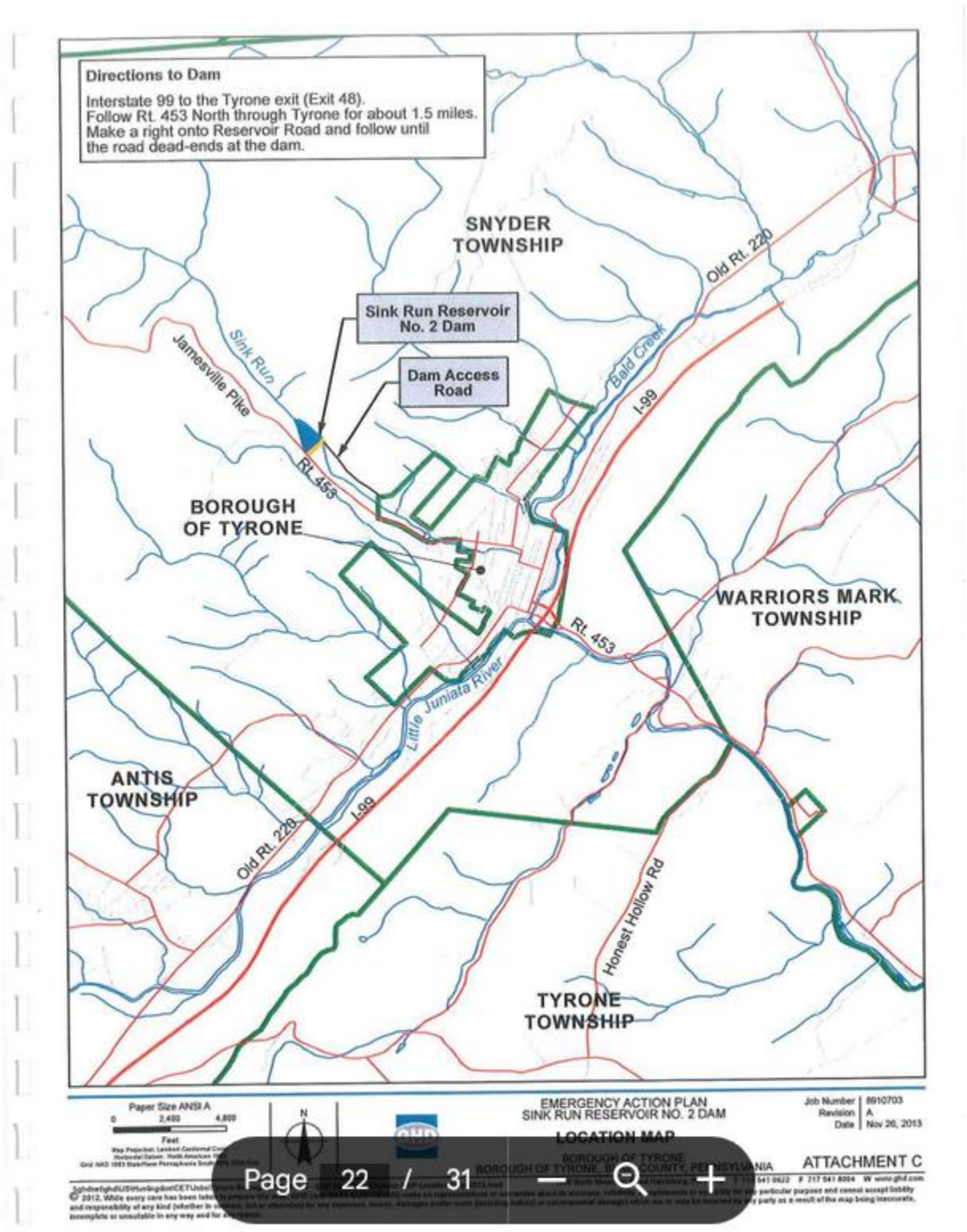
TELEPHONE INFORMATION LIST

	DAYTIME PHONE NO.	24-HOUR PHONE NO.
DAM OWNER: PHYLLIS J. GARHART, BOROUGH MANAGER, BOROUGH OF TYRONE	814-684-1330	
DAM OPERATOR: ARDEAN LATCHFORD	814-684-5396	911
BLAIR COUNTY COMMUNICATIONS CENTER	814-940-5900	911
BLAIR COUNTY EMA	814-940-5900	
SNYDER TOWNSHIP AND TYRONE TOWNSHIP EMA	814-684-1048 814-329-7576 (CELL)	
BOROUGH OF TYRONE EMA	814-937-4270	
ANTIS TOWNSHIP EMA	814-949-8788	
TYRONE FIRE DEPARTMENTS BLAZING ARROW HOOK & LADDER CO. NEPTUNE FIRE CO. TYRONE FIRE POLICE	 814-684-1770 814-684-1660 814-684-5406	
SINKING VALLEY FIRE DEPARTMENT	814-944-2496	
TIPTON-ANTIS FIRE DEPARTMENT	814-684-4420	
BOROUGH OF TYRONE POLICE DEPT.	814-684-1365	
PA STATE POLICE – TROOP G	814-696-6100	
SNYDER & TYRONE TOWNSHIP EMS (TYRONE AMED)	814-684-3601	
ANTIS TOWNSHIP EMS (BELLWOOD EMS)	814-742-9162	
BLAIR COUNTY RED CROSS CHAPTER	814-944-6146	

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ATTACHMENT D

TELEPHONE ROSTER


Directions to Dam
Interstate 99 to the Tyrone exit (Exit 48).
Follow Rt. 453 North through Tyrone for about 1.5 miles.
Make a right onto Reservoir Road and follow until
the road dead-ends at the dam.
SNYDER TOWNSHIP
Sink Run Reservoir No. 2 Dam
Dam Access Road
Sink Run
Jamesville Pike
Rt. 453
Old Rt. 220
Bald Creek
I-99
BOROUGH OF TYRONE
WARRIORS MARK TOWNSHIP
Rt. 453
Little Juniata River
ANTIS TOWNSHIP
Old Rt. 220
I-99
Honest Hollow Rd
TYRONE TOWNSHIP
Paper Size ANSI A
0 2,400 4,800
Feet
N
EMERGENCY ACTION PLAN
SINK RUN RESERVOIR NO. 2 DAM
LOCATION MAP
BOROUGH OF TYRONE, BLAIR COUNTY, PENNSYLVANIA
Job Number 8910703
Revision A
Date Nov 26, 2013
ATTACHMENT C
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ATTACHMENT B

Traffic Control Points
Sink Run Reservoir No. 2 Dam

NUMBER	LOCATION	AGENCY RESPONSIBLE FOR ESTABLISHMENT
TCP 1	At the intersection of West 14th St., Madison Ave., and Jamesville Pike.	Tyrone Borough Police/Pennsylvania State Police
TCP 2	At the intersection of Adams Ave., and 26th St..	Tyrone Borough Police/Pennsylvania State Police
TCP 3	At the intersection of Adams Ave. and Old Rt. 220 at the town of Vail.	Tyrone Borough Police/Pennsylvania State Police
TCP 4	At the intersection of Old Rt. 220 and Rt. 350 at the town of Bald Eagle.	Tyrone Borough Police/Pennsylvania State Police
TCP 5	At the intersection of Interstate 99 and Rt. 350.	Tyrone Borough Police/Pennsylvania State Police
TCP 6	At the intersection of Old Route 220 and Hutchinson Run Rd. in Grazierville	Tyrone Borough Police/Pennsylvania State Police
TCP 7	At the intersection of the entrance and exit ramps for Interstate 99 and Old Rt. 220.	Tyrone Borough Police/Pennsylvania State Police
TCP 8	At the intersection of Old Rt. 220 and Clearfield Ave. in Tipton.	Tyrone Borough Police/Pennsylvania State Police
TCP 9	At the intersection of Clay Ave. & West 3rd St.	Tyrone Borough Police/Pennsylvania State Police
TCP 10	Along Route 453 approximately .6 miles north of Birmingham.	Tyrone Borough Police/Pennsylvania State Police
TCP 11	On Honest Hollow Rd approximately .4 miles southwest of the intersection with Route 453.	Tyrone Borough Police/Pennsylvania State Police
TCP 12	On Skelp Mountain Rd (SR 1015) approximately 1.2 miles southwest of Tyrone Forge.	Tyrone Borough Police/Pennsylvania State Police
TCP 13	On the entrance ramp to Interstate 99 North at Charlottsville.	Tyrone Borough Police/Pennsylvania State Police
TCP 14	At the intersection of Hutchinson Run Rd. and Grazierville Rd. in Grazierville	Tyrone Borough Police/Pennsylvania State Police
TCP 15	On W. 3rd St. approximately .25 Miles northwest on the Borough of Tyrone Boundary.	Tyrone Borough Police/Pennsylvania State Police
TCP 16	On Jamesville Pike west of the Tyrone Reservoir No. 2 Dam.	Tyrone Borough Police/Pennsylvania State Police
TCP 17	On Old Route 220 south of Northwood.	Tyrone Borough Police/Pennsylvania State Police
TCP 18	On Interstate 99 S. blocking both the entrance ramp and the expressway.	Tyrone Borough Police/Pennsylvania State Police
TCP 19	On Route 550 approximately .3 miles northeast of Nealmont.	Tyrone Borough Police/Pennsylvania State Police

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ATTACHMENT B

TRAFFIC CONTROL POINTS

and PSAP/911 Center(s), the National Weather Service, and the DEP's Regional Office. Within 60 days, the dam owner will submit a letter certifying distribution of the approved EAP and posting of NOTICE(s) to the DEP, Division of Dam Safety.

ATTACHMENTS:

ATTACHMENT A - DOWNSTREAM FLOOD AREA (INUNDATION) MAP
ATTACHMENT B - TRAFFIC CONTROL POINTS
ATTACHMENT C - LOCATION MAP
ATTACHMENT D - TELEPHONE ROSTER
ATTACHMENT E - MEDIA ANNOUNCEMENT
ATTACHMENT F - NOTICE

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HH. **TOE OF DAM** - The junction of the downstream face of a dam with the ground surface. Also referred to as downstream toe. For an embankment dam, the junction of the upstream face with ground surface is called the upstream toe.

II. **TOP OF DAM** - The elevation of the uppermost surface of a dam, usually a road or walkway, excluding any parapet wall, railings, etc.

JJ. **TRAFFIC CONTROL POINT (TCP)** – Manned or unmanned posts established at critical road junctions for the purpose of controlling or limiting traffic. TCPs are used to control evacuation movement and also limit entry into the inundation area when an emergency situation requires it.

KK. **VOAD** – Voluntary Organizations Active in Disasters – collaboration of diverse organizations and citizens trained to meet community needs in the wake of a large-scale disaster.

VIII. EXERCISE AND TRAINING

The dam owner will advise and cooperate with the Blair County EMA of any exercises scheduled, and coordinate with the Blair County EMA to exercise all or portions of this EAP as part of the county's all-hazard exercise program schedule.

IX. PLAN MAINTENANCE AND DISTRIBUTION

A. This EAP will be reviewed every five years by the owner or the owner's engineer. During the five year review:

1. The owner's engineer will conduct an on-site review of the flood (inundation) area for any increase in downstream development and revise the Inundation Map, if needed.

2. The owner's engineer will review and revise surveillance conditions as needed.

3. The owner will coordinate with Blair County EMA if population increase or development within the inundation area could affect the emergency response requirements. If so, a new or revised plan should be developed.

4. The owner will meet with and obtain concurrence from the Blair County EMC.

5. The owner will submit 6 copies at a minimum of the revised plan to DEP for review and approval.

B. A copy of the approved EAP will be distributed to those emergency response agencies listed in Section IV. DEP, Division of Dam Safety will distribute a copy of the approved EAP to PEMA's Area Office, the affected county Emergency Management Agency(s)

of the dam. They may also be for an area upstream of the dam from effects of backwater flooding or effects of landslides around the reservoir perimeter.

U. **INUNDATION AREA** - The downstream area that would be flooded or otherwise affected by the failure of a dam or large flows. This area can be subject to a fast moving flood wave, 20 to 50 MPH is common, with a height of 1 foot to tens of feet

V. **INUNDATION MAP** - A map delineating the area that would probably be flooded in the event of a dam failure. This map must be prepared by a registered professional engineer.

W. **NOTIFICATION** - To promptly inform appropriate individuals or emergency agency about an emergency condition so they can initiate appropriate actions.

X. **NORMAL WATER LEVEL (NORMAL WATER POOL)** - For reservoir with a fixed overflow spillway crest, it is the lowest level of that crest.

Y. **OPERATOR** - The person or position in a company or organization, who is responsible for a dam's operation and surveillance.

Z. **OUTLET** - A constructed opening through which water can be safely discharged for a particular purpose from a reservoir.

AA. **OWNER** - Any person, authority or agency that manages a dam or reservoir.

BB. **PSAP** – Public Safety Answering Point – an agency in the United States, typically county or city controlled, responsible for answering 9-1-1 calls for emergency assistance from police, fire, and ambulance services.

CC. **SEEPAGE** - The movement of water that might occur through the dam, its foundation or its abutments. Small amounts of clear water seepage is normal. Increase in the amount of water flow or change in color is a concern for a dam's safety.

DD. **SLIDE** - The movement of a mass of earth down a slope. In embankments and abutments, this involves the separation of a portion of the slope from the surrounding materials.

EE. **SPECIAL NEEDS FACILITY** – A building or establishment relating to people who have specific needs, such as children or those associated with a disability.

FF. **SPILLWAY** - A structure over or through which flows are discharged. If the flow is controlled by gates, it is considered a controlled spillway; if the elevation of the spillway crest is the only control, it is considered an uncontrolled spillway.

GG. **SPILLWAY CHANNEL** - A channel conveying water from the spillway crest to the river downstream.

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the design assumptions and parameters, which adversely affect a dam's primary function of impounding water is properly considered a failure. Minor malfunctions or abnormalities can result in a sudden failure of a dam.

K. **EARTH DAM (EARTHFILL DAM)** - An embankment dam in which more than 50% of the total volume is formed of compacted fine-grained earth.

L. **EMBANKMENT** - Fill material, usually earth or rock, placed with sloping sides.

M. **EMERGENCY** - A condition of serious nature which develops unexpectedly and endangers the structural integrity of a dam or endangers downstream property and human life. An emergency requires immediate action.

N. **EAP** – Emergency Action Plan - A formal document that identifies potential emergency conditions at a dam and specifies preplanned actions to be followed to minimize property damage and loss of life. It contains procedures and information to assist the dam owner in issuing early warning and notification message to responsible downstream emergency management authorities of the emergency situation. It also contains inundation maps to show the emergency management authorities of the critical areas for action in case of an emergency.

O. **EOP** – Emergency Operations Plan – "The document…which describes the hazards, vulnerabilities, emergency management situations and assumptions that affect the municipality, the concept of operations during an emergency, and the various roles and assignments of the elected officials, emergency management coordinator and other emergency response personnel, whether paid or volunteer." (From PEMA Directive D2007-1). The EOP includes checklists for known critical facilities, special facilities, critical personnel, hearing impaired residents, non-English speaking residents, residents requiring ambulance assistance, etc., as identified by local emergency management officials.

P. **FACE** - With reference to a structure, the external surface that limits the structure, e.g., the face or a wall or dam.

Q. **FAILURE** - An incident resulting in the uncontrolled release of water from an operating dam. See "Dam Failure".

R. **FOUNDATION OF DAM** - The natural material on which the dam structure is placed.

S. **GROIN** - That area along the contact (or intersection) of the face of a dam with the abutment.

T. **HAZARD** - A situation which creates the potential for adverse consequences such as loss of life, property damage, and adverse social and environmental impacts. Impacts may be for a defined area downstream of a dam from flood-waters released through spillways and outlet works of the dam or waters released by partial or complete failure

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2. Inspection, Maintenance and Operation of Dams in Pennsylvania. Prepared by the Department of Environmental Protection, Water Management, Bureau of Waterways Engineering, Division of Dam Safety, February 2009.

3. Blair County Emergency Operations Plan.

VII. DEFINITIONS

A. **ABUTMENT** - The part of the valley's hillside against which the dam abuts. Right and left abutments are those on respective sides of the dam as an observer looks downstream.

B. **AFFECTED COUNTIES/MUNICIPALITIES** – Those jurisdictions within Pennsylvania or adjoining states that, according to the inundation map, may experience flooding as a result of a failure of the dam.

C. **BOIL** - A disturbance in the surface layer of soil caused by water escaping under pressure from behind a water-retaining structure such as a dam or a levee. The boil may be accompanied by deposition of soil particles (usually sand or silt) in the form of a ring (miniature volcano) around the area where the water escapes.

D. **BREACH** - An opening or a breakthrough of a dam sometimes caused by rapid erosion of a section of earth embankment by water.

E. **CONDUIT** - A pipe used to convey water through or around or under a dam.

F. **CONTROL TOWER** - A structure in the dam or reservoir used to control withdraw of water from the reservoir thru pipes or culverts.

G. **CREST OF DAM** - The crown of an overflow section of the dam. In the United States, the term "crest of dam" is often used when "top of dam" is intended. To avoid confusion, the terms **crest of spillway** and **top of dam** should be used for referring to the overflow section and dam proper, respectively.

H. **CULVERT** - (a) A drain or waterway structure built transversely under a road, railway, or embankment. A culvert usually comprises a pipe or a covered channel of box section. (b) A gallery or waterway constructed through any type of dam, which is normally dry but is used occasionally for discharging water; hence the terms scour culvert, drawoff culvert and spillway culvert.

I. **DAM** - A barrier built across a watercourse for impounding or diverting the flow of water.

J. **DAM FAILURE** - The uncontrolled release of a dam's impounded water. It is recognized that there are degrees of failure. Any malfunction or abnormality, outside

c. Tyrone Fire Police

9. Sinking Valley Fire Department

10. Tipton-Antis Fire Department

B. The NOTICE (see Attachment F) must state that copies of the Emergency Action Plan for this dam are available for inspection at the following locations (include physical address):

1. Blair County Emergency Management Agency Office, 615 4th St., Altoona, PA.

2. Snyder & Tyrone Township Emergency Management Office, 108 Baughman Hollow Road, Tyrone, PA.

3. Antis Township Emergency Management Office, 1000 N. 3rd St., Bellwood, PA.

4. Borough of Tyrone - Dam Owner, 1100 Logan Avenue, Tyrone, PA.

C. A new NOTICE will be sent to those agencies in paragraph "A" above whenever the EAP is revised.

D. The dam owner is responsible to verify posting of the NOTICE and documenting the status in the annual inspection report.

VI. AUTHORITY AND REFERENCES

A. AUTHORITY

1. The Dam Safety and Encroachments Act (32 P.S. sections 693.1-693.27), May 16, 1985.

2. The Pennsylvania Code - Title 25, Chapter 105 Dam Safety and Waterways Management, Section 105.63 and 105.134.

3. Emergency Management Services Code, 35 Pa C.S. Section 7101 et seq., as amended.

B. REFERENCES

1. Guidelines for Developing an Emergency Action Plan for Hazard Category 1, 2 & 3 Dams. Prepared by the Department of Environmental Protection, Water Management, Bureau of Waterways Engineering, Division of Dam Safety and the Pennsylvania Emergency Management Agency, January 2009.

2. Assist fire and police departments as requested.

3. Provide EMS support to any mass care center as requested.

J. AMERICAN RED CROSS or Volunteer Organization Active in Disasters (VOAD)

BLAIR COUNTY CHAPTER (If requested by Blair County EMA)

1. Alert person(s) responsible to set-up and operate reception centers and mass care centers at the Olivet Baptist Church in Bellwood & the Bald Eagle Fire Hall in Bald Eagle.

2. Support and maintain operations of the reception center and activate mass care center staff.

3. Maintain communications with Blair County EMA, local municipal EMAs and reception center.

K. PENNSYLVANIA DEPARTMENT OF TRANSPORTATION (PennDOT) DISTRICT 9

1. Provide services, signs, barricades and guidance on roads and bridges affecting the evacuation and recovery.

V. ADMINISTRATION AND LOGISTICS

A. The NOTICE (Attachment F) will be posted at the following public places:

1. Borough of Tyrone Borough Building

2. Snyder Township Building

3. Blair County Tax Office

4. Borough of Tyrone Tax Office

5. Snyder Township Tax Office

6. Borough of Tyrone Police Department

7. Troop G, Pennsylvania State Police

8. Tyrone Fire Departments
   a. Blazing Arrow Fire Department
   b. Neptune Fire Company

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TIPTON-ANTIS FIRE DEPARTMENT

1. Provide citizen notification and route alerting to advise residents living within their jurisdiction. (See Inundation Map - Attachment A).

2. Assist in evacuation.

3. Assist police and EMS, as requested.

4. Provide communications support if feasible and requested.

H. POLICE SERVICES

TYRONE POLICE DEPARTMENT
PENNSYLVANIA STATE POLICE

1. Dispatch radio vehicle to dam site in order to provide alternate communications link to Blair County Communications Center/911 - Tyrone Police Department.

2. Assist evacuation traffic flow and establish traffic control points (TCP) at pre-designated locations (See Inundation Map – Attachment A and Traffic Control Points – Attachment B).

3. Prevent unauthorized entry and provide security of evacuated areas.

4. Provide assistance with route alerting, if requested.

I. EMERGENCY MEDICAL SERVICES (EMS)

SNYDER & TYRONE TOWNSHIP EMERGENCY MEDICAL SERVICES (Tyrone AMED)

1. Provide evacuation transportation assistance and coordinate with designated fire services agencies for transportation of persons with disabilities and any special needs.

2. Assist fire and police departments as requested.

3. Provide EMS support to any mass care center as requested.

ANTIS TOWNSHIP MEDICAL SERVICES (Bellwood EMS)

1. Provide evacuation transportation assistance and coordinate with designated fire services agencies for transportation of persons with disabilities and any special needs.

E. OTHER AFFECTED COUNTY EMA(s) – **(REFER TO SECTION 4.C.)**

F. LOCAL MUNICIPAL EMAs

ANTIS TOWNSHIP, SNYDER TOWNSHIP, TYRONE TOWNSHIP, & BOROUGH OF TYRONE EMA

1. Advise facilities with special needs individuals as outlined in the Emergency Operations Plan (EOP) and identified by the Hazard Vulnerability Analysis (areas impacted due to a dam failure and indicated on the Inundation Map).
2. Notify municipal elected officials and municipal services (water, sewer, etc.)
3. Keep the County EMA apprised of the situation.
4. Coordinate the evacuation (where appropriate).
5. Provide damage reporting to the Blair County EMA.

G. FIRE DEPARTMENTS

TYRONE FIRE DEPARTMENTS (BLAZING ARROW FIRE DEPT., NEPTUNE FIRE CO., & TYRONE FIRE POLICE)

1. Provide citizen notification and route alerting to advise residents living within their jurisdiction. (See Inundation Map - Attachment A).
2. Assist in evacuation.
3. Assist police and EMS, as requested.
4. Provide communications support if feasible and requested.

SINKING VALLEY FIRE DEPARTMENT

1. Provide citizen notification and route alerting to advise residents living within their jurisdiction. (See Inundation Map - Attachment A).
2. Assist in evacuation.
3. Assist police and EMS, as requested.
4. Provide communications support if feasible and requested.

e. Blair County EOC staff, as necessary

f. American Red Cross – Blair County Chapter (when mass care or family assistance is required). Coordinate sheltering per ESF 6 of County EOP.

g. Blair County elected officials

h. Tyrone Area School District School Bus System

i. PennDOT District 9

j. School Districts
Tyrone Area School District

Nursing Homes
Colonial Courtyard Nursing Home
Epworth Manor Nursing Home
Greystone Court Nursing Home

Day Care Centers
Church of Brethren, A Child's Garden
Tyrone Head Start, Child Advocates of Blair County
Caterpillar Corner Daycare

Businesses
Kunzler & Co.
Logan Beverage
Team Ten
Tyrone Milling
Tyrone Municipal Building
Norfolk Southern Corporation
Sheetz Convenience Store

Public Services
Norfolk Southern Corporation Rail Services
Tyrone Wastewater Treatment Plant
Tyrone Highway Department

2. The Blair County EMA will ascertain and report to PEMA any unmet needs requirements.

3. The Tyrone Borough EMA will initiate Damage Assessment and Recovery procedures as the situation requires. The Blair County EMA will assist.

D. OTHER AFFECTED COUNTY 911(s) – **(REFER TO SECTION 4.B.)**

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B. BLAIR COUNTY COMMUNICATIONS CENTER/911

1. The Blair County Communications Center/911 and Rapid Notify will notify (Telephone numbers and points of contact are listed in Attachment D):

   a. Blair County EMA

   b. PEMA State EOC

   c. Borough of Tyrone Police

   d. Tyrone Fire Departments

   e. Sinking Valley Fire Dept.

   f. Tipton-Antis Fire Dept.

   g. Snyder Township Volunteer Fire Company

   h. PA State Police – Troop G

   i. Snyder & Tyrone Township Emergency Medical Services (Tyrone AMED)

   j. Antis Township Emergency Medical Services (Bellwood EMS)

C. BLAIR COUNTY EMA

1. The Blair County EMA will contact the following personnel and agencies (See Attachment D):

   a. National Weather Service

   b. Snyder Township, Tyrone Township, & the Borough of Tyrone EMA

   c. Antis Township EMA

   d. Media - Advisory and/or Warning (Activate EAS). Refer to Attachment E

-Radio Stations:	WTRN-AM
	WVAM/WPRR
-TV Stations:	WTAJ-TV 10
	WJAC-TV 6
-Newspapers:	Altoona Mirror
	Tyrone Daily Herald

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D. TERMINATION OF SURVEILLANCE AND NOTIFICATIONS

1. The dam operator or a designated representative may terminate 24-hour surveillance of dam site conditions when:

   a. All National Weather Service flash flood watches or warnings have expired, **and**

   b. Heavy rains have ended and the water level in the lake has dropped 6 feet below the top of the dam and is receding.

   c. After a personal inspection of the dam site has been conducted by a knowledgeable professional engineer following an earthquake, overtopping of the dam, or an evacuation of the inundation area as a result of this EAP, or other serious problems resulting in a notification of a dam site emergency and the Department concurs with the results of the inspection.

2. Upon termination of 24 hour surveillance of dam site conditions, the dam operator or a designated representative shall notify the Blair County Communications Center/911 and Rapid Notify.

3. Termination of notifications will be relayed from the Blair County Communications Center/911 and Rapid Notify to the Blair County EMA, the PEMA State EOC and all applicable emergency responders and designated government officials and agencies. Refer to Section IV.B. for additional notifications.

IV. RESPONSIBILITIES AND DUTIES - EMERGENCY RESPONSE

A. DAM OWNER OR DAM OPERATOR (DAM SITE EMERGENCY)

1. The dam operator or a designated representative will provide for 24-hour on site dam surveillance and monitoring as required in Section III.C.1. and initiate early warning notification to the Blair County Communications Center/911 and Rapid Notify.

2. When the situation meets the criteria under the warning and evacuation notification guidelines, presented in Section III.D.1, indicating a failure of the dam is possible or a significant threat condition is developing, the dam operator or a designated representative will initiate warning and evacuation communication to the Blair County Communications Center/911 and Rapid Notify.

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c. Imminent failure of this dam might be indicated by observance of one or more of the following conditions at the dam site.

i. The lake or pond level is at or near the top of the dam and water is flowing, or about to flow, over the top of the dam.

ii. The overflow pipe or spillway is damaged, or clogged with debris or ice, which is resulting in a rapid rise in the lake or pond level.

iii. The primary or emergency spillway is experiencing heavy flows which are causing severe erosion to the spillway or the dam embankment.

iv. Any structural movement or failure of the concrete (masonry) spillway or the spillway abutment walls.

v. Any sloughing or sliding of the embankment upstream or downstream slope. Also, earth slides in the spillway channel, either upstream or downstream the dam's crest, which could impede the flow in the spillway.

vi. Subsidence, sinkholes or cracks found in any part of the dam's embankment or abutting slopes.

vii. Any new discharge of water is observed through the dam's embankment or abutting slopes, adjacent to any conduit outlets, or under the dam, which appears as a boil along the downstream toe. Should such a discharge occur and the water is cloudy or muddy in color, then a very serious problem exists.

2. Warning notification will be relayed from the Blair County Communications Center/911 and Rapid Notify to the Blair County EMA, the PEMA State EOC and all applicable emergency responders and designated government officials and agencies. Refer to Section IV.B. for additional notifications.

3. Emergency management officials will accomplish the needed actions, which are explained in this EAP, in accordance with their existing recommended operating guidelines and existing municipal or county emergency operation plans.

4. Warning and evacuation of the public must commence upon notification by the dam operator or a designated representative of a potential or imminent failure of the dam. Emergency responders should initiate action in accordance with the plan outline and any existing internal organizational recommended operating guidelines, and existing municipal or county operation plans.

B. SURVEILLANCE – UNUSUAL EVENT CONDITIONS (DAM WATCH)

1. The dam operator or a designated representative will commence surveillance of conditions at the dam site when:

   a. Severe thunderstorms, heavy rains with local flood warnings, tropical storms, or heavy rains with frozen ground and/or snow cover are occurring.

   b. The National Weather Service issues a flash flood watch or warning and conditions warrant.

   c. Any abnormal or questionable conditions as identified in Section III.D.1.

C. EARLY WARNING NOTIFICATION (**REFER TO** Attachment E)

1. The dam operator or a designated representative is responsible for determining the dam's threat potential. The following conditions constitute a dam early warning notification to the Blair County Communications Center/911 and Rapid Notify and require 24-hour around-the-clock surveillance.

   a. The water level in the impoundment area has reached the threshold level of 6 feet below the top of the dam and is rising, or

   b. Following the occurrence of an earthquake in the general region of the dam.

2. Early warning notification will be relayed from the Blair County Communications Center/911 and Rapid Notify to the Blair County EMA, the PEMA State EOC and all applicable emergency responders and designated government officials and agencies. Refer to Section IV.B. for additional notifications.

D. WARNING AND EVACUATION NOTIFICATION

1. The dam operator or a designated representative is responsible for determining the dam's threat potential. The following conditions constitute a dam emergency requiring warning and evacuation notification to the Blair County Communications Center/911 and Rapid Notify.

   a. The depth of flow in the emergency spillway has reached a depth of 3 feet, and

   b. The water level in the impoundment area has reached the threshold level of 4 feet below the top the dam, or

I. PURPOSE AND SCOPE

A. To safeguard the lives as well as to reduce property damage of the citizens living within the dam's potential downstream flood or inundation area.

B. To provide for effective dam surveillance, prompt notification to local emergency management agencies, citizen warning and evacuation response, when required.

C. To identify emergency actions to be taken by the dam owner/operator, public officials, emergency personnel, and to outline response actions in the event of a potential or imminent failure of the dam.

II. SITUATION

A. The dam is a 51-foot high, 820-foot long earthen embankment reservoir dam, maintaining a normal pool of 460 acre-feet of water with a maximum pool capacity of 571 acre-feet.

B. The dam is located along the Sink Run, upstream of breached Borough of Tyrone Reservoir No. 1 Dam, 2 miles northwest of the Borough of Tyrone. Refer to Location Map at Attachment C.

C. The inundation area resulting from a sudden dam failure extends from the Tyrone Reservoir No. 2 Dam southeast along the Sink Run Valley into the Borough of Tyrone. Within the Borough of Tyrone, the flood area extends south from Madison Ave. & Adams Ave. to Rt. 220 and North to W. 23rd St. At W. 23rd St., the inundation area narrows to run along Bald Creek between Lincoln Ave. and the Old Rt. 220, north to the limits of the Borough of Tyrone. The flood area in the southern portion of the Borough of Tyrone is roughly contained between Lincoln St. and Cameron St. to the north and the CONRAIL tracks to the south. The flood area also threatens low lying areas along the Juniata River downstream of Tyrone, including Rt. 453, and the towns of Nealmont, Tyrone Forge, and Ironville. See Inundation Map at Attachment A.

D Within the inundation area are approximately 5,000 residents, 1,500 homes, fifty businesses, three nursing homes and two day care centers. Refer to the Inundation Map at Attachment A.

III. CONCEPT OF OPERATIONS

A. SURVEILLANCE – NORMAL CONDITIONS (DAM OWNER OR OPERATOR)

1. The dam operator or a designated representative will conduct an on-site visual inspection of the dam, the dam's spillway(s), control systems, and the toe area below the dam at a minimum of once every three months. Any abnormal or questionable conditions will be immediately brought to the attention of the owner's engineer and the Division of Dam Safety of DEP.

PEMA AND DEP APPROVALS

The Pennsylvania Emergency Management Agency approved the Emergency Action Plan for Sink Run Reservoir No. 2 Dam (D07-002).

_____ _____

Director, PEMA Central Area Office **DATE**

The Department of Environmental Protection, Division of Dam Safety, approves the Emergency Action Plan for Sink Run Reservoir No. 2 Dam (D07-002).

_____ _____

Chief, Division of Dam Safety **DATE**

PROMULGATION AND CONCURRENCE

We, the undersigned, on date indicated, have reviewed the requested support activity in the Emergency Action Plan for the Sink Run Reservoir No. 2 Dam. Our support action will be executed in accordance with existing recommended operating guidelines and existing municipal or county emergency operation plans.

Phyllis J. Garhart — 6/17/14
PHYLLIS J. GARHART, BOROUGH MANAGER (BOROUGH OF TYRONE, DAM OWNER) — DATE

Ardean C. Latchford — 6/17/14
ARDEAN LATCHFORD, DAM OPERATOR — DATE

Dan Boyles — 05-13-14
DAN BOYLES, BLAIR COUNTY EMA — DATE

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ATTACHMENTS

ATTACHMENT A	INUNDATION MAP
ATTACHMENT B	TRAFFIC CONTROL POINTS
ATTACHMENT C	LOCATION MAP
ATTACHMENT D	TELEPHONE ROSTER
ATTACHMENT E	MEDIA ANNOUNCEMENT
ATTACHMENT F	NOTICE

EMERGENCY ACTION PLAN

SURVEILLANCE, WARNING AND EVACUATION PROCEDURES

SINK RUN RESERVOIR NO. 2 DAM
DEP NUMBER D07-002

LOCATED ACROSS SINK RUN
IN SNYDER TOWNSHIP, BLAIR COUNTY

LATITUDE N40° 41' 22" **LONGITUDE W78° 16' 13"**

OPERATED BY:	**ARDEAN LATCHFORD** **WATER SUPERINTENDENT** **BOROUGH OF TYRONE** **1100 LOGAN AVENUE** **TYRONE, PA 16686**
TELEPHONE:	**WORK: (814) 684-5396** **HOME: (814) 684-4963** **24- HOUR: 911**
OWNED BY:	**BOROUGH OF TYRONE**
ADDRESS:	**1100 LOGAN AVENUE** **TYRONE, PA 16686**
TELEPHONE:	**WORK: (814) 684-5396** **HOME: (814) 684-4963**

DATE: MARCH 25, 2003
REVISED: JULY 22, 2014 (DRAFT)

2025

SINK RUN RESERVOIR No. 2 — PIEZOMETER READINGS

PNEUMATIC PIEZOMETERS

CASAGRANDE PIEZOMETERS

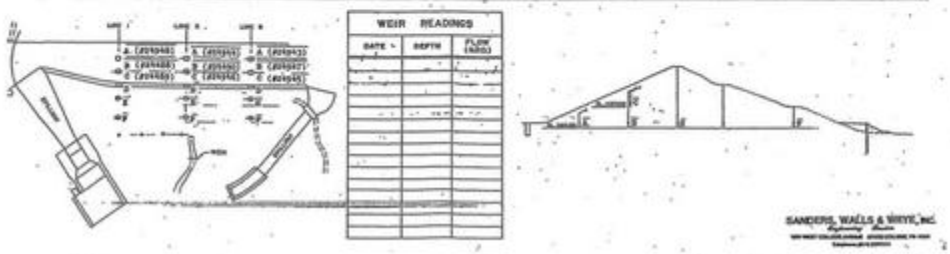


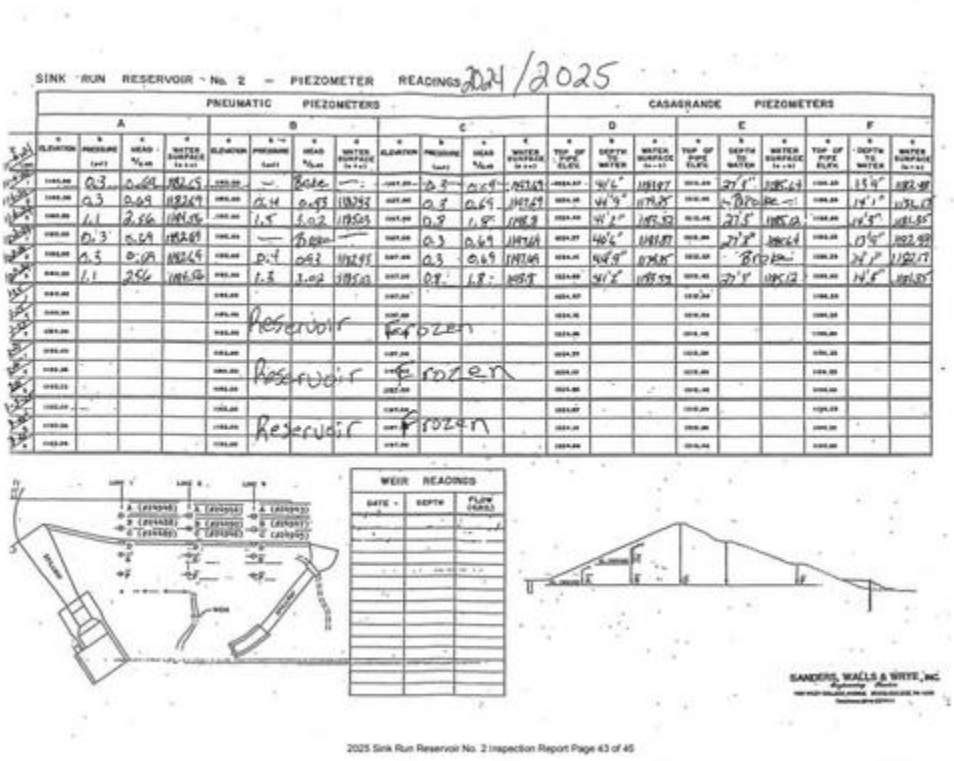
2025

SINK RUN RESERVOIR No. 2 — PIEZOMETER READINGS

PNEUMATIC PIEZOMETERS

CASAGRANDE PIEZOMETERS





SINK RUN RESERVOIR - No. 2 - PIEZOMETER READINGS 2024/2025

PNEUMATIC PIEZOMETERS — A, B, C

CASAGRANDE PIEZOMETERS — D, E, F

	A				B				C			
	ELEVATION	PRESSURE (psi)	HEAD (ft)	WATER SURFACE (ft msl)	ELEVATION	PRESSURE (psi)	HEAD (ft)	WATER SURFACE (ft msl)	ELEVATION	PRESSURE (psi)	HEAD (ft)	WATER SURFACE (ft msl)
	1165.00	0.3	0.69	1182.69	1165.00	—	Broke	—	1167.00	0.8	0.69	1167.69
	1165.00	0.3	0.09	1182.69	1165.00	0.4	0.93	1182.93	1167.00	0.8	0.69	1167.69
	1165.00	1.1	2.56	1184.56	1165.00	1.5	3.02	1185.02	1167.00	0.8	1.8	1168.8
	1165.00	0.3	0.69	1182.69	1165.00	—	Broke	—	1167.00	0.3	0.69	1167.69
	1165.00	0.3	0.09	1182.69	1165.00	0.4	0.93	1182.93	1167.00	0.3	0.69	1167.69
	1165.00	1.1	2.56	1184.56	1165.00	1.3	3.02	1185.02	1167.00	0.8	1.8	1168.8
						Reservoir				Frozen		
						Reservoir				Frozen		
						Reservoir				Frozen		

	D			E			F	
	TOP OF PIPE ELEV.	DEPTH TO WATER	WATER SURFACE (ft msl)	TOP OF PIPE ELEV.	DEPTH TO WATER	WATER SURFACE (ft msl)	TOP OF PIPE ELEV.	DEPTH TO WATER	WATER SURFACE (ft msl)
	1184.37	46'6"	1181.87	1184.37	27'5"	1185.62	1184.37	15'9"	1182.87
	1184.37	44'9"	1179.87	1184.37	Broke	—	1184.37	14'1"	1170.13
	1184.37	41'2"	1182.32	1184.37	27'5"	1185.62	1184.37	14'5"	1181.85
	1184.37	46'6"	1181.87	1184.37	27'5"	1185.62	1184.37	17'6"	1182.99
	1184.37	44'9"	1179.87	1184.37	Broke	—	1184.37	24'7"	1172.17
	1184.37	41'2"	1182.32	1184.37	27'5"	1185.62	1184.37	14'5"	1181.85

WEIR READINGS

DATE	DEPTH	FLOW (GPM)

SANDERS, WACLS & WYE, INC.

2025 Sink Run Reservoir No. 2 Inspection Report Page 43 of 45

CLIENT:	Borough of Tyrone	**SITE LOCATION:**	Snyder Township, Blair County, PA
SITE NAME:	D7-002 Sink Run Reservoir No.2	**PROJECT NUMBER:**	1230003114

DATE:
October 10, 2025

DIRECTION VIEW:
Northwest
COMMENTS:
Photo No. 43
Secondary Spillway
Weir Cracking



DATE:
October 10, 2025

VIEW DIRECTION:
West
COMMENTS:
Photo No. 44
Primary Spillway
Abutment Contact



2025 Sink Run Reservoir No. 2 Inspection Report Page 41 of 45

CLIENT:	Borough of Tyrone	**SITE LOCATION:**	Snyder Township, Blair County, PA
SITE NAME:	D7-002 Sink Run Reservoir No.2	**PROJECT NUMBER:**	1230003114

DATE:
October 10, 2025

DIRECTION VIEW:
Southeast
COMMENTS:
Photo No. 41
Secondary Spillway,
Floor Cracking



DATE:
October 10, 2025

VIEW DIRECTION:
East
COMMENTS:
Photo No. 42
Primary Spillway
Looking Downstream



CLIENT:	Borough of Tyrone	**SITE LOCATION:**	Snyder Township, Blair County, PA
SITE NAME:	D7-002 Sink Run Reservoir No.2	**PROJECT NUMBER:**	1230003114

DATE:
October 10, 2025

DIRECTION VIEW:
Northwest
COMMENTS:
Photo No. 39
Animal Burrows along Downstream Face



DATE:
October 10, 2025

VIEW DIRECTION:
North
COMMENTS:
Photo No. 40
Secondary Spillway Looking Upstream



CLIENT:	Borough of Tyrone	**SITE LOCATION:**	Snyder Township, Blair County, PA
SITE NAME:	D7-002 Sink Run Reservoir No.2	**PROJECT NUMBER:**	1230003114

DATE:
October 10, 2025

DIRECTION VIEW:
Southeast
COMMENTS:
Photo No. 37
Fenced Outlet Tower



DATE:
October 10, 2025

VIEW DIRECTION:
Northeast
COMMENTS:
Photo No. 38
Primary Spillway, Outlet Structure



CLIENT:	Borough of Tyrone	**SITE LOCATION:**	Snyder Township, Blair County, PA
SITE NAME:	D7-002 Sink Run Reservoir No.2	**PROJECT NUMBER:**	1230003114

DATE:
October 10, 2025

DIRECTION VIEW:
Southeast
COMMENTS:
Photo No. 35
Secondary Spillway, Channel Section above Bridge



DATE:
October 10, 2025
Northeast
VIEW DIRECTION:
Southeast
COMMENTS:
Photo No. 36
Secondary Spillway, Downstream Rock Channel



CLIENT:	Borough of Tyrone	**SITE LOCATION:**	Snyder Township, Blair County, PA
SITE NAME:	D7-002 Sink Run Reservoir No.2	**PROJECT NUMBER:**	1230003114

DATE:
October 10, 2025

DIRECTION VIEW:
Southwest
COMMENTS:
Photo No. 33
Secondary Spillway
Right Abutment, Two
Cracks below Water
Surface



DATE:
October 10, 2025

VIEW DIRECTION:
Northeast
COMMENTS:
Photo No. 34
Secondary Spillway,
Floor Area
Downstream of
Stepped Section



CLIENT:	Borough of Tyrone	**SITE LOCATION:**	Snyder Township, Blair County, PA
SITE NAME:	D7-002 Sink Run Reservoir No.2	**PROJECT NUMBER:**	1230003114

DATE:
October 10, 2025

DIRECTION VIEW:
West
COMMENTS:
Photo No. 31
Secondary Spillway
Right Abutment



DATE:
October 10, 2025

VIEW DIRECTION:
Southwest
COMMENTS:
Photo No. 32
Secondary Spillway,
Detail view of Grout
Delamination



CLIENT:	Borough of Tyrone	**SITE LOCATION:**	Snyder Township, Blair County, PA
SITE NAME:	D7-002 Sink Run Reservoir No.2	**PROJECT NUMBER:**	1230003114

DATE:
October 10, 2025

DIRECTION VIEW:
South
COMMENTS:
Photo No. 29
Secondary Spillway,
Looking Downstream



DATE:
October 10, 2025

VIEW DIRECTION:
North
COMMENTS:
Photo No. 30
Secondary Spillway
Stepped Section



CLIENT:	Borough of Tyrone	**SITE LOCATION:**	Snyder Township, Blair County, PA
SITE NAME:	D7-002 Sink Run Reservoir No.2	**PROJECT NUMBER:**	1230003114

DATE:
October 10, 2025

DIRECTION VIEW:
West
COMMENTS:
Photo No. 27
Primary Spillway Concrete Outlet Stilling Basin and Downstream Gabion Channel



DATE:
October 10, 2025

VIEW DIRECTION:
Northwest
COMMENTS:
Photo No. 28
Secondary Spillway, Approach End Looking Upstream



CLIENT:	Borough of Tyrone	**SITE LOCATION:**	Snyder Township, Blair County, PA
SITE NAME:	D7-002 Sink Run Reservoir No.2	**PROJECT NUMBER:**	1230003114

DATE:
October 10, 2025

DIRECTION VIEW:
Northwest
COMMENTS:
Photo No. 25
Primary Spillway
Deflector Bucket and
Plunge Basin



DATE:
October 10, 2025

VIEW DIRECTION:
Southeast
COMMENTS:
Photo No. 26
Primary Spillway
Downstream Gabion
Channel



CLIENT:	Borough of Tyrone	SITE LOCATION:	Snyder Township, Blair County, PA
SITE NAME:	D7-002 Sink Run Reservoir No.2	PROJECT NUMBER:	1230003114

DATE:
October 10, 2025

DIRECTION VIEW:
North
COMMENTS:
Photo No. 21
Primary Spillway
Overflow Weir



DATE:
October 10, 2025

VIEW DIRECTION:
North
COMMENTS:
Photo No. 22
Primary Spillway
Overflow Weir and
Left Abutment



2025 Sink Run Reservoir No. 2 Inspection Report Page 30 of 45

CLIENT:	Borough of Tyrone	**SITE LOCATION:**	Snyder Township, Blair County, PA
SITE NAME:	D7-002 Sink Run Reservoir No.2	**PROJECT NUMBER:**	1230003114

DATE:
October 10, 2025

DIRECTION VIEW:
North
COMMENTS:
Photo No. 19
Primary Spillway Right Wall, Outside View @ Approximate Station 0+52



DATE:
October 10, 2025

VIEW DIRECTION:
Northeast
COMMENTS:
Photo No. 20
Primary Spillway Left Wall, Inside View at Approximate Station 0+30



CLIENT:	Borough of Tyrone	SITE LOCATION:	Snyder Township, Blair County, PA
SITE NAME:	D7-002 Sink Run Reservoir No.2	PROJECT NUMBER:	1230003114

DATE:
October 10, 2025

DIRECTION VIEW:
Southeast
COMMENTS:
Photo No. 17
Primary Spillway
Right Wall, Inside
View @ Approximate
Station 0+21



DATE:
October 10, 2025

VIEW DIRECTION:
Northwest
COMMENTS:
Photo No. 18
Primary Spillway
Right Wall, Outside
View at Approximate
Station 0+21



CLIENT:	Borough of Tyrone	**SITE LOCATION:**	Snyder Township, Blair County, PA
SITE NAME:	D7-002 Sink Run Reservoir No.2	**PROJECT NUMBER:**	1230003114

DATE:
October 10, 2025

DIRECTION VIEW:
South
COMMENTS:
Photo No. 15
Primary Spillway
Right Wall, Inside
View at Approximate
Station 2+08. Notice
Sunken Downstream
End.



DATE:
October 10, 2025

VIEW DIRECTION:
North
COMMENTS:
Photo No. 16
Primary Spillway
Right Wall, Outside
View Detail of Joint



CLIENT:	Borough of Tyrone	**SITE LOCATION:**	Snyder Township, Blair County, PA
SITE NAME:	D7-002 Sink Run Reservoir No.2	**PROJECT NUMBER:**	1230003114

DATE:
October 10, 2025

DIRECTION VIEW:
East
COMMENTS:
Photo No. 13
Primary Spillway
looking Downstream



DATE:
October 10, 2025

VIEW DIRECTION:
Northwest
COMMENTS:
Photo No. 14
Primary Spillway



CLIENT:	Borough of Tyrone	**SITE LOCATION:**	Snyder Township, Blair County, PA
SITE NAME:	D7-002 Sink Run Reservoir No.2	**PROJECT NUMBER:**	1230003114

DATE:
October 10, 2025

DIRECTION VIEW:
West
COMMENTS:
Photo No. 11
Primary Spillway looking Upstream



DATE:
October 10, 2025

VIEW DIRECTION:
North
COMMENTS:
Photo No. 12
Primary Spillway, Left Wall



2025 Sink Run Reservoir No. 2 Inspection Report Page 25 of 45

CLIENT:	Borough of Tyrone	SITE LOCATION:	Snyder Township, Blair County, PA
SITE NAME:	D7-002 Sink Run Reservoir No.2	PROJECT NUMBER:	1230003114

DATE:
October 10, 2025

DIRECTION VIEW:
Northwest
COMMENTS:
Photo No. 9
Underdrain Outlet Endwall



DATE:
October 10, 2025

VIEW DIRECTION:
Southwest
COMMENTS:
Photo No. 10
Primary Spillway, Deflector Bucket, and Gabions into Plunge Basin



CLIENT:	Borough of Tyrone	**SITE LOCATION:**	Snyder Township, Blair County, PA
SITE NAME:	D7-002 Sink Run Reservoir No.2	**PROJECT NUMBER:**	1230003114

DATE:
October 10, 2025

DIRECTION VIEW:
Northeast
COMMENTS:
Photo No. 7
Upstream Face, Below Bench



DATE:
October 10, 2025

VIEW DIRECTION:
East
COMMENTS:
Photo No. 8
Downstream Area in Vicinity of Relief Wells



2025 Sink Run Reservoir No. 2 Inspection Report Page 23 of 45

CLIENT:	Borough of Tyrone	**SITE LOCATION:**	Snyder Township, Blair County, PA
SITE NAME:	D7-002 Sink Run Reservoir No.2	**PROJECT NUMBER:**	1230003114

DATE:
October 10, 2025

DIRECTION VIEW:
Northeast
COMMENTS:
Photo No. 5
Embankment Face, Detail View of Scour and Erosion



DATE:
October 10, 2025

VIEW DIRECTION:
Northeast
COMMENTS:
Photo No. 6
Downstream Face, Above Bench



CLIENT:	Borough of Tyrone	SITE LOCATION:	Snyder Township, Blair County, PA
SITE NAME:	D7-002 Sink Run Reservoir No.2	PROJECT NUMBER:	1230003114

DATE:
October 10, 2025

DIRECTION VIEW:
Northwest
COMMENTS:
Photo No. 3
Longitudinal Crack in Embankment Crest and Upstream Face



DATE:
October 10, 2025

VIEW DIRECTION:
Northeast
COMMENTS:
Photo No. 4
Embankment Face, Scour along Waterline



2025 Sink Run Reservoir No. 2 Inspection Report Page 21 of 45

CLIENT:	Borough of Tyrone	**SITE LOCATION:**	Snyder Township, Blair County, PA
SITE NAME:	D7-002 Sink Run Reservoir No.2	**PROJECT NUMBER:**	1230003114

DATE:
October 10, 2025

DIRECTION VIEW:
Southwest
COMMENTS:
Photo No. 1
Embankment Crest

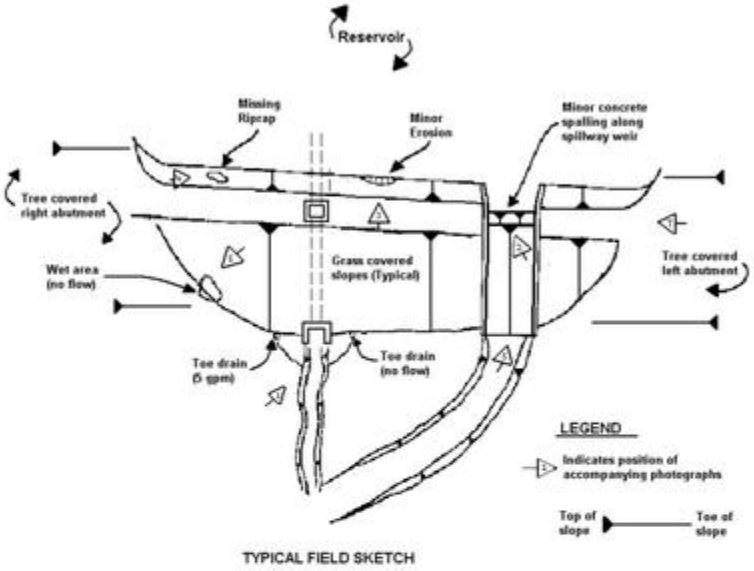


DATE:
October 10, 2025

VIEW DIRECTION:
Northeast
COMMENTS:
Photo No. 2
Embankment Crest and Upstream Face




PHOTO INDEX MAP
D7-002 SINK RUN
RESERVOIR NO. 2 DAM
SNYDER TOWNSHIP
BLAIR COUNTY, PA
DRAWN BY:
DATE: 11/01/2024
SCALE: 1"=100'
DWG. NO. 12300-00634



TYPICAL FIELD SKETCH

[redacted]

DAM OWNERS NOTICE CHECKLIST
Department of Environmental Protection
Bureau of Waterways Engineering
Division of Dam Safety

NAME OF DAM: Sink Run Reservoir No. 2	DEP DAM NO.: D7-002

This is to certify that both the Downstream Hazard Description is accurate and the Posted Notice locations listed below have been inspected and the following are the results of these inspections.

Borough of Tyrone — Name of Dam Owner

[redacted] — Signature of Dam Owner

10-10-2025 — Date

This Dam Owners Notice Checklist is to accompany the Inspection Checklist filed by the Engineer.

EMERGENCY ACTION PLAN

Date of Last Update of Emergency Plan: 2021

Downstream Hazard Description (Refer to sections II.C and II.D in the EAP), additionally, specify any new developments, structures, etc. downstream within the inundation area:
The inundation area resulting from a sudden dam failure extends from the Tyrone Sink Run Reservoir No. 2 southeast along the Sink Run Valley into the Borough of Tyrone. Within the Borough of Tyrone, the flood area extends south from Madison Avenue and Adams Avenue to Route 220 and North to West 23rd Street. At West 23rd Street, the inundation area narrows to run along Bald Eagle Creek between Lincoln Avenue and the Old Route 220, north to the limits of the Borough of Tyrone. The flood area in the southern portion of the Borough of Tyrone is roughly contained between Lincoln Street and Cameron Street to the north and the CONRAIL tracks to the south. The flood area also threatens low lying areas along the Juniata River downstream of Tyrone, including Route 453 and the towns of Nealmont, Tyrone Forge, and Ironville. Within the inundation area is a population of approximately 5,500 people, including fifty businesses, three nursing homes, and three day care centers.

POSTED NOTICES (Refer to section V.A in the EAP)

ITEM	DATE INSPECTED	LOCATION	COMMENTS	EXISTING	MISSING	REPLACED
1	10-9-25	Borough of Tyrone Building – 1100 Logan Avenue		☒	☐	☐
2	10-8-25	Snyder Township Building – 108 Baughman Hollow Road		☒	☐	☐
3	10-8-25	Sheetz – 14th and Logan Avenue	Gave New	☐	☒	☐
4	—	Rite-Aid – 14th and Logan Avenue	Closed - 2025	☐	☐	☐
5	10-8-25	Tyrone Public Library – 1000 Pennsylvania Avenue		☐	☐	☒
6	10-8-25	Tyrone Post Office – 11th and Pennsylvania Avenue		☒	☐	☐
7	10-8-25	Tyrone: Blazing Arrow Fire Department		☐	☐	☒
8	10-8-25	Tyrone: Neptune Fire Company		☐	☐	☒
9	10-8-25	Sinking Valley Fire Department Dropped one off	~~No Answer~~	☐	☐	☒
10	10-8-25	Bald Eagle Fire Department Dropped one off	~~No Answer~~	☐	☐	☒
11				☐	☐	☐
12				☐	☐	☐

Dam Safety High Hazard Dam Inspection Checklist Page 12 of 14 Date Revised: 1/09

NAME OF DAM: Sink Run Reservoir No. 2	DEP DAM NO.: D07-002	DATE: 10/10/2025

ITEM	CONDITION	COMMENTS	MONITOR	INVESTIGATE	REPAIR

Final Comments:

1. Tyrone is planning a reservoir rehabilitation project starting with design and permitting in 2026. Planned areas of improvement are noted in the sections above. These areas of improvement for the upcoming reservoir rehabilitation project will prioritize items such as the spillway floor and wall repairs as well as the primary spillway gabion baskets and downstream channel. Other areas of improvement are dependent on available budget. Other simple items such as filling and patching the cracks in the asphalt and vegetation control can be continued now.
2. Overall, dam is in good condition and appears well maintained.
3. Continue to obtain weir and piezometer readings at least once per month. It is recommended to perform the maintenance/repair items on the piezometers as soon as possible so that these may be able to be properly measured.
4. The downstream section of the primary spillway should be monitored for movement (see Comment Nos. 56 and 58).

NAME OF DAM: Sink Run Reservoir No. 2	DEP DAM NO.: D07-002	DATE: 10/10/2025

ITEM	CONDITION	COMMENTS	MONITOR	INVESTIGATE	REPAIR
CONCRETE/MASONRY DAMS: CREST					
105	Surface Conditions	N/A	☐	☐	☐
106	Horizontal Alignment	N/A	☐	☐	☐
107	Vertical Alignment	N/A	☐	☐	☐
108	Condition of Joints	N/A	☐	☐	☐
109	Unusual Movements	N/A	☐	☐	☐
110			☐	☐	☐
111			☐	☐	☐
Additional Comments (Refer to item number if applicable):					
RESERVOIR AREA					
112	Sedimentation	None observed.	☐	☐	☐
113	Slope Stability	Wooded slopes appear stable (see below).	☒	☐	☐
114	Sinkholes	None observed.	☐	☐	☐
115	Fractures	None observed.	☐	☐	☐
116	Unwanted Growth	Not significant.	☐	☐	☐
117	Storage Gage	None observed.	☐	☐	☐
118			☐	☐	☐
119			☐	☐	☐
Additional Comments (Refer to item number if applicable): 113. At the secondary spillway, the left rockface shows some evidence of rockfall and should be monitored.					

Dam Safety High Hazard Dam Inspection Checklist Page 10 of 14 Date Revised: 1/09

2025 Sink Run Reservoir No. 2 Inspection Report Page 11 of 45

NAME OF DAM: Sink Run Reservoir No. 2	DEP DAM NO.: D07-002	DATE: 10/10/2025

ITEM	CONDITION	COMMENTS	MONITOR	INVESTIGATE	REPAIR
CONCRETE/MASONRY DAMS: UPSTREAM FACE					
91	Surface Conditions	N/A	☐	☐	☐
92	Condition of Joints	N/A	☐	☐	☐
93	Unusual Movement	N/A	☐	☐	☐
94	Abutment-Dam Contacts	N/A	☐	☐	☐
95			☐	☐	☐
96			☐	☐	☐
Additional Comments (Refer to item number if applicable):					
CONCRETE/MASONRY DAMS: DOWNSTREAM FACE					
97	Surface Conditions	N/A	☐	☐	☐
98	Condition of Joints	N/A	☐	☐	☐
99	Unusual Movement	N/A	☐	☐	☐
100	Abutment-Dam Contacts	N/A	☐	☐	☐
101	Drains	N/A	☐	☐	☐
102	Leakage	N/A	☐	☐	☐
103			☐	☐	☐
104			☐	☐	☐
Additional Comments (Refer to item number if applicable):					

NAME OF DAM: Sink Run Reservoir No. 2	DEP DAM NO.: D07-002	DATE: 10/10/2025

ITEM	CONDITION	COMMENTS	MONITOR	INVESTIGATE	REPAIR
		SPILLWAYS: DROP INLET			
73	Intake Structure	N/A	☐	☐	☐
74	Trashrack	N/A	☐	☐	☐
75	Stilling Basin	N/A	☐	☐	☐
76			☐	☐	☐
77			☐	☐	☐

Additional Comments (Refer to item number if applicable):

		OUTLET WORKS			
78	Intake Structure	Submerged, unable to inspect.	☐	☐	☐
79	Trashrack	Submerged, unable to inspect.	☐	☐	☐
80	Stilling Basin	Plunge basin (see below).	☐	☐	☒
81	Primary Closure	Slide gate within control tower (see Comment No. 83 below).	☐	☐	☐
82	Secondary Closure	Slide gate within control tower (see Comment No. 83 below).	☐	☐	☐
83	Control Mechanism	See below.	☐	☐	☐
84	Outlet Pipe	Submerged, unable to inspect.	☐	☐	☐
85	Outlet Tower	Good condition; fenced for security.	☐	☐	☐
86	Outlet Structure	Concrete stilling basin; good condition.	☐	☐	☐
87	Seepage	None observed.	☐	☐	☐
88	Unusual Movement	None observed.	☐	☐	☐
89			☐	☐	☐
90			☐	☐	☐

Additional Comments (Refer to item number if applicable):

80. North side gabions and downstream channel repaired in 2022/2023. A storm in 2024 damaged the gabion baskets and channel again, and repairs are planned to be undertaken in the upcoming reservoir rehabilitation project.

83. The discharge drain gates noted as damaged in the 2023 inspection have finished construction and are again fully operational. The gates were all tested after construction completion in late 2025. The gates should continue to be exercised a minimum of four times per year. Periodic visual inspections should also be done on the guide rails and shafts to ensure structural integrity.

NAME OF DAM: Sink Run Reservoir No. 2	DEP DAM NO.: D07-002	DATE: 10/10/2025

ITEM	CONDITION	COMMENTS	MONITOR	INVESTIGATE	REPAIR
SPILLWAYS: NON-ERODABLE CHANNEL (SECONDARY SPILLWAY – LEFT)					
65	Sidewalls	See below.	☒	☐	☒
66	Channel Floor	See below.	☒	☒	☒
67	Unusual Movement	Possible inward rotation of right wall at joint at the toe of the stepped section.	☒	☐	☒
68	Approach Area	Waterway clear; see below.	☒	☐	☐
69	Weir or Control	See below.	☒	☐	☒
70	Discharge Channel	Clear trees and brush from channel.	☐	☐	☒
71	Boils	Several hollow sounding areas in the floor. It is likely these will spall in the future. Some have already spalled and washed out due to high flow events. See Comment No. 66.	☒	☐	☒
72	Wooden Bridge	No apparent defects, but a bridge inspection was not performed.	☐	☐	☐

Additional Comments (Refer to item number if applicable):

65. Overall, sidewalls appear in moderately good condition with all sections having minor surface erosion along the floor. Numerous drain holes show significant rust; it is unknown if this is just the pipe through the wall or if the underdrain system contains metal pipe. The right wall joint at the toe of the stepped section is "pinched" tight at the top of the joint and may also have a possible slight rotation inward. Both walls at the top of the stairs appear to have been previously repaired with a fiberglass mesh and mortar skim coat; there are numerous areas where the skim coat is delaminating. These areas should be included in the upcoming reservoir rehabilitation project.

66. Overall, the floor is in moderate condition. Vegetation should be removed from all joints, and joints require sealing. Both the upper and lower sections have areas of cracked concrete that sound hollow and will likely spall. This is most pronounced in the lower section below the steps. Some of these areas have already spalled from the 2024 inspection, and some areas have been washed out likely due to high flow events. In addition to this, concrete has begun to spall and form potholes near the top of the stepped section. Tyrone staff identified a possible seepage area below the weir the discharging onto the floor. A close inspection was not able to reveal the exact location of this potential seepage. This should continue to be investigated. This and other areas noted in this report should be repaired with the upcoming reservoir rehabilitation project.

68. Two large cracks in right approach wall to abutment should be repaired in the upcoming reservoir rehabilitation project. Left hillside shows evidence of rockfall and should be monitored. Both approach walls and abutments exhibit delaminating grout identified in Comment No. 65. On the right wall, there are two large cracks upstream of the weir that require repair in the upcoming reservoir rehabilitation project (see Photo No. 33).

69. A crack in the weir near the center below the overflow elevation did not appear to discharge water during this inspection report. It appears that it has been sealed. A previous patch on the weir has begun to separate from the base and will require repair. These should continue to be monitored. Further repairs of the weir should be included in the upcoming reservoir rehabilitation project.

NAME OF DAM: Sink Run Reservoir No. 2	DEP DAM NO.: D07-002	DATE: 10/10/2025

ITEM	CONDITION	COMMENTS	MONITOR	INVESTIGATE	REPAIR
SPILLWAYS: NON-ERODABLE CHANNEL (PRIMARY SPILLWAY – RIGHT)					
56	Sidewalls	See below.	☒	☐	☒
57	Channel Floor	See below.	☒	☐	☒
58	Unusual Movement	Last section of spillway may be rotating downward. See Comment No. 56 below.	☒	☐	☐
59	Approach Area	Waterway clear; right approach wall and fence in good condition; both abutments appear in good condition. See below.	☒	☐	☒
60	Weir or Control	See below.	☒	☐	☐
61	Discharge Channel	Unobstructed.	☐	☐	☐
62	Boils	Several hollow sounding areas in the floor. See Comment No. 57 below.	☒	☐	☒
63			☐	☐	☐
64			☐	☐	☐

Additional Comments (Refer to item number if applicable):

56. Overall, sidewalls appear in good condition, but all have minor surface erosion along the floor and sporadic surface efflorescence. Several sections have cracks approximately 6" from the joint of the adjacent section, and the left wall has sporadic cracks with signs of previous leakage mid-span. The last section of each wall on both sides of the channel (approximate Station 2+08) have slightly rotated downward away from the upstream section with the right wall displaying more rotation than the left. This may be due to the failed gabion baskets at the end of the deflector bucket (the gabions have since been rebuilt but were again damaged in a storm in 2024; see Photo No. 15). The right wall at approximate Station 0+21 has an area of significant cracks of approximately 48" in length across the entire thickness of the wall at the downstream side of the joint (see Photo Nos. 17/18). Cracks are 16" below the top of the wall on the inside face at the floor. In 2024 and 2025, it was noted that both the upstream and downstream faces of the left wall and right wall have slight ruts likely due to erosion. This should continue to be monitored. These issues will be included in the upcoming reservoir rehabilitation project.
57. Overall, the floor is in good condition. Several slabs have settled at the upstream edge, and hollow sounding areas are present along the top edge on some of them. The worst slab is adjacent to the weir. Brush and debris shall be removed from the channel floor. Areas of the floor in need of repair are planned to be included in the upcoming reservoir rehabilitation project.
59. Some large logs and debris present prior to the weir. These should be removed from the flow path.
60. Weir appears in good condition. One joint seal should be resealed when the water level is below the weir.

NAME OF DAM: Sink Run Reservoir No. 2	DEP DAM NO.: D07-002	DATE: 10/10/2025

ITEM	CONDITION	COMMENTS	MONITOR	INVESTIGATE	REPAIR
		DOWNSTREAM AREA			
38	Abutment Leakage	None observed.	☐	☐	☐
39	Foundation Seepage	None observed (see below).	☒	☐	☒
40	Slide, Slough, Scarp	None observed.	☐	☐	☐
41	Drainage System	Relief wells outlet not inspected (see below).	☐	☒	☐
42	Boils	None observed.	☐	☐	☐
43	Wet Areas	None observed.	☐	☐	☐
44	Reservoir Slopes	Woods and brush in good condition.	☐	☐	☐
45	Access Roads	Good condition.	☐	☐	☐
46	Security Devices	Property is partially fenced.	☐	☐	☐
47	Act 91 Run-of-the-River Signs or Buoys	None observed.	☐	☐	☐
48			☐	☐	☐
49			☐	☐	☐

Additional Comments (Refer to item number if applicable):
39. The heavy brush on the riprap toe should be removed. Although no foundation seepage was observed, the removal of the heavy brush will allow for a more proper inspection of the foundation in the future. The repairs to the riprap toe are planned with the upcoming reservoir rehabilitation.
41. Relief well outlets should have brush cut so they can be delineated for future reference.

		SPILLWAYS: ERODABLE CHANNEL			
50	Slide, Slough, Scarp	N/A	☐	☐	☐
51	Erosion	N/A	☐	☐	☐
52	Vegetation Condition	N/A	☐	☐	☐
53	Debris	N/A	☐	☐	☐
54			☐	☐	☐
55			☐	☐	☐

Additional Comments (Refer to item number if applicable):

NAME OF DAM: Sink Run Reservoir No. 2	DEP DAM NO.: D07-002	DATE: 10/10/2025

ITEM	CONDITION	COMMENTS	MONITOR	INVESTIGATE	REPAIR
EMBANKMENT: INSTRUMENTATION					
28	Piezometers/Observ. Wells	Equipped (see below).	☒	☐	☒
29	Staff Gauge and Recorder	Gauge painted on left abutment of primary spillway.	☐	☐	☐
30	Weirs	Underdrain measuring weir needs to be maintained (see below).	☐	☐	☒
31	Survey Monuments	Equipped but not inspected.	☐	☐	☐
32	Drains	20" underdrain open and flowing.	☐	☐	☐
33	Low Flow Release	N/A due to plunge basin construction.	☐	☐	☐
34	Frequency of Readings	Monthly except when reservoir is frozen.	☐	☐	☐
35	Location of Records	Water Filtration Plant office.	☐	☐	☐
36			☐	☐	☐
37			☐	☐	☐

Additional Comments (Refer to item number if applicable):
28. It was noted in last year's report that maintenance/repair work was needed on the piezometers in order to obtain accurate readings. This work is ongoing, and Tyrone is committed to resolving this issue soon to provide accurate piezometer readings in the future.
30. Cut brush and weeds around weir; clean sediment, muck, and iron hydroxide scum from area of weir on periodic basis.

NAME OF DAM: Sink Run Reservoir No. 2	DEP DAM NO.: D07-002	DATE: 10/10/2025

ITEM	CONDITION	COMMENTS	MONITOR	INVESTIGATE	REPAIR
EMBANKMENT: UPSTREAM FACE					
10	Slide, Slough, Scarp	None observed.	☐	☐	☐
11	Slope Protection	N/A – sealed asphalt surface; good condition above normal pool elevation.	☐	☐	☐
12	Sinkhole, Animal Burrow	None observed.	☐	☐	☐
13	Emb.-Abut. Contact	See below.	☒	☐	☒
14	Erosion	See below.	☒	☐	☒
15	Vegetation Condition	Some vegetation growth at cracking.	☒	☐	☒
16			☐	☐	☐
17			☐	☐	☐

Additional Comments (Refer to item number if applicable):

13. Cracking along the primary spillway left wall is evident and should be repaired in the upcoming rehabilitation project. See Photo No. 4. There is also evidence of minor separation at the primary spillway that should be repaired with the upcoming reservoir rehabilitation.

14. The area of the upstream face which is usually submerged below the normal pool elevation shows erosion of the impermeable asphalt layer along the entire dam with various areas displaying divots, pinholes, and general surface disturbance. This is likely due to routine wave action. Several areas at transverse cracks show the cracks extend into the sub-permeable asphalt layer. It appears portions of this area may have been repaired previously. A closer inspection was performed in 2025 to confirm these aspects with previous reports. No significant deterioration is visible from past inspection reports. This area should continue to be monitored and repaired with the upcoming reservoir rehabilitation.

ITEM	CONDITION	COMMENTS	MONITOR	INVESTIGATE	REPAIR
EMBANKMENT: DOWNSTREAM FACE					
18	Wet Area(s) (No Flow)	None observed.	☐	☐	☐
19	Seepage	None observed.	☐	☐	☐
20	Slide, Slough, Scarp	None observed.	☐	☐	☐
21	Emb. - Abut. Contact	Good condition.	☐	☐	☐
22	Sinkhole, Animal Burrow	See below.	☒	☐	☒
23	Erosion	None observed.	☐	☐	☐
24	Unusual Movement	None observed.	☐	☐	☐
25	Vegetation Control	Mowed grass, good condition.	☒	☐	☐
26			☐	☐	☐
27			☐	☐	☐

Additional Comments (Refer to item number if applicable):

22. Animal burrows near the center of the embankment near the crest noted in the 2024 report were not observed. However, new animal burrows have appeared in similar areas on the downstream face near the crest. Continue to monitor and fill burrows as necessary.

25. Vegetation around relief wells and well outlets should be kept cut.

NAME OF DAM: Sink Run Reservoir No. 2	DEP DAM NO.: D07-002	DATE: 10/10/2025

ITEM	CONDITION	COMMENTS	MONITOR	INVESTIGATE	REPAIR
	EMBANKMENT: CREST				
1	Surface Cracking	Longitudinal and transverse cracks (see below).	☒	☐	☒
2	Sinkhole, Animal Burrow	None observed.	☐	☐	☐
3	Low Area(s)	See below.	☒	☐	☐
4	Horizontal Alignment	Good condition.	☐	☐	☐
5	Ruts and/or Puddles	None observed.	☐	☐	☐
6	Vegetation Condition	Sealed asphalt surface; vegetation growth at cracking (see below).	☒	☐	☒
7	Warning Signs	None observed, but property is partially fenced.	☐	☐	☐
8			☐	☐	☐
9			☐	☐	☐

Additional Comments (Refer to item number if applicable):

1. Longitudinal cracks along the breaklines in the asphalt deck along the entire crest and are likely due to shrinkage. Some potential new longitudinal and transverse cracks were noted in this inspection likely due to shrinkage. There are several minor transverse cracks that align with cracks in the upstream face. Previous reports indicated cracks were sealed in 2015. Crack sealing is anticipated to be undertaken in in the near future with the reservoir rehabilitation project.

3. Some minor low areas were observed specifically near the center of the embankment where longitudinal cracks are present at the interface of the crest and upstream face. These should continue to be monitored along with the surface cracking.

6. Vegetation should be removed at cracking in the asphalt surface. This should correspond with the crack sealing work.

DAM INSPECTION CHECKLIST
Department of Environmental Protection
Bureau of Waterways Engineering
Division of Dam Safety

NAME OF DAM: Sink Run Reservoir No. 2 **DEP DAM NO.:** D07-002

LOCATION: **Municipality:** Snyder Township **County:** Blair County

DEP CLASSIFICATION DATA: **Size:** B **Hazard:** 1

PHYSICAL DATA:
Type of Dam: Earth Fill **Height of Dam:** 51 FT **Normal Pool Storage Capacity:** 460 AC-FT

ELEVATIONS:
Normal Pool: 1,218.42 FT **Pool at Inspection:** 1,218.42 FT **Tailwater at Inspection:** 1,174.00 FT

DAM OWNER: Borough of Tyrone **OPERATOR:** Borough of Tyrone – Donald Shultz

ADDRESS: 1100 Logan Avenue, Tyrone, PA 16686

PHONE: (814) 684-5396 **FAX NO.:** (___)-___-____ **E-MAIL ADDRESS:** dshultz@tyroneboropa.com

A completed and signed Dam Owners Notice Checklist is to accompany this Inspection Checklist.

PERSONS PRESENT AT INSPECTION:

Name	Title/Position	Representing
Matthew A. Coleman, PE	Engineer	RETTEW Associates, Inc.
Donald Shultz	Water Superintendent	Borough of Tyrone

DATE OF INSPECTION: 10/10/2024

WEATHER: Overcast

TEMPERATURE: 45°F

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
MATTHEW ALEXANDER COLEMAN
ENGINEER
No. PE-093760

12-23-2025

This is to certify that the above dam has been inspected and the following are the results of this inspection.

Signature of Registered Professional Engineer (P.E. Seal Required) — Date: 12/23/2025

Date Revised: 1/2009

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D7-002 SINK RUN RESERVOIR NO. 2
2025 ANNUAL INSPECTION
SNYDER TOWNSHIP, BLAIR COUNTY, PA

RETTEW Project No. 1230003114

REPORT DATE: DECEMBER 23, 2024
INSPECTION COMPLETED ON: OCTOBER 10, 2025



Prepared by
RETTEW Associates, Inc.
330 Innovation Boulevard, Suite 104
State College, PA 16803
800.738.8395
rettew.com

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
MATTHEW ALEXANDER COLEMAN
ENGINEER
No. PE-053780

12-23-2025

RETTEW

Blair County Planning Commission

MacKenzie Caron mcaron@blairplanning.org

Ben Peng ben@stuartgroup.org

- ☐ Email **Emergency Action Plan** to MacKenzie and/or Ben
  - ☑ Sent! (Email subject title – "Hazard Dam Information")
- ☐ Email **Condition Report/Assessment** to MacKenzie and/or Ben
  - ☐ Sent! (Email subject title – "Hazard Dam Information")
- ☐ Email **any other relevant information** to MacKenzie and/or Ben
  - ☐ Sent! (Email subject title – "Hazard Dam Information")

Blair County Planning Commission

☐ Estimated Environmental impact (wetland, parks, river, stream, lakes) from dam failure in inundation zone:

☐ Social Impact (population with functional needs, language barrier, poverty, infant, elderly in inundation zone) from dam failure in inundation zone:

☐ How would a proposed action reduce High Hazard Potential Dam risk?
Identifying potential emergency situation before they become an emergency
☐ How would the proposed action reduce the risks of dam's deficiency?

☐ Degree to which an action reduces Population At risk: _____

☐ Is your infrastructure under multiple jurisdiction?

☐ Yes

☑ No

☐ Please estimate share of authority: _____

Completed by: Katie Semelsberger

Date: 2/4/2026

- ☐ Landslide
- ☐ Slope instability
- ☐ Earthquake
- ☐ Other: _____

☐ Known Structural issues or deficiencies (if known): None

☐ Most recent inspection conducted by: Gannett Fleming, Inc.

☐ Approximate inspection date (if known): May 2025

☐ Are condition assessments or reports available?

- ☐ Yes
- ☐ No
- ☑ Unknown

☐ Would your dam failure impact multiple jurisdictions?

- ☑ Yes
- ☐ No
- ☐ Unknown

☐ Document your approach and limitation to address deficiencies:

Quarterly and Annual Dam Inspections with a professional engineer.

☐ Estimated economic impact (economic damage) from dam failure based on community assets in HHPD inundation zone:

- ☐ Emergency services
- ☑ Unknown

☐ Do you have a dam breach inundation map?

- ☑ Yes
- ☐ No
- ☐ Unknown

☐ Model of dam breach inundation map.

- ☐ HEC-RAS
- ☐ DSS-WISE
- ☐ FLO-2D
- ☑ Other:

☐ Does the plan have an Emergency Action Plan (EAP)?

- ☑ Yes
- ☐ No
- ☐ Other: _____

☐ When was EAP last updated (if known): 7/2022

☐ Known or potential causes of failure (check any)

- ☑ Severe storm / flooding
- ☑ Structural aging
- ☐ Erosion
- ☑ Seepage

Blair County Planning Commission

High Hazard Potential Dam Data Collection

Dam Name: Tipton Dam

Municipality / Jurisdiction of Dam: Antis Township

Dam: Owner (Public/Private): Altoona Water Authority

Primary Contact Name & Title: Katie Semelsberger Land Manager

Phone / Email: 814-949-2222, x2026/KSemelsberger@altoonawater.gov

☐ Dam Location & Downstream Area

☐ Dam address or general location: Along SR 4023

☐ Downstream municipalities potentially affected (if known):
Antis, Tipton, Charlottesville, Snyder, Grazierville, Tyrone, Nealmont, Tyrone Forge, Ironvil
Warriors Mark, Birmingham, Shoenberger, Morris, Union Furnace, Spruce Creek, Porter, etc

☐ Population & Facilities at Risk (Estimate): _____

☐ Unknown

☐ <10

☐ 10-50

☑ 50+

☐ Known Facilities downstream (check any that apply & Indicate location)

☑ Homes: 1,200

☐ Schools: _____

☐ Hospitals / healthcare: _____

☐ Roads / bridges: _____

☐ Utilities (water, power, wastewater): _____

Blair County Planning Commission

MacKenzie Caron mcaron@blairplanning.org

Ben Peng ben@stuartgroup.org

- ☐ Email **Emergency Action Plan** to MacKenzie and/or Ben
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- ☐ Email **Condition Report/Assessment** to MacKenzie and/or Ben
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Blair County Planning Commission

☐ Estimated Environmental impact (wetland, parks, river, stream, lakes) from dam failure in inundation zone:

☐ Social Impact (population with functional needs, language barrier, poverty, infant, elderly in inundation zone) from dam failure in inundation zone:

☐ How would a proposed action reduce High Hazard Potential Dam risk?
Identifying potential emergency situations before they become an emergency
☐ How would the proposed action reduce the risks of dam's deficiency?

☐ Degree to which an action reduces Population At risk: _____

☐ Is your infrastructure under multiple jurisdiction?

☐ Yes

☑ No

☐ Please estimate share of authority: _____

Completed by: Katie Semelsberger

Date: 2/48/2026

Blair County Planning Commission

- ☐ Landslide
- ☐ Slope instability
- ☐ Earthquake
- ☐ Other: _____

☐ Known Structural issues or deficiencies (if known): Void beneath spillway

☐ Most recent inspection conducted by: Gannett Fleming, Inc.

☐ Approximate inspection date (if known): May 2025

☐ Are condition assessments or reports available?

- ☐ Yes
- ☐ No
- ☑ Unknown

☐ Would your dam failure impact multiple jurisdictions?

- ☑ Yes
- ☐ No
- ☐ Unknown

☐ Document your approach and limitation to address deficiencies:

Quarterly and Annual Dam Inspections with a professional engineer. Awaiting funds for an asses

☐ Estimated economic impact (economic damage) from dam failure based on community assets in HHPD inundation zone:

- ☐ Emergency services
- ☑ Unknown

☐ Do you have a dam breach inundation map?

- ☑ Yes
- ☐ No
- ☐ Unknown

☐ Model of dam breach inundation map.

- ☐ HEC-RAS
- ☐ DSS-WISE
- ☐ FLO-2D
- ☑ Other:

☐ Does the plan have an Emergency Action Plan (EAP)?

- ☑ Yes
- ☐ No
- ☐ Other: _____

☐ When was EAP last updated (if known): 07/2022

☐ Known or potential causes of failure (check any)

- ☑ Severe storm / flooding
- ☐ Structural aging
- ☑ Erosion
- ☑ Seepage

Blair County Planning Commission

High Hazard Potential Dam Data Collection

Dam Name: Plane Nine Dam

Municipality / Jurisdiction of Dam: Juniata Township

Dam: Owner (Public/Private): Altoona Water Authority

Primary Contact Name & Title: Katie Semelsberger

Phone / Email: 814-949-2222, x2026/KSemelsberger@altoonawater.gov

☐ Dam Location & Downstream Area

- ☐ Dam address or general location: Along Old U.S Route 22
- ☐ Downstream municipalities potentially affected (if known): Juniata, Allegheny, Foot of Ten, Fort Fetter, Duncansville, Blair, Gaysport, Hollidaysburg, Reese, Frankstown, Geeseytown, Horrell, Canoe Creek, and Flowing Spring.

☐ Population & Facilities at Risk (Estimate): _____

- ☐ Unknown
- ☐ <10
- ☐ 10-50
- ☑ 50+

☐ Known Facilities downstream (check any that apply & Indicate location)

- ☑ Homes: 1,650
- ☑ Schools: 1
- ☐ Hospitals / healthcare: _____
- ☐ Roads / bridges: _____
- ☐ Utilities (water, power, wastewater): _____

Blair County Planning Commission

MacKenzie Caron mcaron@blairplanning.org

Ben Peng ben@stuartgroup.org

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- ☐ Email **any other relevant information** to MacKenzie and/or Ben
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Blair County Planning Commission

☐ Estimated Environmental impact (wetland, parks, river, stream, lakes) from dam failure in inundation zone:

☐ Social Impact (population with functional needs, language barrier, poverty, infant, elderly in inundation zone) from dam failure in inundation zone:

☐ How would a proposed action reduce High Hazard Potential Dam risk?
Identifying potential emergency situations before they become an emergency
☐ How would the proposed action reduce the risks of dam's deficiency?

☐ Degree to which an action reduces Population At risk: _____

☐ Is your infrastructure under multiple jurisdiction?

☐ Yes

☑ No

☐ Please estimate share of authority: _____

Completed by: Katie Semelsberger

Date: 2/48/2026

Blair County Planning Commission

- ☐ Landslide
- ☐ Slope instability
- ☐ Earthquake
- ☐ Other: _____

☐ Known Structural issues or deficiencies (if known): None

☐ Most recent inspection conducted by: Gannett Fleming, Inc.

☐ Approximate inspection date (if known): May 2025

☐ Are condition assessments or reports available?

- ☐ Yes
- ☐ No
- ☑ Unknown

☐ Would your dam failure impact multiple jurisdictions?

- ☑ Yes
- ☐ No
- ☐ Unknown

☐ Document your approach and limitation to address deficiencies:

Quarterly and Annual Dam Inspections with a professional engineer.

☐ Estimated economic impact (economic damage) from dam failure based on community assets in HHPD inundation zone:

- ☐ Emergency services
- ☑ Unknown

☐ Do you have a dam breach inundation map?

- ☑ Yes
- ☐ No
- ☐ Unknown

☐ Model of dam breach inundation map.

- ☐ HEC-RAS
- ☐ DSS-WISE
- ☐ FLO-2D
- ☑ Other:

☐ Does the plan have an Emergency Action Plan (EAP)?

- ☑ Yes
- ☐ No
- ☐ Other: _____

☐ When was EAP last updated (if known): 07/2022

☐ Known or potential causes of failure (check any)

- ☑ Severe storm / flooding
- ☑ Structural aging
- ☐ Erosion
- ☑ Seepage

Blair County Planning Commission

High Hazard Potential Dam Data Collection

Dam Name: Mill Run Dam

Municipality / Jurisdiction of Dam: Logan Township

Dam: Owner (Public/Private): Altoona Water Authority

Primary Contact Name & Title: Katie Semelsberger

Phone / Email: 814-949-2222, x2026/KSemelsberger@altoonawater.gov

☐ Dam Location & Downstream Area

- ☐ Dam address or general location: Along Old Mill Run Road
- ☐ Downstream municipalities potentially affected (if known):
  Logan Twp., South Altoona, Allegheny Twp., Blair Twp., Canan, Mill Run, Blair Twp., Fort Fetter, Gaysport, Hollidaysburg, Frankstown Twp., Frankstown, Reese, Horrell, Canoe Creek, etc.

☐ Population & Facilities at Risk (Estimate): _____

- ☐ Unknown
- ☐ <10
- ☐ 10-50
- ☑ 50+

☐ Known Facilities downstream (check any that apply & Indicate location)

- ☑ Homes: 3,650
- ☑ Schools: 1
- ☐ Hospitals / healthcare: _____
- ☐ Roads / bridges: _____
- ☐ Utilities (water, power, wastewater): _____

Blair County Planning Commission

MacKenzie Caron mcaron@blairplanning.org

Ben Peng ben@stuartgroup.org

- ☐ Email **Emergency Action Plan** to MacKenzie and/or Ben
  - ☑ Sent! (Email subject title – "Hazard Dam Information")
- ☐ Email **Condition Report/Assessment** to MacKenzie and/or Ben
  - ☐ Sent! (Email subject title – "Hazard Dam Information")
- ☐ Email **any other relevant information** to MacKenzie and/or Ben
  - ☐ Sent! (Email subject title – "Hazard Dam Information")



☐ Estimated Environmental impact (wetland, parks, river, stream, lakes) from dam failure in inundation zone:

☐ Social Impact (population with functional needs, language barrier, poverty, infant, elderly in inundation zone) from dam failure in inundation zone:

☐ How would a proposed action reduce High Hazard Potential Dam risk?
Identifying potential emergency situation before they become an emergency

☐ How would the proposed action reduce the risks of dam's deficiency?

☐ Degree to which an action reduces Population At risk: _____

☐ Is your infrastructure under multiple jurisdiction?

☐ Yes

☑ No

☐ Please estimate share of authority: _____

Completed by: Katie Semelsberger

Date: 2/4/2026

Blair County Planning Commission

High Hazard Potential Dam Data Collection

Dam Name: Plane Nine Dam

Municipality / Jurisdiction of Dam: Juniata Township

Dam: Owner (Public/Private): Altoona Water Authority

Primary Contact Name & Title: Katie Semelsberger

Phone / Email: 814-949-2222, x2026/KSemelsberger@altoonawater.gov

☐ Dam Location & Downstream Area

- ☐ Dam address or general location: Along Old U.S Route 22
- ☐ Downstream municipalities potentially affected (if known):
  Juniata, Allegheny, Foot of Ten, Fort Fetter, Duncansville, Blair, Gaysport, Hollidaysburg, Reese, Frankstown, Geeseytown, Horrell, Canoe Creek, and Flowing Spring.

☐ Population & Facilities at Risk (Estimate): _____

- ☐ Unknown
- ☐ <10
- ☐ 10-50
- ☑ 50+

☐ Known Facilities downstream (check any that apply & Indicate location)

- ☑ Homes: 1,650
- ☑ Schools: 1
- ☐ Hospitals / healthcare: _____
- ☐ Roads / bridges: _____
- ☐ Utilities (water, power, wastewater): _____

- ☐ Emergency services
- ☑ Unknown

☐ Do you have a dam breach inundation map?

- ☑ Yes
- ☐ No
- ☐ Unknown

☐ Model of dam breach inundation map.

- ☐ HEC-RAS
- ☐ DSS-WISE
- ☐ FLO-2D
- ☑ Other:

☐ Does the plan have an Emergency Action Plan (EAP)?

- ☑ Yes
- ☐ No
- ☐ Other: _____

☐ When was EAP last updated (if known): 07/2022

☐ Known or potential causes of failure (check any)

- ☑ Severe storm / flooding
- ☐ Structural aging
- ☑ Erosion
- ☑ Seepage

Blair County Planning Commission

- ☐ Landslide
- ☐ Slope instability
- ☐ Earthquake
- ☐ Other: _____

☐ Known Structural issues or deficiencies (if known): Void beneath spillway

☐ Most recent inspection conducted by: Gannett Fleming, Inc.

☐ Approximate inspection date (if known): May 2025

☐ Are condition assessments or reports available?

- ☐ Yes
- ☐ No
- ☑ Unknown

☐ Would your dam failure impact multiple jurisdictions?

- ☑ Yes
- ☐ No
- ☐ Unknown

☐ Document your approach and limitation to address deficiencies:

Quarterly and Annual Dam Inspections with a professional engineer. Awaiting funds for an asses

☐ Estimated economic impact (economic damage) from dam failure based on community assets in HHPD inundation zone:

Blair County Planning Commission

☐ Estimated Environmental impact (wetland, parks, river, stream, lakes) from dam failure in inundation zone:

☐ Social Impact (population with functional needs, language barrier, poverty, infant, elderly in inundation zone) from dam failure in inundation zone:

☐ How would a proposed action reduce High Hazard Potential Dam risk?
Identifying potential emergency situations before they become an emergency

☐ How would the proposed action reduce the risks of dam's deficiency?

☐ Degree to which an action reduces Population At risk: _____

☐ Is your infrastructure under multiple jurisdiction?

☐ Yes

☑ No

☐ Please estimate share of authority: _____

Completed by: Katie Semelsberger

Date: 2/48/2026

Blair County Planning Commission

MacKenzie Caron mcaron@blairplanning.org

Ben Peng ben@stuartgroup.org

- ☐ Email **Emergency Action Plan** to MacKenzie and/or Ben
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  - ☐ Sent! (Email subject title – "Hazard Dam Information")
- ☐ Email **any other relevant information** to MacKenzie and/or Ben
  - ☐ Sent! (Email subject title – "Hazard Dam Information")

Blair County Planning Commission

High Hazard Potential Dam Data Collection

Dam Name: Tipton Dam

Municipality / Jurisdiction of Dam: Antis Township

Dam: Owner (Public/Private): Altoona Water Authority

Primary Contact Name & Title: Katie Semelsberger Land Manager

Phone / Email: 814-949-2222, x2026/KSemelsberger@altoonawater.gov

☐ Dam Location & Downstream Area

- ☐ Dam address or general location: Along SR 4023
- ☐ Downstream municipalities potentially affected (if known):
  Antis, Tipton, Charlottesville, Snyder, Grazierville, Tyrone, Nealmont, Tyrone Forge, Ironvil
  Warriors Mark, Birmingham, Shoenberger, Morris, Union Furnace, Spruce Creek, Porter, etc

☐ Population & Facilities at Risk (Estimate): _____

- ☐ Unknown
- ☐ <10
- ☐ 10-50
- ☑ 50+

☐ Known Facilities downstream (check any that apply & Indicate location)

- ☑ Homes: 1,200
- ☐ Schools: _____
- ☐ Hospitals / healthcare: _____
- ☐ Roads / bridges: _____
- ☐ Utilities (water, power, wastewater): _____

- ☐ Emergency services
- ☑ Unknown

☐ Do you have a dam breach inundation map?

- ☑ Yes
- ☐ No
- ☐ Unknown

☐ Model of dam breach inundation map.

- ☐ HEC-RAS
- ☐ DSS-WISE
- ☐ FLO-2D
- ☑ Other:

☐ Does the plan have an Emergency Action Plan (EAP)?

- ☑ Yes
- ☐ No
- ☐ Other: _____

☐ When was EAP last updated (if known): 7/2022

☐ Known or potential causes of failure (check any)

- ☑ Severe storm / flooding
- ☑ Structural aging
- ☐ Erosion
- ☑ Seepage

- ☐ Landslide
- ☐ Slope instability
- ☐ Earthquake
- ☐ Other: _____

☐ Known Structural issues or deficiencies (if known): None

☐ Most recent inspection conducted by: Gannett Fleming, Inc.

☐ Approximate inspection date (if known): May 2025

☐ Are condition assessments or reports available?

- ☐ Yes
- ☐ No
- ☑ Unknown

☐ Would your dam failure impact multiple jurisdictions?

- ☑ Yes
- ☐ No
- ☐ Unknown

☐ Document your approach and limitation to address deficiencies:

Quarterly and Annual Dam Inspections with a professional engineer.

☐ Estimated economic impact (economic damage) from dam failure based on community assets in HHPD inundation zone:

Blair County Planning Commission

☐ Estimated Environmental impact (wetland, parks, river, stream, lakes) from dam failure in inundation zone:

☐ Social Impact (population with functional needs, language barrier, poverty, infant, elderly in inundation zone) from dam failure in inundation zone:

☐ How would a proposed action reduce High Hazard Potential Dam risk?
Identifying potential emergency situation before they become an emergency

☐ How would the proposed action reduce the risks of dam's deficiency?

☐ Degree to which an action reduces Population At risk: _____

☐ Is your infrastructure under multiple jurisdiction?

☐ Yes

☑ No

☐ Please estimate share of authority: _____

Completed by: Katie Semelsberger

Date: 2/4/2026

Blair County Planning Commission

MacKenzie Caron mcaron@blairplanning.org

Ben Peng ben@stuartgroup.org

- ☐ Email **Emergency Action Plan** to MacKenzie and/or Ben
  - ☑ Sent! (Email subject title – "Hazard Dam Information")
- ☐ Email **Condition Report/Assessment** to MacKenzie and/or Ben
  - ☐ Sent! (Email subject title – "Hazard Dam Information")
- ☐ Email **any other relevant information** to MacKenzie and/or Ben
  - ☐ Sent! (Email subject title – "Hazard Dam Information")

D7-002 SINK RUN RESERVOIR NO. 2
2025 ANNUAL INSPECTION
SNYDER TOWNSHIP, BLAIR COUNTY, PA

RETTEW Project No. 1230003114

REPORT DATE: DECEMBER 23, 2024
INSPECTION COMPLETED ON: OCTOBER 10, 2025



Prepared by
RETTEW Associates, Inc.
330 Innovation Boulevard, Suite 104
State College, PA 16803
800.738.8395
rettew.com

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
MATTHEW ALEXANDER COLEMAN
ENGINEER
No. PE-053750

12-23-2025

RETTEW

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DAM INSPECTION CHECKLIST

RETTEW

DAM INSPECTION CHECKLIST
Department of Environmental Protection
Bureau of Waterways Engineering
Division of Dam Safety

NAME OF DAM: Sink Run Reservoir No. 2 **DEP DAM NO.:** D07-002

LOCATION: **Municipality:** Snyder Township **County:** Blair County

DEP CLASSIFICATION DATA: **Size:** B **Hazard:** 1

PHYSICAL DATA:
Type of Dam: Earth Fill **Height of Dam:** 51 FT **Normal Pool Storage Capacity:** 460 AC-FT

ELEVATIONS:
Normal Pool: 1,218.42 FT **Pool at Inspection:** 1,218.42 FT **Tailwater at Inspection:** 1,174.00 FT

DAM OWNER: Borough of Tyrone **OPERATOR:** Borough of Tyrone – Donald Shultz

ADDRESS: 1100 Logan Avenue, Tyrone, PA 16686

PHONE: (814) 684-5396 **FAX NO.:** (___)-___-____ **E-MAIL ADDRESS:** dshultz@tyroneboropa.com

A completed and signed Dam Owners Notice Checklist is to accompany this Inspection Checklist.

PERSONS PRESENT AT INSPECTION:

Name	Title/Position	Representing
Matthew A. Coleman, PE	Engineer	RETTEW Associates, Inc.
Donald Shultz	Water Superintendent	Borough of Tyrone

DATE OF INSPECTION: 10/10/2024

WEATHER: Overcast

TEMPERATURE: 45°F

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
MATTHEW ALEXANDER COLEMAN
ENGINEER
No. PE-093760

12-23-2025

This is to certify that the above dam has been inspected and the following are the results of this inspection.

Signature of ~~Registered~~ Professional Engineer (P.E. Seal Required) — Date: 12/23/2025

Date Revised: 1/2009

NAME OF DAM: Sink Run Reservoir No. 2	DEP DAM NO.: D07-002	DATE: 10/10/2025

ITEM	CONDITION	COMMENTS	MONITOR	INVESTIGATE	REPAIR
EMBANKMENT: CREST					
1	Surface Cracking	Longitudinal and transverse cracks (see below).	☒	☐	☒
2	Sinkhole, Animal Burrow	None observed.	☐	☐	☐
3	Low Area(s)	See below.	☒	☐	☐
4	Horizontal Alignment	Good condition.	☐	☐	☐
5	Ruts and/or Puddles	None observed.	☐	☐	☐
6	Vegetation Condition	Sealed asphalt surface; vegetation growth at cracking (see below).	☒	☐	☒
7	Warning Signs	None observed, but property is partially fenced.	☐	☐	☐
8			☐	☐	☐
9			☐	☐	☐

Additional Comments (Refer to item number if applicable):

1. Longitudinal cracks along the breaklines in the asphalt deck along the entire crest and are likely due to shrinkage. Some potential new longitudinal and transverse cracks were noted in this inspection likely due to shrinkage. There are several minor transverse cracks that align with cracks in the upstream face. Previous reports indicated cracks were sealed in 2015. Crack sealing is anticipated to be undertaken in in the near future with the reservoir rehabilitation project.

3. Some minor low areas were observed specifically near the center of the embankment where longitudinal cracks are present at the interface of the crest and upstream face. These should continue to be monitored along with the surface cracking.

6. Vegetation should be removed at cracking in the asphalt surface. This should correspond with the crack sealing work.

NAME OF DAM: Sink Run Reservoir No. 2	DEP DAM NO.: D07-002	DATE: 10/10/2025

ITEM	CONDITION	COMMENTS	MONITOR	INVESTIGATE	REPAIR
EMBANKMENT: UPSTREAM FACE					
10	Slide, Slough, Scarp	None observed.	☐	☐	☐
11	Slope Protection	N/A – sealed asphalt surface; good condition above normal pool elevation.	☐	☐	☐
12	Sinkhole, Animal Burrow	None observed.	☐	☐	☐
13	Emb.-Abut. Contact	See below.	☒	☐	☒
14	Erosion	See below.	☒	☐	☒
15	Vegetation Condition	Some vegetation growth at cracking.	☒	☐	☒
16			☐	☐	☐
17			☐	☐	☐

Additional Comments (Refer to item number if applicable):
13. Cracking along the primary spillway left wall is evident and should be repaired in the upcoming rehabilitation project. See Photo No. 4. There is also evidence of minor separation at the primary spillway that should be repaired with the upcoming reservoir rehabilitation.
14. The area of the upstream face which is usually submerged below the normal pool elevation shows erosion of the impermeable asphalt layer along the entire dam with various areas displaying divots, pinholes, and general surface disturbance. This is likely due to routine wave action. Several areas at transverse cracks show the cracks extend into the sub-permeable asphalt layer. It appears portions of this area may have been repaired previously. A closer inspection was performed in 2025 to confirm these aspects with previous reports. No significant deterioration is visible from past inspection reports. This area should continue to be monitored and repaired with the upcoming reservoir rehabilitation.

EMBANKMENT: DOWNSTREAM FACE					
18	Wet Area(s) (No Flow)	None observed.	☐	☐	☐
19	Seepage	None observed.	☐	☐	☐
20	Slide, Slough, Scarp	None observed.	☐	☐	☐
21	Emb. - Abut. Contact	Good condition.	☐	☐	☐
22	Sinkhole, Animal Burrow	See below.	☒	☐	☒
23	Erosion	None observed.	☐	☐	☐
24	Unusual Movement	None observed.	☐	☐	☐
25	Vegetation Control	Mowed grass, good condition.	☒	☐	☐
26			☐	☐	☐
27			☐	☐	☐

Additional Comments (Refer to item number if applicable):
22. Animal burrows near the center of the embankment near the crest noted in the 2024 report were not observed. However, new animal burrows have appeared in similar areas on the downstream face near the crest. Continue to monitor and fill burrows as necessary.
25. Vegetation around relief wells and well outlets should be kept cut.

NAME OF DAM: Sink Run Reservoir No. 2	DEP DAM NO.: D07-002	DATE: 10/10/2025

ITEM	CONDITION	COMMENTS	MONITOR	INVESTIGATE	REPAIR
EMBANKMENT: INSTRUMENTATION					
28	Piezometers/Observ. Wells	Equipped (see below).	☒	☐	☒
29	Staff Gauge and Recorder	Gauge painted on left abutment of primary spillway.	☐	☐	☐
30	Weirs	Underdrain measuring weir needs to be maintained (see below).	☐	☐	☒
31	Survey Monuments	Equipped but not inspected.	☐	☐	☐
32	Drains	20" underdrain open and flowing.	☐	☐	☐
33	Low Flow Release	N/A due to plunge basin construction.	☐	☐	☐
34	Frequency of Readings	Monthly except when reservoir is frozen.	☐	☐	☐
35	Location of Records	Water Filtration Plant office.	☐	☐	☐
36			☐	☐	☐
37			☐	☐	☐

Additional Comments (Refer to item number if applicable):
28. It was noted in last year's report that maintenance/repair work was needed on the piezometers in order to obtain accurate readings. This work is ongoing, and Tyrone is committed to resolving this issue soon to provide accurate piezometer readings in the future.
30. Cut brush and weeds around weir; clean sediment, muck, and iron hydroxide scum from area of weir on periodic basis.

NAME OF DAM: Sink Run Reservoir No. 2	DEP DAM NO.: D07-002	DATE: 10/10/2025

ITEM	CONDITION	COMMENTS	MONITOR	INVESTIGATE	REPAIR
DOWNSTREAM AREA					
38	Abutment Leakage	None observed.	☐	☐	☐
39	Foundation Seepage	None observed (see below).	☒	☐	☒
40	Slide, Slough, Scarp	None observed.	☐	☐	☐
41	Drainage System	Relief wells outlet not inspected (see below).	☐	☒	☐
42	Boils	None observed.	☐	☐	☐
43	Wet Areas	None observed.	☐	☐	☐
44	Reservoir Slopes	Woods and brush in good condition.	☐	☐	☐
45	Access Roads	Good condition.	☐	☐	☐
46	Security Devices	Property is partially fenced.	☐	☐	☐
47	Act 91 Run-of-the-River Signs or Buoys	None observed.	☐	☐	☐
48			☐	☐	☐
49			☐	☐	☐

Additional Comments (Refer to item number if applicable):
39. The heavy brush on the riprap toe should be removed. Although no foundation seepage was observed, the removal of the heavy brush will allow for a more proper inspection of the foundation in the future. The repairs to the riprap toe are planned with the upcoming reservoir rehabilitation.
41. Relief well outlets should have brush cut so they can be delineated for future reference.

ITEM	CONDITION	COMMENTS	MONITOR	INVESTIGATE	REPAIR
SPILLWAYS: ERODABLE CHANNEL					
50	Slide, Slough, Scarp	N/A	☐	☐	☐
51	Erosion	N/A	☐	☐	☐
52	Vegetation Condition	N/A	☐	☐	☐
53	Debris	N/A	☐	☐	☐
54			☐	☐	☐
55			☐	☐	☐

Additional Comments (Refer to item number if applicable):

NAME OF DAM: Sink Run Reservoir No. 2	DEP DAM NO.: D07-002	DATE: 10/10/2025

ITEM	CONDITION	COMMENTS	MONITOR	INVESTIGATE	REPAIR
DOWNSTREAM AREA					
38	Abutment Leakage	None observed.	☐	☐	☐
39	Foundation Seepage	None observed (see below).	☒	☐	☒
40	Slide, Slough, Scarp	None observed.	☐	☐	☐
41	Drainage System	Relief wells outlet not inspected (see below).	☐	☒	☐
42	Boils	None observed.	☐	☐	☐
43	Wet Areas	None observed.	☐	☐	☐
44	Reservoir Slopes	Woods and brush in good condition.	☐	☐	☐
45	Access Roads	Good condition.	☐	☐	☐
46	Security Devices	Property is partially fenced.	☐	☐	☐
47	Act 91 Run-of-the-River Signs or Buoys	None observed.	☐	☐	☐
48			☐	☐	☐
49			☐	☐	☐

Additional Comments (Refer to item number if applicable):
39. The heavy brush on the riprap toe should be removed. Although no foundation seepage was observed, the removal of the heavy brush will allow for a more proper inspection of the foundation in the future. The repairs to the riprap toe are planned with the upcoming reservoir rehabilitation.
41. Relief well outlets should have brush cut so they can be delineated for future reference.

ITEM	CONDITION	COMMENTS	MONITOR	INVESTIGATE	REPAIR
SPILLWAYS: ERODABLE CHANNEL					
50	Slide, Slough, Scarp	N/A	☐	☐	☐
51	Erosion	N/A	☐	☐	☐
52	Vegetation Condition	N/A	☐	☐	☐
53	Debris	N/A	☐	☐	☐
54			☐	☐	☐
55			☐	☐	☐

Additional Comments (Refer to item number if applicable):

NAME OF DAM: Sink Run Reservoir No. 2	DEP DAM NO.: D07-002	DATE: 10/10/2025

ITEM	CONDITION	COMMENTS	MONITOR	INVESTIGATE	REPAIR
SPILLWAYS: NON-ERODABLE CHANNEL (PRIMARY SPILLWAY – RIGHT)					
56	Sidewalls	See below.	☒	☐	☒
57	Channel Floor	See below.	☒	☐	☒
58	Unusual Movement	Last section of spillway may be rotating downward. See Comment No. 56 below.	☒	☐	☐
59	Approach Area	Waterway clear; right approach wall and fence in good condition; both abutments appear in good condition. See below.	☒	☐	☒
60	Weir or Control	See below.	☒	☐	☐
61	Discharge Channel	Unobstructed.	☐	☐	☐
62	Boils	Several hollow sounding areas in the floor. See Comment No. 57 below.	☒	☐	☒
63			☐	☐	☐
64			☐	☐	☐

Additional Comments (Refer to item number if applicable):

56. Overall, sidewalls appear in good condition, but all have minor surface erosion along the floor and sporadic surface efflorescence. Several sections have cracks approximately 6" from the joint of the adjacent section, and the left wall has sporadic cracks with signs of previous leakage mid-span. The last section of each wall on both sides of the channel (approximate Station 2+08) have slightly rotated downward away from the upstream section with the right wall displaying more rotation than the left. This may be due to the failed gabion baskets at the end of the deflector bucket (the gabions have since been rebuilt but were again damaged in a storm in 2024; see Photo No. 15). The right wall at approximate Station 0+21 has an area of significant cracks of approximately 48" in length across the entire thickness of the wall at the downstream side of the joint (see Photo Nos. 17/18). Cracks are 16" below the top of the wall on the inside face at the floor. In 2024 and 2025, it was noted that both the upstream and downstream faces of the left wall and right wall have slight ruts likely due to erosion. This should continue to be monitored. These issues will be included in the upcoming reservoir rehabilitation project.
57. Overall, the floor is in good condition. Several slabs have settled at the upstream edge, and hollow sounding areas are present along the top edge on some of them. The worst slab is adjacent to the weir. Brush and debris shall be removed from the channel floor. Areas of the floor in need of repair are planned to be included in the upcoming reservoir rehabilitation project.
59. Some large logs and debris present prior to the weir. These should be removed from the flow path.
60. Weir appears in good condition. One joint seal should be resealed when the water level is below the weir.

NAME OF DAM: Sink Run Reservoir No. 2	DEP DAM NO.: D07-002	DATE: 10/10/2025

ITEM	CONDITION	COMMENTS	MONITOR	INVESTIGATE	REPAIR
SPILLWAYS: NON-ERODABLE CHANNEL (SECONDARY SPILLWAY – LEFT)					
65	Sidewalls	See below.	☒	☐	☒
66	Channel Floor	See below.	☒	☒	☒
67	Unusual Movement	Possible inward rotation of right wall at joint at the toe of the stepped section.	☒	☐	☒
68	Approach Area	Waterway clear; see below.	☒	☐	☐
69	Weir or Control	See below.	☒	☐	☒
70	Discharge Channel	Clear trees and brush from channel.	☐	☐	☒
71	Boils	Several hollow sounding areas in the floor. It is likely these will spall in the future. Some have already spalled and washed out due to high flow events. See Comment No. 66.	☒	☐	☒
72	Wooden Bridge	No apparent defects, but a bridge inspection was not performed.	☐	☐	☐

Additional Comments (Refer to item number if applicable):

65. Overall, sidewalls appear in moderately good condition with all sections having minor surface erosion along the floor. Numerous drain holes show significant rust; it is unknown if this is just the pipe through the wall or if the underdrain system contains metal pipe. The right wall joint at the toe of the stepped section is "pinched" tight at the top of the joint and may also have a possible slight rotation inward. Both walls at the top of the stairs appear to have been previously repaired with a fiberglass mesh and mortar skim coat; there are numerous areas where the skim coat is delaminating. These areas should be included in the upcoming reservoir rehabilitation project.

66. Overall, the floor is in moderate condition. Vegetation should be removed from all joints, and joints require sealing. Both the upper and lower sections have areas of cracked concrete that sound hollow and will likely spall. This is most pronounced in the lower section below the steps. Some of these areas have already spalled from the 2024 inspection, and some areas have been washed out likely due to high flow events. In addition to this, concrete has begun to spall and form potholes near the top of the stepped section. Tyrone staff identified a possible seepage area below the weir the discharging onto the floor. A close inspection was not able to reveal the exact location of this potential seepage. This should continue to be investigated. This and other areas noted in this report should be repaired with the upcoming reservoir rehabilitation project.

68. Two large cracks in right approach wall to abutment should be repaired in the upcoming reservoir rehabilitation project. Left hillside shows evidence of rockfall and should be monitored. Both approach walls and abutments exhibit delaminating grout identified in Comment No. 65. On the right wall, there are two large cracks upstream of the weir that require repair in the upcoming reservoir rehabilitation project (see Photo No. 33).

69. A crack in the weir near the center below the overflow elevation did not appear to discharge water during this inspection report. It appears that it has been sealed. A previous patch on the weir has begun to separate from the base and will require repair. These should continue to be monitored. Further repairs of the weir should be included in the upcoming reservoir rehabilitation project.

NAME OF DAM: Sink Run Reservoir No. 2	DEP DAM NO.: D07-002	DATE: 10/10/2025

ITEM	CONDITION	COMMENTS	MONITOR	INVESTIGATE	REPAIR
SPILLWAYS: DROP INLET					
73	Intake Structure	N/A	☐	☐	☐
74	Trashrack	N/A	☐	☐	☐
75	Stilling Basin	N/A	☐	☐	☐
76			☐	☐	☐
77			☐	☐	☐
Additional Comments (Refer to item number if applicable):					
OUTLET WORKS					
78	Intake Structure	Submerged, unable to inspect.	☐	☐	☐
79	Trashrack	Submerged, unable to inspect.	☐	☐	☐
80	Stilling Basin	Plunge basin (see below).	☐	☐	☒
81	Primary Closure	Slide gate within control tower (see Comment No. 83 below).	☐	☐	☐
82	Secondary Closure	Slide gate within control tower (see Comment No. 83 below).	☐	☐	☐
83	Control Mechanism	See below.	☐	☐	☐
84	Outlet Pipe	Submerged, unable to inspect.	☐	☐	☐
85	Outlet Tower	Good condition; fenced for security.	☐	☐	☐
86	Outlet Structure	Concrete stilling basin; good condition.	☐	☐	☐
87	Seepage	None observed.	☐	☐	☐
88	Unusual Movement	None observed.	☐	☐	☐
89			☐	☐	☐
90			☐	☐	☐

Additional Comments (Refer to item number if applicable):

80. North side gabions and downstream channel repaired in 2022/2023. A storm in 2024 damaged the gabion baskets and channel again, and repairs are planned to be undertaken in the upcoming reservoir rehabilitation project.

83. The discharge drain gates noted as damaged in the 2023 inspection have finished construction and are again fully operational. The gates were all tested after construction completion in late 2025. The gates should continue to be exercised a minimum of four times per year. Periodic visual inspections should also be done on the guide rails and shafts to ensure structural integrity.

NAME OF DAM: Sink Run Reservoir No. 2	DEP DAM NO.: D07-002	DATE: 10/10/2025

ITEM	CONDITION	COMMENTS	MONITOR	INVESTIGATE	REPAIR
CONCRETE/MASONRY DAMS: UPSTREAM FACE					
91	Surface Conditions	N/A	☐	☐	☐
92	Condition of Joints	N/A	☐	☐	☐
93	Unusual Movement	N/A	☐	☐	☐
94	Abutment-Dam Contacts	N/A	☐	☐	☐
95			☐	☐	☐
96			☐	☐	☐
Additional Comments (Refer to item number if applicable):					
CONCRETE/MASONRY DAMS: DOWNSTREAM FACE					
97	Surface Conditions	N/A	☐	☐	☐
98	Condition of Joints	N/A	☐	☐	☐
99	Unusual Movement	N/A	☐	☐	☐
100	Abutment-Dam Contacts	N/A	☐	☐	☐
101	Drains	N/A	☐	☐	☐
102	Leakage	N/A	☐	☐	☐
103			☐	☐	☐
104			☐	☐	☐
Additional Comments (Refer to item number if applicable):					

NAME OF DAM: Sink Run Reservoir No. 2	DEP DAM NO.: D07-002	DATE: 10/10/2025

ITEM	CONDITION	COMMENTS	MONITOR	INVESTIGATE	REPAIR
CONCRETE/MASONRY DAMS: CREST					
105	Surface Conditions	N/A	☐	☐	☐
106	Horizontal Alignment	N/A	☐	☐	☐
107	Vertical Alignment	N/A	☐	☐	☐
108	Condition of Joints	N/A	☐	☐	☐
109	Unusual Movements	N/A	☐	☐	☐
110			☐	☐	☐
111			☐	☐	☐

Additional Comments (Refer to item number if applicable):

ITEM	CONDITION	COMMENTS	MONITOR	INVESTIGATE	REPAIR
RESERVOIR AREA					
112	Sedimentation	None observed.	☐	☐	☐
113	Slope Stability	Wooded slopes appear stable (see below).	☒	☐	☐
114	Sinkholes	None observed.	☐	☐	☐
115	Fractures	None observed.	☐	☐	☐
116	Unwanted Growth	Not significant.	☐	☐	☐
117	Storage Gage	None observed.	☐	☐	☐
118			☐	☐	☐
119			☐	☐	☐

Additional Comments (Refer to item number if applicable):
113. At the secondary spillway, the left rockface shows some evidence of rockfall and should be monitored.

NAME OF DAM: Sink Run Reservoir No. 2	DEP DAM NO.: D07-002	DATE: 10/10/2025

ITEM	CONDITION	COMMENTS	MONITOR	INVESTIGATE	REPAIR

Final Comments:

1. Tyrone is planning a reservoir rehabilitation project starting with design and permitting in 2026. Planned areas of improvement are noted in the sections above. These areas of improvement for the upcoming reservoir rehabilitation project will prioritize items such as the spillway floor and wall repairs as well as the primary spillway gabion baskets and downstream channel. Other areas of improvement are dependent on available budget. Other simple items such as filling and patching the cracks in the asphalt and vegetation control can be continued now.
2. Overall, dam is in good condition and appears well maintained.
3. Continue to obtain weir and piezometer readings at least once per month. It is recommended to perform the maintenance/repair items on the piezometers as soon as possible so that these may be able to be properly measured.
4. The downstream section of the primary spillway should be monitored for movement (see Comment Nos. 56 and 58).

DAM OWNER'S NOTICE CHECKLIST

RETTEW

DAM OWNERS NOTICE CHECKLIST
Department of Environmental Protection
Bureau of Waterways Engineering
Division of Dam Safety

NAME OF DAM: Sink Run Reservoir No. 2	DEP DAM NO.: D7-002

This is to certify that both the Downstream Hazard Description is accurate and the Posted Notice locations listed below have been inspected and the following are the results of these inspections.

Borough of Tyrone — Name of Dam Owner

Donald [illegible] — Signature of Dam Owner

10-10-2025 — Date

This Dam Owners Notice Checklist is to accompany the Inspection Checklist filed by the Engineer.

EMERGENCY ACTION PLAN

Date of Last Update of Emergency Plan: 2021

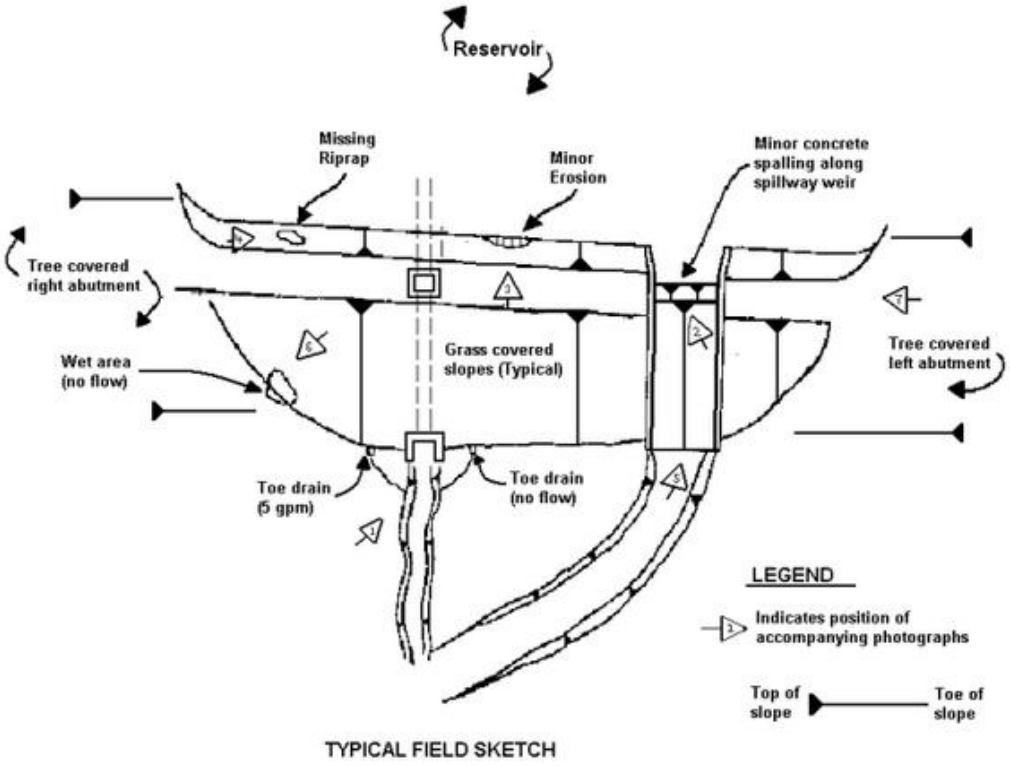
Downstream Hazard Description (Refer to sections II.C and II.D in the EAP), additionally, specify any new developments, structures, etc. downstream within the inundation area:
The inundation area resulting from a sudden dam failure extends from the Tyrone Sink Run Reservoir No. 2 southeast along the Sink Run Valley into the Borough of Tyrone. Within the Borough of Tyrone, the flood area extends south from Madison Avenue and Adams Avenue to Route 220 and North to West 23rd Street. At West 23rd Street, the inundation area narrows to run along Bald Eagle Creek between Lincoln Avenue and the Old Route 220, north to the limits of the Borough of Tyrone. The flood area in the southern portion of the Borough of Tyrone is roughly contained between Lincoln Street and Cameron Street to the north and the CONRAIL tracks to the south. The flood area also threatens low lying areas along the Juniata River downstream of Tyrone, including Route 453 and the towns of Nealmont, Tyrone Forge, and Ironville. Within the inundation area is a population of approximately 5,500 people, including fifty businesses, three nursing homes, and three day care centers.

POSTED NOTICES (Refer to section V.A in the EAP)

ITEM	DATE INSPECTED	LOCATION	COMMENTS	EXISTING	MISSING	REPLACED
1	10-9-25	Borough of Tyrone Building – 1100 Logan Avenue		☒	☐	☐
2	10-8-25	Snyder Township Building – 108 Baughman Hollow Road		☒	☐	☐
3	10-8-25	Sheetz – 14th and Logan Avenue	Gave New	☐	☒	☐
4	—	Rite-Aid – 14th and Logan Avenue	Closed - 2025	☐	☐	☐
5	10-8-25	Tyrone Public Library – 1000 Pennsylvania Avenue		☐	☐	☒
6	10-8-25	Tyrone Post Office – 11th and Pennsylvania Avenue		☒	☐	☐
7	10-8-25	Tyrone: Blazing Arrow Fire Department		☐	☐	☒
8	10-8-25	Tyrone: Neptune Fire Company		☐	☐	☒
9	10-8-25	Sinking Valley Fire Department Dropped one off	~~No Answer~~	☐	☐	☒
10	10-8-25	Bald Eagle Fire Department Dropped one off	~~No Answer~~	☐	☐	☒
11				☐	☐	☐
12				☐	☐	☐

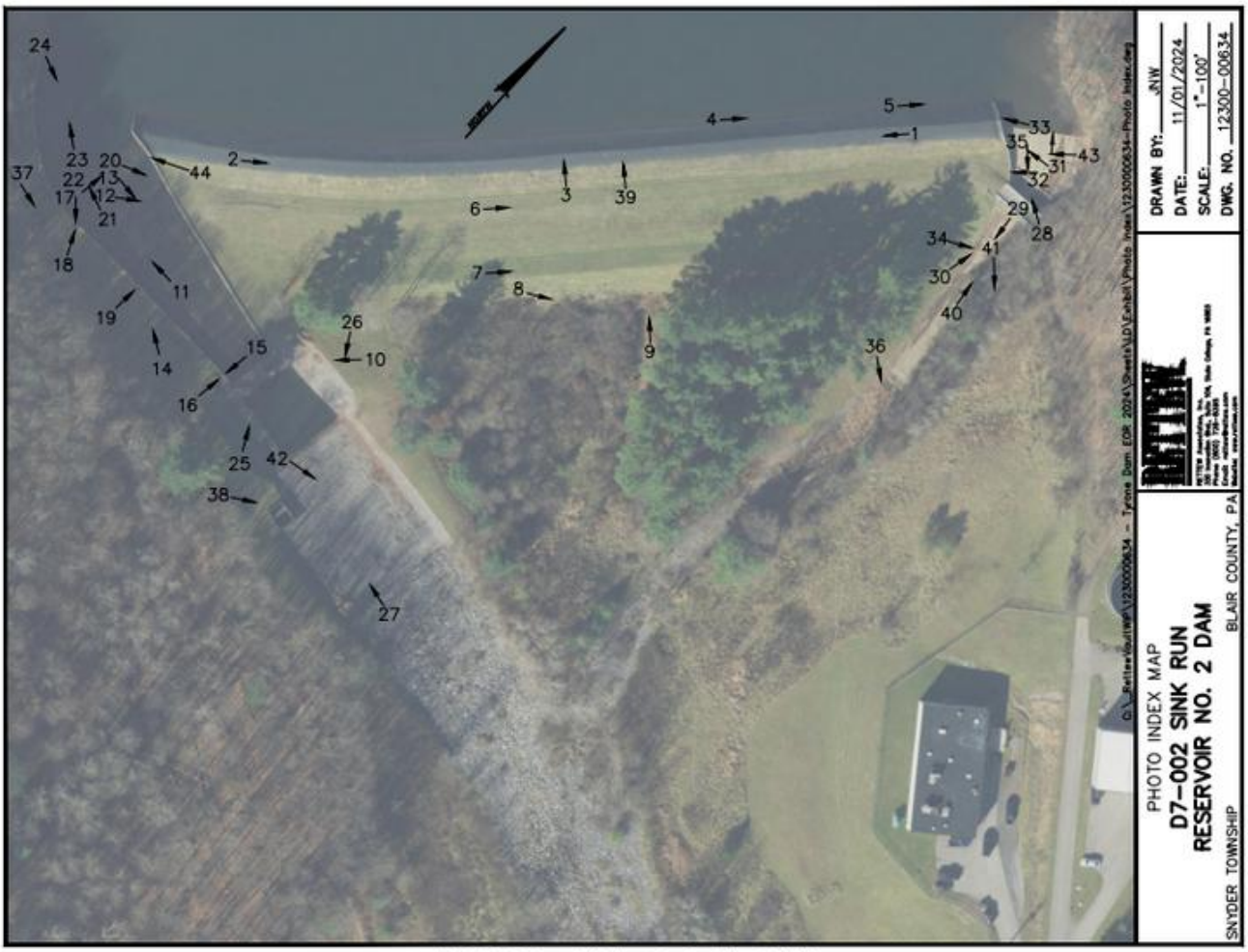
Dam Safety High Hazard Dam Inspection Checklist Page 12 of 14 Date Revised: 1/09

Additional Comments (Refer to item number if applicable):



TYPICAL FIELD SKETCH

PHOTOGRAPH INDEX MAP



2025 Sink Run Reservoir No. 2 Inspection Report Page 18 of 45

INSPECTION PHOTOGRAPHS

CLIENT:	Borough of Tyrone	**SITE LOCATION:**	Snyder Township, Blair County, PA
SITE NAME:	D7-002 Sink Run Reservoir No.2	**PROJECT NUMBER:**	1230003114

DATE:
October 10, 2025

DIRECTION VIEW:
Southwest
COMMENTS:
Photo No. 1
Embankment Crest



DATE:
October 10, 2025

VIEW DIRECTION:
Northeast
COMMENTS:
Photo No. 2
Embankment Crest and Upstream Face



CLIENT:	Borough of Tyrone	**SITE LOCATION:**	Snyder Township, Blair County, PA
SITE NAME:	D7-002 Sink Run Reservoir No.2	**PROJECT NUMBER:**	1230003114

DATE:
October 10, 2025

DIRECTION VIEW:
Northwest
COMMENTS:
Photo No. 3
Longitudinal Crack in Embankment Crest and Upstream Face



DATE:
October 10, 2025

VIEW DIRECTION:
Northeast
COMMENTS:
Photo No. 4
Embankment Face, Scour along Waterline



2025 Sink Run Reservoir No. 2 Inspection Report Page 21 of 45

CLIENT:	Borough of Tyrone	**SITE LOCATION:**	Snyder Township, Blair County, PA
SITE NAME:	D7-002 Sink Run Reservoir No.2	**PROJECT NUMBER:**	1230003114

DATE:
October 10, 2025

DIRECTION VIEW:
Northeast
COMMENTS:
Photo No. 5
Embankment Face, Detail View of Scour and Erosion



DATE:
October 10, 2025

VIEW DIRECTION:
Northeast
COMMENTS:
Photo No. 6
Downstream Face, Above Bench



CLIENT:	Borough of Tyrone	**SITE LOCATION:**	Snyder Township, Blair County, PA
SITE NAME:	D7-002 Sink Run Reservoir No.2	**PROJECT NUMBER:**	1230003114

DATE:
October 10, 2025

DIRECTION VIEW:
Northeast
COMMENTS:
Photo No. 7
Upstream Face, Below Bench



DATE:
October 10, 2025

VIEW DIRECTION:
East
COMMENTS:
Photo No. 8
Downstream Area in Vicinity of Relief Wells



CLIENT:	Borough of Tyrone	SITE LOCATION:	Snyder Township, Blair County, PA
SITE NAME:	D7-002 Sink Run Reservoir No.2	PROJECT NUMBER:	1230003114

DATE:
October 10, 2025

DIRECTION VIEW:
Northwest
COMMENTS:
Photo No. 9
Underdrain Outlet Endwall



DATE:
October 10, 2025

VIEW DIRECTION:
Southwest
COMMENTS:
Photo No. 10
Primary Spillway, Deflector Bucket, and Gabions into Plunge Basin



CLIENT:	Borough of Tyrone	**SITE LOCATION:**	Snyder Township, Blair County, PA
SITE NAME:	D7-002 Sink Run Reservoir No.2	**PROJECT NUMBER:**	1230003114

DATE:
October 10, 2025

DIRECTION VIEW:
West
COMMENTS:
Photo No. 11
Primary Spillway looking Upstream



DATE:
October 10, 2025

VIEW DIRECTION:
North
COMMENTS:
Photo No. 12
Primary Spillway, Left Wall



2025 Sink Run Reservoir No. 2 Inspection Report Page 25 of 45

CLIENT:	Borough of Tyrone	**SITE LOCATION:**	Snyder Township, Blair County, PA
SITE NAME:	D7-002 Sink Run Reservoir No.2	**PROJECT NUMBER:**	1230003114

DATE:
October 10, 2025

DIRECTION VIEW:
East
COMMENTS:
Photo No. 13
Primary Spillway
looking Downstream



DATE:
October 10, 2025

VIEW DIRECTION:
Northwest
COMMENTS:
Photo No. 14
Primary Spillway



CLIENT:	Borough of Tyrone	SITE LOCATION:	Snyder Township, Blair County, PA
SITE NAME:	D7-002 Sink Run Reservoir No.2	PROJECT NUMBER:	1230003114

DATE:
October 10, 2025

DIRECTION VIEW:
South
COMMENTS:
Photo No. 15
Primary Spillway Right Wall, Inside View at Approximate Station 2+08. Notice Sunken Downstream End.



DATE:
October 10, 2025

VIEW DIRECTION:
North
COMMENTS:
Photo No. 16
Primary Spillway Right Wall, Outside View Detail of Joint



CLIENT:	Borough of Tyrone	SITE LOCATION:	Snyder Township, Blair County, PA
SITE NAME:	D7-002 Sink Run Reservoir No.2	PROJECT NUMBER:	1230003114

DATE:
October 10, 2025

DIRECTION VIEW:
Southeast
COMMENTS:
Photo No. 17
Primary Spillway
Right Wall, Inside
View @ Approximate
Station 0+21



DATE:
October 10, 2025

VIEW DIRECTION:
Northwest
COMMENTS:
Photo No. 18
Primary Spillway
Right Wall, Outside
View at Approximate
Station 0+21



CLIENT:	Borough of Tyrone	**SITE LOCATION:**	Snyder Township, Blair County, PA
SITE NAME:	D7-002 Sink Run Reservoir No.2	**PROJECT NUMBER:**	1230003114

DATE:
October 10, 2025

DIRECTION VIEW:
North
COMMENTS:
Photo No. 19
Primary Spillway Right Wall, Outside View @ Approximate Station 0+52



DATE:
October 10, 2025

VIEW DIRECTION:
Northeast
COMMENTS:
Photo No. 20
Primary Spillway Left Wall, Inside View at Approximate Station 0+30



CLIENT:	Borough of Tyrone	**SITE LOCATION:**	Snyder Township, Blair County, PA
SITE NAME:	D7-002 Sink Run Reservoir No.2	**PROJECT NUMBER:**	1230003114

DATE:
October 10, 2025

DIRECTION VIEW:
North
COMMENTS:
Photo No. 21
Primary Spillway
Overflow Weir



DATE:
October 10, 2025

VIEW DIRECTION:
North
COMMENTS:
Photo No. 22
Primary Spillway
Overflow Weir and
Left Abutment



CLIENT:	Borough of Tyrone	**SITE LOCATION:**	Snyder Township, Blair County, PA
SITE NAME:	D7-002 Sink Run Reservoir No.2	**PROJECT NUMBER:**	1230003114

DATE:
October 10, 2025

DIRECTION VIEW:
Northwest
COMMENTS:
Photo No. 23
Primary Spillway
Right Approach Guard Wall



DATE:
October 10, 2025

VIEW DIRECTION:
East
COMMENTS:
Photo No. 24
Primary Spillway
Upstream Approach



CLIENT:	Borough of Tyrone	**SITE LOCATION:**	Snyder Township, Blair County, PA
SITE NAME:	D7-002 Sink Run Reservoir No.2	**PROJECT NUMBER:**	1230003114

DATE:
October 10, 2025

DIRECTION VIEW:
Northwest
COMMENTS:
Photo No. 25
Primary Spillway
Deflector Bucket and
Plunge Basin



DATE:
October 10, 2025

VIEW DIRECTION:
Southeast
COMMENTS:
Photo No. 26
Primary Spillway
Downstream Gabion
Channel



CLIENT:	Borough of Tyrone	**SITE LOCATION:**	Snyder Township, Blair County, PA
SITE NAME:	D7-002 Sink Run Reservoir No.2	**PROJECT NUMBER:**	1230003114

DATE:
October 10, 2025

DIRECTION VIEW:
West
COMMENTS:
Photo No. 27
Primary Spillway Concrete Outlet Stilling Basin and Downstream Gabion Channel



DATE:
October 10, 2025

VIEW DIRECTION:
Northwest
COMMENTS:
Photo No. 28
Secondary Spillway, Approach End Looking Upstream



CLIENT:	Borough of Tyrone	SITE LOCATION:	Snyder Township, Blair County, PA
SITE NAME:	D7-002 Sink Run Reservoir No.2	PROJECT NUMBER:	1230003114

DATE:
October 10, 2025

DIRECTION VIEW:
South
COMMENTS:
Photo No. 29
Secondary Spillway,
Looking Downstream



DATE:
October 10, 2025

VIEW DIRECTION:
North
COMMENTS:
Photo No. 30
Secondary Spillway
Stepped Section



CLIENT:	Borough of Tyrone	SITE LOCATION:	Snyder Township, Blair County, PA
SITE NAME:	D7-002 Sink Run Reservoir No.2	PROJECT NUMBER:	1230003114

DATE:
October 10, 2025

DIRECTION VIEW:
West
COMMENTS:
Photo No. 31
Secondary Spillway
Right Abutment



DATE:
October 10, 2025

VIEW DIRECTION:
Southwest
COMMENTS:
Photo No. 32
Secondary Spillway,
Detail view of Grout
Delamination



CLIENT:	Borough of Tyrone	**SITE LOCATION:**	Snyder Township, Blair County, PA
SITE NAME:	D7-002 Sink Run Reservoir No.2	**PROJECT NUMBER:**	1230003114

DATE:
October 10, 2025

DIRECTION VIEW:
Southwest
COMMENTS:
Photo No. 33
Secondary Spillway Right Abutment, Two Cracks below Water Surface



DATE:
October 10, 2025

VIEW DIRECTION:
Northeast
COMMENTS:
Photo No. 34
Secondary Spillway, Floor Area Downstream of Stepped Section



CLIENT:	Borough of Tyrone	**SITE LOCATION:**	Snyder Township, Blair County, PA
SITE NAME:	D7-002 Sink Run Reservoir No.2	**PROJECT NUMBER:**	1230003114

DATE:
October 10, 2025

DIRECTION VIEW:
Southeast
COMMENTS:
Photo No. 35
Secondary Spillway, Channel Section above Bridge



DATE:
October 10, 2025
Northeast
VIEW DIRECTION:
Southeast
COMMENTS:
Photo No. 36
Secondary Spillway, Downstream Rock Channel



CLIENT:	Borough of Tyrone	SITE LOCATION:	Snyder Township, Blair County, PA
SITE NAME:	D7-002 Sink Run Reservoir No.2	PROJECT NUMBER:	1230003114

DATE:
October 10, 2025

DIRECTION VIEW:
Southeast
COMMENTS:
Photo No. 37
Fenced Outlet Tower



DATE:
October 10, 2025

VIEW DIRECTION:
Northeast
COMMENTS:
Photo No. 38
Primary Spillway, Outlet Structure



CLIENT:	Borough of Tyrone	SITE LOCATION:	Snyder Township, Blair County, PA
SITE NAME:	D7-002 Sink Run Reservoir No.2	PROJECT NUMBER:	1230003114

DATE:
October 10, 2025

DIRECTION VIEW:
Northwest
COMMENTS:
Photo No. 39
Animal Burrows along Downstream Face



DATE:
October 10, 2025

VIEW DIRECTION:
North
COMMENTS:
Photo No. 40
Secondary Spillway Looking Upstream



CLIENT:	Borough of Tyrone	SITE LOCATION:	Snyder Township, Blair County, PA
SITE NAME:	D7-002 Sink Run Reservoir No.2	PROJECT NUMBER:	1230003114

DATE:
October 10, 2025

DIRECTION VIEW:
Southeast
COMMENTS:
Photo No. 41
Secondary Spillway,
Floor Cracking



DATE:
October 10, 2025

VIEW DIRECTION:
East
COMMENTS:
Photo No. 42
Primary Spillway
Looking Downstream



CLIENT:	Borough of Tyrone	SITE LOCATION:	Snyder Township, Blair County, PA
SITE NAME:	D7-002 Sink Run Reservoir No.2	PROJECT NUMBER:	1230003114

DATE:
October 10, 2025

DIRECTION VIEW:
Northwest
COMMENTS:
Photo No. 43
Secondary Spillway
Weir Cracking



DATE:
October 10, 2025

VIEW DIRECTION:
West
COMMENTS:
Photo No. 44
Primary Spillway
Abutment Contact

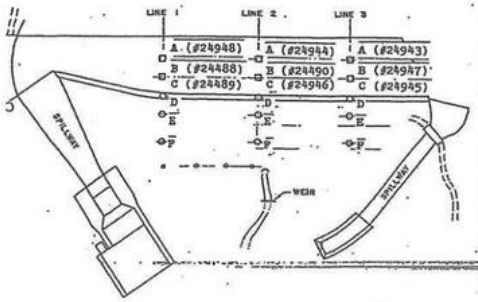


PIEZOMETER READINGS

RETTEW

SINK RUN RESERVOIR No. 2 — PIEZOMETER READINGS 2024 / 2025

	PNEUMATIC PIEZOMETERS												CASAGRANDE PIEZOMETERS								
	A				B				C				D			E			F		
	a ELEVATION	b PRESSURE (psi)	c HEAD b/0.43	d WATER SURFACE (a+c)	a ELEVATION	b PRESSURE (psi)	c HEAD b/0.43	d WATER SURFACE (a+c)	a ELEVATION	b PRESSURE (psi)	c HEAD b/0.43	d WATER SURFACE (a+c)	a TOP OF PIPE ELEV.	b DEPTH TO WATER	c WATER SURFACE (a−b)	a TOP OF PIPE ELEV.	b DEPTH TO WATER	c WATER SURFACE (a−b)	a TOP OF PIPE ELEV.	b DEPTH TO WATER	c WATER SURFACE (a−b)
11-6-24 LINE																					
1	1182.00	0.3	0.69	1182.69	1182.00	—	Broke	—	1197.00	0.3	0.69	1197.69	1224.37	40'6"	1183.87	1212.89	27'3"	1185.64	1196.22	13'9"	1182.48
2	1182.00	0.3	0.69	1182.69	1182.00	0.4	0.93	1182.93	1197.00	0.3	0.69	1197.69	1224.10	44'9"	1179.35	1212.66	Broke	—	1196.25	14'1"	1182.17
3	1182.00	1.1	2.56	1184.56	1182.00	1.3	3.02	1185.03	1197.00	0.8	1.8	1198.8	1224.66	41'2"	1183.52	1212.42	27'3"	1185.12	1195.60	14'3"	1181.35
12-23-24 1	1182.00	0.3	0.69	1182.69	1182.00	—	Broke	—	1197.00	0.3	0.69	1197.69	1224.37	40'6"	1183.87	1212.89	27'3"	1185.64	1196.22	13'9"	1182.48
2	1182.00	0.3	0.69	1182.69	1182.00	0.4	093	1182.93	1197.00	0.3	0.69	1197.69	1224.10	44'9"	1179.35	1212.66	Broke	—	1196.25	14'1"	1182.17
3	1182.00	1.1	2.56	1184.56	1182.00	1.3	3.02	1185.03	1197.00	0.8	1.8	1198.8	1224.66	41'2"	1183.52	1212.42	27'3"	1185.12	1195.60	14'3"	1181.35
1-15-25 1	1182.00				1182.00				1197.00				1224.37			1212.89			1196.22		
2	1182.00				1182.00				1197.00				1224.10			1212.66			1196.25		
3	1182.00				1182.00	Reservoir			1197.00	Frozen			1224.66			1212.42			1195.60		
2-5-25 1	1182.00				1182.00				1197.00				1224.37			1212.89			1196.22		
2	1182.00				1182.00	Reservoir			1197.00	Frozen			1224.10			1212.66			1196.25		
3	1182.00				1182.00				1197.00				1224.66			1212.42			1195.60		
3-3-25 1	1182.00				1182.00				1197.00				1224.37			1212.89			1196.22		
2	1182.00				1182.00	Reservoir			1197.00	Frozen			1224.10			1212.66			1196.25		
3	1182.00				1182.00				1197.00				1224.66			1212.42			1195.60		

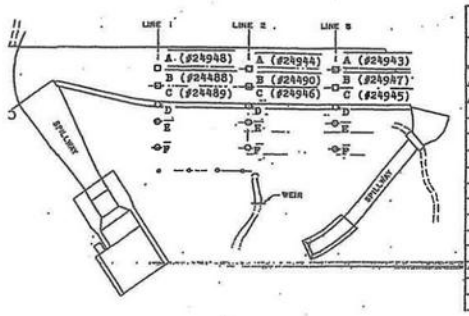


WEIR READINGS		
DATE	DEPTH	FLOW (GPD)

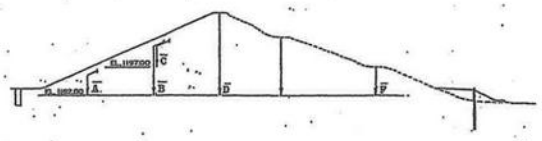
2025

SINK RUN RESERVOIR No. 2 — PIEZOMETER READINGS

	PNEUMATIC PIEZOMETERS												CASAGRANDE PIEZOMETERS								
	A				B				C				D			E			F		
Line	a ELEVATION	b PRESSURE (psi)	c HEAD b/0.43	d WATER SURFACE (a+c)	a ELEVATION	b PRESSURE (psi)	c HEAD b/0.43	d WATER SURFACE (a+c)	a ELEVATION	b PRESSURE (psi)	c HEAD b/0.43	d WATER SURFACE (a+c)	a TOP OF PIPE ELEV.	b DEPTH TO WATER	c WATER SURFACE (a−b)	a TOP OF PIPE ELEV.	b DEPTH TO WATER	c WATER SURFACE (a−b)	a TOP OF PIPE ELEV.	b DEPTH TO WATER	c WATER SURFACE (a−b)
1-2-3 1	1182.00	0.6	1.39	1183.39	1182.00		BROKE		1197.00	0.5	1.16	1198.16	1224.37	40'5"	1183.87	1212.89	27'9"	1184.99	1186.23	14'	1182.23
1-2-3 2	1182.00	0.4	.93	1182.93	1182.00	0.4	.93	1182.93	1197.00	0.3	0.69	1197.69	1224.10	44'7"	1179.40	1212.68	27'9"	1184.76	1186.25	14'3"	1181.95
1-2-3 3	1182.00	1.5	3.48	1185.48	1182.00	1.8	4.19	1186.19	1197.00	0.6	1.39	1198.39	1224.68	41'2"	1183.46	1212.42	27'1"	1185.32	1185.60	BROKE	
4-5-6 1	1182.00	0.6	1.39	1183.39	1182.00		BROKE		1197.00	0.5	1.16	1198.16	1224.37	40'5"	1183.87	1212.89	27'9"	1184.99	1186.23	14'	1182.23
4-5-6 2	1182.00	0.4	0.93	1182.93	1182.00	0.4	0.93	1182.93	1197.00	0.3	0.69	1197.69	1224.10	44'7"	1179.40	1212.68	27'9"	1184.76	1186.25	14'3"	1181.95
4-5-6 3	1182.00	1.5	3.48	1185.48	1182.00	1.8	4.19	1186.19	1197.00	0.6	1.39	1198.39	1224.68	41'2"	1183.46	1212.42	27'1"	1185.32	1185.60	BROKE	
7-8-9 1	1182.00	0.6	1.39	1183.39	1182.00		BROKE		1197.00	0.5	1.16	1198.16	1224.37	40'5"	1183.87	1212.89	27'5"	1184.99	1186.23	14'	1182.23
7-8-9 2	1182.00	0.4	0.93	1182.93	1182.00	0.4	0.93	1182.93	1197.00	0.3	0.69	1197.69	1224.10	44'7"	1176.40	1212.68	27'9"	1184.76	1186.25	14'3"	1181.95
7-8-9 3	1182.00	1.5	3.48	1185.48	1182.00	1.8	4.18	1186.18	1197.00	0.6	1.39	1198.39	1224.68	41'2"	1183.46	1212.42	27'1"	1185.32	1185.60	BROKE	
7-8-9 1	1182.00	0.6	1.39	1183.39	1182.00		BROKE		1197.00	0.5	1.16	1198.16	1224.37	40'9"	1183.37	1212.89	27'9"	1184.99	1186.23	14'	1182.23
7-8-9 2	1182.00	0.4	0.93	1182.93	1182.00	0.4	0.93	1182.93	1197.00	0.3	0.69	1197.69	1224.10	44'7"	1176.40	1212.68	27'9"	1184.76	1186.25	14'3"	1181.95
7-8-9 3	1182.00	1.5	3.48	1185.48	1182.00	1.8	4.18	1186.18	1197.00	0.6	1.39	1198.39	1224.68	41'2"	1183.46	1212.42	27'1"	1185.32	1185.60	BROKE	
9-10-11 1	1182.00	0.6	1.39	1183.39	1182.00		BROKE		1197.00	0.5	1.16	1198.16	1224.37	40'9"	1183.37	1212.89	27'9"	1184.99	1186.23	14'	1182.23
9-10-11 2	1182.00	0.4	0.93	1182.93	1182.00	0.4	0.93	1182.93	1197.00	0.3	0.69	1197.69	1224.10	44'7"	1176.40	1212.68	27'9"	1184.76	1186.25	14'3"	1181.95
9-10-11 3	1182.00	1.5	3.48	1185.48	1182.00	1.8	4.18	1186.18	1197.00	0.6	1.39	1198.39	1224.68	41'2"	1183.46	1212.42	27'1"	1185.32	1185.60	BROKE	



WEIR READINGS		
DATE	DEPTH	FLOW (GPD)



SANDERS, WELLS & WRYE, INC.
Engineering Section
1200 WEST COLLEGE AVENUE STATE COLLEGE, PA 16801
Telephone: (814) 237-7111

2025 Sink Run Reservoir No. 2 Inspection Report Page 44 of 45

2025

SINK RUN RESERVOIR No. 2 — PIEZOMETER READINGS

	PNEUMATIC PIEZOMETERS												CASAGRANDE PIEZOMETERS								
	A				B				C				D			E			F		
DATE / LINE	a ELEVATION	b PRESSURE (psi)	c HEAD b/0.43	d WATER SURFACE (a+c)	a ELEVATION	b PRESSURE (psi)	c HEAD b/0.43	d WATER SURFACE (a+c)	a ELEVATION	b PRESSURE (psi)	c HEAD b/0.43	d WATER SURFACE (a+c)	a TOP OF PIPE ELEV.	b DEPTH TO WATER	c WATER SURFACE (a−b)	a TOP OF PIPE ELEV.	b DEPTH TO WATER	c WATER SURFACE (a−b)	a TOP OF PIPE ELEV.	b DEPTH TO WATER	c WATER SURFACE (a−b)
9/25 1	1182.00	0.6	1.39	1183.39	1182.00	Broke			1197.00	0.5	1.16	1198.16	1224.37	40'9"	1183.87	1212.89	27'5"	1184.99	1196.23	14"	1182.23
9/25 2	1182.00	0.4	0.93	1182.93	1182.00	0.4	0.93	1182.93	1197.00	0.3	0.69	1197.69	1224.10	44'7"	1176.40	1212.66	27'4"	1184.76	1196.25	14'3"	1181.95
9/25 3	1182.00	1.5	3.48	1185.48	1182.00	1.8	4.18	1186.18	1197.00	0.6	1.39	1198.39	1224.66	41'2"	1183.46	1212.42	27'1"	1185.32	1195.60	Broke	
10/25 1	1182.00	0.6	1.39	1183.39	1182.00	Broke			1197.00	0.5	1.16	1198.16	1224.37	40'9"	1183.87	1212.89	27'5"	1184.99	1196.23	14'	1182.23
10/25 2	1182.00	0.4	0.93	1182.93	1182.00	0.4	0.93	1182.93	1197.00	0.3	0.69	1197.69	1224.10	44'7"	1176.40	1212.66	27'5"	1184.76	1196.25	14'3"	1181.95
10/25 3	1182.00	1.5	3.48	1185.48	1182.00	1.8	4.18	1186.18	1197.00	0.6	1.39	1198.39	1224.66	41'2"	1183.46	1212.42	27'1"	1185.32	1195.60	Broke	
1	1182.00				1182.00				1197.00				1224.37			1212.89			1196.23		
2	1182.00				1182.00				1197.00				1224.10			1212.66			1196.25		
3	1182.00				1182.00				1197.00				1224.66			1212.42			1195.60

EMERGENCY ACTION PLAN

SURVEILLANCE, WARNING AND EVACUATION PROCEDURES

SINK RUN RESERVOIR NO. 2 DAM
DEP NUMBER D07-002

LOCATED ACROSS SINK RUN
IN SNYDER TOWNSHIP, BLAIR COUNTY

LATITUDE N40° 41' 22" **LONGITUDE W78° 16' 13"**

OPERATED BY:	**ARDEAN LATCHFORD**
	WATER SUPERINTENDENT
	BOROUGH OF TYRONE
	1100 LOGAN AVENUE
	TYRONE, PA 16686
TELEPHONE:	**WORK: (814) 684-5396**
	HOME: (814) 684-4963
	24- HOUR: 911
OWNED BY:	**BOROUGH OF TYRONE**
ADDRESS:	**1100 LOGAN AVENUE**
	TYRONE, PA 16686
TELEPHONE:	**WORK: (814) 684-5396**
	HOME: (814) 684-4963

DATE: MARCH 25, 2003
REVISED: JULY 22, 2014 (DRAFT)

TABLE OF CONTENTS

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ATTACHMENTS

ATTACHMENT A	INUNDATION MAP
ATTACHMENT B	TRAFFIC CONTROL POINTS
ATTACHMENT C	LOCATION MAP
ATTACHMENT D	TELEPHONE ROSTER
ATTACHMENT E	MEDIA ANNOUNCEMENT
ATTACHMENT F	NOTICE

PROMULGATION AND CONCURRENCE

We, the undersigned, on date indicated, have reviewed the requested support activity in the Emergency Action Plan for the Sink Run Reservoir No. 2 Dam. Our support action will be executed in accordance with existing recommended operating guidelines and existing municipal or county emergency operation plans.

Phyllis J. Garhart — 6/10/14
PHYLLIS J. GARHART, BOROUGH MANAGER (BOROUGH OF TYRONE, DAM OWNER) — DATE

Ardean C. Latchford — 6/10/14
ARDEAN LATCHFORD, DAM OPERATOR — DATE

D. M. Boyles — 05-13-14
DAN BOYLES, BLAIR COUNTY EMA — DATE

PEMA AND DEP APPROVALS

The Pennsylvania Emergency Management Agency approved the Emergency Action Plan for Sink Run Reservoir No. 2 Dam (D07-002).

_____ _____

Director, PEMA Central Area Office **DATE**

The Department of Environmental Protection, Division of Dam Safety, approves the Emergency Action Plan for Sink Run Reservoir No. 2 Dam (D07-002).

_____ _____

Chief, Division of Dam Safety **DATE**

Search in Drive

I. PURPOSE AND SCOPE

A. To safeguard the lives as well as to reduce property damage of the citizens living within the dam's potential downstream flood or inundation area.

B. To provide for effective dam surveillance, prompt notification to local emergency management agencies, citizen warning and evacuation response, when required.

C. To identify emergency actions to be taken by the dam owner/operator, public officials, emergency personnel, and to outline response actions in the event of a potential or imminent failure of the dam.

II. SITUATION

A. The dam is a 51-foot high, 820-foot long earthen embankment reservoir dam, maintaining a normal pool of 460 acre-feet of water with a maximum pool capacity of 571 acre-feet.

B. The dam is located along the Sink Run, upstream of breached Borough of Tyrone Reservoir No. 1 Dam, 2 miles northwest of the Borough of Tyrone. Refer to Location Map at Attachment C.

C. The inundation area resulting from a sudden dam failure extends from the Tyrone Reservoir No. 2 Dam southeast along the Sink Run Valley into the Borough of Tyrone. Within the Borough of Tyrone, the flood area extends south from Madison Ave. & Adams Ave. to Rt. 220 and North to W. 23rd St. At W. 23rd St., the inundation area narrows to run along Bald Creek between Lincoln Ave. and the Old Rt. 220, north to the limits of the Borough of Tyrone. The flood area in the southern portion of the Borough of Tyrone is roughly contained between Lincoln St. and Cameron St. to the north and the CONRAIL tracks to the south. The flood area also threatens low lying areas along the Juniata River downstream of Tyrone, including Rt. 453, and the towns of Nealmont, Tyrone Forge, and Ironville. See Inundation Map at Attachment A.

D Within the inundation area are approximately 5,000 residents, 1,500 homes, fifty businesses, three nursing homes and two day care centers. Refer to the Inundation Map at Attachment A.

III. CONCEPT OF OPERATIONS

A. SURVEILLANCE – NORMAL CONDITIONS (DAM OWNER OR OPERATOR)

1. The dam operator or a designated representative will conduct an on-site visual inspection of the dam, the dam's spillway(s), control systems, and the toe area below the dam at a minimum of once every three months. Any abnormal or questionable conditions will be immediately brought to the attention of the owner's engineer and the Division of Dam Safety of DEP.

B. SURVEILLANCE – UNUSUAL EVENT CONDITIONS (DAM WATCH)

1. The dam operator or a designated representative will commence surveillance of conditions at the dam site when:

   a. Severe thunderstorms, heavy rains with local flood warnings, tropical storms, or heavy rains with frozen ground and/or snow cover are occurring.

   b. The National Weather Service issues a flash flood watch or warning and conditions warrant.

   c. Any abnormal or questionable conditions as identified in Section III.D.1.

C. EARLY WARNING NOTIFICATION (**REFER TO** Attachment E)

1. The dam operator or a designated representative is responsible for determining the dam's threat potential. The following conditions constitute a dam early warning notification to the Blair County Communications Center/911 and Rapid Notify and require 24-hour around-the-clock surveillance.

   a. The water level in the impoundment area has reached the threshold level of 6 feet below the top of the dam and is rising, or

   b. Following the occurrence of an earthquake in the general region of the dam.

2. Early warning notification will be relayed from the Blair County Communications Center/911 and Rapid Notify to the Blair County EMA, the PEMA State EOC and all applicable emergency responders and designated government officials and agencies. Refer to Section IV.B. for additional notifications.

D. WARNING AND EVACUATION NOTIFICATION

1. The dam operator or a designated representative is responsible for determining the dam's threat potential. The following conditions constitute a dam emergency requiring warning and evacuation notification to the Blair County Communications Center/911 and Rapid Notify.

   a. The depth of flow in the emergency spillway has reached a depth of 3 feet, and

   b. The water level in the impoundment area has reached the threshold level of 4 feet below the top the dam, or

c. Imminent failure of this dam might be indicated by observance of one or more of the following conditions at the dam site.

i. The lake or pond level is at or near the top of the dam and water is flowing, or about to flow, over the top of the dam.

ii. The overflow pipe or spillway is damaged, or clogged with debris or ice, which is resulting in a rapid rise in the lake or pond level.

iii. The primary or emergency spillway is experiencing heavy flows which are causing severe erosion to the spillway or the dam embankment.

iv. Any structural movement or failure of the concrete (masonry) spillway or the spillway abutment walls.

v. Any sloughing or sliding of the embankment upstream or downstream slope. Also, earth slides in the spillway channel, either upstream or downstream the dam's crest, which could impede the flow in the spillway.

vi. Subsidence, sinkholes or cracks found in any part of the dam's embankment or abutting slopes.

vii. Any new discharge of water is observed through the dam's embankment or abutting slopes, adjacent to any conduit outlets, or under the dam, which appears as a boil along the downstream toe. Should such a discharge occur and the water is cloudy or muddy in color, then a very serious problem exists.

2. Warning notification will be relayed from the Blair County Communications Center/911 and Rapid Notify to the Blair County EMA, the PEMA State EOC and all applicable emergency responders and designated government officials and agencies. Refer to Section IV.B. for additional notifications.

3. Emergency management officials will accomplish the needed actions, which are explained in this EAP, in accordance with their existing recommended operating guidelines and existing municipal or county emergency operation plans.

4. Warning and evacuation of the public must commence upon notification by the dam operator or a designated representative of a potential or imminent failure of the dam. Emergency responders should initiate action in accordance with the plan outline and any existing internal organizational recommended operating guidelines, and existing municipal or county operation plans.

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D. TERMINATION OF SURVEILLANCE AND NOTIFICATIONS

1. The dam operator or a designated representative may terminate 24-hour surveillance of dam site conditions when:

   a. All National Weather Service flash flood watches or warnings have expired, **and**

   b. Heavy rains have ended and the water level in the lake has dropped 6 feet below the top of the dam and is receding.

   c. After a personal inspection of the dam site has been conducted by a knowledgeable professional engineer following an earthquake, overtopping of the dam, or an evacuation of the inundation area as a result of this EAP, or other serious problems resulting in a notification of a dam site emergency and the Department concurs with the results of the inspection.

2. Upon termination of 24 hour surveillance of dam site conditions, the dam operator or a designated representative shall notify the Blair County Communications Center/911 and Rapid Notify.

3. Termination of notifications will be relayed from the Blair County Communications Center/911 and Rapid Notify to the Blair County EMA, the PEMA State EOC and all applicable emergency responders and designated government officials and agencies. Refer to Section IV.B. for additional notifications.

IV. RESPONSIBILITIES AND DUTIES - EMERGENCY RESPONSE

A. DAM OWNER OR DAM OPERATOR (DAM SITE EMERGENCY)

1. The dam operator or a designated representative will provide for 24-hour on site dam surveillance and monitoring as required in Section III.C.1. and initiate early warning notification to the Blair County Communications Center/911 and Rapid Notify.

2. When the situation meets the criteria under the warning and evacuation notification guidelines, presented in Section III.D.1, indicating a failure of the dam is possible or a significant threat condition is developing, the dam operator or a designated representative will initiate warning and evacuation communication to the Blair County Communications Center/911 and Rapid Notify.

B. BLAIR COUNTY COMMUNICATIONS CENTER/911

1. The Blair County Communications Center/911 and Rapid Notify will notify (Telephone numbers and points of contact are listed in Attachment D):

   a. Blair County EMA

   b. PEMA State EOC

   c. Borough of Tyrone Police

   d. Tyrone Fire Departments

   e. Sinking Valley Fire Dept.

   f. Tipton-Antis Fire Dept.

   g. Snyder Township Volunteer Fire Company

   h. PA State Police – Troop G

   i. Snyder & Tyrone Township Emergency Medical Services (Tyrone AMED)

   j. Antis Township Emergency Medical Services (Bellwood EMS)

C. BLAIR COUNTY EMA

1. The Blair County EMA will contact the following personnel and agencies (See Attachment D):

   a. National Weather Service

   b. Snyder Township, Tyrone Township, & the Borough of Tyrone EMA

   c. Antis Township EMA

   d. Media - Advisory and/or Warning (Activate EAS). Refer to Attachment E

-Radio Stations:	WTRN-AM
	WVAM/WPRR
-TV Stations:	WTAJ-TV 10
	WJAC-TV 6
-Newspapers:	Altoona Mirror
	Tyrone Daily Herald

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e. Blair County EOC staff, as necessary

f. American Red Cross – Blair County Chapter (when mass care or family assistance is required). Coordinate sheltering per ESF 6 of County EOP.

g. Blair County elected officials

h. Tyrone Area School District School Bus System

i. PennDOT District 9

j. School Districts
Tyrone Area School District

Nursing Homes
Colonial Courtyard Nursing Home
Epworth Manor Nursing Home
Greystone Court Nursing Home

Day Care Centers
Church of Brethren, A Child's Garden
Tyrone Head Start, Child Advocates of Blair County
Caterpillar Corner Daycare

Businesses
Kunzler & Co.
Logan Beverage
Team Ten
Tyrone Milling
Tyrone Municipal Building
Norfolk Southern Corporation
Sheetz Convenience Store

Public Services
Norfolk Southern Corporation Rail Services
Tyrone Wastewater Treatment Plant
Tyrone Highway Department

2. The Blair County EMA will ascertain and report to PEMA any unmet needs requirements.

3. The Tyrone Borough EMA will initiate Damage Assessment and Recovery procedures as the situation requires. The Blair County EMA will assist.

D. OTHER AFFECTED COUNTY 911(s) – **(REFER TO SECTION 4.B.)**

E. OTHER AFFECTED COUNTY EMA(s) – **(REFER TO SECTION 4.C.)**

F. LOCAL MUNICIPAL EMAs

ANTIS TOWNSHIP, SNYDER TOWNSHIP, TYRONE TOWNSHIP, & BOROUGH OF TYRONE EMA

1. Advise facilities with special needs individuals as outlined in the Emergency Operations Plan (EOP) and identified by the Hazard Vulnerability Analysis (areas impacted due to a dam failure and indicated on the Inundation Map).
2. Notify municipal elected officials and municipal services (water, sewer, etc.)
3. Keep the County EMA apprised of the situation.
4. Coordinate the evacuation (where appropriate).
5. Provide damage reporting to the Blair County EMA.

G. FIRE DEPARTMENTS

TYRONE FIRE DEPARTMENTS (BLAZING ARROW FIRE DEPT., NEPTUNE FIRE CO., & TYRONE FIRE POLICE)

1. Provide citizen notification and route alerting to advise residents living within their jurisdiction. (See Inundation Map - Attachment A).
2. Assist in evacuation.
3. Assist police and EMS, as requested.
4. Provide communications support if feasible and requested.

SINKING VALLEY FIRE DEPARTMENT

1. Provide citizen notification and route alerting to advise residents living within their jurisdiction. (See Inundation Map - Attachment A).
2. Assist in evacuation.
3. Assist police and EMS, as requested.
4. Provide communications support if feasible and requested.

TIPTON-ANTIS FIRE DEPARTMENT

1. Provide citizen notification and route alerting to advise residents living within their jurisdiction. (See Inundation Map - Attachment A).

2. Assist in evacuation.

3. Assist police and EMS, as requested.

4. Provide communications support if feasible and requested.

H. POLICE SERVICES

TYRONE POLICE DEPARTMENT
PENNSYLVANIA STATE POLICE

1. Dispatch radio vehicle to dam site in order to provide alternate communications link to Blair County Communications Center/911 - Tyrone Police Department.

2. Assist evacuation traffic flow and establish traffic control points (TCP) at pre-designated locations (See Inundation Map – Attachment A and Traffic Control Points – Attachment B).

3. Prevent unauthorized entry and provide security of evacuated areas.

4. Provide assistance with route alerting, if requested.

I. EMERGENCY MEDICAL SERVICES (EMS)

SNYDER & TYRONE TOWNSHIP EMERGENCY MEDICAL SERVICES (Tyrone AMED)

1. Provide evacuation transportation assistance and coordinate with designated fire services agencies for transportation of persons with disabilities and any special needs.

2. Assist fire and police departments as requested.

3. Provide EMS support to any mass care center as requested.

ANTIS TOWNSHIP MEDICAL SERVICES (Bellwood EMS)

1. Provide evacuation transportation assistance and coordinate with designated fire services agencies for transportation of persons with disabilities and any special needs.

Search in Drive

2. Assist fire and police departments as requested.

3. Provide EMS support to any mass care center as requested.

J. AMERICAN RED CROSS or Volunteer Organization Active in Disasters (VOAD)

BLAIR COUNTY CHAPTER (If requested by Blair County EMA)

1. Alert person(s) responsible to set-up and operate reception centers and mass care centers at the Olivet Baptist Church in Bellwood & the Bald Eagle Fire Hall in Bald Eagle.

2. Support and maintain operations of the reception center and activate mass care center staff.

3. Maintain communications with Blair County EMA, local municipal EMAs and reception center.

K. PENNSYLVANIA DEPARTMENT OF TRANSPORTATION (PennDOT) DISTRICT 9

1. Provide services, signs, barricades and guidance on roads and bridges affecting the evacuation and recovery.

V. ADMINISTRATION AND LOGISTICS

A. The NOTICE (Attachment F) will be posted at the following public places:

1. Borough of Tyrone Borough Building

2. Snyder Township Building

3. Blair County Tax Office

4. Borough of Tyrone Tax Office

5. Snyder Township Tax Office

6. Borough of Tyrone Police Department

7. Troop G, Pennsylvania State Police

8. Tyrone Fire Departments
   a. Blazing Arrow Fire Department
   b. Neptune Fire Company

c. Tyrone Fire Police

9. Sinking Valley Fire Department

10. Tipton-Antis Fire Department

B. The NOTICE (see Attachment F) must state that copies of the Emergency Action Plan for this dam are available for inspection at the following locations (include physical address):

1. Blair County Emergency Management Agency Office, 615 4th St., Altoona, PA.

2. Snyder & Tyrone Township Emergency Management Office, 108 Baughman Hollow Road, Tyrone, PA.

3. Antis Township Emergency Management Office, 1000 N. 3rd St., Bellwood, PA.

4. Borough of Tyrone - Dam Owner, 1100 Logan Avenue, Tyrone, PA.

C. A new NOTICE will be sent to those agencies in paragraph "A" above whenever the EAP is revised.

D. The dam owner is responsible to verify posting of the NOTICE and documenting the status in the annual inspection report.

VI. AUTHORITY AND REFERENCES

A. AUTHORITY

1. The Dam Safety and Encroachments Act (32 P.S. sections 693.1-693.27), May 16, 1985.

2. The Pennsylvania Code - Title 25, Chapter 105 Dam Safety and Waterways Management, Section 105.63 and 105.134.

3. Emergency Management Services Code, 35 Pa C.S. Section 7101 et seq., as amended.

B. REFERENCES

1. Guidelines for Developing an Emergency Action Plan for Hazard Category 1, 2 & 3 Dams. Prepared by the Department of Environmental Protection, Water Management, Bureau of Waterways Engineering, Division of Dam Safety and the Pennsylvania Emergency Management Agency, January 2009.

2. Inspection, Maintenance and Operation of Dams in Pennsylvania. Prepared by the Department of Environmental Protection, Water Management, Bureau of Waterways Engineering, Division of Dam Safety, February 2009.

3. Blair County Emergency Operations Plan.

VII. DEFINITIONS

A. **ABUTMENT** - The part of the valley's hillside against which the dam abuts. Right and left abutments are those on respective sides of the dam as an observer looks downstream.

B. **AFFECTED COUNTIES/MUNICIPALITIES** – Those jurisdictions within Pennsylvania or adjoining states that, according to the inundation map, may experience flooding as a result of a failure of the dam.

C. **BOIL** - A disturbance in the surface layer of soil caused by water escaping under pressure from behind a water-retaining structure such as a dam or a levee. The boil may be accompanied by deposition of soil particles (usually sand or silt) in the form of a ring (miniature volcano) around the area where the water escapes.

D. **BREACH** - An opening or a breakthrough of a dam sometimes caused by rapid erosion of a section of earth embankment by water.

E. **CONDUIT** - A pipe used to convey water through or around or under a dam.

F. **CONTROL TOWER** - A structure in the dam or reservoir used to control withdraw of water from the reservoir thru pipes or culverts.

G. **CREST OF DAM** - The crown of an overflow section of the dam. In the United States, the term "crest of dam" is often used when "top of dam" is intended. To avoid confusion, the terms **crest of spillway** and **top of dam** should be used for referring to the overflow section and dam proper, respectively.

H. **CULVERT** - (a) A drain or waterway structure built transversely under a road, railway, or embankment. A culvert usually comprises a pipe or a covered channel of box section. (b) A gallery or waterway constructed through any type of dam, which is normally dry but is used occasionally for discharging water; hence the terms scour culvert, drawoff culvert and spillway culvert.

I. **DAM** - A barrier built across a watercourse for impounding or diverting the flow of water.

J. **DAM FAILURE** - The uncontrolled release of a dam's impounded water. It is recognized that there are degrees of failure. Any malfunction or abnormality, outside

the design assumptions and parameters, which adversely affect a dam's primary function of impounding water is properly considered a failure. Minor malfunctions or abnormalities can result in a sudden failure of a dam.

K. **EARTH DAM (EARTHFILL DAM)** - An embankment dam in which more than 50% of the total volume is formed of compacted fine-grained earth.

L. **EMBANKMENT** - Fill material, usually earth or rock, placed with sloping sides.

M. **EMERGENCY** - A condition of serious nature which develops unexpectedly and endangers the structural integrity of a dam or endangers downstream property and human life. An emergency requires immediate action.

N. **EAP** – Emergency Action Plan - A formal document that identifies potential emergency conditions at a dam and specifies preplanned actions to be followed to minimize property damage and loss of life. It contains procedures and information to assist the dam owner in issuing early warning and notification message to responsible downstream emergency management authorities of the emergency situation. It also contains inundation maps to show the emergency management authorities of the critical areas for action in case of an emergency.

O. **EOP** – Emergency Operations Plan – "The document…which describes the hazards, vulnerabilities, emergency management situations and assumptions that affect the municipality, the concept of operations during an emergency, and the various roles and assignments of the elected officials, emergency management coordinator and other emergency response personnel, whether paid or volunteer." (From PEMA Directive D2007-1). The EOP includes checklists for known critical facilities, special facilities, critical personnel, hearing impaired residents, non-English speaking residents, residents requiring ambulance assistance, etc., as identified by local emergency management officials.

P. **FACE** - With reference to a structure, the external surface that limits the structure, e.g., the face or a wall or dam.

Q. **FAILURE** - An incident resulting in the uncontrolled release of water from an operating dam. See "Dam Failure".

R. **FOUNDATION OF DAM** - The natural material on which the dam structure is placed.

S. **GROIN** - That area along the contact (or intersection) of the face of a dam with the abutment.

T. **HAZARD** - A situation which creates the potential for adverse consequences such as loss of life, property damage, and adverse social and environmental impacts. Impacts may be for a defined area downstream of a dam from flood-waters released through spillways and outlet works of the dam or waters released by partial or complete failure

of the dam. They may also be for an area upstream of the dam from effects of backwater flooding or effects of landslides around the reservoir perimeter.

U. **INUNDATION AREA** - The downstream area that would be flooded or otherwise affected by the failure of a dam or large flows. This area can be subject to a fast moving flood wave, 20 to 50 MPH is common, with a height of 1 foot to tens of feet

V. **INUNDATION MAP** - A map delineating the area that would probably be flooded in the event of a dam failure. This map must be prepared by a registered professional engineer.

W. **NOTIFICATION** - To promptly inform appropriate individuals or emergency agency about an emergency condition so they can initiate appropriate actions.

X. **NORMAL WATER LEVEL (NORMAL WATER POOL)** - For reservoir with a fixed overflow spillway crest, it is the lowest level of that crest.

Y. **OPERATOR** - The person or position in a company or organization, who is responsible for a dam's operation and surveillance.

Z. **OUTLET** - A constructed opening through which water can be safely discharged for a particular purpose from a reservoir.

AA. **OWNER** - Any person, authority or agency that manages a dam or reservoir.

BB. **PSAP** – Public Safety Answering Point – an agency in the United States, typically county or city controlled, responsible for answering 9-1-1 calls for emergency assistance from police, fire, and ambulance services.

CC. **SEEPAGE** - The movement of water that might occur through the dam, its foundation or its abutments. Small amounts of clear water seepage is normal. Increase in the amount of water flow or change in color is a concern for a dam's safety.

DD. **SLIDE** - The movement of a mass of earth down a slope. In embankments and abutments, this involves the separation of a portion of the slope from the surrounding materials.

EE. **SPECIAL NEEDS FACILITY** – A building or establishment relating to people who have specific needs, such as children or those associated with a disability.

FF. **SPILLWAY** - A structure over or through which flows are discharged. If the flow is controlled by gates, it is considered a controlled spillway; if the elevation of the spillway crest is the only control, it is considered an uncontrolled spillway.

GG. **SPILLWAY CHANNEL** - A channel conveying water from the spillway crest to the river downstream.

Search in Drive

HH. **TOE OF DAM** - The junction of the downstream face of a dam with the ground surface. Also referred to as downstream toe. For an embankment dam, the junction of the upstream face with ground surface is called the upstream toe.

II. **TOP OF DAM** - The elevation of the uppermost surface of a dam, usually a road or walkway, excluding any parapet wall, railings, etc.

JJ. **TRAFFIC CONTROL POINT (TCP)** – Manned or unmanned posts established at critical road junctions for the purpose of controlling or limiting traffic. TCPs are used to control evacuation movement and also limit entry into the inundation area when an emergency situation requires it.

KK. **VOAD** – Voluntary Organizations Active in Disasters – collaboration of diverse organizations and citizens trained to meet community needs in the wake of a large-scale disaster.

VIII. EXERCISE AND TRAINING

The dam owner will advise and cooperate with the Blair County EMA of any exercises scheduled, and coordinate with the Blair County EMA to exercise all or portions of this EAP as part of the county's all-hazard exercise program schedule.

IX. PLAN MAINTENANCE AND DISTRIBUTION

A. This EAP will be reviewed every five years by the owner or the owner's engineer. During the five year review:

1. The owner's engineer will conduct an on-site review of the flood (inundation) area for any increase in downstream development and revise the Inundation Map, if needed.

2. The owner's engineer will review and revise surveillance conditions as needed.

3. The owner will coordinate with Blair County EMA if population increase or development within the inundation area could affect the emergency response requirements. If so, a new or revised plan should be developed.

4. The owner will meet with and obtain concurrence from the Blair County EMC.

5. The owner will submit 6 copies at a minimum of the revised plan to DEP for review and approval.

B. A copy of the approved EAP will be distributed to those emergency response agencies listed in Section IV. DEP, Division of Dam Safety will distribute a copy of the approved EAP to PEMA's Area Office, the affected county Emergency Management Agency(s)

and PSAP/911 Center(s), the National Weather Service, and the DEP's Regional Office. Within 60 days, the dam owner will submit a letter certifying distribution of the approved EAP and posting of NOTICE(s) to the DEP, Division of Dam Safety.

ATTACHMENTS:

ATTACHMENT A - DOWNSTREAM FLOOD AREA (INUNDATION) MAP
ATTACHMENT B - TRAFFIC CONTROL POINTS
ATTACHMENT C - LOCATION MAP
ATTACHMENT D - TELEPHONE ROSTER
ATTACHMENT E - MEDIA ANNOUNCEMENT
ATTACHMENT F - NOTICE

ATTACHMENT B

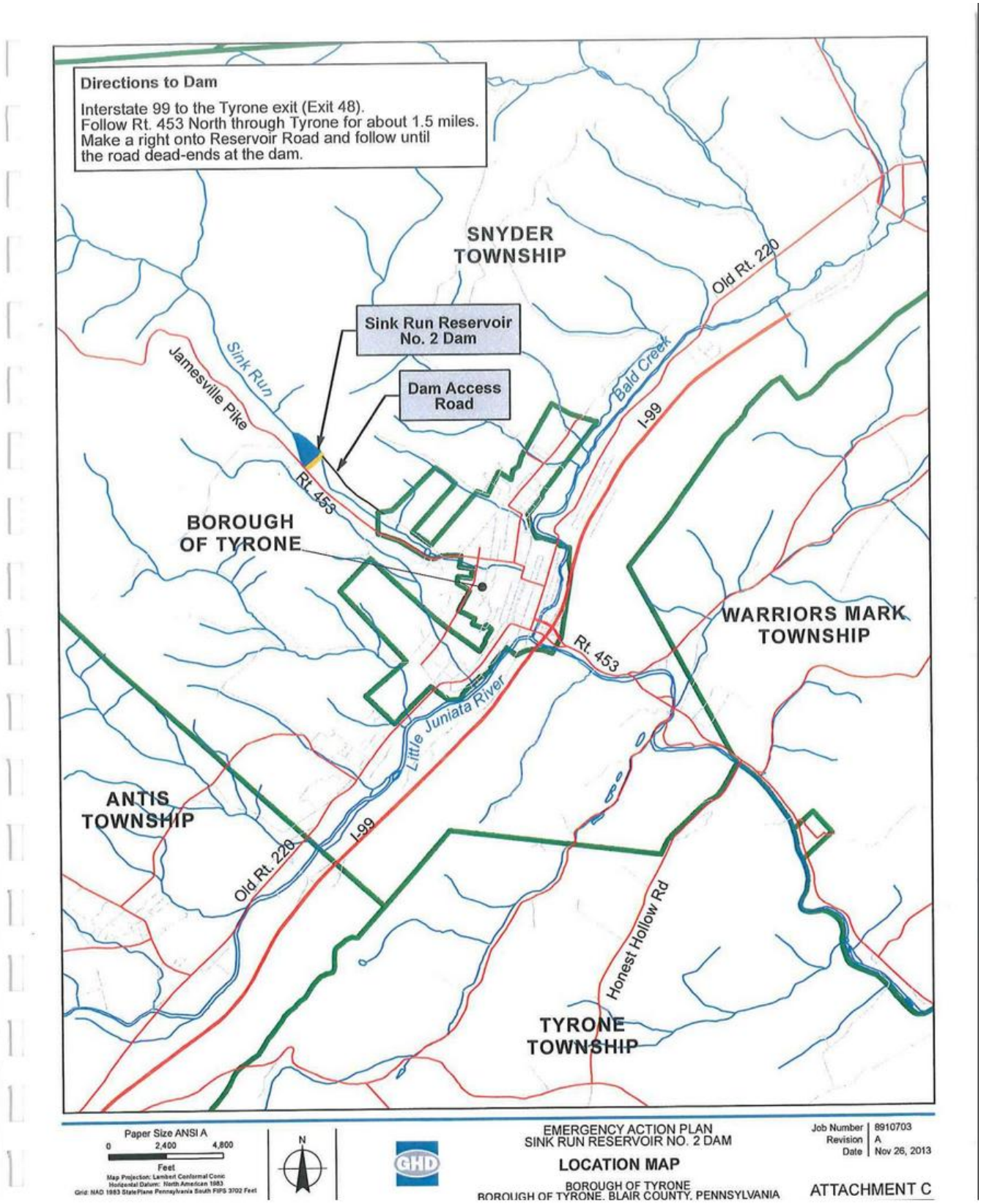
TRAFFIC CONTROL POINTS

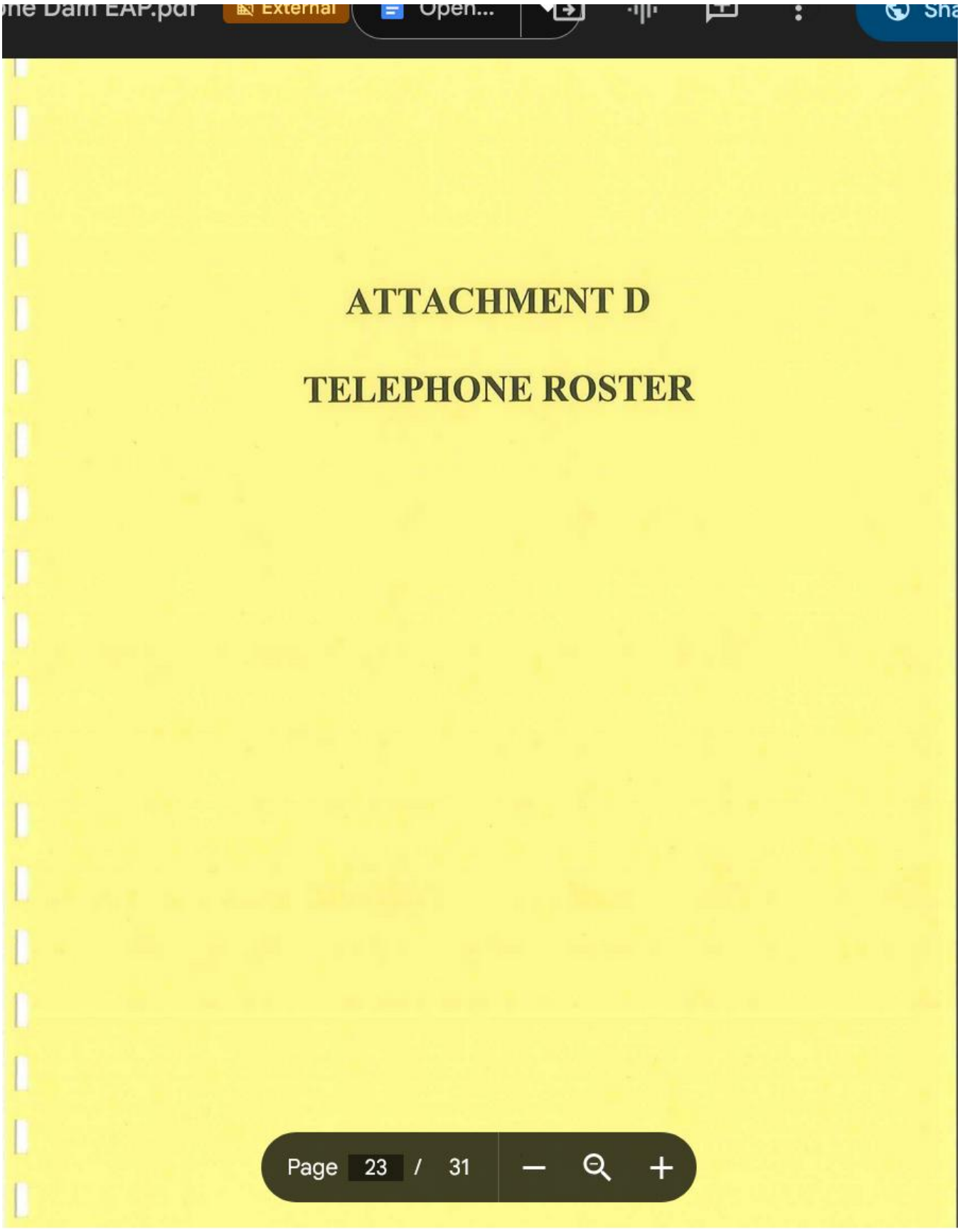
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ATTACHMENT B

Traffic Control Points
Sink Run Reservoir No. 2 Dam

NUMBER	LOCATION	AGENCY RESPONSIBLE FOR ESTABLISHMENT
TCP 1	At the intersection of West 14th St., Madison Ave., and Jamesville Pike.	Tyrone Borough Police/Pennsylvania State Police
TCP 2	At the intersection of Adams Ave., and 26th St..	Tyrone Borough Police/Pennsylvania State Police
TCP 3	At the intersection of Adams Ave. and Old Rt. 220 at the town of Vail.	Tyrone Borough Police/Pennsylvania State Police
TCP 4	At the intersection of Old Rt. 220 and Rt. 350 at the town of Bald Eagle.	Tyrone Borough Police/Pennsylvania State Police
TCP 5	At the intersection of Interstate 99 and Rt. 350.	Tyrone Borough Police/Pennsylvania State Police
TCP 6	At the intersection of Old Route 220 and Hutchinson Run Rd. in Grazierville	Tyrone Borough Police/Pennsylvania State Police
TCP 7	At the intersection of the entrance and exit ramps for Interstate 99 and Old Rt. 220.	Tyrone Borough Police/Pennsylvania State Police
TCP 8	At the intersection of Old Rt. 220 and Clearfield Ave. in Tipton.	Tyrone Borough Police/Pennsylvania State Police
TCP 9	At the intersection of Clay Ave. & West 3rd St.	Tyrone Borough Police/Pennsylvania State Police
TCP 10	Along Route 453 approximately .6 miles north of Birmingham.	Tyrone Borough Police/Pennsylvania State Police
TCP 11	On Honest Hollow Rd approximately .4 miles southwest of the intersection with Route 453.	Tyrone Borough Police/Pennsylvania State Police
TCP 12	On Skelp Mountain Rd (SR 1015) approximately 1.2 miles southwest of Tyrone Forge.	Tyrone Borough Police/Pennsylvania State Police
TCP 13	On the entrance ramp to Interstate 99 North at Charlottsville.	Tyrone Borough Police/Pennsylvania State Police
TCP 14	At the intersection of Hutchinson Run Rd. and Grazierville Rd. in Grazierville	Tyrone Borough Police/Pennsylvania State Police
TCP 15	On W. 3rd St. approximately .25 Miles northwest on the Borough of Tyrone Boundary.	Tyrone Borough Police/Pennsylvania State Police
TCP 16	On Jamesville Pike west of the Tyrone Reservoir No. 2 Dam.	Tyrone Borough Police/Pennsylvania State Police
TCP 17	On Old Route 220 south of Northwood.	Tyrone Borough Police/Pennsylvania State Police
TCP 18	On Interstate 99 S. blocking both the entrance ramp and the expressway.	Tyrone Borough Police/Pennsylvania State Police
TCP 19	On Route 550 approximately .3 miles northeast of Nealmont.	Tyrone Borough Police/Pennsylvania State Police


Directions to Dam
Interstate 99 to the Tyrone exit (Exit 48).
Follow Rt. 453 North through Tyrone for about 1.5 miles.
Make a right onto Reservoir Road and follow until
the road dead-ends at the dam.
SNYDER TOWNSHIP
Sink Run Reservoir No. 2 Dam
Dam Access Road
Sink Run
Jamesville Pike
Rt. 453
Old Rt. 220
Bald Creek
I-99
BOROUGH OF TYRONE
WARRIORS MARK TOWNSHIP
Rt. 453
Little Juniata River
ANTIS TOWNSHIP
I-99
Old Rt. 220
Honest Hollow Rd
TYRONE TOWNSHIP
Paper Size ANSI A
0 2,400 4,800
Feet
Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet
N
GHD
EMERGENCY ACTION PLAN
SINK RUN RESERVOIR NO. 2 DAM
LOCATION MAP
BOROUGH OF TYRONE
BOROUGH OF TYRONE, BLAIR COUNTY, PENNSYLVANIA
Job Number 8910703
Revision A
Date Nov 26, 2013
ATTACHMENT C


ATTACHMENT D
TELEPHONE ROSTER
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ATTACHMENT D

TELEPHONE INFORMATION LIST

	DAYTIME PHONE NO.	24-HOUR PHONE NO.
DAM OWNER: PHYLLIS J. GARHART, BOROUGH MANAGER, BOROUGH OF TYRONE	814-684-1330	
DAM OPERATOR: ARDEAN LATCHFORD	814-684-5396	911
BLAIR COUNTY COMMUNICATIONS CENTER	814-940-5900	911
BLAIR COUNTY EMA	814-940-5900	
SNYDER TOWNSHIP AND TYRONE TOWNSHIP EMA	814-684-1048 814-329-7576 (CELL)	
BOROUGH OF TYRONE EMA	814-937-4270	
ANTIS TOWNSHIP EMA	814-949-8788	
TYRONE FIRE DEPARTMENTS BLAZING ARROW HOOK & LADDER CO. NEPTUNE FIRE CO. TYRONE FIRE POLICE	 814-684-1770 814-684-1660 814-684-5406	
SINKING VALLEY FIRE DEPARTMENT	814-944-2496	
TIPTON-ANTIS FIRE DEPARTMENT	814-684-4420	
BOROUGH OF TYRONE POLICE DEPT.	814-684-1365	
PA STATE POLICE – TROOP G	814-696-6100	
SNYDER & TYRONE TOWNSHIP EMS (TYRONE AMED)	814-684-3601	
ANTIS TOWNSHIP EMS (BELLWOOD EMS)	814-742-9162	
BLAIR COUNTY RED CROSS CHAPTER	814-944-6146	

DEP SOUTH-CENTRAL OFFICE DEP DAM SAFETY PA EMERGENCY MGY. AGENCY AREA OFFICE PA DEPT. OF TRANSPORTATION – DISTRICT 9	 717-787-4802 717-651-7060 814-696-7250	 1-800-333-1904 717-651-2001
RADIO STATIONS: WTRN-AM WVAM/WPRR TV STATIONS: WTAJ-TV 10 WJAC-TV 6 NEWSPAPERS: ALTOONA MIRROR TYRONE DAILY HERALD	 814-684-3200 814-941-9800 814-944-2031 814-215-7600 814-946-7411 814-684-4000	
TYRONE AREA SCHOOL DISTRICT	814-684-0710	
NURSING HOMES/SPECIAL NEEDS FACILITIES COLONIAL COURTYARD NURSING HOME EPWORTH MANOR NURSING HOME GREYSTONE COURT	 814-686-5970 814-684-0320 814-686-7464	
DAY CARE CENTERS CHURCH OF THE BRETHREN, A CHILD'S GARDEN TYRONE HEAD START CENTER, CHILD ADVOCATES OF BLAIR COUNTY CATERPILLAR CORNER DAYCARE	 814-684-7899 814-684-5559 814-329-4041	
BUSINESSES KUNZLER & CO. LOGAN BEVERAGE TEAM TEN TYRONE MILLING TYRONE MUNICIPAL BUILDING	 814-684-2270 814-684-2920 814-684-6134 814-684-3400 814-684-1300	

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NORFOLK SOUTHERN CORPORATION	814-949-1541	
PUBLIC SERVICES		
NORFOLK SOUTHERN CORPORATION RAIL SERVICES	814-949-1235 (Safety) 1-800-453-2530 (Police)	
TYRONE WASTEWATER TREATMENT PLANT	814-684-2110	
TYRONE HIGHWAY DEPARTMENT	814-684-7333	

ATTACHMENT E

MEDIA ANNOUNCEMENT

ATTACHMENT E

MEDIA ANNOUNCEMENT

EARLY WARNING MESSAGE:

The Blair County Emergency Management Agency advises that due to conditions at the Sink Run Reservoir No. 2 Dam in Snyder Township, the public should avoid the area downstream of the dam. The inundation area resulting from a sudden dam failure extends from the Sink Run Reservoir No. 2 Dam southeast along the Sink Run Valley into the Borough of Tyrone. Within the Borough of Tyrone, the flood area extends south from Madison Ave. & Adams Ave. to Rt. 220 and North to W. 23rd St. At W. 23rd St., the inundation area narrows to run along Bald Creek between Lincoln Ave. and the Old Rt. 220, north to the limits of the Borough of Tyrone. The flood area in the southern portion of the Borough of Tyrone is roughly contained between Lincoln St. and Cameron St. to the north and the CONRAIL tracks to the south. South of 3rd St., the flood area also threatens low lying areas along the Juniata River downstream of Tyrone, including Rt. 453, and the towns of Nealmont, Tyrone Forge, and Ironville. Stay tuned for further information.

REPEAT PERIODICALLY

WARNING AND EVACUATION MESSAGE:

The Blair County Emergency Management Agency is advising all residents living downstream of the Sink Run Reservoir No. 2 Dam in Snyder Township to evacuate the area immediately. Evacuate the area that extends from the Sink Run Reservoir No. 2 Dam southeast along the Sink Run Valley into the Borough of Tyrone. Within the Borough of Tyrone, the flood area extends south from Madison Ave. & Adams Ave. to Rt. 220 and North to W. 23rd St. At W. 23rd St., the inundation area narrows to run along Bald Creek between Lincoln Ave. and the Old Rt. 220, north to the limits of the Borough of Tyrone. The flood area in the southern portion of the Borough of Tyrone is roughly contained between Lincoln St. and Cameron St. to the north and the CONRAIL tracks to the

south. South of 3rd St., the flood area also threatens low lying areas along the Juniata River downstream of Tyrone, including Rt. 453, and the towns of Nealmont, Tyrone Forge, and Ironville. If you require shelter during this emergency you should report to the Olivet Baptist Church in Bellwood, or the Bald Eagle Fire Hall in Bald Eagle.

REPEAT PERIODICALLY

INCIDENT RESOLVED - SAFE TO RETURN:

The Blair County Emergency Management Agency is advising residents of the area downstream of the Sink Run Reservoir No. 2 Dam in Snyder Township that the problem at the dam has been resolved and that residents may return to their homes.

REPEAT PERIODICALLY

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ATTACHMENT F

NOTICE

NOTICE

SINK RUN RESERVOIR NO. 2 DAM HAS BEEN CLASSIFIED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION, DIVISION OF DAM SAFETY AS A HIGH HAZARD DAM; THIS IS, A DAM SO LOCATED AS TO ENDANGER POPULATED AREAS DOWNSTREAM BY ITS FAILURE.

AN EMERGENCY ACTION PLAN HAS BEEN DEVELOPED FOR

SINK RUN RESERVOIR NO. 2 DAM
(NAME OF DAM)

A COPY OF THIS PLAN, INCLUDING AN INUNDATION MAP NOTING AREAS IN

BOROUGH OF TYRONE and SNYDER TOWNSHIP
(NAME OF MUNICIPALITY AND/OR MUNICIPALITIES)

SUBJECT TO FLOODING IN THE EVENT OF FAILURE, IS AVAILABLE FOR PUBLIC INSPECTION AT THE FOLLOWING LOCATIONS:

Borough of Tyrone (DAM OWNER)	**1100 Logan Avenue, Tyrone, PA** (ADDRESS)
Blair County (COUNTY EMA OFFICE)	**615 4th Street, Altoona, PA** (ADDRESS)
Snyder Township (LOCAL EMA OFFICE)	**108 Baughman Hollow Road, Tyrone, PA** (ADDRESS)
Antis Township	**1000 N. 3rd Street, Bellwood, PA** (ADDRESS)
	(ADDRESS)

This NOTICE is posted per Department of Environmental Protection's Chapter 105 Dam Safety and Waterway Management §105.134(c).

Blair County Planning Commission

High Hazard Potential Dam Data Collection

Dam Name: Sink Run Reservoir #2

Municipality / Jurisdiction of Dam: Tyrone Municipality

Dam: Owner (Public/Private): Borough of Tyrone

Primary Contact Name & Title: Donald Shultz Superintendent

Phone / Email: 814-684-5396 dshultz@tyroneboro9a.com

☐ Dam Location & Downstream Area

- ☐ Dam address or general location: off Route 453 700' above 631 reservoir drive
- ☑ Downstream municipalities potentially affected (if known): Snyder township

☐ Population & Facilities at Risk (Estimate): _____

- ☐ Unknown
- ☐ <10
- ☐ 10-50
- ☑ 50+

☐ Known Facilities downstream (check any that apply & Indicate location)

- ☑ Homes: _____
- ☑ Schools: _____
- ☑ Hospitals / healthcare: _____
- ☑ Roads / bridges: _____
- ☑ Utilities (water, power, wastewater): _____

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- [x] Emergency services
- [ ] Unknown

- [ ] Do you have a dam breach inundation map?
  - [x] Yes
  - [ ] No
  - [ ] Unknown

- [ ] Model of dam breach inundation map.
  - [ ] HEC-RAS
  - [ ] DSS-WISE
  - [ ] FLO-2D
  - [x] Other:

- [ ] Does the plan have an Emergency Action Plan (EAP)?
  - [x] Yes
  - [ ] No
  - [ ] Other: _____

- [ ] When was EAP last updated (if known): 2015

- [ ] Known or potential causes of failure (check any)
  - [x] Severe storm / flooding
  - [x] Structural aging
  - [ ] Erosion
  - [ ] Seepage

Blair County Planning Commission

- ☐ Landslide
- ☐ Slope instability
- ☐ Earthquake
- ☐ Other: _____

☐ Known Structural issues or deficiencies (if known): None

☐ Most recent inspection conducted by: Rettew Engineering

☐ Approximate inspection date (if known): 10-10-2025

☐ Are condition assessments or reports available?

- ☑ Yes
- ☐ No
- ☐ Unknown

☐ Would your dam failure impact multiple jurisdictions?

- ☑ Yes
- ☐ No
- ☐ Unknown

☐ Document your approach and limitation to address deficiencies:

We are currently working on getting the top of the dam resealed and getting some repairs on the gabions on the bottom of the spill way

Refer to Dam inspection report

☐ Estimated economic impact (economic damage) from dam failure based on community assets in HHPD inundation zone:

Could impact businesses

Refer to EAP

Blair County Planning Commission

☐ Estimated Environmental impact (wetland, parks, river, stream, lakes) from dam failure in inundation zone: Parks - Reservoir park + Soldiers Park
Stream - Bald Eagle Creek
River - Juniata River

☐ Social Impact (population with functional needs, language barrier, poverty, infant, elderly in inundation zone) from dam failure in inundation zone:
Infant - Day Care
Elderly - Cedarwood nursing care

☐ How would a proposed action reduce High Hazard Potential Dam risk? Proposed getting the top of the dam resealed (Black top)

☐ How would the proposed action reduce the risks of dam's deficiency? Longevity of DAm

☐ Degree to which an action reduces Population At risk: Greatly

☐ Is your infrastructure under multiple jurisdiction?

☐ Yes

☑ No

☐ Please estimate share of authority: _____

Completed by: [signature]

Date: 1-27-2026

Blair County Planning Commission

MacKenzie Caron mcaron@blairplanning.org

Ben Peng ben@stuartgroup.org

☐ Email **Emergency Action Plan** to MacKenzie and/or Ben

☑ Sent! (Email subject title – "Hazard Dam Information")

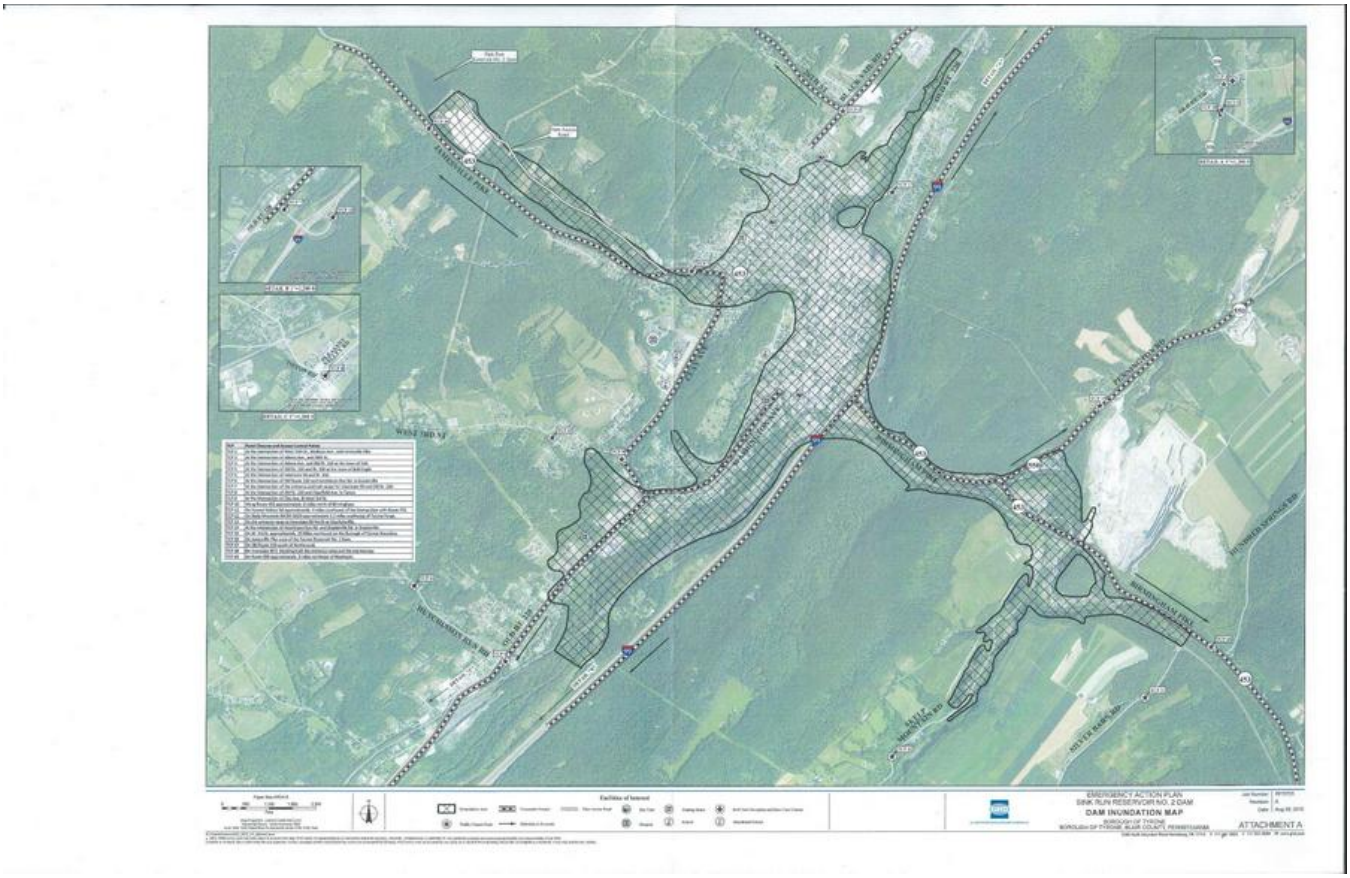
☐ Email **Condition Report/Assessment** to MacKenzie and/or Ben

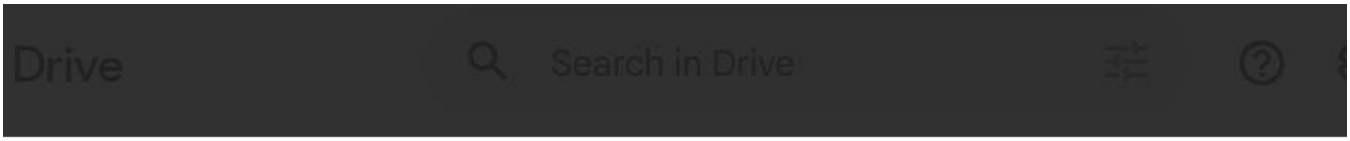
☑ Sent! (Email subject title – "Hazard Dam Information")

☐ Email **any other relevant information** to MacKenzie and/or Ben

☑ Sent! (Email subject title – "Hazard Dam Information")

Inundation map


EMERGENCY ACTION PLAN
SINK RUN RESERVOIR NO. 2 DAM
DAM INUNDATION MAP
BOROUGH OF TYRONE
BOROUGH OF TYRONE, BLAIR COUNTY, PENNSYLVANIA
ATTACHMENT A



High Hazard Potential Dam Data Collection

Dam Name: Upper Kittanning Dam

Municipality / Jurisdiction of Dam: Logan Township

Dam: Owner (Public/Private): Altoona Water Authority

Primary Contact Name & Title: Katie Semelsberger Land Manager

Phone / Email: 814-949-2222, x2026/KSemelsberger@altoonawater.gov

☐ Dam Location & Downstream Area

- ☐ Dam address or general location: Along S.R. 4008 Veterans Memorial Highway
- ☐ Downstream municipalities potentially affected (if known):
  Logan, Altoona, Eldorado, Allegheny, Canan, Blair, Fort Fetter, Gaysport, Hollidaysburg, Frankstown, Reese, Canoe Creek, Flowing Spring, Horrell, Woodburry, Williamsburg, etc.

☐ Population & Facilities at Risk (Estimate): _____

- ☐ Unknown
- ☐ <10
- ☐ 10-50
- ☑ 50+

☐ Known Facilities downstream (check any that apply & Indicate location)

- ☑ Homes: 2,450
- ☑ Schools: 3
- ☐ Hospitals / healthcare: _____
- ☐ Roads / bridges: _____
- ☐ Utilities (water, power, wastewater): _____

- ☐ Emergency services
- ☑ Unknown

☐ Do you have a dam breach inundation map?

- ☑ Yes
- ☐ No
- ☐ Unknown

☐ Model of dam breach inundation map.

- ☐ HEC-RAS
- ☐ DSS-WISE
- ☐ FLO-2D
- ☑ Other:

☐ Does the plan have an Emergency Action Plan (EAP)?

- ☑ Yes
- ☐ No
- ☐ Other: _____

☐ When was EAP last updated (if known): 7/2022

☐ Known or potential causes of failure (check any)

- ☑ Severe storm / flooding
- ☑ Structural aging
- ☐ Erosion
- ☐ Seepage

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- ☐ Landslide
- ☐ Slope instability
- ☐ Earthquake
- ☐ Other: _____

☐ Known Structural issues or deficiencies (if known): None

☐ Most recent inspection conducted by: Gannett Fleming, Inc.

☐ Approximate inspection date (if known): May 2025

☐ Are condition assessments or reports available?

- ☐ Yes
- ☐ No
- ☑ Unknown

☐ Would your dam failure impact multiple jurisdictions?

- ☑ Yes
- ☐ No
- ☐ Unknown

☐ Document your approach and limitation to address deficiencies:

Quarterly and Annual Dam Inspections with a professional engineer.

☐ Estimated economic impact (economic damage) from dam failure based on community assets in HHPD inundation zone:

Blair County Planning Commission

☐ Estimated Environmental impact (wetland, parks, river, stream, lakes) from dam failure in inundation zone:

☐ Social Impact (population with functional needs, language barrier, poverty, infant, elderly in inundation zone) from dam failure in inundation zone:

☐ How would a proposed action reduce High Hazard Potential Dam risk?
Identifying potential emergency situation before they become an emergency

☐ How would the proposed action reduce the risks of dam's deficiency?

☐ Degree to which an action reduces Population At risk: _____

☐ Is your infrastructure under multiple jurisdiction?

☐ Yes

☑ No

☐ Please estimate share of authority: _____

Completed by: Katie Semelsberger

Date: 2/4/2026

Blair County Planning Commission

MacKenzie Caron mcaron@blairplanning.org

Ben Peng ben@stuartgroup.org

☐ Email **Emergency Action Plan** to MacKenzie and/or Ben

☑ Sent! (Email subject title – "Hazard Dam Information")

☐ Email **Condition Report/Assessment** to MacKenzie and/or Ben

☐ Sent! (Email subject title – "Hazard Dam Information")

☐ Email **any other relevant information** to MacKenzie and/or Ben

☐ Sent! (Email subject title – "Hazard Dam Information")

Blair County Planning Commission

High Hazard Potential Dam Data Collection

Dam Name: William L. Cochran Impounding Dam

Municipality / Jurisdiction of Dam: Logan Township

Dam: Owner (Public/Private): Altoona Water Authority

Primary Contact Name & Title: Katie Semelsberger Land Manager

Phone / Email: 814-949-2222, x2026/KSemelsberger@altoonawater.gov

☐ Dam Location & Downstream Area

- ☐ Dam address or general location: Along S.R. 4008 Veterans Memorial Highway
- ☐ Downstream municipalities potentially affected (if known):
  Logan, Altoona, Eldorado, Allegheny, Canan, Blair, Fort Fetter, Gaysport, Hollidaysburg, Frankstown, Reese, Canoe Creek, Flowing Spring, Horrell, Woodburry, Williamsburg, etc.

☐ Population & Facilities at Risk (Estimate): _____

- ☐ Unknown
- ☐ <10
- ☐ 10-50
- ☑ 50+

☐ Known Facilities downstream (check any that apply & Indicate location)

- ☑ Homes: 2,450
- ☑ Schools: 3
- ☐ Hospitals / healthcare: _____
- ☐ Roads / bridges: _____
- ☐ Utilities (water, power, wastewater): _____

- ☐ Emergency services
- ☑ Unknown

☐ Do you have a dam breach inundation map?

- ☑ Yes
- ☐ No
- ☐ Unknown

☐ Model of dam breach inundation map.

- ☐ HEC-RAS
- ☐ DSS-WISE
- ☐ FLO-2D
- ☑ Other:

☐ Does the plan have an Emergency Action Plan (EAP)?

- ☑ Yes
- ☐ No
- ☐ Other: _____

☐ When was EAP last updated (if known): 7/2022

☐ Known or potential causes of failure (check any)

- ☑ Severe storm / flooding
- ☑ Structural aging
- ☐ Erosion
- ☐ Seepage

- ☐ Landslide
- ☐ Slope instability
- ☐ Earthquake
- ☐ Other: _____

☐ Known Structural issues or deficiencies (if known): None

☐ Most recent inspection conducted by: Gannett Fleming, Inc.

☐ Approximate inspection date (if known): May 2025

☐ Are condition assessments or reports available?

- ☐ Yes
- ☐ No
- ☑ Unknown

☐ Would your dam failure impact multiple jurisdictions?

- ☑ Yes
- ☐ No
- ☐ Unknown

☐ Document your approach and limitation to address deficiencies:

Quarterly and Annual Dam Inspections with a professional engineer.

☐ Estimated economic impact (economic damage) from dam failure based on community assets in HHPD inundation zone:

☐ Estimated Environmental impact (wetland, parks, river, stream, lakes) from dam failure in inundation zone:

☐ Social Impact (population with functional needs, language barrier, poverty, infant, elderly in inundation zone) from dam failure in inundation zone:

☐ How would a proposed action reduce High Hazard Potential Dam risk?
Identifying potential emergency situation before they become an emergency

☐ How would the proposed action reduce the risks of dam's deficiency?

☐ Degree to which an action reduces Population At risk: _____

☐ Is your infrastructure under multiple jurisdiction?

☐ Yes

☑ No

☐ Please estimate share of authority: _____

Completed by: Katie Semelsberger

Date: 2/4/2026

Blair County Planning Commission

MacKenzie Caron mcaron@blairplanning.org

Ben Peng ben@stuartgroup.org

☐ Email **Emergency Action Plan** to MacKenzie and/or Ben

☑ Sent! (Email subject title – "Hazard Dam Information")

☐ Email **Condition Report/Assessment** to MacKenzie and/or Ben

☐ Sent! (Email subject title – "Hazard Dam Information")

☐ Email **any other relevant information** to MacKenzie and/or Ben

☐ Sent! (Email subject title – "Hazard Dam Information")

FLOODPLAIN COORDINATORS

MUNICIPALITY	Coordinator	Email	Phone No.
CITY OF ALTOONA	Rob Crossman	rcrossman@altoonapa.gov	814-949-2483
BOROUGH OF BELLWOOD	Hope Ray	hray@bellwoodborough.com	814-742-8591
BOROUGH OF DUNCANSVILLE	Jerrica Grance	jerrica@duncansvillepa.org	814-696-9548
BOROUGH OF HOLLIDAYSBURG	Andrew Holodnik	aholodnik@hollidaysburgpa.org	814-695-7543
BOROUGH OF MARTINSBURG	none	---	---
BOROUGH OF NEWRY	none	---	---
BOROUGH OF ROARING SPRING	Joe Keller	jkeller@keller-engineers.com	814-696-7430
BOROUGH OF TUNNELHILL	Allen Lego	legoakl007@gmail.com	814-505-9204
BOROUGH OF TYRONE	Colby Pannebaker	cpannebaker@tyroneboropa.com	814-684-1330
BOROUGH OF WILLIAMSBURG	Joseph Lansberry	jll16693@gmail.com	814-832-2051 (twp) 814-312-7837(c)
TOWNSHIP OF ALLEGHENY	Silke Morrison	secretary@alleghenytownship.us	814-695-9563
TOWNSHIP OF ANTIS	Chris Dutrow	cdutrow@stiffler-mcgraw.com	814-696-6280
TOWNSHIP OF BLAIR	Jeff Shaffer	code10@pacodealliance.com	717-496-4996 x99162
TOWNSHIP OF CATHARINE	none	---	---
TOWNSHIP OF FRANKSTOWN	Roger White	roger@frankstowntownship.com	814-695-7151 (twp) 814- 330-6367 (c)
TOWNSHIP OF FREEDOM	Edward Bender	twp@freedomtownshippa.org	814-329-1108
TOWNSHIP OF GREENFIELD	Ami Fether	afether@greenfieldtownshippa.gov	814-239-5313 x2
TOWNSHIP OF HUSTON	Nicole Stolzfus	hustwp@outlook.com	814-793-2381
TOWNSHIP OF JUNIATA	Dawn Brawley	juniatatwpblairctysecretary@outlook.com	814-693-0620
TOWNSHIP OF LOGAN	Cassandra Schmick	cschmick@logantownship-pa.gov	814-944-5349
TOWNSHIP OF NO WOODBURY	Cary Shaw	secretary@northwoodburytwp.com	814-793-4357
TOWNSHIP OF SNYDER	Dixie Confer	dixie.snydertwp@comcast.net	814-684-1048
TOWNSHIP OF TAYLOR	Tim Laird	taylor16673@gmail.com	814-932-6649
TOWNSHIP OF TYRONE	Andrew Harpster	andrewharpster24@gmail.com	814-329-6845
TOWNSHIP OF WOODBURY	Kelsie Lego	woodburyblair@comcast.net	814-832-2296

EMERGENCY SHELTER LIST

Facility ID	Facility Name	Intended Project Type	Agreement Date	Survey Date	Address	City	Zip	Pred Impact	Occupant Capacity	Dormitory Square Footage	Accessible Opening	First Name Opening	Last Name Opening	Title Opening	24 hr Phone Opening	First Name Alt.	Last Name Alt.	Title Alt.	Phone (Alternate)	Facility Point of Contact	Facility Point of Contact Name	Authorizing POC Title	24 hr Phone	Authorizing POC Title	24 hr Phone	Possible Generator On-site	Generator Co.	Data Entry Date
148445	Altoona School District Jr High School	ARC Managed	01/17/2013	10/27/2011	1415 7Th Ave	Altoona	16602	500	1000	200000	Usable	JACK	Reilly	Security Dr	8142787349	John	Closson Asst Dir of	8148468333	JACK	Reilly	Dir of Security	8143251949	Yes	No	01/28/2021
148445	Altoona School District Jr High School	ARC Managed	01/17/2013	10/27/2011	1415 7Th Ave	Altoona	16602	500	1000	200000	Usable					John	Closson Asst Dir of	8148468333	TIM	MCCAULEY	superintendent	8148468570					01/28/2021
57464	Baker Elementary School	ARC Managed	01/17/2013	10/27/2011	910 Poland Ave	Altoona	16602	0	0	10001	Unknown								Barry	Kumpf	Gen Mgr	8148433923	Steve	Depot	Facility Manager	8148468570			01/28/2021
16560	Bellwood-Antis School District	ARC Managed	12/08/2011	11/08/2011	400 Martin St	Bellwood	16617	176	352	70318	Usable					Tom	Kovac	Asst Supr	8143292511	Randy	Shoemaker	Supvsr Supp Staff	8143294673	Yes	No	01/28/2021
16566	Blairig Annex Hook And Ladder Fire Company	ARC Managed	01/22/2013	12/13/2012	1216 Blair Ave	Tyrone	16686	115	80	10001	Unknown					Barry	Kumpf	Gen Mgr	8148433923	Steve	Depot	Facility Manager	8148468570			01/28/2021
57468	C.W. Longer Elementary School	ARC Managed	04/24/2013	10/15/2013	1320 Union St	Hollidaysburg	16648	130	261	59236	Usable												8148692702	Yes	Yes			01/28/2021
57445	Central High School	ARC Managed	06/30/2012	05/31/2012	1152 177th Ave	Altoona	16601	55	110	2200	Usable	Ron	MOCK	Maint Coor	8143293356	Mike	Smith	Dir Adm S	8143291423	Steve	Williamson	swilliamson@blairsenior	8143292845	No	No	01/28/2021
158152	City Of Altoona Fire Department Station # 1	ARC Managed	08/30/2019	08/30/2019	1319 Washington Ave	Altoona	16601	87	175	3500	Usable	Michael	Tidaro	Dep Chief	8149492225	Carol	Guerin	Adm Asst	8149165844	TIMOTHY	Hileman	Fire Chief	8149492230	Yes	No	01/28/2021
158153	City Of Altoona Fire Department Station # 2	ARC Managed	08/15/2019	08/15/2019	515 North 2Nd St	Altoona	16601	80	160	3200	Usable	Michael	Tidaro	Dep Chief	8149492225	Carol	Guerin	Adm Asst	8149165844	TIMOTHY	Hileman	Fire Chief	8149492230	Yes	No	01/28/2021
158155	City Of Altoona Fire Department Station # 4	ARC Managed	08/15/2019	08/15/2019	3900 6Th Ave	Altoona	16602	74	148	2960	Usable	Michael	Tidaro	Dep Chief	8149492225	Carol	Guerin	Adm Asst	8149165844	TIMOTHY	Hileman	Fire Chief	8149492230	Yes	No	01/28/2021
151444	Claysburg-Kimmel Elementary	ARC Managed	04/15/2013		240 Ck Elementary Dr	Claysburg	16625	2	5	100	Unknown	Michael	Tidaro	Dep Chief	8149492225	Carol	Guerin	Adm Asst	8149165844	TIMOTHY	Hileman	Fire Chief	8149492230	Yes	No	01/28/2021
158154	City Of Altoona Fire Department Station # 4	ARC Managed	08/15/2019	08/15/2019	3900 6Th Ave	Altoona	16602	74	148	2960	Usable	Michael	Tidaro	Dep Chief	8149492225	Carol	Guerin	Adm Asst	8149165844	TIMOTHY	Hileman	Fire Chief	8149492230	Yes	No	01/28/2021
16577	Claysburg-Kimmel High School	ARC Managed	04/15/2013		131 Bedford St	Claysburg	16625	0	0	1001	Unknown	Michael	Tidaro	Dep Chief	8149492225	Carol	Guerin	Adm Asst	8149165844	TIMOTHY	Hileman	Fire Chief	8149492230	Yes	No	01/28/2021
16643	Excelsior Fire Company #1	ARC Managed	02/24/2015	02/24/2015	399 South 5Th St	Bellwood	16617	115	230	4600	Usable					Joe	Rapko	Main Supervisor	8143285141				8143285141			01/28/2021
152888	Faith Assembly Of God	ARC Managed	09/26/2012	07/09/2019	4879 Cove Mtn Rd	Roaring Spring	16673	71	143	28860	Usable												8148692702	Yes	No	01/28/2021
57413	Frankstown Elementary School	ARC Managed	04/24/2013	10/15/2013	340 Fred Of Tier Rd	Duncansville	16635	150	300	6000	Usable												8148692702	Yes	No	01/28/2021
57442	Geeseytown Community Fire Company	ARC Managed	04/25/2016	04/25/2016	215 Mary St	Hollidaysburg	16648	87	175	3500	Usable												8143292830	Yes	Yes	01/28/2021
16934	Greenwood Vol. Fire Department	ARC Managed	12/30/2012	04/30/2012	1590 E Pleas Vly Blvd	Altoona	16602	80	160	3200	Usable												8148692702	Yes	No	01/28/2021
57441	Hollidaysburg Area High School	ARC Managed	04/24/2013	10/15/2013	1510 N Montgomery St	Hollidaysburg	16648	147	295	59000	Usable												8148692702	Yes	No	01/28/2021
159889	Hollidaysburg Area Public Library	ARC Managed	12/02/2015	12/02/2015	1 Furman Rd	Hollidaysburg	16648	287	575	11500	Usable												8143285141			01/28/2021
57456	Hollidaysburg Junior High School	ARC Managed	04/24/2013	10/15/2013	1000 Howsit St	Hollidaysburg	16648	343	686	13722	Usable												8148692702	Yes	No	01/28/2021
16602	Juniata Elementary School	ARC Managed	05/14/2012	04/04/2012	418 N 8Th Ave	Altoona	16601	0	0	1001	Unknown	Dave	McCloskey		8147427686	Nathan	Taylor	Administr	8143720303	Chad	Wagner	Facility Manager	8143285141	Yes	No	01/28/2021
16601	Juniata Gap Elementary School	ARC Managed			Rt 84 Juniata Gap Rd	Altoona	16601	0	0	1001	Unknown					Del	Smith	Lead Paste	2154313901	Allen	Wingard	Facility Manager	8148595751			01/28/2021
57455	Keith-Lincoln Elementary School	ARC Managed	06/18/2019	06/18/2019	300 S Mulberry St	Martinsburg	16662	122	245	4896	Usable					Phil	Smith	Dir Physic	8149869185	Robert	Gildea	Supervisor Of Schools	8148692702	Yes	No	01/28/2021
153069	Martinsburg Elementary School	ARC Managed	09/10/2013		415 Spring St	Martinsburg	16662	100	200	4000	Usable					Mary	Bradley	Assoc Dir	8148954677	Ty	Gardner	Executive Director	8148464369	No	No	01/28/2021
16594	Martinsburg Grace Brethoren Church	ARC Managed	06/18/2019	06/18/2019	300 S Mulberry St	Martinsburg	16662	122	245	4896	Usable												8148692702	Yes	No	01/28/2021
16613	Morrisons Cove Memorial Park	ARC Managed	06/01/2015	05/31/2012	201 S Walnut St	Martinsburg	16662	222	444	8880	Usable												8148692702	Yes	No	01/28/2021
57465	Penn-Lincoln Elementary	ARC Managed	08/30/2012	05/31/2012	411 127Th St	Altoona	16602	0	0	1001	Unknown	Ron	MOCK	Maint Coor	8143293356	Mike	Smith	Dir Adm S	8143291423	Steve	Williamson	swilliamson@blairsenior	8143292845	No	No	01/28/2021
16630	Phoenix Fire Company	ARC Managed	08/03/2018		205 Wayne St	Hollidaysburg	16648	100	100	1001	Usable					Eric	Kalm	Maint	8143293600	Mary Beth	Four	secretary	8144145588	Yes	No	01/28/2021
16635	Pinecrest Valley Elementary	ARC Managed			Blair Rt 7 Box 800	Altoona	16601	0	70	1001	Unknown					Mark	Shwab	Vice-Pres	8148439858	David	Zeek	President/Trustee	8144445499			01/28/2021
57436	Pleasant Valley Elementary	ARC Managed			Blair Rt 7 Box 800	Altoona	16601	0	70	1001	Unknown															01/28/2021
16637	Plum Creek Elementary School	ARC Managed	06/10/2010	07/09/2019	15230 Dunnings Hwy	East Freedom	16637	62	124	2496	Usable												8143292830	Yes	No	01/28/2021
167006	Southern Blair Senior Center	ARC Managed	09/10/2013		137 Spring Cove Dr	Roaring Spring	16673	0	100	1001	Unknown	Ron	MOCK	Maint Coor	8143293356	Justin	Stittms	IT System	8149484500	Janice	Grubb	Vice President	8142285134	No	No	01/28/2021
153070	Spring Cove Elementary School	ARC Managed	09/10/2013		137 Spring Cove Dr	Roaring Spring	16673	0	100	1001	Unknown												8148692702	Yes	No	01/28/2021
16642	Tyrone Area Elementary School	ARC Managed	09/29/2015	09/29/2015	801 Clay Ave	Tyrone	16686	190	380	7600	Usable												8148692702	Yes	No	01/28/2021
16643	Tyrone Area High School	ARC Managed	09/29/2015	09/29/2015	1001 Clay Ave	Tyrone	16686	500	1000	20000	Usable					Tom	Muir	Dir Physic	8148407110	George	Cathy	Superintendent	8148692702	Yes	No	01/28/2021
16647	Williamsburg Elementary	ARC Managed			607 Sage Hill Dr	Williamsburg	16693	40	80	1001	Unknown												8148464589			01/28/2021
16647	Williamsburg Elementary	ARC Managed	09/30/2009		607 Sage Hill Dr	Williamsburg	16693	0	0	1001	Unknown															01/28/2021
16565	Williamsburg Senior Center	ARC Managed	08/30/2012	05/31/2012	423 West School St	Williamsburg	16693	15	30	600	Usable	Ron	MOCK	Maintenor	8143293356	Mike	Smith	Dir Admin	8143291423	Steve	Williamson	President	8143292845	No	No	01/28/2021

Applied filters:AllCitiesinRaster is Greater Pennsylvania RegionCounty is Blair

COVID 19 REPORT

SITUATION REPORT	INCIDENT COVID-19	OPERATIONAL PERIOD DATES: 4/26/2023 0800 TIMES: 5/2/2023 1600	REPORTING UNIT Blair County EMA	FORM – 04/09 ICS 209 -Short

FOR OFFICIAL USE ONLY (FOUO)

Blair County EMA will continue closely monitoring the COVID situation.

BLAIR COUNTY COVID-19 STATISTICS	
Confirmed cases of COVID-19	3
Current Seven Day Increase	35,486
CDC Community Case Rate	Not available
CDC Community Transmission Level	Moderate
CDC Positivity Rate	0.74%
COVID Patients Hospitalized	1
COVID Patients on Ventilators	1
COVID Deaths	694
COVID Death Increase for this Period	0

Pennsylvania Cases for the Week	
Total Confirmed Cases	3,557,354
Current Seven Day Increase	1,813
Total Deaths	51,042
Death Increase for this Period	43

Blair County Cases in Children		
	6/8-6/14	Since 8/16
Kids Age 0-4	7	428
School Age 5-18	6	2,411

CASE COUNT BY ZIP CODE		
ZIP CODE	Positive/ Probable	Total for Apr 26-May 2
Altoona 16601	9,103	0
Altoona 16602	8,120	0
Bellwood 16617	778	0
Claysburg 16625	924	0
Duncansville 16635	3,024	1
East Freedom 16637	652	0
Hollidaysburg 16648	4,814	1
Martinsburg 16662	1,351	-1
Roaring Spring 16673	1,194	1
Tyrone 16686	3,852	1
Williamsburg 16693	1,127	0
Blair County	**35,486**	**3**

Vaccination Status for Blair County	
First dose vaccinations given	7,577
Second dose vaccinations given	64,157
Received a Bivalent Booster Since September 2, 2022	14,622
Additional vaccinations since last report	-9
Percent of residents with at least one dose*	58.90%

*This number changed because the population changed.

For more information,
contact Mark Taylor at mtaylor@blairco.org,
814-940-5903 or 814-381-4193
or Cris Fredrickson at cfredrickson@blairco.org,
814-940-5905, or 814-381-8433

US LUMBER INCIDENT

US Lumber
218 Ward Drive

Greenfield Township

Call Time 03/18/24 22:07

Clear Time 03/19/24 15:06

28 Departments Dispatched

Estimated 251 Department Hours

Estimated 2387 man hours

Over 2 million gallons of water used

Estimated Loss: US Lumber over 25 million dollars

Fire Departments Equipment Loss over $400,000.00

Blair County (13)

Station 70 Claysburg	Station 80 Martinsburg
Station 20 Duncansville	Station 50 Allegheny Township
Station 40 Freedom Township	Station 10 Hollidaysburg
Station 86 Blue Knob	Station 90 Williamsburg
Station 60 Roaring Spring	Station 12 Newburg
Station 16 Greenwood	Station 30 Geeseytown
Station 22 Bellwood	

Bedford County (7)

Company 42 Imler	Company 38 Alum Bank
Company 35 Saxton	Company 41 Southern Cove
Company 31 Bedford	Company 32 Everett
Company 37 Shawnee Valley	

Cambria County

Station 70 Cresson	Station 83 Portage

Huntingdon County

Company 17 RWBT

EMS

440, 461, 433, 464 AMED	429 Duncansville

Police

840 Greenfield Township	PA State Police

HUNTINGDON WILDFIRE INCIDENT

Wildfire

Old Huntingdon Rd/William Penn Hwy

Frankstown Township, Blair County

Call time 11/08/24 15:42

Clear time 11/09/24 22:39

Total Acreage 294 acres

16 Departments dispatched

Blair County

Station 30 Geeseytown	Station 90 Williamsburg
Station 20 Duncansville	Station 50 Allegheny Township
Station 40 Freedom Township	Station 80 Martinsburg
Station 86 Blue Knob	Department 31 Tyrone
Station 22 Bellwood	Station 23 Pinecroft
Station 18 Logan United	Station 16 Greenwood

Huntingdon County

Company 1 Alexandria

Cambria County

Station 71 Gallitzen

EMS

HALAS	AMED

Forestry Department

Huntingdon Pike Fire 11-8-24

At 15:48, we were dispatched by 911 for a brush fire in the area of Old Huntingdon Pike and William Penn Highway in Frankstown Twp. At 15:54 I cleared myself from an MVA assisting Station 10 in the borough of Hollidaysburg and marked en-route to the brush fire. While en-route I upgraded the box for additional Tankers and Brush Crews. At 16:07 I arrived on scene, asked Blair to notify the Forestry Service and have them respond. Warden 90 updated me that the fire had engulfed approximately 2 acres of woods, a structure and multiple brush piles. It had also jumped the road and was spreading rapidly in multiple directions adding additional acreage up to 5 acres or more now on fire. As Brush crews and Tankers arrived, I assigned the crews to attack both Left and Right flanks as the fire moved North from the road. Engine 30 was assigned to make a fire attack on the structure, brush piles and the fire on the South Right flank. A fill site for Tankers was established at CCSP Bass Ct. boat launch. A Tanker was sent to assist Engine 30. As additional resources arrived, I assigned a Tanker crew to make a fire attack on the South Left flank and any incoming Brush crews were sent to the North side Left and Right flanks. Helicopter support and UTV's were requested for assistance. DCNR was notified and enroute. 5 UTV's and crews upon arrival were assigned to the North side, Right and Left flanks to assist the other crews. Chief 30 and DCNR representatives arrived and assisted with command. As more DCNR crewman arrived they were assigned by DCNR to scout out the outlying areas around the fire plotting for DCNR's Day 2, 3 and 4 fire attack. DCNR's Right flank scouts advised Command of potentially dangerous conditions developing behind the Right flank crews. The decision was made to evacuate the Right flank as there were no structures in the immediate path of the fire. Left flank scouts reported the fire was going over the top of the ridge and suggested more manpower to strengthen the fire line more to keep the fire away from potential structures. Manpower was diverted and sent up the Left flank. It was at sometime during this push on the Left flank that UTV23 rolled over on its side and the occupants were uninjured. The decision was made to leave the UTV until daybreak for the safe recovery of the unit. UTV50 and UTV86 went down with mechanical issues. During the push on the Left flank a Firefighter was refueling a leaf blower and spilled gasoline on his pantleg. He was ordered to return to Command for EMS care. At another location on the Left flank a Firefighter injured his right hand, he was also ordered to return to Command for EMS care. Once scouts on the Left flank were satisfied with the fire line, crews were brought back down the mountain and released from the scene. All crews and EMS were released from the scene by 00:30. Control of the Huntingdon Pike Fire was transferred to DCNR and a DCNR crew of 6 was staying on scene to monitor the fire overnight.

Bill Van Atta
Deputy Chief

DCNR Huntingdon Pike Fire Personnel and Unit totals

1. **Station 30 Geeseytown CFC** Personnel: 20, Units: 11
2. **Station 90 Williamsburg Fire Dept.** Personnel: 10, Units: 5
3. **Station 40 Freedom Twp. Fire Dept.** Personnel: 5, Units: 4
4. **Station 50 Allegheny Twp. Fire Dept.** Personnel: 5, Units: 2
5. **Station 20 Duncansville Fire Dept.** Personnel: 5, Units: 3
6. **Station 22 Excelsior Fire Dept.** Personnel: 3, Units:1
7. **Station 23 Pincroft Fire Company** Personnel: 7, Units: 2
8. **Station 33 Hookies Fire Dept.** Personnel: 5, Units: 3
9. **Station 34 Neptune Fire Company** Personnel: 3, Units: 1
10. **Station 86 Blue Knob Fire Company** Personnel: 7, Units: 3
11. **Alexandria Fire Company Huntingdon County** Personnel: 2, Units: 1
12. **Station 80 Martinsburg Fire Dept.** Personnel: 9, Units: 3
13. **Hollidaysburg American Legion Ambulance Service** Personnel: 3, Units: 1 ALS
14. **Amed** Personnel: 1, Units: 1

Total Personnel: 85

Units on Scene: 41

SARA SUMMIT

2023 SARA SUMMIT

Blair County LEPC
Uniting Community & Industries

Thursday, September 28, 2023
At the Blair County Convention Center

Blair County Preparing Together

7:30-8:30 Registration
Continental Breakfast
Vendor and Asset Displays

8:30-8:45 Welcome
Honoring Ed Dobson

8:45-9:30 FBI Threat Assessment

9:30-10:00 Cyber Security Threats, Best Practices, and No Cost Cyber Services

10:00-10:15 Networking Break

10:15-11:00 Lithium-ion Battery Hazards

11:00-12:00 Continuity Planning

12:00-1:00 Buffet Lunch

1:00-1:45 Substance Use Disorders and Drug Overdose

1:45-2:00 Networking Break

2:00-4:00 Stop the Bleed

4:00-4:30 Closing Remarks and Give Aways

Addressing Today's Threats, Technology and, Emergency Planning
Blair County LEPC SARA Summit
Thursday, September 26, 2024
Time: 8AM-4PM
Location: Blair County Convention Center
Tentative topics Include:
- Internal Threats
AI (Artificial Intelligence)
- Lithium Ion Batteries
- Social Media Impact
- Cybersecurity
The Blair County SARA Summit is a conference that brings together community leaders, industry representatives, hospitals, schools, and emergency responders to discuss community awareness, emergency planning, and emergency preparedness for all Blair County Stakeholders.
Click Here to Register or use QR Code provided or contact Hannah.
To be a Sponsor or Vendor for the 2024 SARA Summit please reach out to Hannah Mitchell.
(814) 940- 5901 or hmitchell@blairco.org
Special Thanks to our sponsors:
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CISA
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Talent | Technology | Trust
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SHEETZ
UPMC Altoona
MissionCriticalPartners

COURSE OFFERING

Blair County is offering G-393 Mitigation for Emergency Managers on March 19-21, 2024, from 9AM-4PM. This is a 21 hour course. You have the option of taking the course virtually or in person at the Blair County EOC, 615 4th Street, Altoona, PA. Registration is required.

To register for this course go to https://www.train.org/pa/course/1066977/live-event. You must have a TrainPA account. You will be able to create one if you do not already have one. **You can take this course virtually on March 19-21, 2024 or you can attend at our EOC. Either way, you must register through TrainPA. If you are attending in person, you must also contact Cris Fredrickson at cfredrickson@blairco.org or by calling 814-940-5905, to register for a seat.** (Deadline to register is March 5, 2024.)

Course Title: G-393 Mitigation for Emergency Managers (MEM)

Length of Course: 21 Hours ***Lecture***

Prerequisites: FEMA Independent Study Program (IS) 393.a course, Introduction to Hazard Mitigation, is strongly recommended prior to enrollment. https://training.fema.gov/is/courseoverview.aspx?code=IS-393.b&lang=en

Referenced Texts: FEMA G-393 Mitigation for Emergency Managers Course Student Manual. Instructor Guide and PowerPoint provided on CD by PEMA.

As course material is now provided through electronic means it is highly recommended students bring a computer, capable of reading a USB flash drive, to the course. Please email the Course Contact for different media. Student manuals and other course material may be downloaded at any time from the PEMA web page (www.pema.gov).

Course Goal: At the completion of the FEMA G-393 Emergency Management Operations Course, the student will have an improved understanding of how to motivate participants to create safer communities by addressing and mitigating hazards, explore the important roles of the emergency program manager in mitigation: motivator, coordinator, and monitor, and enable participants to carry out mitigation responsibilities in accordance with applicable regulations and standards.

Description of Course: This course is designed to enable the non-technical emergency worker to acquire skills in the use of mitigation. The course provides training in how to perform mitigation activities fundamental to reducing and eliminating long-term risk from hazards. It addresses the important roles of the emergency program manager (or other local government representative) in mitigation: motivator, coordinator, and monitor in local implementation of the National Mitigation Strategy.

SAVE THE DATE

Blair County Emergency Management
Public Safety
911 Communications

MONDAY, MARCH 25, 2024
1:00-3:00 PM
THREATS & RISKS ASSOCIATED WITH ONSITE CHEMICALS

What is your organization's chemical security situation?

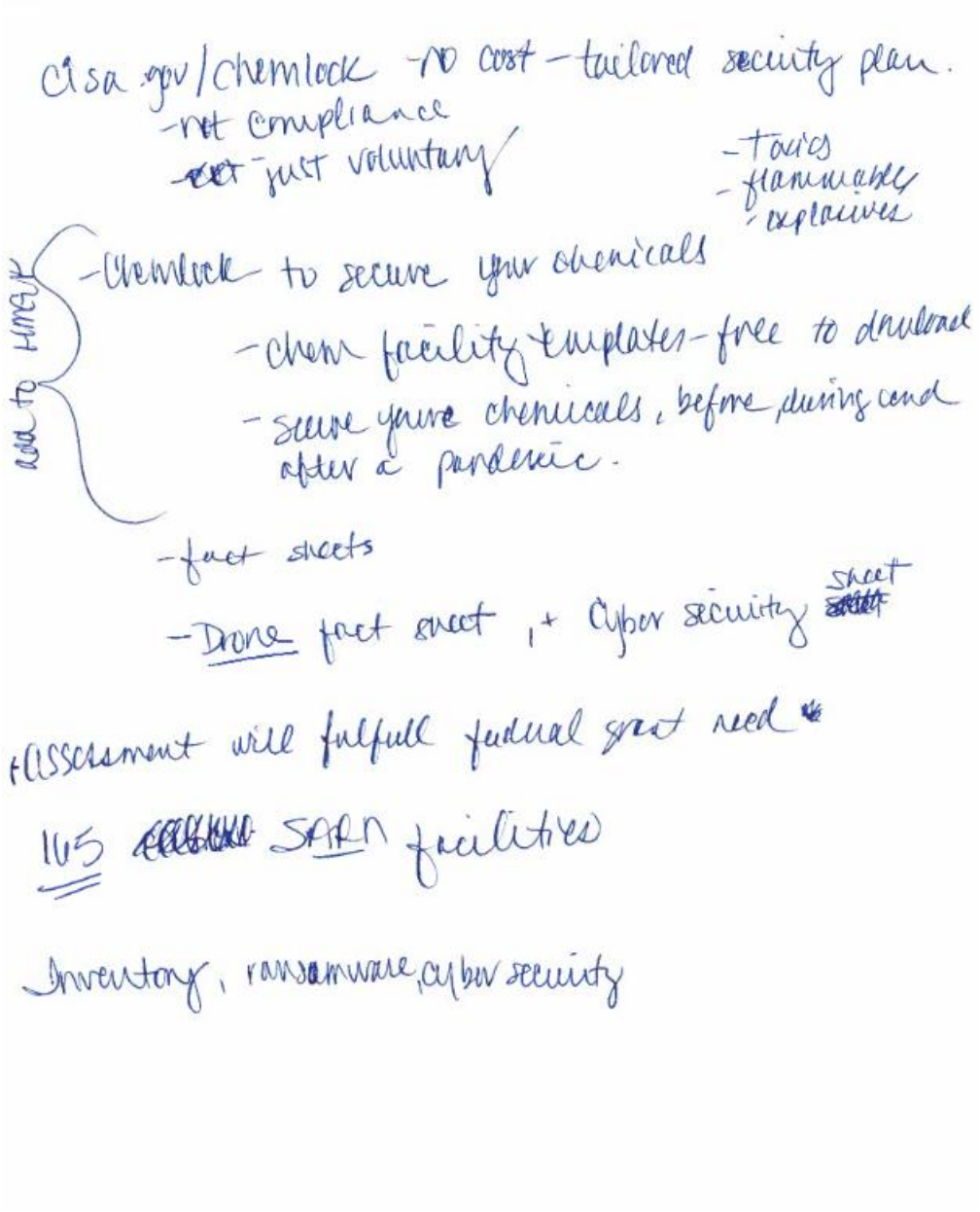
- ▶ Which of your chemicals pose potential security risks?
- ▶ Does your current security outlook make sense for the risks you face?
- ▶ What are industry best practices to mitigate existing or potential risks?
- ▶ What is your organization's security plan?

JOIN US TO LEARN MORE ABOUT WHAT YOU CAN BE DOING TO PROTECT YOUR BUSINESS AND EMPLOYEES

Register by contacting Cris Fredrickson at cfredrickson@blairco.org or by calling 814-940-5905.

Deadline to register is 3/15/2024.

Location information will be sent to those who register.



VULNERABLE LOCATIONS IN ALLEGHENY TOWNSHIP

To add - Allegheny Twp. Appendix

Nursing Homes

Celebration Villa of Altoona
170 Red Fox Drive
Duncansville, PA 16635

Veterans' Home
138 Veterans Blvd.
Duncansville, PA 16635

Garvey Manor
1037 S. Logan Blvd.
Hollidaysburg, PA 16648

Inpatient rehab/homes

add

Pyramid Healthcare Detox and Inpatient Treatment
1894 Plank Road
Duncansville, PA 16635

Adelphoi - Williams House
521 Municipal Drive
Duncansville, PA 16635

Adelphoi – Hilltop Home
205 Fogel Street
Hollidaysburg, PA 16648

Skills Homes

205 Maple Hollow Road
Duncansville, PA 16635

862 Sugar Run Road
Altoona, PA 16601

1259 Carson Valley Road
Duncansville, PA 16635

Daycares

Kids First
4 Sheraton Drive
Altoona, PA 16601

The Academy Early Education Center
1214 S. Logan Blvd.
Hollidaysburg, PA 16648

School

Extended Family Program Inc. (Alternative Ed School)
1160 Municipal Drive
Duncansville, PA 16635

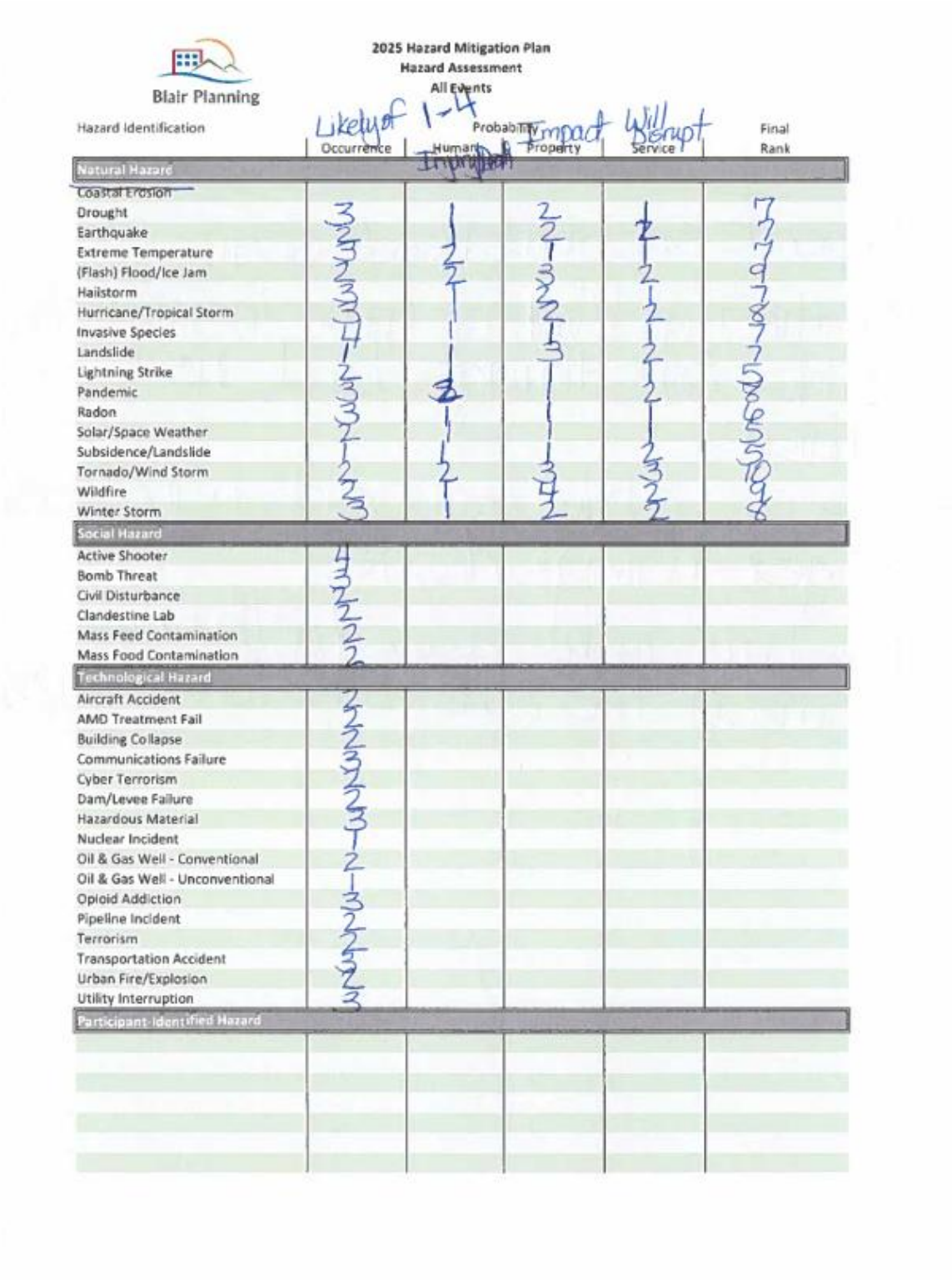
Veterinary Hospital

Sylvan Animal Hospital
2135 Plank Road
Duncansville, PA 16635

Fire Department

Allegheny Township Station 2
1074 Mill Road
Duncansville, PA 16635

2025 RISK ASSESSMENT FORMS



Blair Planning

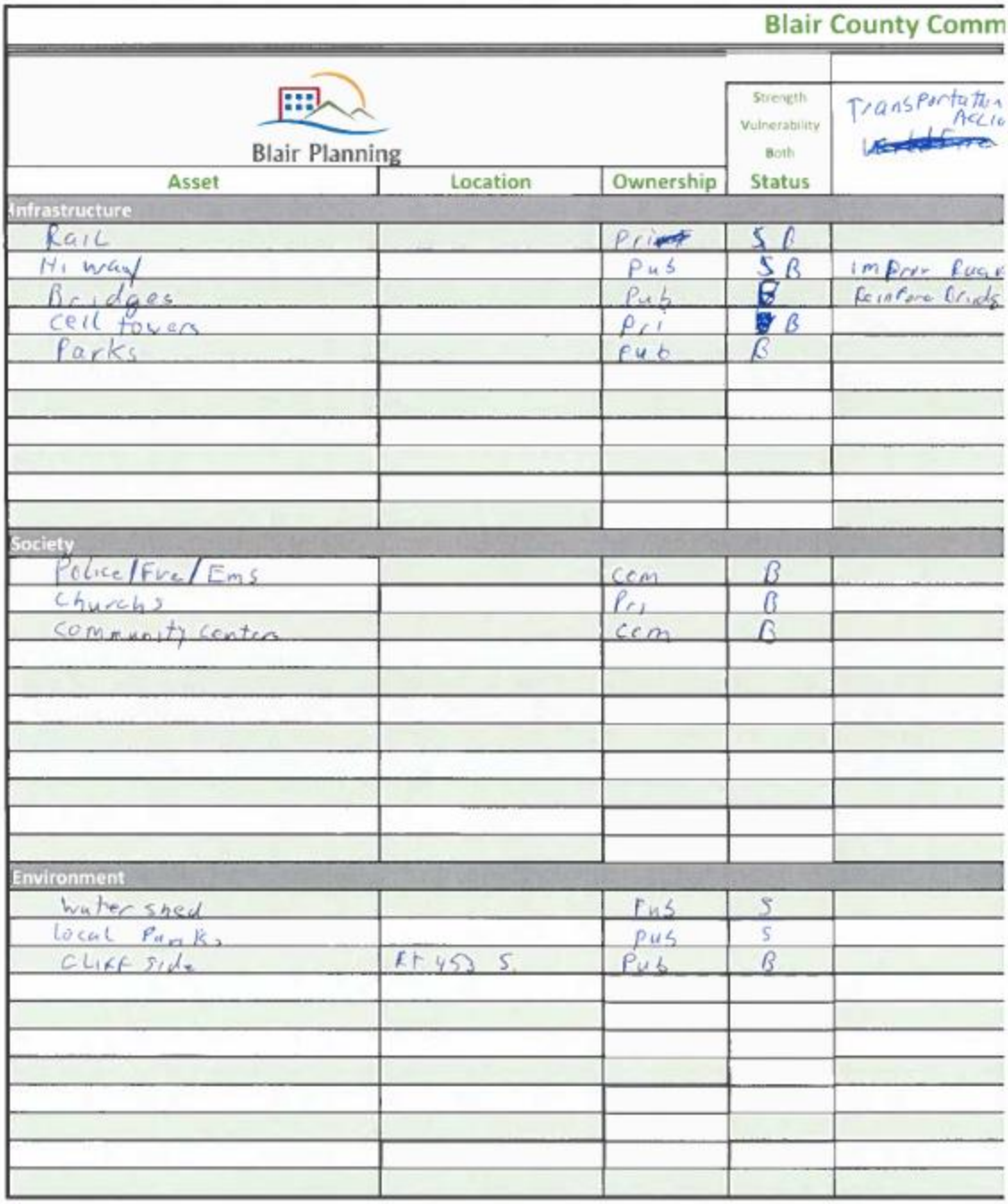
2025 Hazard Mitigation Plan
Hazard Assessment
All Events

Hazard Identification	Probability: Likelyhood of Occurrence 1-4	Impact: Human Impairment	Impact: Property	Impact: Will Service Disrupt	Final Rank
Natural Hazard					
Coastal Erosion					
Drought	3	1	2	1	7
Earthquake	3	2	2	2	7
Extreme Temperature	2	2	1	1	7
(Flash) Flood/Ice Jam	3	1	3	2	9
Hailstorm	3	1	2	1	7
Hurricane/Tropical Storm	3	1	2	2	8
Invasive Species	4	1	1	1	7
Landslide	1	1	3	2	7
Lightning Strike	2	2	1	2	7
Pandemic	3	3	1	2	8
Radon	3	1	1	1	6
Solar/Space Weather	2	1	1	1	5
Subsidence/Landslide	1	1	1	2	5
Tornado/Wind Storm	2	2	3	3	10
Wildfire	3	1	2	2	8
Winter Storm	3	1	2	2	8
Social Hazard					
Active Shooter	4				
Bomb Threat	3				
Civil Disturbance	2				
Clandestine Lab	2				
Mass Feed Contamination	2				
Mass Food Contamination	2				
Technological Hazard					
Aircraft Accident	2				
AMD Treatment Fail	2				
Building Collapse	2				
Communications Failure	3				
Cyber Terrorism	2				
Dam/Levee Failure	2				
Hazardous Material	3				
Nuclear Incident	1				
Oil & Gas Well - Conventional	2				
Oil & Gas Well - Unconventional	1				
Opioid Addiction	3				
Pipeline Incident	2				
Terrorism	2				
Transportation Accident	2				
Urban Fire/Explosion	2				
Utility Interruption	3				
Participant-Identified Hazard					

Capacity

Depends on what needs done.

- At the Twp level we have the capacity to do some things, but not others.
- We are able to work w/ others to get things done,
- We have more capacity than some of the smaller townships.



Blair County Comm

Blair Planning

Strength
Vulnerability
Both

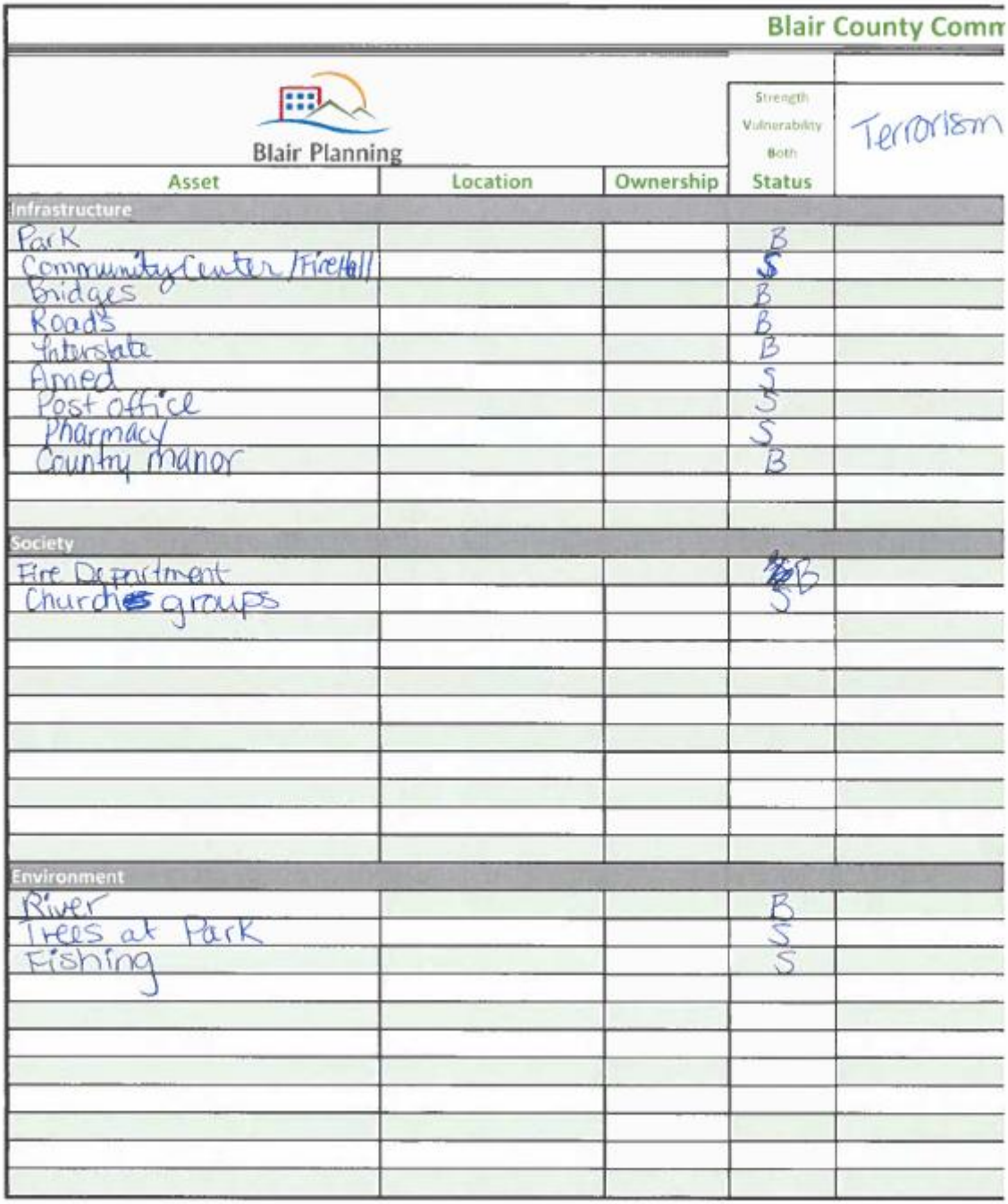
Transportation Activ

Asset	Location	Ownership	Status	
Infrastructure				
Rail		Pri	S B	
Hi way		Pub	S B	Improv Road
Bridges		Pub	B	Reinforce Bridg
cell towers		Pri	B	
Parks		Pub	B	
Society				
Police/Fire/Ems		com	B	
Churchs		Pri	B	
community center		com	B	
Environment				
Watershed		Pub	S	
local Parks		pub	S	
Cliff side	Rt 453 S.	Pub	B	

Blair Planning

2025 Hazard Mitigation Plan
Hazard Assessment
All Events

Hazard Identification	Probability				Final Rank
	Occurrence	Human	Property	Service	
Natural Hazard					
Coastal Erosion	1	4	4	1	
Drought					
Earthquake					
Extreme Temperature	2	3	2	3	10
(Flash) Flood/Ice Jam	3	2	2	1	8
Hailstorm					
Hurricane/Tropical Storm	3	2	2	3	10
Invasive Species					
Landslide	1	2	2	4	9
Lightning Strike					
Pandemic	1	4	4	1	10
Radon					
Solar/Space Weather					
Subsidence/Landslide					
Tornado/Wind Storm	3	2	2	4	11
Wildfire	2	4	4	1	11
Winter Storm	4	1	1	4	10
Social Hazard					
Active Shooter	4	1	1	2	8
Bomb Threat					
Civil Disturbance	2	4	4	3	17
Clandestine Lab	3	4	4	1	12
Mass Feed Contamination					
Mass Food Contamination					
Technological Hazard					
Aircraft Accident	1	2	2	4	9
AMD Treatment Fail					
Building Collapse	2	3	3	3	11
Communications Failure					
Cyber Terrorism					
Dam/Levee Failure					
Hazardous Material	4	2	2	1	9
Nuclear Incident	0	0	0	0	0
Oil & Gas Well - Conventional					
Oil & Gas Well - Unconventional					
Opioid Addiction					
Pipeline Incident					
Terrorism	1	4	4	1	10
Transportation Accident	1	2	2	1	5
Urban Fire/Explosion	2	3	3	2	10
Utility Interruption					
Participant-Identified Hazard					



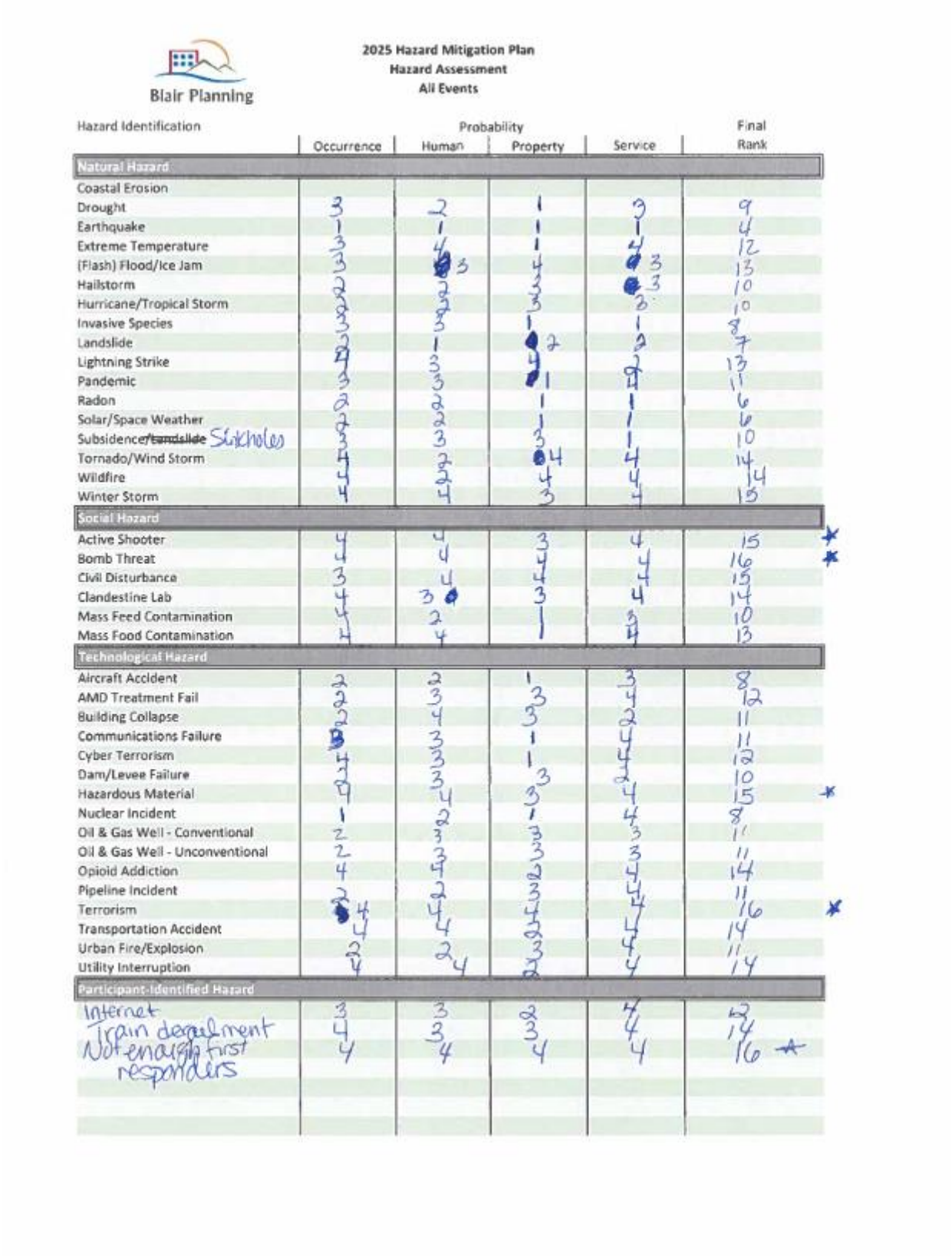
Blair County Comm

Blair Planning

Strength
Vulnerability
Both

Terrorism

Asset	Location	Ownership	Status	
Infrastructure				
Park			B	
Community Center / Firehall			S	
Bridges			B	
Roads			B	
Interstate			B	
Armed			S	
Post office			S	
Pharmacy			S	
County Manor			B	
Society				
Fire Department			~~B~~ B	
Churches groups			S	
Environment				
River			B	
Trees at Park			S	
Fishing			S	



Blair Planning

2025 Hazard Mitigation Plan
Hazard Assessment
All Events

Hazard Identification	Probability				Final Rank
	Occurrence	Human	Property	Service	
Natural Hazard					
Coastal Erosion					
Drought	3	2	1	3	9
Earthquake	1	1	1	1	4
Extreme Temperature	3	4	1	4	12
(Flash) Flood/Ice Jam	3	3	4	3	13
Hailstorm	2	2	4	3	10
Hurricane/Tropical Storm	2	2	4	2	10
Invasive Species	3	1	1	1	6
Landslide	2	1	4	2	9
Lightning Strike	3	3	4	3	13
Pandemic	3	3	1	4	11
Radon	2	2	1	1	6
Solar/Space Weather	2	2	1	1	6
Subsidence/~~Landslide~~ Sinkholes	3	2	3	2	10
Tornado/Wind Storm	4	2	4	4	14
Wildfire	4	4	3	3	14
Winter Storm	4	4	3	4	15
Social Hazard					
Active Shooter	4	4	3	4	15
Bomb Threat	4	4	4	4	16
Civil Disturbance	3	4	4	4	15
Clandestine Lab	4	3	3	4	14
Mass Feed Contamination	1	2	1	1	5
Mass Food Contamination	1	4	1	4	10
Technological Hazard					
Aircraft Accident	2	2	1	3	8
AMD Treatment Fail	2	3	3	4	12
Building Collapse	2	4	3	2	11
Communications Failure	3	3	1	4	11
Cyber Terrorism	4	3	3	2	12
Dam/Levee Failure	2	3	3	2	10
Hazardous Material	4	4	3	4	15
Nuclear Incident	1	2	1	4	8
Oil & Gas Well - Conventional	2	3	3	3	11
Oil & Gas Well - Unconventional	2	3	3	3	11
Opioid Addiction	4	4	2	4	14
Pipeline Incident	3	2	3	3	11
Terrorism	4	4	4	4	16
Transportation Accident	2	4	2	4	14
Urban Fire/Explosion	2	2	3	4	11
Utility Interruption	4	4	2	4	14
Participant-Identified Hazard					
Internet	3	3	2	4	12
Train derailment	4	3	3	4	14
Not enough first responders	4	4	4	4	16

Strong capacity
Mayer & Borough Manager are actively engaged.
- outreach projects to involve community

Weakness
- costs of everything

Blair County Comm

Blair Planning

Strength
Vulnerability
Both

FLASH FLOOD,

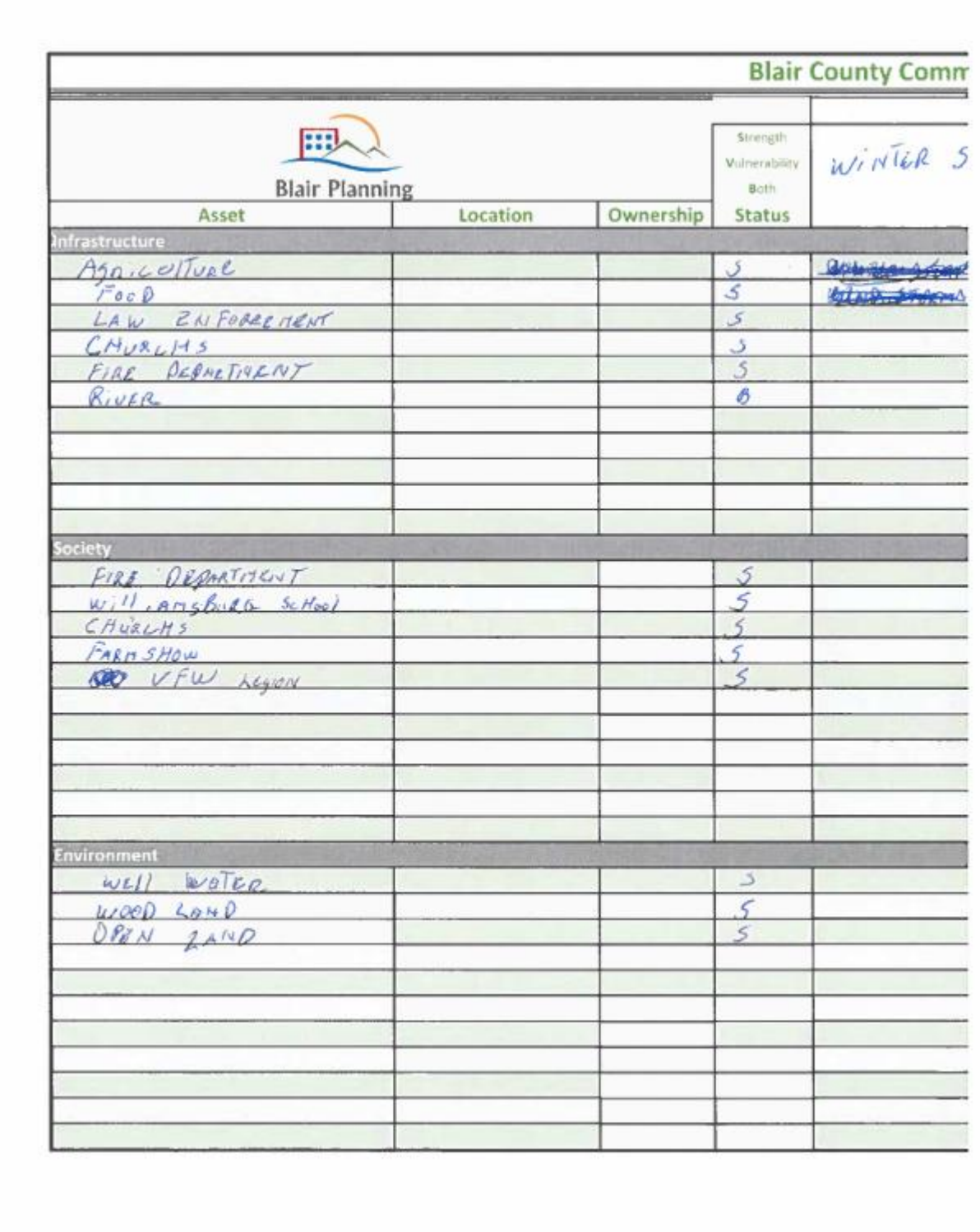
Asset	Location	Ownership	Status	
Infrastructure				
~~[illegible]~~				FLASH FLOO
VOLUNTEER FIRE CO.			S	ASSIST
CHURCHES			S	HOUSING
SCHOOLS			S	"
CLERGY			S	RELIGIOUS ASSIST
FARM EQUIPMENT TO HELP RESCUE			S	RESCUE
ROADS HIGHWAYS			B	
BIG SPRING			S	U
Society				
VOL. FIRECO			S	ASSISTANCE
CHURCHES			S	
CLERGY			S	HELP
FARM SHOW			S	HOUSING
FARMERS			S	HELP
Environment				
CONSERVATION PRACTICES			S	SAVE SOIL
WOOD LANDS			S	HOLD WATE
AGRICULTURE - OPEN SPACE			S	PLACE OF REFU

Blair Planning

2025 Hazard Mitigation Plan
Hazard Assessment
All Events

Hazard Identification	Probability				Final
	Occurrence	Human	Property	Service	Rank
Natural Hazard					
Coastal Erosion					
Drought	2		3		5
Earthquake	1	1	2	2	6
Extreme Temperature	1	1		3	5
(Flash) Flood/Ice Jam	4	4	4	4	16
Hailstorm	2	2	4	1	9
Hurricane/Tropical Storm	4	4	4	4	16
Invasive Species	4	4	4	4	16
Landslide	1	1	1	1	4
Lightning Strike	1	1	1	1	4
Pandemic	4	4		4	12
Radon	2	2		2	6
Solar/Space Weather	3	3		3	9
Subsidence/Landslide	1	1	1	1	4
Tornado/Wind Storm	3	3	3	3	12
Wildfire	2	2	4	4	12
Winter Storm	3	4	3	4	14
Social Hazard					
Active Shooter	1	3			4
Bomb Threat	1	2	3		6
Civil Disturbance					
Clandestine Lab					
Mass Feed Contamination					
Mass Food Contamination					
Technological Hazard					
Aircraft Accident	3	3	2		8
AMD Treatment Fail	3	3	3	3	12
Building Collapse	3	4	2	1	10
Communications Failure	4	4		4	12
Cyber Terrorism	4	4		4	12
Dam/Levee Failure	3	3	3	4	13
Hazardous Material	3	3	3	3	12
Nuclear Incident	1	1	1	1	4
Oil & Gas Well - Conventional					
Oil & Gas Well - Unconventional					
Opioid Addiction	4	4		4	12
Pipeline Incident	3	4		3	10
Terrorism					
Transportation Accident	4	4	4	4	16
Urban Fire/Explosion	3	3	3	3	12
Utility Interruption	4	3	4	4	15
Participant-Identified Hazard					
HEAVY RAIN FLOOD	4	4	4	4	16
UPSTREAM BLOCKAGE	4	4	4	4	16
SAND BAR OBSTRUCTION	4	4	4	4	16
BRIDGE WASHOUT	4	4	4	4	16
BRIDGE BLOCKAGE DEBRIS	4	4	4	4	16


1) PLACES OF REFUGE DURING FLOODING
2) LAND OR WATER LOCKED AREAS
3) PEOPLE STRANDED



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Blair Planning

Strength
Vulnerability
Both

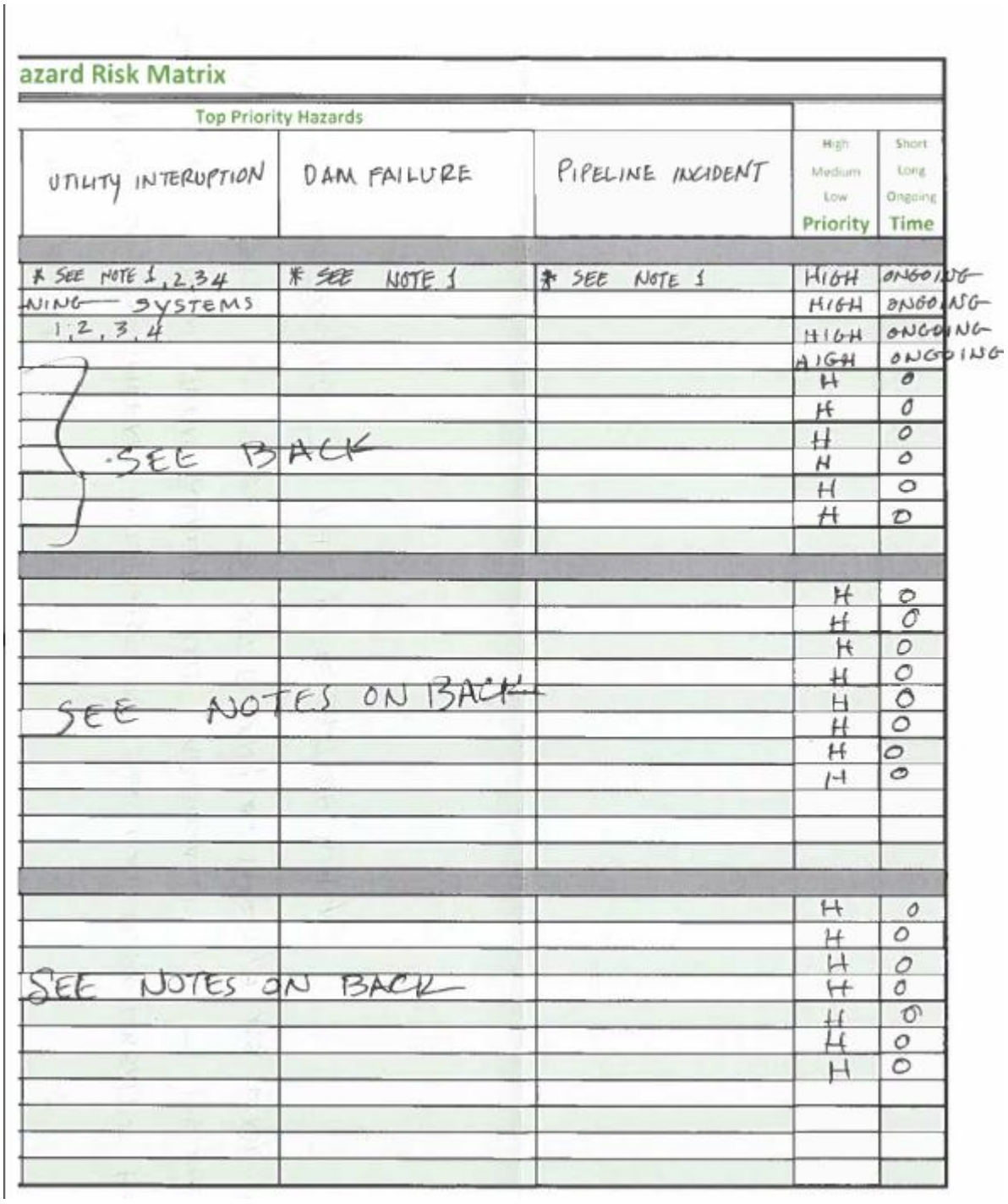
WINTER S

Asset	Location	Ownership	Status	
Infrastructure				
AGRICULTURE			S	
FOOD			S	
LAW ENFORCEMENT			S	
CHURCHES			S	
FIRE DEPARTMENT			S	
RIVER			B	
Society				
FIRE DEPARTMENT			S	
WILLIAMSBURG SCHOOL			S	
CHURCHES			S	
FARM SHOW			S	
VFW LEGION			S	
Environment				
WELL WATER			S	
WOOD LAND			S	
OPEN LAND			S	

Blair Planning

2025 Hazard Mitigation Plan
Hazard Assessment
All Events

Hazard Identification	Probability				Final Rank
	Occurrence	Human	Property	Service	
Natural Hazard					
Coastal Erosion					
Drought	2	1	2		5
Earthquake	1	1	1		3
Extreme Temperature	2	2	1		5
(Flash) Flood/Ice Jam	3	1	2		6
Hailstorm	2	1	2	2	7
Hurricane/Tropical Storm	2	2	2		6
Invasive Species	1	1	2		4
Landslide	1	1	1		3
Lightning Strike	2	2	1	2	7 ✓
Pandemic	3	2	1	2	7 ✓
Radon	2	2	1		5
Solar/Space Weather	1	1	1		3
Subsidence/Landslide	1		1		2
Tornado/Wind Storm	2	2	2	2	8 ✓
Wildfire	1	1	1		3
Winter Storm	2	2	2	2	8 ✓
Social Hazard					80
Active Shooter	1	1	1		3
Bomb Threat	1	1			2
Civil Disturbance	1	1	1		3
Clandestine Lab					
Mass Feed Contamination	1	1	1		3
Mass Food Contamination	1	1	1		3
Technological Hazard					14
Aircraft Accident	1	1	1		5
AMD Treatment Fail	1	1			2
Building Collapse					
Communications Failure	2	2		2	6
Cyber Terrorism	1	1	1		3
Dam/Levee Failure					
Hazardous Material	1	2			3
Nuclear Incident					
Oil & Gas Well - Conventional					
Oil & Gas Well - Unconventional					
Opioid Addiction	3	3			6
Pipeline Incident	1	1	1		3
Terrorism					
Transportation Accident	3	3	2		8
Urban Fire/Explosion					
Utility Interruption	1	1			2
Participant-Identified Hazard					36



azard Risk Matrix

Top Priority Hazards				
UTILITY INTERUPTION	DAM FAILURE	PIPELINE INCIDENT	High / Medium / Low — Priority	Short / Long / Ongoing — Time
* SEE NOTE 1,2,3,4	* SEE NOTE 1	* SEE NOTE 1	HIGH	ONGOING
NING — SYSTEMS			HIGH	ONGOING
1,2,3,4			HIGH	ONGOING
			HIGH	ONGOING
			H	O
			H	O
SEE BACK			H	O
			H	O
			H	O
			H	O
			H	O
			H	O
SEE NOTES ON BACK			H	O
			H	O
			H	O
			H	O
			H	O
			H	O
			H	O
			H	O
SEE NOTES ON BACK			H	O
			H	O
			H	O
			H	O
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			H	O
			H	O

THAT MAY OCCUR.

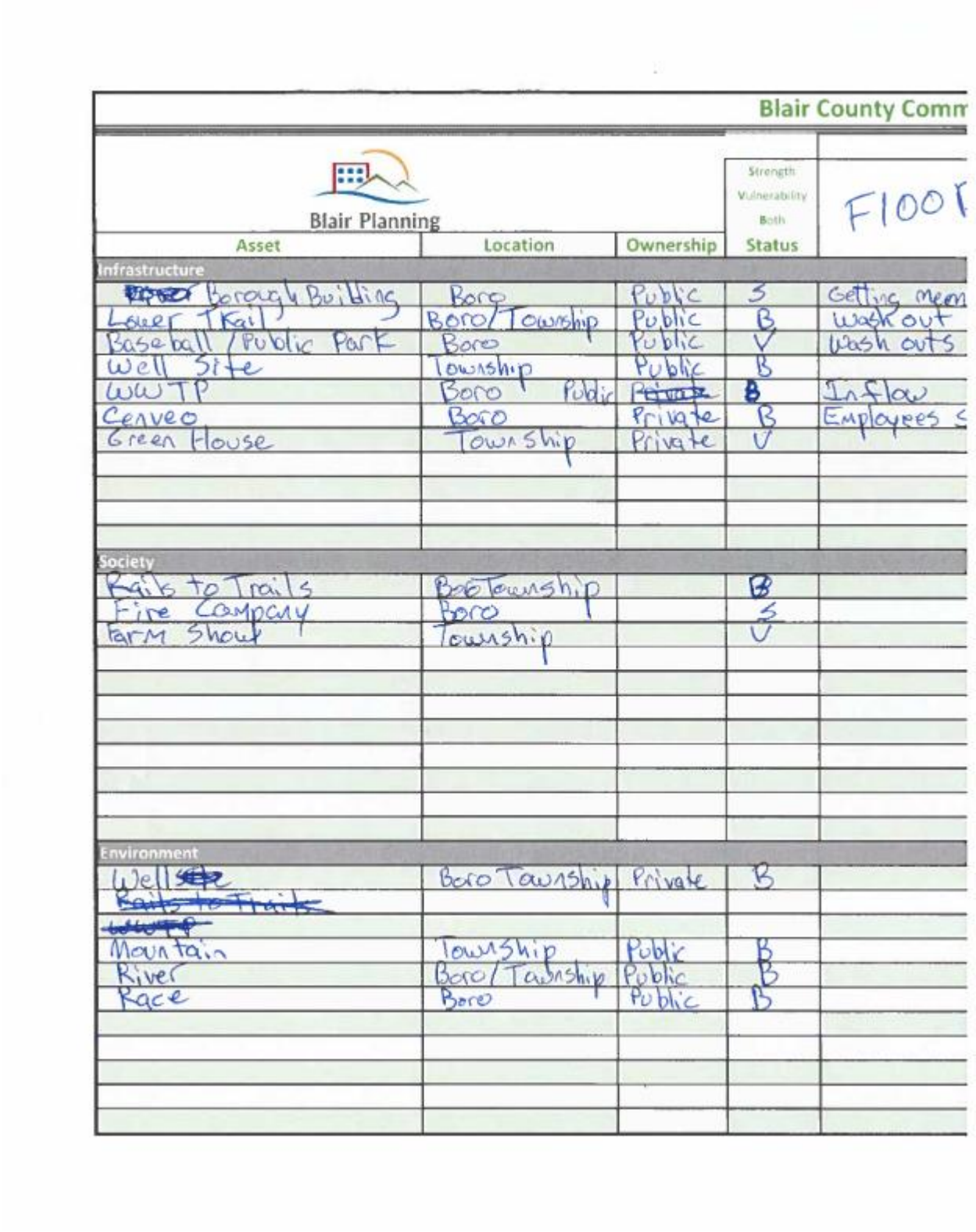
NORFOLK SOUTHERN'S RESPONSE TO SEVERAL DERAILMENTS HAS BEEN LESS THAN TRANSPARENT AND ARROGANT IN IT'S POSITION THAT IT DID NOT HAVE TO NOTIFY ANY AUTHORITYS AS LONG AS IT WAS CONTAINED TO THEIR RIGHT OF WAY

Blair Planning

2025 Hazard Mitigation Plan
Hazard Assessment
All Events

Hazard Identification	Probability				Final
	Occurrence	Human	Property	Service	Rank
Natural Hazard					
Coastal Erosion					
Drought	3	4	3	4	14
Earthquake	3	4	4	4	15
Extreme Temperature	3	4	3	3	13
(Flash) Flood/Ice Jam	4	4	4	4	16
Hailstorm	3	3	3	3	12
Hurricane/Tropical Storm	2	3	3	3	11
Invasive Species	2	2	3	2	9
Landslide	3	3	3	3	12
Lightning Strike	4	3	4	4	15
Pandemic	4	4	2	4	14
Radon	2	3	3	2	10
Solar/Space Weather	2	2	2	2	8
Subsidence/Landslide/SINK HOLE	3	3	4	4	14
Tornado/Wind Storm	3	3	4	4	14
Wildfire	3	3	4	3	13
Winter Storm	3	3	4	4	14
Social Hazard					
Active Shooter	4	4	2	3	13
Bomb Threat	3	3	3	3	12
Civil Disturbance	3	3	3	3	12
Clandestine Lab	4	3	3	3	13
Mass Feed Contamination	2	2	2	2	8
Mass Food Contamination	2	2	2	2	8
Technological Hazard					
Aircraft Accident	3	3	3	3	12
AMD Treatment Fail	3	3	3	3	12
Building Collapse	2	4	4	3	13
Communications Failure	4	4	3	4	15
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Hazardous Material	4	4	4	4	16
Nuclear Incident	3	4	3	4	14
Oil & Gas Well - Conventional	3	3	3	3	12
Oil & Gas Well - Unconventional	3	3	3	3	12
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Pipeline Incident	4	4	4	4	16
Terrorism	3	4	4	4	15
Transportation Accident	4	4	4	4	16
Urban Fire/Explosion	4	4	4	4	16
Utility Interruption	4	4	4	4	16
Participant-Identified Hazard					

I HAVE NO IDEA WHAT THE CAPACITY IS TO DEAL WITH ANY OF THESE PROBLEMS. I WAS HOPING TO LEARN THAT AT THIS MEETING AND WOULD HOPE THAT A PUBLIC INFORMATION CAMPAIGN COULD BE DEVELOPED TO PUT THIS INFORMATION OUT TO THE PUBLIC ~~AND~~ AS WELL AS DETAILED EVACUATION PLANS



Blair County Comm

Blair Planning

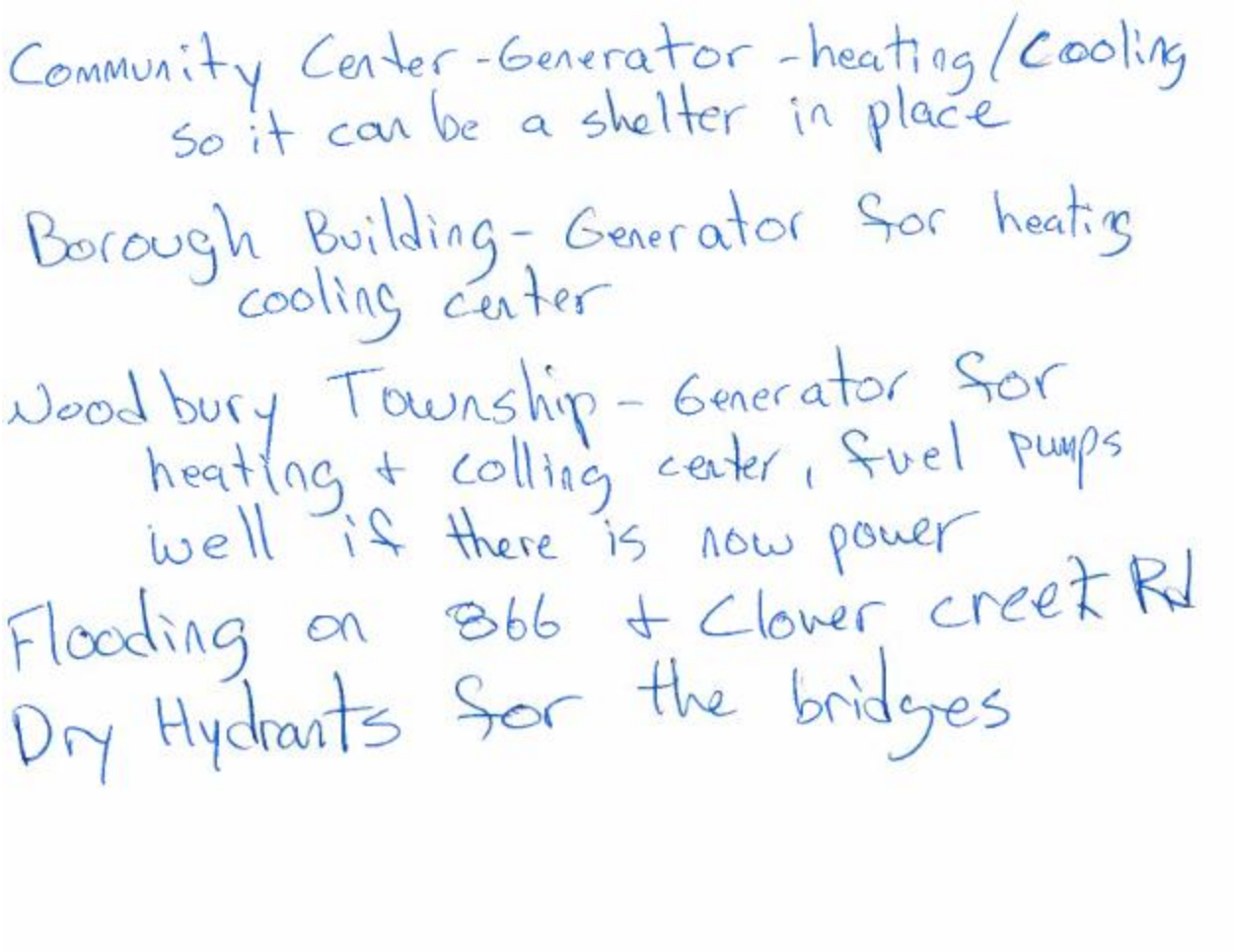
Strength
Vulnerability
Both

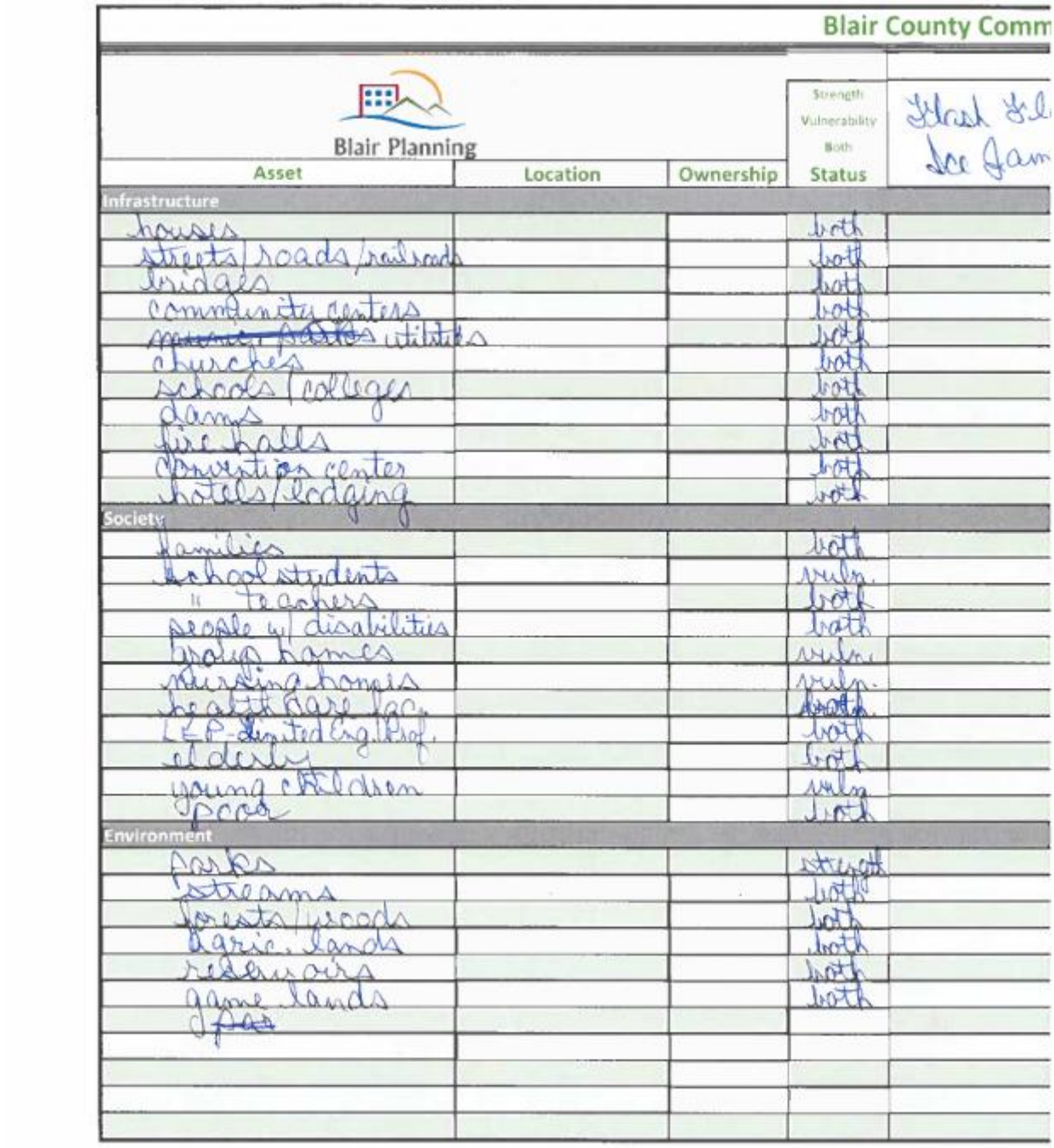
Asset	Location	Ownership	Status	FIOO
Infrastructure				
~~Boro~~ Borough Building	Boro	Public	S	Getting mem
Lower Trail	Boro/Township	Public	B	wash out
Baseball / Public Park	Boro	Public	V	wash outs
Well Site	Township	Public	B	
WWTP	Boro Public	~~Private~~	B	Inflow
Cenveo	Boro	Private	B	Employees s
Green House	Township	Private	V	
Society				
Rails to Trails	Boro Township		B	
Fire Company	Boro		S	
Farm Shout	Township		V	
Environment				
Well ~~Site~~	Boro Township	Private	B	
~~Rails to Trails~~				
~~WWTP~~				
Mountain	Township	Public	B	
River	Boro/Township	Public	B	
Race	Boro	Public	B	

Blair Planning

2025 Hazard Mitigation Plan
Hazard Assessment
All Events

Hazard Identification	Probability				Final Rank
	Occurrence	Human	Property	Service	
Natural Hazard					
Coastal Erosion					
Drought	2	2	1	3	8
Earthquake	1	1	2	2	6
Extreme Temperature	1	2	1	3	7
(Flash) Flood/Ice Jam	4	2	3	3	12
Hailstorm	1	1	2	2	6
Hurricane/Tropical Storm	1	1	1	3	6
Invasive Species	2	1	3	1	7
Landslide	1	1	2	2	6
Lightning Strike	2	2	2	1	7
Pandemic	1	2	1	2	6
Radon	1	2	1	1	5
Solar/Space Weather	1	1	2	1	5
Subsidence/Landslide	1	1	3	2	7
Tornado/Wind Storm	2	1	3	3	9
Wildfire	1	2	3	3	9
Winter Storm	3	1	3	3	10
Social Hazard					
Active Shooter	1	3	1	3	8
Bomb Threat	1	1	3	2	7
Civil Disturbance	1	3	1	1	6
Clandestine Lab	2	2	3	3	10
Mass Feed Contamination	1	3	1	2	7
Mass Food Contamination	1	3	1	2	7
Technological Hazard					
Aircraft Accident	1	3	2	2	8
AMD Treatment Fail	1	2	2	1	6
Building Collapse	1	3	3	3	10
Communications Failure	2	1	1	2	6
Cyber Terrorism	2	1	1	1	5
Dam/Levee Failure	1	2	3	2	8
Hazardous Material	1	2	2	2	7
Nuclear Incident	1	1	1	2	5
Oil & Gas Well - Conventional	2	3	3	3	11
Oil & Gas Well - Unconventional	1	3	3	3	10
Opioid Addiction	3	3	1	2	9
Pipeline Incident	1	1	3	2	7
Terrorism	1	2	1	3	7
Transportation Accident	1	2	3	3	9
Urban Fire/Explosion	1	1	2	2	6
Utility Interruption	3	1	1	2	7
Participant-Identified Hazard					


Community Center - Generator - heating / cooling
so it can be a shelter in place
Borough Building - Generator for heating
cooling center
Woodbury Township - Generator for
heating + colling center, fuel pumps
well if there is now power
Flooding on 866 + Clover creek Rd
Dry Hydrants for the bridges



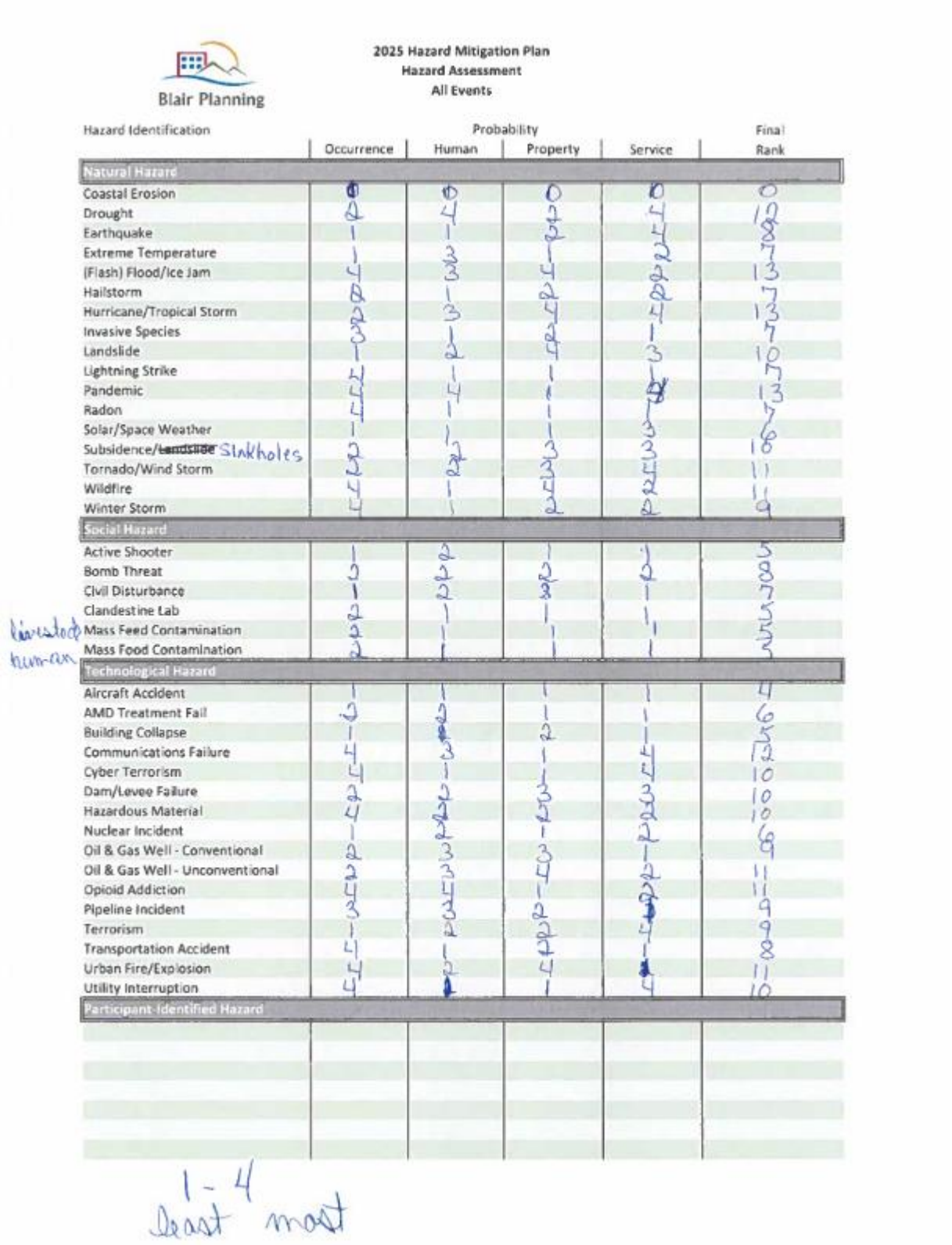
Blair County Comm

Blair Planning

Strength
Vulnerability
Both

Flash Fl
Ice Jam

Asset	Location	Ownership	Status	
Infrastructure				
houses			both	
streets/roads/railroads			both	
bridges			both	
community centers			both	
~~power poles~~ utilities			both	
churches			both	
schools/colleges			both	
dams			both	
fire halls			both	
recreation center			both	
hotels/lodging			both	
Society				
families			both	
school students			vuln.	
" teachers			both	
people w/ disabilities			both	
group homes			vuln.	
nursing homes			vuln.	
health care fac.			both	
LEP-limited Eng. Prof.			both	
elderly			both	
young children			vuln	
poor			both	
Environment				
parks			strength	
streams			both	
forests/woods			both	
agric. lands			both	
reservoirs			both	
game lands			both	
~~fish~~				



Blair Planning

2025 Hazard Mitigation Plan
Hazard Assessment
All Events

Hazard Identification	Probability				Final
	Occurrence	Human	Property	Service	Rank
Natural Hazard					
Coastal Erosion					
Drought					
Earthquake					
Extreme Temperature					
(Flash) Flood/Ice Jam					
Hailstorm					
Hurricane/Tropical Storm					
Invasive Species					
Landslide					
Lightning Strike					
Pandemic					
Radon					
Solar/Space Weather					
Subsidence/~~Landslide~~ Sinkholes					
Tornado/Wind Storm					
Wildfire					
Winter Storm					
Social Hazard					
Active Shooter					
Bomb Threat					
Civil Disturbance					
Clandestine Lab					
Mass Feed Contamination					
Mass Food Contamination					
Technological Hazard					
Aircraft Accident					
AMD Treatment Fail					
Building Collapse					
Communications Failure					
Cyber Terrorism					
Dam/Levee Failure					
Hazardous Material					
Nuclear Incident					
Oil & Gas Well - Conventional					
Oil & Gas Well - Unconventional					
Opioid Addiction					
Pipeline Incident					
Terrorism					
Transportation Accident					
Urban Fire/Explosion					
Utility Interruption					
Participant-Identified Hazard					

Livestock human-can

1 - 4
least most

Blair County Comm

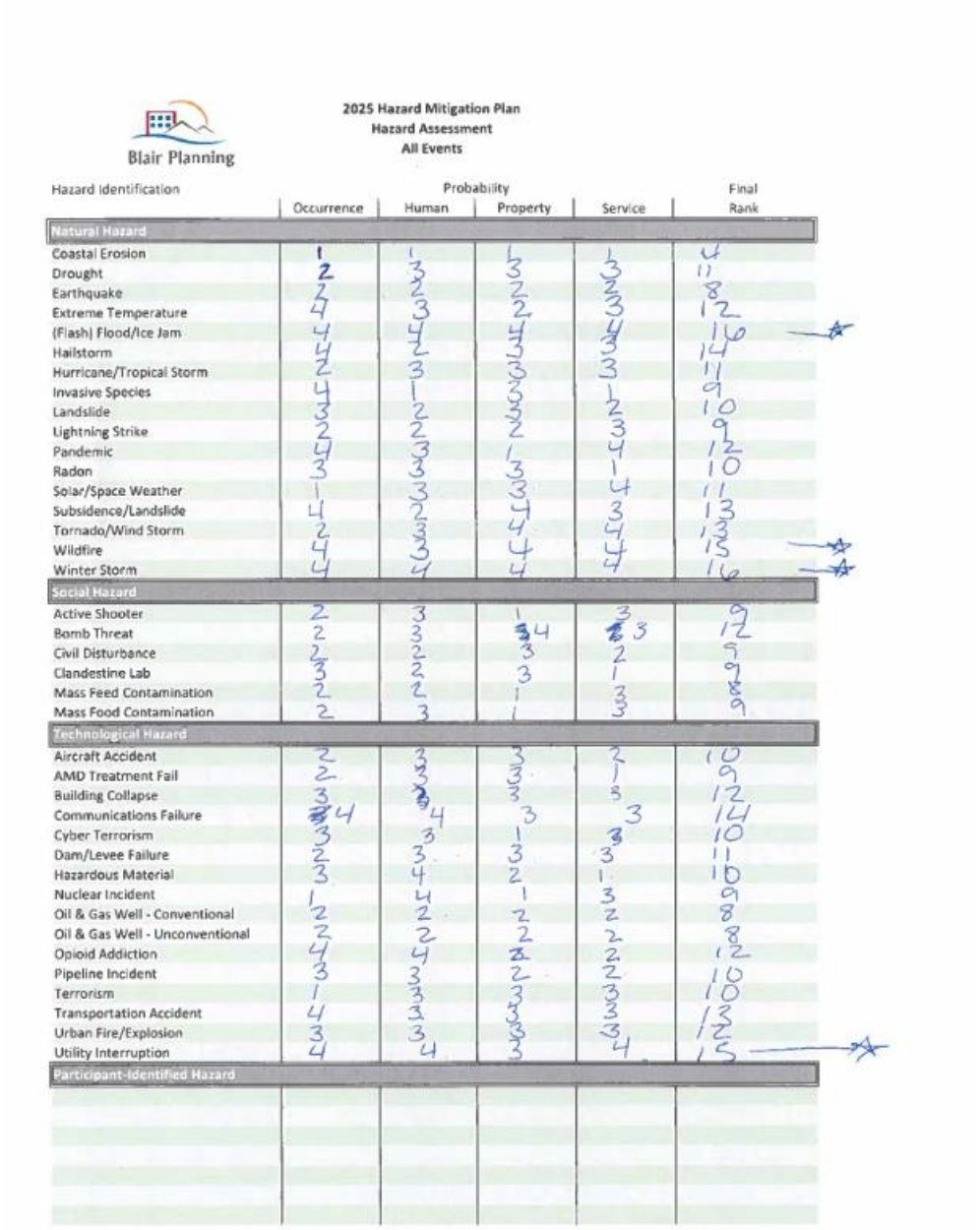
Blair Planning

Asset	Location	Ownership	Strength / Vulnerability / Both Status	Floodin
Infrastructure				
trails			B	
homes			V	X
I-99 / roads			B	X
Society				
civic groups			S	
gaysport community			B	X
Environment				
rivers / streams			B	X
forests			B	
game lands			B	
parks			S	

many ~~resources~~ hazards like flooding/wildfire/winter storm go h
hazard is already creating a strain on resources/capac

Broadband/— trails/other forest/rural areas to cddit
cell service in

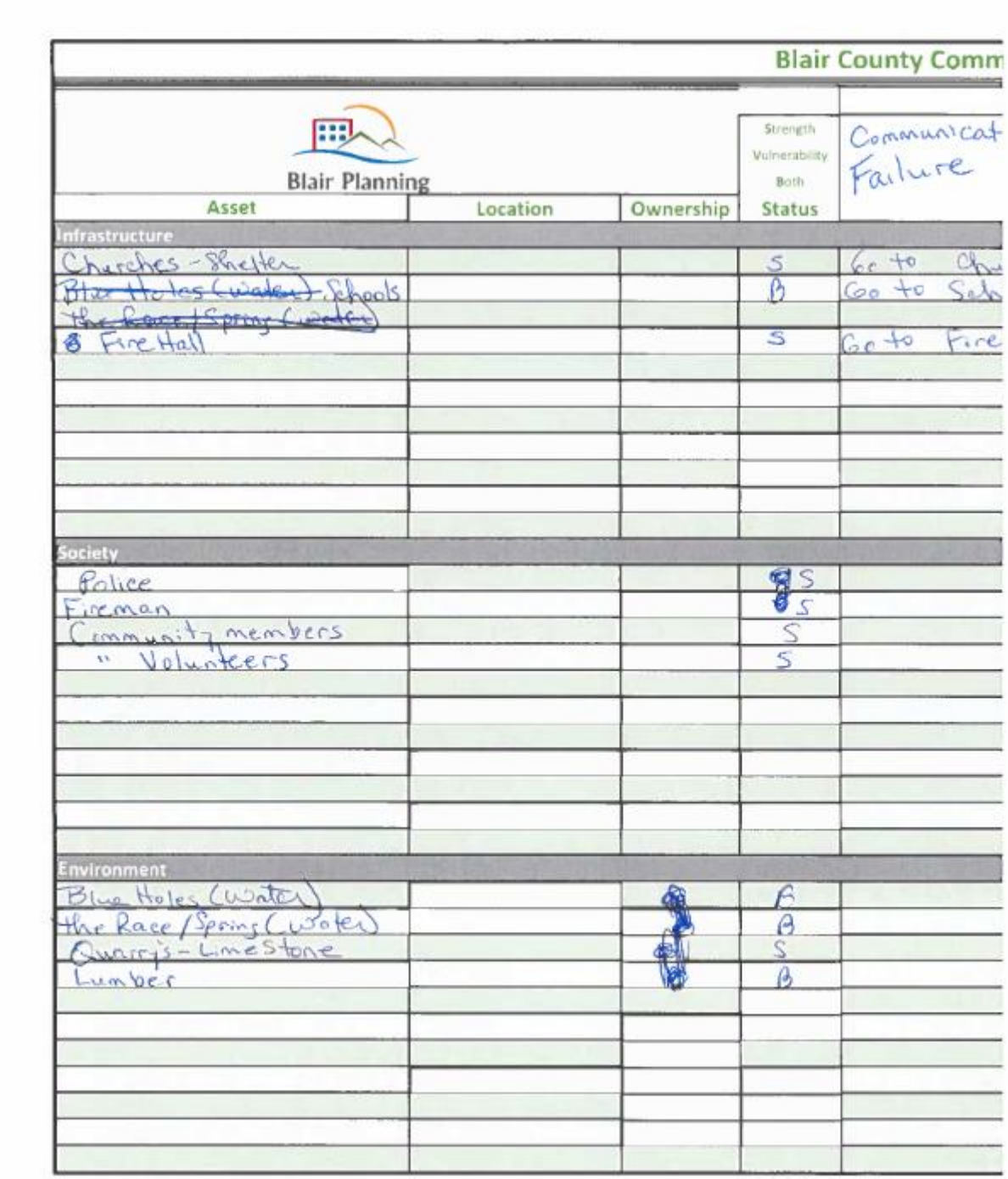
ie Gaysport community rallies together
> generate momentum for the existing
nd worsening flood problems and ways
> address both the inherent
ulnerabilities/risks of residing within
e floodplain as well as the risks
nd vulnerabilities associated with flooding
aused by development and poor stormwater
anagement in other communities.
responsible and resilient approach to SWM
of flooding is needed for Gaysport residents.



Blair Planning

2025 Hazard Mitigation Plan
Hazard Assessment
All Events

Hazard Identification	Probability				Final
	Occurrence	Human	Property	Service	Rank
Natural Hazard					
Coastal Erosion	1	1	1	1	4
Drought	2	3	3	3	11
Earthquake	2	2	2	2	8
Extreme Temperature	4	3	2	3	12
(Flash) Flood/Ice Jam	4	4	4	4	16 ★
Hailstorm	4	2	4	4	14
Hurricane/Tropical Storm	2	3	3	3	11
Invasive Species	4	1	3	1	9
Landslide	3	2	3	2	10
Lightning Strike	2	2	2	3	9
Pandemic	4	3	1	4	12
Radon	3	3	3	1	10
Solar/Space Weather	1	3	3	4	11
Subsidence/Landslide	4	2	4	3	13
Tornado/Wind Storm	2	3	4	4	13
Wildfire	4	3	4	4	15 ★
Winter Storm	4	4	4	4	16 ★
Social Hazard					
Active Shooter	2	3	1	3	9
Bomb Threat	2	3	4	3	12
Civil Disturbance	2	2	3	2	9
Clandestine Lab	3	2	3	1	9
Mass Feed Contamination	2	2	1	3	8
Mass Food Contamination	2	3	1	3	9
Technological Hazard					
Aircraft Accident	2	3	3	2	10
AMD Treatment Fail	2	3	3	1	9
Building Collapse	3	3	3	3	12
Communications Failure	4	4	3	3	14
Cyber Terrorism	3	3	1	3	10
Dam/Levee Failure	2	3	3	3	11
Hazardous Material	3	4	2	1	10
Nuclear Incident	1	4	1	3	9
Oil & Gas Well - Conventional	2	2	2	2	8
Oil & Gas Well - Unconventional	2	2	2	2	8
Opioid Addiction	4	4	2	2	12
Pipeline Incident	3	3	2	2	10
Terrorism	1	3	3	3	10
Transportation Accident	4	3	3	3	13
Urban Fire/Explosion	3	3	3	3	12
Utility Interruption	4	4	3	4	15 ★
Participant-Identified Hazard					



Blair County Comm

Blair Planning

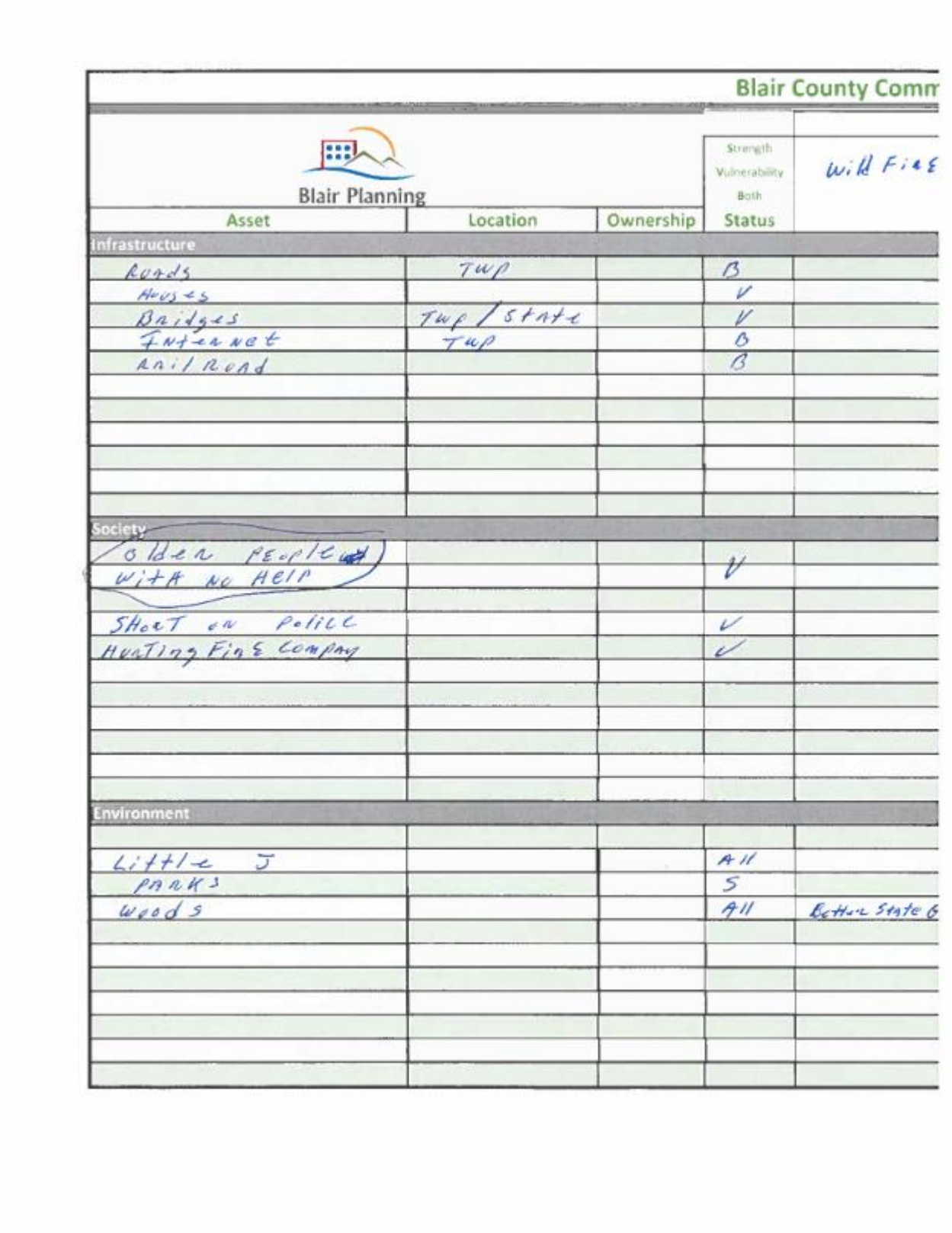
Asset	Location	Ownership	Strength / Vulnerability / Both Status	Communicat Failure
Infrastructure				
Churches - Shelter			S	Go to Chu
~~Blue Holes (water)~~ Schools			B	Go to Scho
~~the Race / Spring (water)~~				
Fire Hall			S	Go to Fire
Society				
Police			S	
Fireman			S	
Community members			S	
" Volunteers			S	
Environment				
Blue Holes (water)			B	
the Race / Spring (water)			B	
Quarrys - Limestone			S	
Lumber			B	

1 – 4
Low High
Longer

Blair Planning

2025 Hazard Mitigation Plan
Hazard Assessment
All Events

Hazard Identification	Probability				Final Rank	
	Occurrence	Human	Property	Service		
Natural Hazard						
~~Coastal Erosion~~						
Drought	2	1	1	1	5	
Earthquake						
Extreme Temperature	3	3	2	3	11	
(Flash) Flood/Ice Jam	3 1	1	1	1	4	
Hailstorm	3	1	2	1	7	
Hurricane/Tropical Storm	2	2	2	2	8	
Invasive Species	2	2	2	2	8	
Landslide	1	1	1	1	4	
Lightning Strike	1	1	1	1	4	
Pandemic	1	1	1	1	4	
Radon	1	1	1	1	4	
Solar/Space Weather	1	1	1	1	4	
Subsidence/Landslide – Sinkholes	1	1	1	1	4	
Tornado/Wind Storm	2	2	2	2	8	
Wildfire	1	1	1	1	4	
Winter Storm	2	2	2	2	8	
Social Hazard						
Active Shooter	1	4	3	4	12	
Bomb Threat	1	4	3	4	12	
Civil Disturbance	1	4	4	4	13	
Clandestine Lab	4	4	4	4	16	*
Mass Feed Contamination	1	4	4		9	
Mass Food Contamination	1	4			5	
Technological Hazard						
Aircraft Accident	1	4	4	4	13	
AMD Treatment Fail Acid Mine						
~~Building Collapse~~						
Communications Failure	3	4	3	3	13	*
Cyber Terrorism						
~~Dam/Levee Failure~~						
Hazardous Material	3	4	3	3	13	*
Nuclear Incident						
Oil & Gas Well - Conventional						
Oil & Gas Well - Unconventional						
Opioid Addiction	4	4	3	4	15	*
Pipeline Incident						
Terrorism	1				1	
Transportation Accident	4	3	3	1		
Urban Fire/Explosion	4	3	3	1	11	
Utility Interruption	4	1	1	1	7	
Participant-Identified Hazard						
Water Contamination						
Border/Illegal Imm.						
Squatters Rights						
Healthcare (overflow of people)						



Blair County Comm

Blair Planning

Strength
Vulnerability
Both

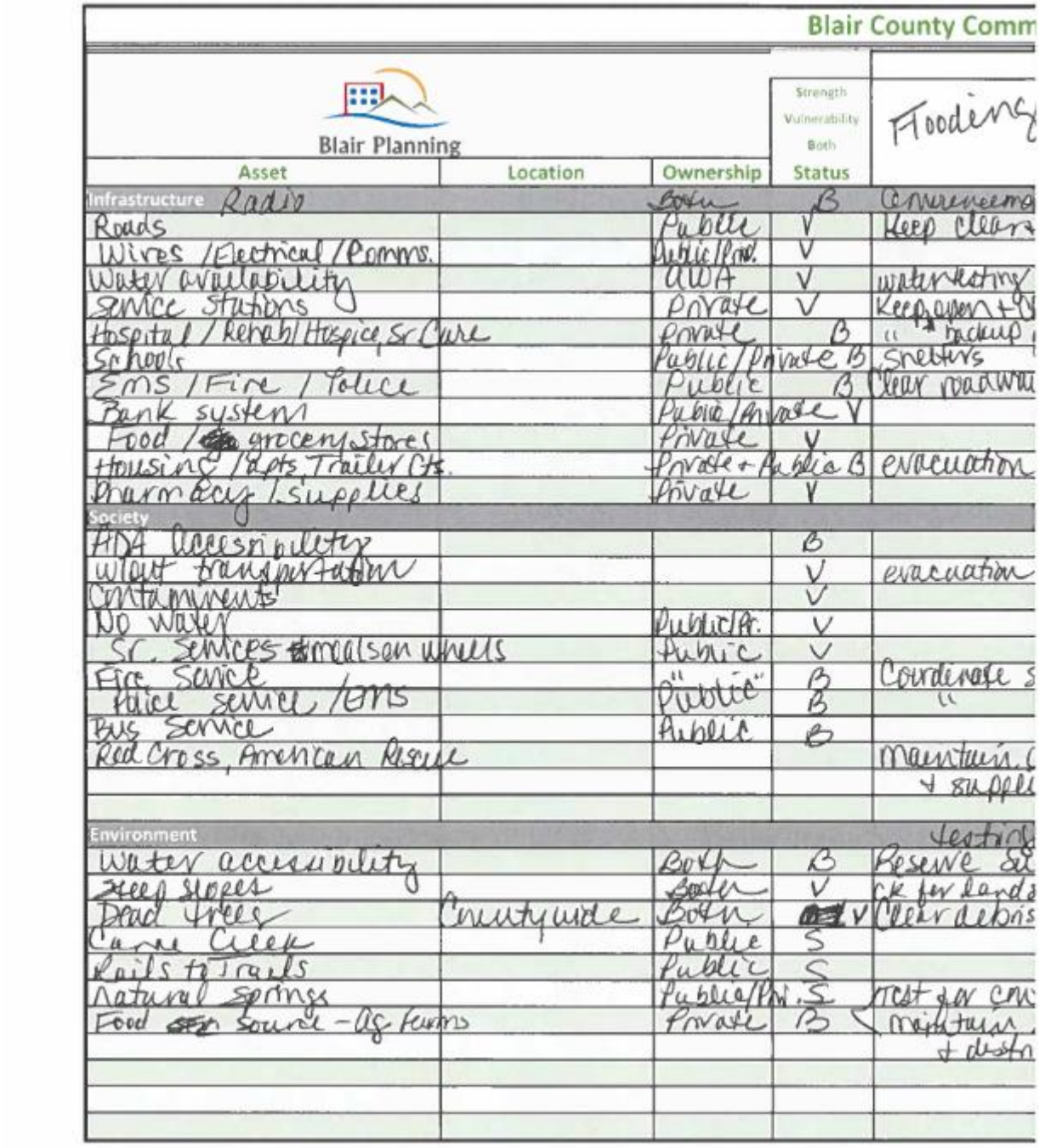
Wild Fire

Asset	Location	Ownership	Status	
Infrastructure				
Roads	Twp		B	
Houses			V	
Bridges	Twp / State		V	
Internet	Twp		B	
Rail Road			B	
Society				
Older People with No Help			V	
Sheet on Police			V	
Heating Fire Company			V	
Environment				
Little J			All	
Parks			5	
Woods			All	Bethel State G

Blair Planning

2025 Hazard Mitigation Plan
Hazard Assessment
All Events

Hazard Identification	Probability				Final
	Occurrence	Human	Property	Service	Rank
Natural Hazard					
Coastal Erosion	1	0	1	1	3
Drought	2		2	2	6
Earthquake					
Extreme Temperature	2	0	1	3	6
(Flash) Flood/Ice Jam					
Hailstorm	1	1	1	1	4
Hurricane/Tropical Storm					
Invasive Species					
Landslide					
Lightning Strike					
Pandemic	2	3	3	4	12
Radon					
Solar/Space Weather					
Subsidence/Landslide					
Tornado/Wind Storm	1	1	2	2	6
* Wildfire	3	4	3	3	13
Winter Storm					
Social Hazard					
Active Shooter	1	2	1	3	7
Bomb Threat	1	2	1	3	7
Civil Disturbance	2	2	1	2	7
Clandestine Lab	3	3	3	2	11
Mass Feed Contamination					
Mass Food Contamination					
Technological Hazard					
Aircraft Accident	1	1	1	1	4
AMD Treatment Fail					
Building Collapse					
* Communications Failure	3	3	1	3	16
* Cyber Terrorism	3	3	3	4	13
Dam/Levee Failure					
Hazardous Material	2	2	2	2	8
Nuclear Incident					
Oil & Gas Well - Conventional					
Oil & Gas Well - Unconventional					
Opioid Addiction	3	3	2	2	10
Pipeline Incident					
Terrorism					
Transportation Accident	3	3	3	3	12
Urban Fire/Explosion					
* Utility Interruption	3	3	3	3	12
Participant-Identified Hazard					



Blair County Comm

Blair Planning

Strength
Vulnerability
Both

Flooding

Asset	Location	Ownership	Status	
Infrastructure				
Radio		Both	B	Communicatio
Roads		Public	V	Keep clear
Wires / Electrical / Comms.		Public/Priv.	V	
Water availability		AWA	V	water testing
Service Stations		Private	V	Keep open + G
Hospital / Rehab / Hospice, Sr Care		Private	B	" backup
Schools		Public/Private	B	Shelters
EMS / Fire / Police		Public	B	Clear roadwa
Bank system		Public/Private	V	
Food / grocery stores		Private	V	
Housing / Apts, Trailer Cts.		Private + Public	B	evacuation
Pharmacy / Supplies		Private	V	
Society				
ADA Accessibility			B	
w/out transportation			V	evacuation
Contaminants			V	
NO water		Public/Pr.	V	
Sr. Services + meals on wheels		Public	V	
Fire Service		"Public"	B	Coordinate s
Police service / EMS			B	"
Bus Service		Public	B	
Red Cross, American Rescue				Maintain C + supplie
Environment				testing
Water accessibility		Both	B	Reserve ac
Steep slopes		Both	V	CK for landsl
Dead trees	Countywide	Both	V	Clear debris
Canoe Creek		Public	S	
Rails to Trails		Public	S	
Natural Springs		Public/Pri.	S	test for cont
Food source - Ag farms		Private	B	maintain + distr

Public Input
HMGP - Tyrone Ave
3/7/2025

Blair Planning

2025 Hazard Mitigation Plan
Hazard Assessment
All Events

Hazard Identification	Probability				Final
	Occurrence	Human	Property	Service	Rank
Natural Hazard					
Coastal Erosion	0	0	0	0	0
Drought	1	2	3	1	2.5
Earthquake	1	1	1	1	1
Extreme Temperature	2	2	2	2	2
(Flash) Flood/Ice Jam	1	2	2	2	2
Hailstorm	1	1	1		
Hurricane/Tropical Storm					
Invasive Species	4	3	4	4	4
Landslide	1	4	4	4	4
Lightning Strike	4	4	4	4	4
Pandemic	3	4	4	4	4
Radon	4	4	1	1	2
Solar/Space Weather	1				
Subsidence/Landslide	2				
Tornado/Wind Storm	3				
Wildfire	4				
Winter Storm	4				
Social Hazard					
Active Shooter	2	4	2	4	3
Bomb Threat	1	1	1	1	1
Civil Disturbance	1	3	2	2	2
Clandestine Lab	2	4	4	3.5	3.5
Mass Feed Contamination	1	4	1	4	3.5
Mass Food Contamination	1	4	1	4	3.5
Technological Hazard					
Aircraft Accident	1	4	4	4	4
AMD Treatment Fail	1	4	4	4	4
Building Collapse	1	4	4	4	4
Communications Failure	1	4	4	4	4
Cyber Terrorism	2	4	4	4	4
Dam/Levee Failure	1	4	4	4	4
Hazardous Material	1	4	4	4	4
Nuclear Incident	1	4	4	4	4
Oil & Gas Well - Conventional	1	2	3	3	2.5
Oil & Gas Well - Unconventional	1	2	3	3	2.5
Opioid Addiction	4	4	2	4	3.6
Pipeline Incident	1	4	4	4	4
Terrorism	1	4	4	4	4
Transportation Accident	3	4	4	4	4
Urban Fire/Explosion	3	4	4	4	4
Utility Interruption	1	3	4	4	3.5
Participant-Identified Hazard					

Blair County Comm

Blair Planning

Strength
Vulnerability
Both

Haz Mi

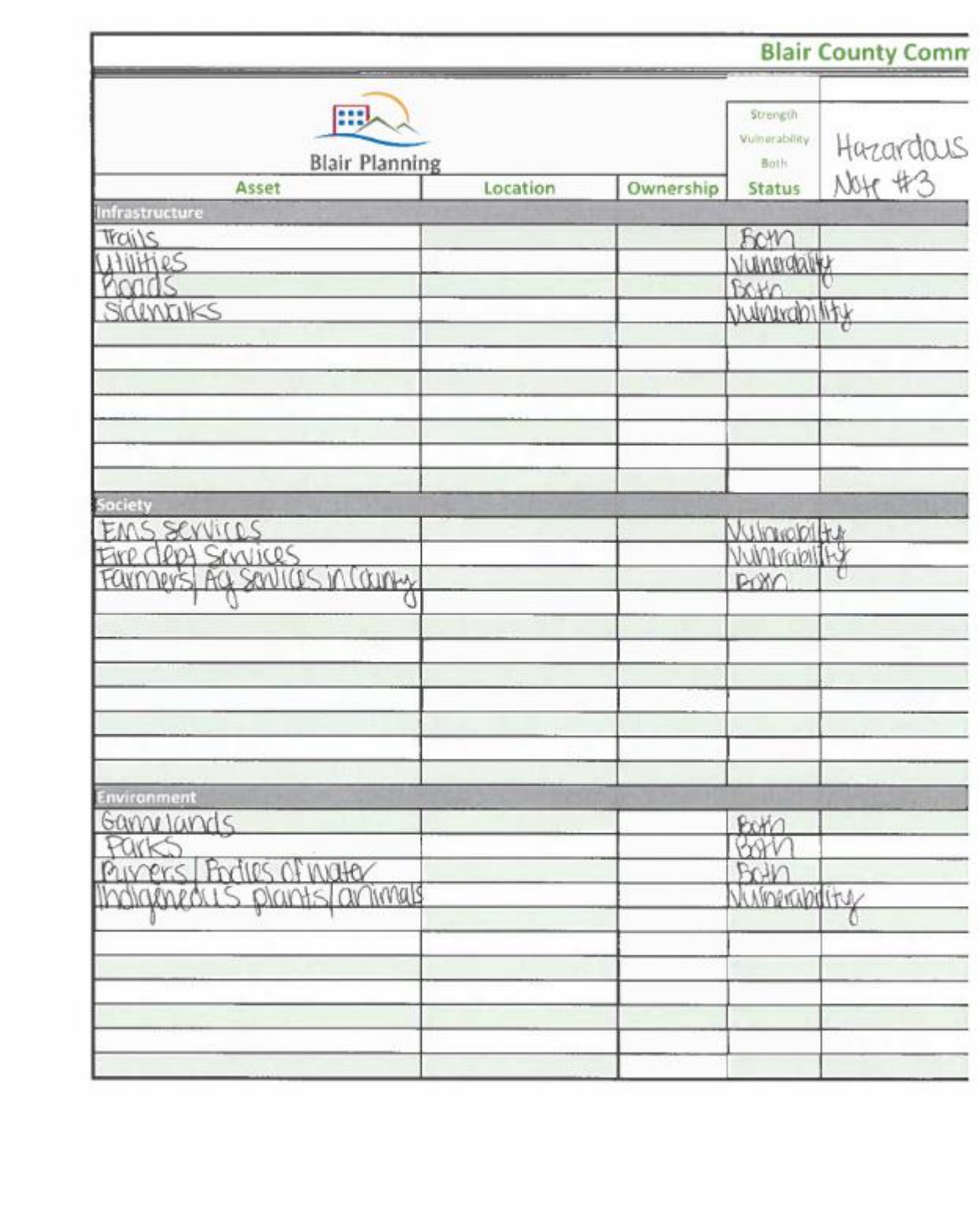
Asset	Location	Ownership	Status	
Infrastructure				
~~Water Stora~~				
Roadways	Everywhere	Public	B	Speed limi
Rail lines	Along Little J	Private	V	Speed lim
Buildings	In town (Dens	Private	V	
Society				
People	Everywhere	Private	V	Evacuatio
Food sources	Limited	Private	V	Isolatio
Drinking water	Everywhere	Public	B	Enhance Pr
Housing	Everywhere	Private	B	Evacuation
Environment				
Little J	River valley	Public	V	Conservation/
Forests	Everywhere	Private	B	Conserv/Pro
Farm Fields	Sinking Valley	Private	B	Conserv/ Pro
Air Quality	Everywhere	Public	V	Protect

1 = low
4 = high

Blair Planning

2025 Hazard Mitigation Plan
Hazard Assessment
All Events

Hazard Identification	Probability				Final Rank
	Occurrence	Human	Property	Service	
Natural Hazard					
Coastal Erosion	0	0	0	0	0
Drought	4	1	3	2	10
Earthquake	2	4	2	3	11
Extreme Temperature	3	3	1	2	9
(Flash) Flood/Ice Jam	3	3	4	2	11
Hailstorm	3	1	4	2	10
Hurricane/Tropical Storm	2	3	3	3	11
Invasive Species	4	2	4	1	11
Landslide	2	2	4	2	10
Lightning Strike	3	2	2	1	8
Pandemic	3	4	1	3	11
Radon	4	4	2	1	11
Solar/Space Weather	2	1	1	1	5
Subsidence/Landslide	4	2	4	2	12
Tornado/Wind Storm	3	2	4	3	12
Wildfire	2	2	4	2	10
Winter Storm	4	2	4	3	13 ✓
Social Hazard					
Active Shooter	2	4	1	4	11
Bomb Threat	2	3	1	4	10
Civil Disturbance	2	2	2	3	9
Clandestine Lab	3	3	2	2	10
Mass Feed Contamination	2	3	1	2	8
Mass Food Contamination	2	3	1	2	8
Technological Hazard					
Aircraft Accident	2	4	1	4	11
AMD Treatment Fail	2	1	2	1	6
Building Collapse	3	3	4	3	13 ✓
Communications Failure	4	1	1	2	8
Cyber Terrorism	4	1	1	2	8
Dam/Levee Failure	2	2	4	3	11
Hazardous Material	4	4	4	4	16 ✓
Nuclear Incident	1	1	1	1	4
Oil & Gas Well - Conventional	0	0	0	0	0
Oil & Gas Well - Unconventional	4	4	1	3	12
Opioid Addiction	3	3	3	3	12
Pipeline Incident	2	2	1	2	7
Terrorism	4	4	3	4	15 ✓
Transportation Accident	3	3	4	4	14 ✓
Urban Fire/Explosion	3	1	1	2	7
Utility Interruption					
Participant-Identified Hazard					

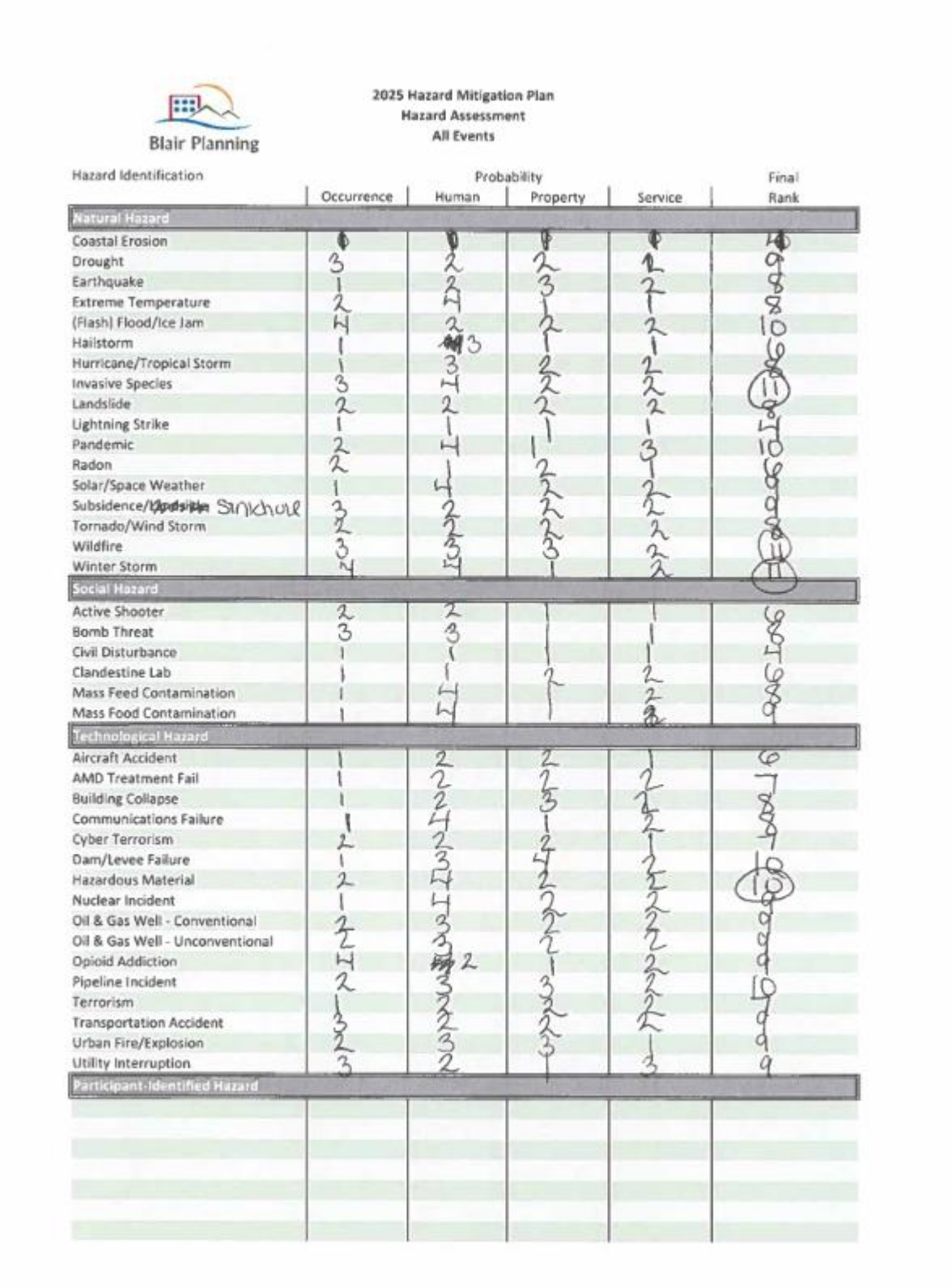


Blair County Comm

Blair Planning

Strength
Vulnerability
Both

Asset	Location	Ownership	Status	Hazardous Note #3
Infrastructure				
Trails			Both	
Utilities			Vulnerability	
Roads			Both	
Sidewalks			Vulnerability	
Society				
EMS Services			Vulnerability	
Fire dept Services			Vulnerability	
Farmers/Ag Services in County			Both	
Environment				
Gamelands			Both	
Parks			Both	
Rivers/Bodies of water			Both	
Indigenous plants/animals			Vulnerability	



Blair Planning

2025 Hazard Mitigation Plan
Hazard Assessment
All Events

Hazard Identification	Probability				Final
	Occurrence	Human	Property	Service	Rank
Natural Hazard					
Coastal Erosion					
Drought					
Earthquake					
Extreme Temperature					
(Flash) Flood/Ice Jam					
Hailstorm					
Hurricane/Tropical Storm					
Invasive Species					
Landslide					
Lightning Strike					
Pandemic					
Radon					
Solar/Space Weather					
Subsidence/Landslide Sinkhole					
Tornado/Wind Storm					
Wildfire					
Winter Storm					
Social Hazard					
Active Shooter					
Bomb Threat					
Civil Disturbance					
Clandestine Lab					
Mass Feed Contamination					
Mass Food Contamination					
Technological Hazard					
Aircraft Accident					
AMD Treatment Fail					
Building Collapse					
Communications Failure					
Cyber Terrorism					
Dam/Levee Failure					
Hazardous Material					
Nuclear Incident					
Oil & Gas Well - Conventional					
Oil & Gas Well - Unconventional					
Opioid Addiction					
Pipeline Incident					
Terrorism					
Transportation Accident					
Urban Fire/Explosion					
Utility Interruption					
Participant-Identified Hazard					

MEETINGS

HAZARD MITIGATION COMMITTEE MEETING
July 1, 2024 Agenda 9:30 A.M.
Blair Drug and Alcohol, 3001 Fairway Drive, Altoona , PA 16648

1. **Call to Order**
2. **Approval of Meeting Minutes for May 20, 2024**
3. **Public Comment Period**
4. **Mitigation Action Plan**
   a. Existing Projects
   b. New Projects To Be Added
   c. Preliminary Prioritization of Projects
5. **Hazard Dams**
6. **Determine Next Meeting Date**
7. **Questions From the Media**
8. **Adjournment**

Rank/Prioritize Hazards

The process of updating the HMP requires that counties examine the hazards identified in State's HMP and apply and rank them in their own county's HMP; if the hazard is not applicable to that county (i.e., coastal flooding does not apply in Blair County) then that county's HMP notes the hazard does not apply. The following is a list of the hazards identified in Pennsylvania's current Hazard Mitigation Plan:

- •Building/Structure Collapse
- •Conventional and Improvised Bombs
- •Dam Failure
- •Earthquake
- •Floods
- •Hail Storm
- •Invasive Species
- •Levee Failure
- •Mass Food or Animal Contamination
- •Pandemic/Infectious Disease
- •Subsidence/Sink Holes
- •Terrorism
- •Transportation Incident (non-hazard materials)
- •Urban Fire and Explosion
- •Wild Fires
- •Solar Weather
- •Civil Disturbance
- •Cyber Attack
- •Drought
- •Extreme Temperature
- •Gas and Liquid Pipelines
- •Hazardous Materials Release
- •Land Slide
- •Lightning Strike
- •Hurricane/Nor'easter/Tropical Storms
- •Radon Exposure
- •Substance Use Disorder
- •Tornado and Wind Storm
- •New Gas Wells (Non-Conventional Wells)
- •Utility Interruption
- •Winter Storms

Homelessness and human trafficking were brought up by Ms. Socie as hazards that should be added to the rankings per EMA Director Mark Taylor. Mr. McFarland responded that they are not state-defined hazards, however they will be evaluated into the ranking process. A discussion ensued; Mr. McFarland stated that homelessness and human trafficking may not be in its own hazard category but possibly integrated into another.

The following three (3) state-identified hazards to not apply to Blair County:

- Nuclear Incident = N/A
- Conventional Oil/Gas Wells = N/A
- Coastal Erosion = N/A

The hazards were ranked based on five points: •probability the event would occur in any given year; •impact (injury, damage, death); •spatial (geographical) extent; •warning time prior to event; and •duration (timespan of event).

Vote on Prioritized Hazards

During the prioritization discussion, social media was brought up as another hazard; Mr. McFarland stated it too, was not a state-identified hazard but will look at the possibility of working it into one of the categories. The Committee prioritized the following hazards:

1. Flooding
2. Hazardous Materials
3. Cyber Terrorism
4. Drought

(4) Homelessness and (5) Human Trafficking unless these two are integrated into other hazard categories; then the four and five would be:

5. Radon
6. Substance Abuse

Determine Next Meeting Date

The next Hazard Mitigation Meeting will be held on Monday, July 1, 2024 at 9:00 a.m.

Adjournment

A motion was made and carried to adjourn the meeting at 11:10 a.m.

HAZARD MITIGATION PLANNING COMMITTEE MINUTES – May 20, 2024 9:00 A.M.
PERIODIC PLANNING & PERFORMANCE MEETING
Blair Drug and Alcohol, 3001 Fairway Drive, Altoona, PA 16602

Attendees

Silke Morrison, Allegheny Township
David Rimbeck, Juniata Township
David Lynch, Logan Township Fire Department
Jim Callahan, Frankstown Township
Sunny Consiglio, Altoona
Tammy Miller, Freedom Township
Joe Claar, Greenfield Township
Mandy Burgoon, DCNR, Bureau of Forestry
Hope Ray, Bellwood Borough
Mark Taylor, County Emergency. Mgmt.
Diana White, City of Altoona
Scott Kochara, Garvey Manor
Brad Kanuch, Altoona Housing Authority
Donna Carter, Blair Drug and Alcohol
Gary Garofoli, Tyrone Township
Trey Bookhammer, Williamsburg
Mike Childers, Greenfield Township
Lisa Hann, Family Services Inc
Chelsey Weyant, Blair County Conservation Dist./ISC
Karen Struble, Blair County Unite Way
Craig Russell, Blair Senior Services, Inc
Rich Brantner, Martinsburg Borough
Bill Lightner, Frankstown Township Emerg Mgt
Adam Free, City of Altoona
James Lang, Freedom Township
Grant Wills, Blair County GIS
Gerald Hoy, DCNR Bureau of Forestry
Tim Hileman, James VanZandt VA Med Center
Kami Bilek, Blair Township
Cris Fredrickson, Blair County Emerg. Mgmt.
Cassandra Schmick, Logan Township
Chris Storm, Hollidaysburg Borough
Allen Lego, Tunnelhill Borough
Henry Fownes, Frankstown Township
Douglas Brown, Antis Township
Keith Carper, Woodbury Township
Lou Lusk, Blair Township
Amy Webster, Blair County Commissioner
Rob Crossman, City of Altoona
Donna Fisher, Blair County Conservation Dist.

Call To Order

Planning Director David McFarland opened the meeting at 9:00 a.m.

Approval of Minutes

A motion made by Doug Brown was seconded by Silke Morrison to approve the January 8, 2024 meeting minutes.

Public Comment

No public comment.

Review Data/Input from Municipal and Public Outreach Workshops

As the process continues for completing the five-year update for *BRAVE*, the County's Hazard Mitigation Plan (HMP), the majority of today's meeting will be the ranking and prioritizing process of hazards identified in the data received from the outreach efforts. The more significant hazards identified were flooding, hazardous material transports and environmentally, the storms and drought, etc).

FEMA guidelines for completing the 2024-2028 five-year update instruct the counties to identify and evaluate hazards not only for the County as a whole but to specifically identify the hazards that exist within the districts/communities.

During both the municipal and public outreach efforts, there was substantial and consistent concern expressed for the municipalities over the next five both in general and their emergency services in terms of employment and funding. In response, the Planning Commission contacted the PA DCED; they DCED explained a no-cost program for localities wherein the DCED examines the operations of the locality and based on their findings will make recommendations. If that program is sought, that would be performed next year, either from a county-wide or regional perspective.

Commissioner Amy Webster commented that if the Plan is looked at in groups rather than the County as a whole, she suggested that the City of Altoona be kept separate from groups as their needs are far different than that of the other municipalities. Mr. McFarland added that this suggestion had also been made at some other previous meeting.


HAZARD MITIGATION
OUTREACH MEETINGS
Identifying local hazards and gathering public input for the 2025 Blair County Hazard Mitigation Plan Update.
7 MARCH - 6:30 PM
NORTHERN BLAIR SENIOR CENTER
13 MARCH - 6:30 PM
SOUTHERN BLAIR SENIOR CENTER
14 MARCH - 1:30 PM
TRNG CTR - MARGARET AVENUE
21 MARCH - 6:30 PM
WILLIAMSBURG COMMUNITY CENTER
More Information :
WWW.BLAIRPLANNING.ORG/HAZARDMITIGATION
or contact Blair Planning at (814) 693-2080

HAZARD MITIGATION PUBLIC WORKSHOP
MARCH 7, 2024 6:30 P.M.
Location: Northern Blair Senior Center

(7)

SIGN-IN SHEET

NAME	AREA REPRESENTING OR AREA OF RESIDENCE
1. Eric Oliver	Snyder Twp Resident
2. Jim Bucket	Snyder Twp
3. Mark Bunte	Snyder Twp.
4. Mackenzie Caron	Blair Planning
5. Mike Beckwith	LEMC Tyrone Boro
6. Sherry Socie	Blair Planning
7. Rhonda Kelly	Blair Planning
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HAZARD MITIGATION PUBLIC WORKSHOP
MARCH 13, 2024 4:30 P.M.
Location: Southern Blair Senior Center

SIGN-IN SHEET

	NAME	AREA REPRESENTING OR AREA OF RESIDENCE
1.	Donna Gority	Duncansville
2.	Rhonda Kelly	Blair Planning
3.	Sherry Socie	BCPC
4.	Mackenzie Caron	Blair Planning
5.	David McFarlane	Blair Planning
6.	Emily Evey	Blair Planning
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HAZARD MITIGATION PUBLIC WORKSHOP
MARCH 14, 2024 1:30 P.M.
Location: Altoona Training Center

(6)

SIGN-IN SHEET

	NAME	AREA REPRESENTING OR AREA OF RESIDENCE
1.	KEVIN SUCKLING	BROAD AVE & 22ND ST.
2.	Silke Morrison	Allegheny Township
3.	Mackenzie Caron	Blair Planning
4.	David McFadden	Blair Planning
5.	Cassandra Schmidt	Logan Twp
6.	Sherry Socie	BCPC
7.	Rhonda Kelly	BCAC
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HAZARD MITIGATION PUBLIC WORKSHOP
MARCH 21, 2024 6:30 P.M.
Location: Williamsburg Community Center, 915 Recreation Drive, Williamsburg

16

SIGN-IN SHEET

	NAME	Municipality
1.	Mackenzie Caron	Blair Planning
2.	Sherry Socie	BCPC
3.	Travis Prough	Williamsburg Fire
4.	Steve Lance	Logan Emergency Mgmt Coord Williamsburg Fire
5.	Rhonda Kelly	BCPC
6.	Emily Berg	Blair Planning
7.	David McFarland	Blair Planning
8.	Lois C Brenneman	FARMER - Catherine Resident
9.	Buck & Brenneman	Catherine Resident
10.	Joe Lansberry	Woodbury Twp / W-burg Boro
11.	Cris Fredrickson	Duncansville
12.	Erin Fredrickson	Duncansville
13.	Bill Deters	Williamsburg Regional EMA
14.	KEN BRENNEMAN	FARM - CATHERINE SUPERVISOR
15.	Ted Hyle	Williamsburg Boro
16.	BILL KIBLER	Altoona MPO
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BRAVE

What is Hazard Mitigation?

Mitigation is the effort to reduce loss of life and property by lessening the impact of disasters. Mitigation is taking action now—through analyzing risk, reducing risk, or insuring against risk—to reduce the human and financial consequences of future disasters. Effective mitigation requires understanding of local risks, addressing hard choices, and investing in long-term community well-being. Not taking mitigation action jeopardizes our safety, financial security, and self-reliance.

What is Community Resilience?

Resilience is the capacity of individuals, communities, businesses, institutions, and governments to adapt to changing conditions and to prepare for, withstand, and rapidly recover from disruptions to everyday life, such as hazard events.

Hazard mitigation planning is the foundation of community resilience because it encourages the development of a long-term mitigation strategy. By going through the planning process, communities think about their risks and develop mitigation actions and projects before a disaster even has a chance of occurring, making it easier to recover from future events.

Why Do We Need a Plan?

Developing hazard mitigation plans enables state, tribal, and local governments to:

- Increase education and awareness around threats, hazards, and vulnerabilities;
- Build partnerships for risk reduction involving government, organizations, businesses, and public;
- Identify long-term strategies for risk reduction that are agreed upon by stakeholders and public;
- Identify cost-effective mitigation actions, focusing resources on greatest risks and vulnerabilities;
- Align risk reduction with other state, tribal, or community objectives; and
- Communicate priorities to potential sources of funding.

Moreover, a FEMA-approved hazard mitigation plan is a condition for receiving certain types of non-emergency disaster assistance, including funding for mitigation projects.

Altoona Mirror
Newspaper

MEETING NOTICE

PUBLIC WORKSHOPS FOR HAZARD MITIGATION

WANTED : Your input and ideas!

Four (4) public outreach meetings are scheduled for public opportunities to provide input that will assist in directing a robust action plan for the five-year update to the County's Hazard Mitigation Plan, *BRAVE* . Funding eligibility is impacted by the public's participation.

Meetings are scheduled as follows:

- Thurs, March 7 -6:30 pm at Northern Blair Senior Center, 505 Third Street, Tyrone
- Wed, March 13 - 6:30 pm at Southern Blair Senior Center, 15229 Dunnings Highway, East Freedom
- Thurs, March 14 -1:30 pm at the Altoona Training Center, 1747 Margaret Avenue, Altoona
- Tues, March 26 -6:30 pm at Williamsburg Community Center, 915 Recreation Drive, Williamsburg

rkelly@blairplanning.org or 814-693-2080 x 0

March 5, 2024

	Muni Grouped Outrch Mtgs (Spring 2024)	Hazard Mitigation Committee Mtg (Oct 2023)	Hazard Mitigation Committee Mtg (Jan 2024)	Hazard Mitigation Committee Mtg (May 2024)
CITY OF ALTOONA	X	X	X	X
BOROUGH OF BELLWOOD	X	X	X	X
BOROUGH OF DUNCANSVILLE	X			
BOROUGH OF HOLLIDAYSBURG	X	X	X	X
BOROUGH OF MARTINSBURG	X			X
BOROUGH OF NEWRY				
BOROUGH OF ROARING SPRING				
BOROUGH OF TUNNELHILL		X	X	X
BOROUGH OF TYRONE	X			
BOROUGH OF WILLIAMSBURG	X	X	X	X
TOWNSHIP OF ALLEGHENY	X	X	X	X
TOWNSHIP OF ANTIS	X		X	X
TOWNSHIP OF BLAIR	X		X	X
TOWNSHIP OF CATHARINE	X			
TOWNSHIP OF FRANKSTOWN	X	X	X	X
TOWNSHIP OF FREEDOM		X	X	X
TOWNSHIP OF GREENFIELD	X	X		X
TOWNSHIP OF HUSTON	X			
TOWNSHIP OF JUNIATA	X			X
TOWNSHIP OF LOGAN	X	X	X	X
TOWNSHIP OF NORTH WOODBURY	X		X	
TOWNSHIP OF SNYDER	X			
TOWNSHIP OF TAYLOR	X			
TOWNSHIP OF TYRONE	X			X
TOWNSHIP OF WOODBURY	X		X	X

SOUTH - EASTERN MUNICIPAL REGION -ANNUAL MUNICIPAL OUTREACH WITH EMPHASIS ON HAZARD MITIGATION
March 13, 2024 at Huston Township Building

Attendees:
Melvin Edwards, Huston Township
Roy Rhodes, Huston Township
Sharon Brower, North Woodbury Township
Jeff Ketner
Rich Brantner, Martinsburg Borough
Tim Laird, Taylor Townshi8p
Mark Ayers, North Woodbury Township
MacKenzie Caron, Blair Planning Commission
David McFarland, Blair Planning Commission
Sherry Socie, Blair Planning Commission
Emily Evey, Blair Planning Commission
Rhonda Kelly, Blair Planning Commission

Capacity
- Need to perform a capacity study for a 20-year outlook that includes inter-municipal options
- Concern on the lack of future interest for personnel-staff and volunteers in terms of fire and police -- current group will begin to age out
- Voluminous training requirements exacerbate recruiting volunteers
- Regionalizing emergency services -fire, police

Other Hazards Discussed
- Fire Companies with aging tankers and turn-out gear that need replacement are not being funding
- Dry hydrants
- Chemical spills
- Subsidence
- Meth Labs
- Domestic violence
- Opioid
- Emergency Shelters

Stormwater and Flooding
- Flooding areas were identified

Technical Hazards
- Cyber attacks

MARCH 13, 2024 9:30 A.M.
Location: HOUSTON TOWNSHIP BLDG

SIGN-IN SHEET

	NAME	AREA REPRESENTING OR AREA OF RESIDENCE
1.	Melvin Jay Edwards (Huston)	
2.	Roy S. Rhodes (Huston)	
3.	Sharon Brower North Woodbury	
4.	Jeff Ketner " "	
5.	Rich Brantner M-burg	
6.	Tim Laird - Taylor twp	
7.	MACKENZIE CARON	Blair Planning
8.	Mark Ayers (NWT)	
9.	[illegible]	Blair Planning
10.	Sherry Socie	Blair Planning
11.	Emily Frey	Blair Planning
12.	Rhonda Kelly	Blair Planning
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EASTERN MUNICIPAL REGION -ANNUAL MUNICIPAL OUTREACH WITH EMPHASIS ON HAZARD MITIGATION
March 5, 2024 at Frankstown Township Building

Attendees:
Ted Hyle, Williamsburg Borough
Tray Bookhammer, Williamsburg Borough
Kelsie Bookhammer, Woodbury Township
Kenny Brenneman, Catharine Township
Chris Storm, Hollidaysburg Borough
Henry Fownes, Franktown Township
Dave McFarland, Blair Planning Commission
MacKenzie Caron, Blair Planning Commission
Sherry Socie, Blair Planning Commission
Rhond Kelly, Blair Planning Commission

Discussion Topics at this meeting:
- Sewers and PennVEST were discussed particularly in regard to Catharine Township and Williamsburg Borough.
- Concern that when the EMS mapping was joined with Centre County, they (Centre County) eliminated the maps that now presents a challenge for emergency responders to locate the emergency site. The eliminated mapping tool compromises the outcome of response time to life-threatening emergencies
- Designated emergency shelters, where they are and who has/needs generators and that funding may be available for areas without designated shelters
- Emergency Operation Centers; if the EOC is located in a municipal building it may be eligible for grant funds
- Dry hydrants: locations to install were identified last year; however it does not appear there are grant funds for this

Capacity
- Regionalizing fire and police departments
- Concerns were voiced regarding municipalities that are 12 miles away from any emergency services
- Not enough people to staff emergency service positions -- fire, police, ambulance and dispatchers
- Limited ambulance services.
- PA DCED provides grant funding to assist with regionalizing police departments. Mrs. Socie will research for more information
- Mr. McFarland stated that if it is determined to utilize regionalized services, a study would need to be performed to determine what/where the regions would be. Council of Government Services (COGS) can assist in determining solutions of this type.

Other Hazards Discussed

- Radon
- Strong Storms
- Solar Storms -possibly in the future decade bringing with them geo magnetics that could create mass power failures for weeks or months
- Lack of consistent broadband and internet service – "drop call" or "dead" zones that impact emergency services
- Wild fire issues
- Chemicals
- Blight
- Clandestine properties

Stormwater and Flooding

- Debris in streams and rivers can cause hazards, kayakers especially that can get hung up or flipped
- DEP requires permits to clear debris from waterways, including equipment for clearing; it was noted that DEP's Christopher Kemple encourages counties to list this type of hazard in their Hazard Mitigation Plan
- Frankstown Township's Mr. Fownes commented on establishing a Frankstown recreation tourism association. Mrs. Socie commented there are DNCR has grants to help with that
- Water Guages -particular concern in the areas of Reese and Geeseytown. Discussion ensued with regard to funding for install, monitoring, maintenance and also in establishing locations
- Home buyouts back into the Plan for Frankstown Township.

Bridges, Roadways, Trails:

- Landslides, sink holes, subsidence -various sink holes in the area - LTAP may be able to assist
- Railroad Crossing situation on SR22 near "Dream" restaurant -a "flagger" is used to facilitate rail car crossings and is dangerous due to low visibility of the "flagger" that is to stop traffic on a major roadway

MUNICIPAL OUTREACH - HAZARD MITIGATION
MARCH 5, 2024 9:30 P.M.
Location: Frankstown Township Municipal Building

(10)

SIGN-IN SHEET

	NAME	Municipality
1.	Ted Hyle	Williamsburg Boro
2.	Tray Bookhammer	Williamsburg Boro
3.	Kelsie Bookhammer	Woodbury Twp
4.	Kenny Brenneman	Catharine Twp
5.	Chris Storm	~~Hollidaysburg~~ Police Ch
6.	Henry Fowler	Frankstown Twp
7.	Dave McFarland	BPC
8.	MacKenzie Caron	BPC
9.	Sherry Socie	BPC
10.	Rhonda Kelly	BPC
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NORTHERN MUNICIPAL REGION -ANNUAL MUNICIPAL OUTREACH WITH EMPHASIS ON HAZARD MITIGATION
February 21, 2024 at Tyrone Borough Building

Attendees:
Doug Brown, Antis Township
Lori DelBiondo, Antis Township
Hope Ray, Bellwood Borough
Dave Snyder, Bellwood Borough
Jim Burket, Snyder Township
Kim Grekovich, Tyrone Borough
Dave McFarlnd, Blair Planning Commission
Sherry Socie, Blair Planning Commission
MacKenzie Caron, Blair Planning Commission
Rhonda Kelly, Blair Planning Commission

Discussion Topics at this meeting:
- FEMA funding for flood area buyouts and raising/elevating homes
- Truck traffic issues
- Railroad issues
- Public Health issues
- Capacity Project list for the Plan -municipalities should project 20 years out in terms of volunteer fire fighters and police -- as this group ages out, determine if there will be adequate coverage – some communities do not have a police force --- shared services
- Beaver Dam project complete – can be removed from the Action Plans
- Water Gauges –grant funding available
- Sink Holes – Subsidence
- Dry Hydrants
- Capacity in terms of police and fire departments. Attendees were asked if there is interest in a regional police force. Snyder Township is not interested. It was also noted there are just two ambulance services in the County.

Stormwater
- Act 167 grant was awarded to Blair County to produce a County Act 167 Stormwater Management Plan; the grant will fund the production of the plan that includes a model and model ordinances, of which the DEP will expect the municipalities to adopt. A Stormwater Mgt Plan can also provide other funding avenues.
- Bellwood Borough is looking for a solution to prevent stormwater getting into the sanitary sewer

Bridges, Roadways, Trails:
- Weight limit of Dogwood Bridge
- Municipal Bridge list -- usually updated in March by Wes Burket; municipalities should have their updated bridge list available for the Hazard Mitigation Meeting in May/June.

- Bellmeade Drive and Parkway have significant holes that drops six inches in the winter freeze/thaw
- A nature conservancy on top of one of the mountains/ridge may provide the possibility of trails
- Culverts – Sherry Socie stated funding is available for culvert work
- Snyder Township – some residents only have access to their homes via Plummer Hollow Bridge and Thomas Hollow, a road crossing over the railroad. Planning Director Mr. McFarland will direct the Transportation Coordinator Wes Burket to make inquiry with the MPO for possible alternative access in/out of Thomas Hollow / Plummer Hollow.

MUNICIPAL OUTREACH – HAZARD MITIGATION
FEBRUARY 21, 2024 1:30 P.M.
Location: Tyrone Borough Municipal Building

SIGN-IN SHEET

	NAME	Municipality
1.	Doug Brown	Antis Twp.
2.	Jori DelBondo	Antis Twp.
3.	Hope Kay	Bellwood Boro
4.	Kim Gutknecht	Tyrone Boro
5.	Sherry Socie	BPC
6.	MacKenzie Caron	BPC
7.	Dave McFarland	BPC
8.	Rhonda Kelly	BPC
9.	[illegible]	Snyder Twp
10.	Dave Snyder	Bellwood Boro
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CENTRAL MUNICIPAL REGION -ANNUAL MUNICIPAL OUTREACH
WITH EMPHASIS ON HAZARD MITIGATION
March 18, 2024 at Logan Township Building

Attendees:
Gary Garofoli, Tyrone Township
Eizu Fredrickson, Duncansville Township
Rodney Estep, Duncansville Borough
Bill Lloyd, Duncansville Fire Company
Silke Morrison, Allegheny Township
Cassandra Schmick, Logan Township
Adam Free, City of Altoona
Rob Crossman, City of Altoona
Mary Johnson, City of Altoona
Diana White, City of Altoona
Emily Evey, Blair Planning Commission
David McFarland, Blair Planning Commission
MacKenzie Caron, Blair Planning Commission
Sherry Socie, Blair Planning Commission
Rhonda Kelly, Blair Planning Commission

Capacity
- Staffing concerns for the fire and police departments. Regionalization was discussed as well as centralized equipment use.
- Ambulance services
- Volunteer incentives

Stormwater and Flooding
- Buyouts related flooding -explanation that municipality get the appraised value of the home and offers the homeowner the appraised value for a buyout. If transaction takes place, the municipality makes the purchase and maintains the property in perpetuity -never developed beyond perhaps vegetation/tree planting for less mowing/upkeep. The property is removed from the tax rolls
- ISO Flood Program changes

Technical Hazards
- Cyber security

Other Hazards Discussed

- Emergency Shelters
- Generators
- Blight
- Invasive Species
- Train derailments
- Ion batteries (electric vehicles) fire hazard
- High hazard dams
- Sink holes

MUNICIPAL OUTREACH – HAZARD MITIGATION
MARCH 18, 2024 1:30p.m.
Logan Township Municipal Bldg.

	Signature	Municipality	3/18/24
Gary Goodfellow		Tyrone Twp	
Eizu Fredrickson		Duncansville Twp	
Rodney Estep		Duncansville Boro	
Bill Lloyd		Duncansville Fire	
Silke Morrison		Allegheny Township	
Cassandra Schmick		Logan Twp	
Adam Frew		Altoona	
Rob Crossman		Altoona	
Mary Johnson		Altoona	
Diana White		Altoona	
Emily Evey		Blair Planning	
David McFarland		Blair Planning	
Mackenzie Caron		Blair Planning	
Sherry Sare		BCPC	
Rhonda Kelly		BCPC	

SOUTH - WESTERN MUNICIPAL REGION -ANNUAL MUNICIPAL OUTREACH WITH EMPHASIS ON HAZARD MITIGATION
April 2, 2024 at Greenfield Township Building

Attendees:
Joe Claar, Greenfield Township
David Rimbeck, Juniata Township
Kami Bilek, Blair Township
David McFarland, Blair Planning Commission
MacKenzie Caron, Blair Planning Commission
Rhonda Kelly, Blair Planning Commission
Sherry Socie, Blair Planning Commission
Emily Evey, Blair Planning Commission

Stormwater and Flooding
- Streams are clogged with debris –federal law limits ability to clear the streams to prevent flooding
- 75 percent of Greenfield Township is at or below the flood plain
- Juniata Township has flood issues caused by clogged pipes the PennDOT clears only every 3 years; a suggestion was made to contact the Silver Jackets group that may be able to assist
- Channeling water runoff from solar panels
- Blair Township flooding at 3rd Avenue and railroad culverts clog/jam creating flooding
- Water guages

Capacity
- Fire companies are being challenged to meet muster during the day due to work, whether employers allow them to leave or because of the number of miles they travel to work
- There are companies that have expressed interest to work with local emergency services to address some of the gaps
- Police Departments
- Ambulance service

Other Hazards Discussed
- Some areas have large machinery that may leak oil, gas, antifreeze etc
- Sinkholes and subsidence -Juniata pipe washouts
- Mass Evacuation needs in terms of independent living facilities and day care facilities—need to declare a plan
- Designated emergency shelters and generators

Technical Hazards
- Cyber vulnerability
- Water – Sewer vulnerability concerns

MUNICIPAL OUTREACH - HAZARD MITIGATION
APRIL 2, 2024 1:30 P.M.
Location: Greenfield Township Municipal Building, ~~100 Chief Logan Circle, Altoona~~ Ski Gap Road, Claysburg

SIGN-IN SHEET

	NAME	Municipality
1.	Joe Clear	Greenfield Twp
2.	David Rimbeck	Juniata twp
3.	Kami Bilek	Blair Twp
4.	David McFarland	Blair Planning
5.	Mackenzie Caron	Blair Planning
6.	Rhonda Kelly	BCPC
7.	Sherry Scuri	BCPC
8.	Emily Frey	BCPC
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MUNICIPAL OUTREACH – HAZARD
MARCH 13, 2024 9:30 A.M.
Location: HOUSTON TOWNSHIP BLDG

SIGN-IN SHEET

NAME	AREA REPRESENTING OR AREA OF RESIDENCE
1. Melvin Jay Edwards (Huston)	
2. Roy P. Rhodes (Huston)	
3. Sharon Brower North Woodbury	
4. Jeff Ketner " "	
5. Rich Brantner M-burg	
6. Tim Laird - Taylor twp	
7. MACKENZIE CARON	Blair Planning
8. MARK AYERS (NWT)	
9. [illegible]	Blair Planning
10. Sherry Sorie	Blair Planning
11. Emily Frey	Blair Planning
12. Rhonda Kelly	Blair Planning
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HAZARD MITIGATION PLANNING COMMITTEE
PERIODIC PLANNING & PERFORMANCE MEETING

FEBRUARY 22, 2022 9:00 A.M.
Logan Township Municipal Building
100 Chief Logan Circle, Altoona, PA 16602

MEETING MINUTES

ATTENDEES

Betty Robertson, Blair Twp
Lisa Dishong, Williamsburg Boro
Silke Morrison, Allegheny Twp
Sharon Brower, No Woodbury Twp
Tim Hileman, City of Altoona
Dave McFarland, Blair Planning
Dennis Igou, Roaring Spring Boro (Zoom)
Walt Piper, Taylor Twp, LEMC
Rich Brantner, Martinsburg Boro
Cris Fredrickson, Blair County EMA
Bryan Roush, No Woodbury Twp
Rob Crossman, City of Altoona
Mark Taylor, BC EMA (Zoom)
Gerald Harbison, Hollidaysburg Boro (Zoom)
James Long, Freedom Twp
Craig Hamilton, Woodbury Twp
Cassandra Schmick, Logan Twp
Mary Johnson, City of Altoona
Sherry Socie, Blair Planning

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On-going projects noted:

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In preparation for the June annual meeting:

- Review the hazard mitigation plan with focus on the hazard risks
- Capability Assessment grid (pages 144-145) and mitigation to consider additional resources to add, particularly in deficiently identified areas. Consideration of re-organizing/consolidating services to address the concern of having enough people to operate the emergency responder services.
- Consider current prioritized projects to re-rank; consider/add new projects; checkoff completed projects. Projects listed in the mitigation strategy may open funding from FEMA and PEMA.
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The Planning Director reminded everyone to send an email if something comes to mind and thanked everyone for coming out and again, apologized for the email invitation issue that will be fixed.

The meeting adjourned at 10:15 a.m.

DRAFT

2/22/202

Hazard Mitigation Meeting

Name	Municipality
Betty Robertson	Blair Twp
Walt Espin	TAYLOR TWP LEMC
James Long	Freedom TWP
Lisa Dishong	WILLIAMSBURG
Rich Brantner	Martinsburg
Craig Hamilton	Woodbury Twp
Silke Morrison	Allegheny Twp
Cris Fredricksan	Blair County EMA
Cassandra Schmick	Logan Township
Sharon Brower	NWT
Bryan Roush	NWT
Mary Johnson	City of Altoona
Tim Hileman	City of Altoona
Rob Crossman	City of Altoona
Sherry Jacie	BCP Staff

Via Zoom:
Mark Taylor - EMA
Gerald Harbison - Henry Boro
Dennis Igou - Roaring Spring Boro

v

HAZARD MITIGATION PLANNING COMMITTEE
PERIODIC PLANNING & PERFORMANCE MEETING

FEBRUARY 22, 2022 9:00 A.M.
Logan Township Municipal Building
100 Chief Logan Circle, Altoona, PA 16602

MEETING MINUTES

ATTENDEES

Betty Robertson, Blair Twp	Walt Piper, Taylor Twp, LEMC	James Long, Freedom Twp
Lisa Dishong, Williamsburg Boro	Rich Brantner, Martinsburg Boro	Craig Hamilton, Woodbury Twp
Silke Morrison, Allegheny Twp	Cris Fredrickson, Blair County EMA	Cassandra Schmick, Logan Twp
Sharon Brower, No Woodbury Twp	Bryan Roush, No Woodbury Twp	Mary Johnson, City of Altoona
Tim Hileman, City of Altoona	Rob Crossman, City of Altoona	Sherry Socie, Blair Planning
Dave McFarland, Blair Planning	Mark Taylor, BC EMA (Zoom)	
Dennis Igou, Roaring Spring Boro (Zoom)	Gerald Harbison, Hollidaysburg Boro (Zoom)	

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HAZARD MITIGATION PLANNING COMMITTEE
Hazard Mitigation Meeting
October 2, 2023 9:00 A.M.

Logan Township Municipal Complex
100 Chief Logan Circle, Altoona PA 16601

AGENDA

1. Call to Order
2. Approval of Meeting Minutes for February 21, 2023
3. Public Comment Period
4. Participation
5. Review Hazards
6. Committee Member Forum
7. Questions from the Media
8. Adjournment



Wednesday, September 20, 2023

MEETING NOTICE

Blair County Hazard Mitigation Committee

Monday, October 2, 2023 at 9:00 a.m. at Logan Township Municipal Bldg 100 Chief Logan Circle Altoona, PA. Contact: rkelly@blairplanning.org 814-693-2080 x0

September 20, 2023

CHECK OUT OUR HOT DEALS IN THE CLASSIFIEDS 814-946-7422

NOTICE

ALTOONA AREA SCHOOL DISTRICT ADVERTISEMENT FOR BIDS

Replacement/Upgrade of District Wide Time Clock System

The Altoona Area School District is seeking proposals for Time Clocks. Bids will be received in the Administrative Building, 1201 8th Avenue, Altoona, PA 16602 until 1:30 PM, October 11, 2023 and opened in the Business Office. Specifications may be secured at the same office 814-946-8207 or

mhelnsey@altoonasd.com

ALTOONA AREA SCHOOL DISTRICT
Sue Franks
Director of Business Operations

September 20, 27 and October 4, 2023

CLASSIFIEDS 814-946-7422

(3) golf irons daughter prefers new, never worn, 3H#32 $48 for all (814) 869-6272

(New) P235/75R15 Good Year Wrangler GSA mounted on Jeep wheel. $49 (814) 742-7255

15 VHS tapes & 13 DVDs $25 for all Vince wire $3 (814) 699-2967

10 quart Mirro Pressure canner $25 & quart Mirro Pressure canner $15 (814) 946-8839

17 Puzzles 300 to 750 Pieces each $25 (814) 574-5451

2 boxes full of arts & crafts including hand cart $40 for all (814) 684-8096 between 3pm-7pm

2010 Honda CRV rear bumper very good condition $40 814-695-5769

30- 40's red batwright egg timer $20 (814) 682-2033

4 Barbie dolls in case with clothes $30 for all. 2 new sinois 8/8 jackets $17 for both (814) 942-7949

4 V Tech cordless land line telephones, 4 colors. Paid $129, asking $40 firm (814) 502-9280

altoonamirror.com

ing from allergies & alternate doggy odor. At Tractor Supply®. (www.tractorsupply.com)

785 - Miscellaneous For Sale

Are you a pet owner? Do you want to get up to 100% back on Vet Bills? Physicians Mutual Insurance Company has pet coverage that can help! Call 1-888-616-1622 to get a free quote or visit insurancefreeze.com/pets

Become a Published Author We want to Read Your Book! Dorrance Publishing - Trusted by Authors Since 1920. Book manuscript submissions currently being reviewed. Comprehensive Services: Consultation, Production, Promotion and Distribution. Call for Your Free Author's Guide 1-877-670-0238 or visit dorrancepub.com/pam

Subscribe Today! (814) 946-7480

Too much to list! 2632 Canan Valley Rd. MAP IT!

Hollidaysburg Yard Sale 9/21- 9/22,9/23, 9a-4p Portable AC, 3 wheel handicapped scooter, 125 cc ATV, pellet rifles, tons of misc. 110 Bedford Street MAP IT!

Tyrone Yard Sale Sat., 9/23, 8am-4pm Furniture, Jewelry, Clothing, Housewares, & lots more! Beside the Park 122 Cherry Avenue MAP IT!

HAVING AN INDOOR GARAGE SALE? Place an ad to get the best results! 814-946-7422

Zach Johnson is the U.S. captain. Green, see Ryder, see Solheim, see Page 2C

HAZARD MITIGATION COMMITTEE
ANNUAL MEETING
MONDAY, October 2, 2023 9:00 A.M.
Location: 100 Chief Logan Circle, Altoona PA

SIGN-IN SHEET

	NAME	REPRESENTING	MEMBER	ALTERNATE	STAFF	GUEST
1.	Jim Hoffner	Logan				
2.	Ed Bender	Freedom Twp				
3.	James Lang	Freedom TWP				
4.	Silvia Morrison	Allegheny Twp				
5.	JIM FORESO	WILLIAMS				
6.	Rob Crossman	Altoona				
7.	JEFF FRIDAY	HOLLIDAYSBURG BOROUGH.				
8.	Tim Callahan	Frankstown Twp				
9.	William Lightner	Frankstown Twp				
10.	Hope Rail	Bellwood Boro				
11.	Joe Claar	Greenfield Twp				
12.	Cris Tredrickson	Blair County EMA				
13.	Mark Taylor	EMA				
14.	Mackenzie Caron	Blair Planning			—	
15.	David McFann	Blair Planning			—	
16.	Lou Lush	Blair Twp				
17.	Kami Belich	Blair Twp				
18.	Donna Fisher	Blair Co Cons Dist				
19.	Allen Lego	Tunnel Hill - Blair	—			
20.	Rhonda Kelly	BCPC			✓	
21.						
35.						
36.						
37.						
38.						

C:\Users\rkelly\Documents\HAZ MIT\2023\Sign-In sheet -Hazard Mitigation Feb 21, 2023.docx

HAZARD MITIGATION PLANNING COMMITTEE MINUTES – October 2, 2023 9:00 A.M.
PERIODIC PLANNING & PERFORMANCE MEETING
Logan Township Municipal Building, 100 Chief Logan Circle, Altoona, PA 16602

ATTENDEES
City of Altoona – Rob Crossman
Bellwood Boro – Hope Ray
Hollidaysburg Boro – Jeff Friday
Tunnelhill Boro – Allen Lego
Williamsburg Boro – Jim Forseo
Allegheny Twp – Silke Morrison
Blair Twp – Lou Lusk
Blair Twp – Kami Bilek
Frankstown Twp – Jim Callahan
Frankstown Twp – William Lightner
Freedom Twp – Ed Bender
Freedom Twp – James Lang
Greenfield Twp – Joe Claar
Blair County EMA – Cris Fredrickson
Blair County EMA – Mark Taylor
Blair County Conservation Dist – Donna Fisher
BCPC – David McFarland
BCPC – Sherry Socie
BCPC – MacKenzie Caron
BCPC – Rhonda Kelly

CALL TO ORDER
Planning Director David McFarland opened the meeting at 9:00 a.m.

APPROVAL OF MINUTES
A motion was made by Mark Taylor and seconded by Ed Bender to approve the Minutes of the February 21, 2024 meeting. The minutes for June 20, 2023 were not available and as such, were tabled to the next meeting.

PUBLIC COMMENT
No public comment.

PARTICIPATION
Mr. McFarland conveyed that Mr. Szabo (from PEMA) had shared that a several submitted plans did not get FEMA approval due to inadequate public participation. Mr. Szabo had provided him a suggestion to get input from FEMA on what our public participation portion of the HM Plan is upfront, prior to an official submission. It is somewhat an act of futility from both the standpoint of going back to the public, after a submitted plan is 98 percent complete and also to attempt to retrofit the public participation into a nearly completed plan.

Mr McFarland reviewed the following basic participation topics and general information:

- Media Announcement - A press release will go out in the next month or two. Reviewing the hazards today will give an idea of what hazards need focused on for the public's input.

- Direct Solicitation –will take place in form of :
  - *informal regional workshops* using worksheets to guide discussions on hazards and community issues
  - *annual municipal outreach meetings*, which have been quite valuable

- Project Website –
  - *a Hazard Mitigation page* will be added to the Planning Commission's website – correspondence to FEMA/PEMA will point out that additional outreach was needed to address the lack of internet access in some areas of Blair County

The review of the hazards listed in the State's Plan follows:

Coast Erosion – does not apply to Blair County. There are no coasts in Blair County.

Drought – this will be left in the plan, particularly for agriculture

Earthquake – this will probably need to be left in the Plan; in the 1800's the worst earthquake in Pennsylvania happened in the Cove

Extreme Temperatures – this will be left in the plan

Flood, Flash Flood, Ice Jam – this will be left in the plan, this is not just the streams, it includes flooding due to manmade issues such as sewer sewers, parking lots pave over former swamps, etc.

Hail Storms – this will be left in the plan but will be checking to see if can be combined into a strong storm category. These tend to be more regional than widespread and are not considered a high priority. It was noted that by leaving a category in the plan is for disaster planning. This will remain in the plan and will be ranked later.

Hurricanes – this will be left in the plan. For our area, these are more a Nor'easter. There was comment to combine Hurricanes and Hail Storms to be one category of Strong Storms, but this is not allowable. Mr. McFarland will reach out to ask if we can combine hail storm into a strong storm category.

Invasive Species – This will be left in the plan. This can be underbrush that makes it difficult to allow firemen access to the river; it can be spotted lantern flies and bed bugs. Agriculture can be hit hard with invasive species.

Landslides – This will be left in the plan but typically ranks low in the plan.

Lightning Strike – This will be left in the plan. Mr. McFarland will be checking on that combined category for strong storms to also have lightning strike added into that category

Pandemic and Infectious Disease – this will be left in the plan. The last plan focused on addiction, this time there is a lot more to be written about and addiction will be pulled out separately

Radon Exposure – this will be left in the plan and is one of top hazards. Blair County is one of the highest ranked counties for radon in the State. There may be a more localized assessment done for this.

Subsidence, Sinkhole – this will be left in the plan. Blair County does have limestone geology and our neighbor, Centre County has a high incidence of subsidence. Although this has always been in our HM plans, it ranks low

Tornado, Wind Storm – this will be left in the plan. This may be able to be combined into a strong storm category.

Wildfire – this will be left in the plan. These tend to be in the woods and fields. As it relates to cities and boroughs and a fire that gets out of control and goes down a block or two. In Blair County the concern is more with the urban interface, particularly where Frankstown Mountain and Stone Hedge are located.

Winter Storm – this will be left in the plan. These happen with less frequency than they used to, statistically with less than two plowable events in a year. Ice is part of this category and can happen without snow and may even be more damaging than snow. There was discussion whether to keep this as a separate category from the strong storm category and it was decided to continue to keep this a separate category at this time.

Building and Structure Collapse – this has never been considered as a separate category, it has only been considered as a result of another hazard such as strong winds, earthquakes, subsidence, etc. After brief discussion, it was decided to add this as a category in the Blair County HM plan. Maybe calling it structural failures rather than building collapse.

COMMITTEE MEMBER FORUM

Mr. McFarland stated that this group is shrinking and then reminded the Committee that FEMA expects participation from everyone. We will be going around to gain more support again. He noted that the meeting in August was delayed due to Jamie Klink leaving to take a position elsewhere and waiting for the State risk assessment categories. We will meet again on December 11; and unless someone is opposed, it will be scheduled for a Monday at 9:00 a.m.

Sherry Socie mentioned that FEMA and FCC is supposed to perform a nation-wide emergency alert test on October 4 at approximately 2:20 p.m. to T.V., radio and cell phones.

QUESTIONS FROM THE MEDIA

Mr. Kibler will talk with Mr. McFarland after the meeting.

ADJOURNMENT

The next Hazard Mitigation Committee meeting is scheduled for Tuesday, December 11, 2023 at 9:00 a.m. at the Logan Township Municipal Building, 100 Chief Logan Circle, Altoona, PA.

A motion to adjourn the meeting was made and carried at 10:30 a.m.

Minutes of the Hazard Mitigation Committee meeting of October 2, 2023

Approved on : January 08, 2024

HAZARD MITIGATION PLANNING COMMITTEE MEETING
January 8, 2024 9:00 A.M.
Logan Township Municipal Complex
100 Chief Logan Circle, Altoona PA 16601

AGENDA

1. Call to Order

2. Approval of Meeting Minutes for October 2, 2023

3. Public Comment Period

4. Outreach Plan

5. Mapping Workshop
   Flood Maps
   - -urban flood areas
   - -institutional living
   - -critical infrastructure/facilities

   Road Maps
   - -streets
   - -stream crossings
   - -railroad crossings
   - -hazardous transport
   - -bottlenecks

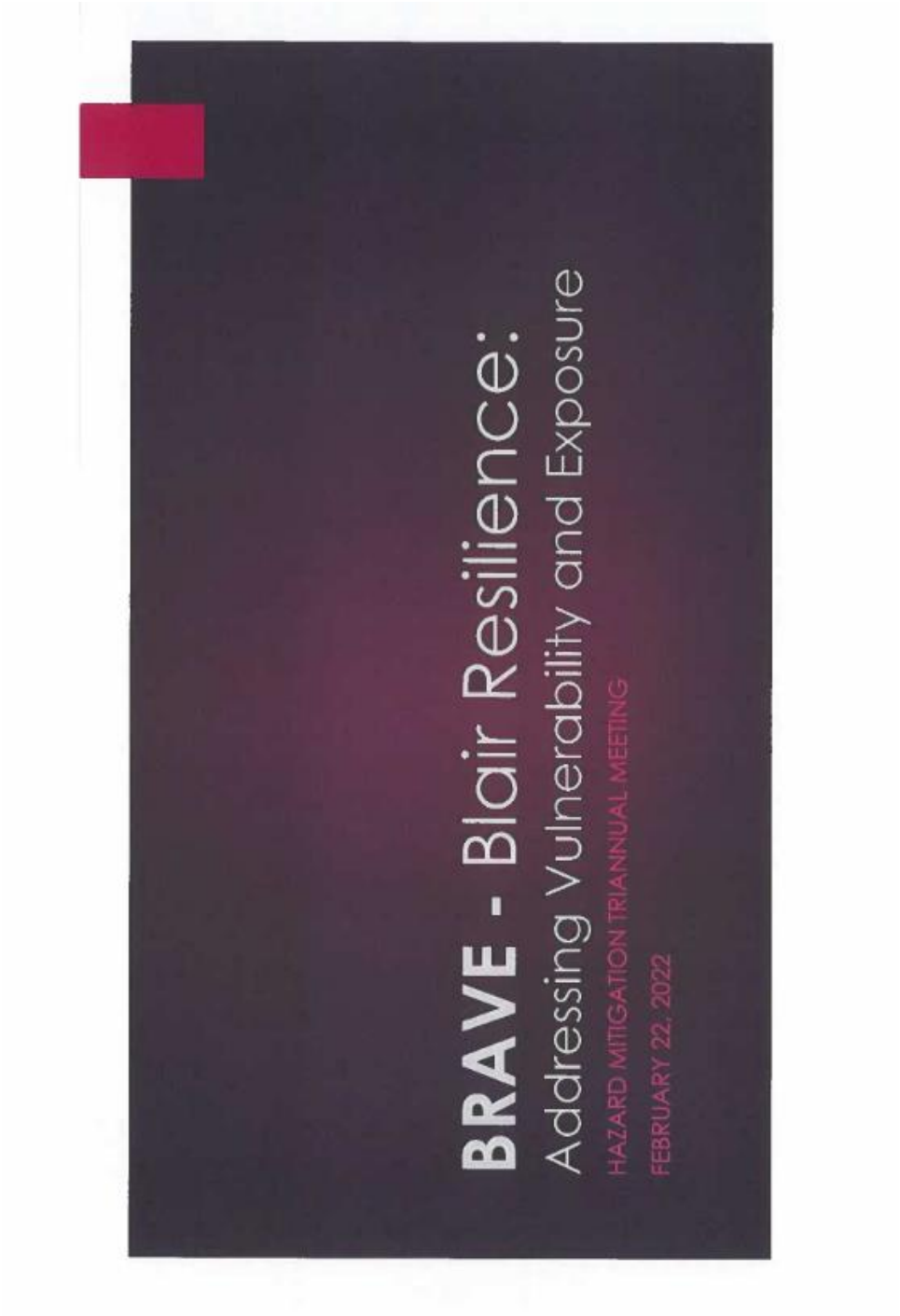
6. Committee Member Forum

7. Questions from the Media

8. Adjournment


Page B10 ■ Al
LOCAI
2023
Furniture
Young American
FURNITURE
The State's Largest
FLEXSTEE
Notaries
Page B2 ■ Altoona Mi
Monday, December 11, 202
May 28th, 2024
June 25th, 2024
July 23rd, 2024
August 27th, 2024
September 24th, 2024
October 22nd, 2024
November 26th, 2024
December 17th, 2024
December 11, 2023
MEETING NOTICE
POSTPONEMENT
Blair County Hazard Mitigation Committee
The meeting scheduled for Monday, December 11 has been postponed and is rescheduled for Monday, January 8, 2024 at 9:00 a.m. at Logan Township Municipal Bldg, 100 Chief Logan Circle, Altoona, PA. Contact: rkelly@blairplanning.org 814-693-2080 x0
December 11, 2023
330 - Lost
White zippered wallet with a rainbow on the reverse side. Between Tyrone & Lilly. (814) 886-4564
340 - Giveaways
3 Kittens: 1 black & gray striped, 1 white, 1 Calico, litter trained. (757) 525-6690. East Freedom

POWERPOINT


BRAVE - Blair Resilience:
Addressing Vulnerability and Exposure
HAZARD MITIGATION TRIANNUAL MEETING
FEBRUARY 22, 2022


Refresher on Plan Contents
Introduction
Community Profile
Planning Process
Risk Assessment
Capability Assessment
Mitigation Strategy
Plan Maintenance
Adoption
Appendices


Risk Assessment 2020 - 2025
Drought
Earthquake
Fire Hazard
Floods / Ice Jams
Hazardous Materials
Invasive Species
Pandemic / Addiction
Radon
Strong Storms
Subsidence / Landslide
Terrorism
Utility Interruption
Winter Storms

Capability Assessment 2020 - 2025
Comprehensive Plans
Capital Improvement Plans
Development Ordinances
Environmental Ordinances
Professional Services
Emergency Services
Social Support Networks
Health Care Network
Political Leadership
Local Investment (Public)
Local Investment (Private)
Municipal Authorities
Municipal Coordination
Outside Support
Plan & Ordinance Integration

Mitigation Strategy 2020 - 2025

- Goals
  - Public Education and Awareness of Existing and Potential Hazards
  - Prevent Injury and Property Damage from Existing and Potential Hazards
  - Reduce the Risk of Flood Damage Throughout the County
  - Enhance Emergency Services Throughout the County
  - Protect Existing Natural Areas that Contribute to Hazard Mitigation
  - Countywide Focus
  - Regional / Municipal Focus

Mitigation Action Plan 2020 - 2025

- Countywide Actions Since Adoption
  - Regional Broadband Task Force
  - First Responder / EOC Training
  - Continuity of Operations Planning
  - Smart 911
  - Public Hazard Awareness Materials Section in Each Public Library
  - Countywide Flood Administrator
  - High Hazard Dam Planning
  - NFIP Participation
  - Radon Awareness and Testing Program

Mitigation Action Plan 2020 - 2025

- Local Actions Since Adoption
  - Address Community Bisection along the Bald Eagle Railroad line
  - Address Digital Communications Deficiencies
  - Increase Storage Capacity in Lakemont Pond
  - Stream Stabilization Projects (multiple)
  - Commercial Vehicle Management Plan in Tunnelhill
  - Short Mountain Accident Rate
  - Storm Water Management on PA 866 in Williamsburg and Woodbury
  - Freight Traffic Safety Project on PA 764
  - Roaring Spring Retaining Wall
  - Beaver Dam Flooding in Bald Eagle

Ongoing Implementation 2020 - 2025

- Triannual Meetings (February, June, October)
  - What we have done / are doing
  - What needs to be done next
  - Background preparation for the next update
- Annual Meeting (usually February, plan for June this year)
  - Review Capacity Analysis
  - Review hazards included in the Risk Assessment
  - Review Action Plan

Ongoing Implementation 2020 - 2025

- Hazard Mitigation Committee
  - Hone municipal participation
  - Expand community representation
  - Formalize structure and membership
- Plan Update Expectations
  - Begin Late 2023: Adopt by February 2025
  - All municipalities must have a project identified in the new Action Plan
  - All hazards must be analyzed on a sub-county level in the new Risk Assessment
  - Must show consideration of climate change throughout the plan

For the June Meeting

- Review the Hazard Mitigation Plan, www.blairplanning.org/hazardmitigation
  - Evaluate and understand risk from hazards facing the community
- Identify Hazards Facing the Community
  - Is the list still accurate (re-ranking or add new hazards)
- Review the Mitigation Strategy
  - Do the priorities still hold true
  - Are there new projects to be added
- Review the Capability Assessment
  - Are there additional resources available to address risk or implement the plan
  - Are the changes in capability (including decrease) in the community

Additional Items

- General Discussion
- Consider new participants from other community sectors
- Blair Planning:
  - Dave McFarland: dmcfarland@blairplanning.org
  - Jamie Klink: jklink@blairplanning.org
  - Sherry Socie: ssocie@blairplanning.org
- Blair Emergency Management Agency:
  - Mark Taylor: mtaylor@blairco.org
  - Cris Frederickson: cfrederickson@blairco.org



NFIP WORKSHEET

City of Altoona

COMMUNITY WORKSHEET

FLOODPLAIN IDENTIFICATION AND MAPPING

1. Who is your FPA or floodplain manager? Please provide office/agency name, position title, and contact information.	Rob Crossman City of Altoona Engineering Department Supervisor 814-949-2483 rcrossman@altoonapa.gov
2. Where do you keep your FIRM and FIS report?	Hard copies in file cabinet & Electronically on server
3. Has your community adopted the most recent FIRM? When was the adoption? Where is that information stored? Has your community updated the floodplain ordinance language to include the current FIRM and FIS?	Yes, 2012, Hard copies in file cabinet & electronically on server Yes
4. Does your municipality support requests for map updates?	Yes, tracked by the floodplain administrator (Engineering Dept Supervisor)
5. Is there a specific agency/department responsible for compiling these updates and tracking LOMCs?	City Engineering Department
6. Do you collect updated technical or scientific data and modeling? How do you share this with FEMA?	We collect LOMA's as applicable & do limited modeling typically only if associated with a public works study or project.
7. Does your municipality provide assistance with local floodplain determinations? If yes, specify how.	Yes, through the floodplain administrator's use of MAP Service Center, FIRMs, Flood studies National Flood Hazard Layer & In-House MIS.
8. Do the people/agencies responsible for using these tools in your community have the access they need? Which tools does your community rely on?	Yes, see above

Floodplain management requires that you understand the mapping and data side when working with the public. If you were unsure or answered no to any of these questions, how would you put a plan together to address them? Are there other partners/resources needed to be successful in that action?

City of Altoona

COMMUNITY WORKSHEET

FLOODPLAIN MANAGEMENT

1. Does your municipality issue permits for all proposed development in the SFHA? What office/ position is responsible?	Yes, City Engineering Department Engineering Department Supervisor/ Floodplain Administrator
2. Does your municipality require BFE data for subdivision proposals and other development proposals larger than 50 lots or 5 acres? If so, what department or office is responsible?	Yes, City Engineering Department
3. How does your community identify substantially improved structures? When do they intervene?	Through building permit process Floodplain administrator checks this always. Compares against appraisal.
4. Does your community have a coordinated process to determine substantial damage and to permit repair and improvement? Does the municipality conduct substantial damage assessments in the SFHA? Does your community have a plan for who will conduct substantial damage assessments and a procedure for assessment?	We do not have a written plan but this would be checked against the building value in the permitting process. We do not have a major river running through the city and SD claims are very rare.
5. Does your municipality require Elevation Certificates for new or substantially improved structures? If yes, how is it documented and which office/agency/department is responsible?	Yes, EC's are required for new & SI structures in the 100 year Floodplain. This is required by the Floodplain administrator in the Engineering Dept. & stored electronically & hard copy.
6. How does the municipality enforce the floodplain ordinance sections? How does the municipality address SI/SD violations?	The city enforces the Floodplain ordinance through the building permit process. SI/SD is considered w/FP permit.
7. Has your municipality had a Community Assistance Visit? If so, were any corrective actions required?	Yes - Community in good standing.
8. Does your municipality have or is considering higher ordinance standards than the NFIP? Please describe the higher standards and where they are documented.	The City has adopted the standards of the NFIP through Floodplain ordinance but also receives CRS credit for higher standards through the building code & staffing & CFM and Also manufactured homes Parks in FP.
9. Are any local officials/departments in your community interested in a training? What topics relate most to your community?	Yes, the Engineering Department Supervisor attends floodplain management training often.

Floodplain management has many parts. If you were unsure or answered no to any of these questions, how would you put a plan together to address them? Are there other partners/resources needed to be successful in that action?

City of Altoona

COMMUNITY WORKSHEET

FLOOD INSURANCE

1. How does the municipality educate community members about the availability and value of flood insurance?	Primarily through the website & the floodplain administrator.
2. Does the municipality inform community property owners about changes to the FIRM that would impact their insurance rates?	Yes
3. How does the municipality provide general assistance to community members regarding insurance issues?	Yes
4. Does the municipality keep track of the number of residential and non-residential structures in the SFHA? How many structures are in the SFHA in your community?	Yes 591
5. Does the municipality have any levees or levee systems in its jurisdiction?	No
6. Is the levee or levee system certified and accredited?	N/A
7. Is the levee or levee system a Provisionally Accredited Levee (PAL)?	N/A
8. Is the levee or levee system part of the USACE Rehabilitation and Inspection Program?	N/A
9. Does your community have any Major Dams or High Hazard Dams, and if so, have you applied for FEMA's High Hazard Potential Dam grant?	None in the community but several upstream managed by Altoona Water Authority

Flood risk communication to the public is vital for a community to be truly resilient. Understanding what, where, and how a disaster may affect your residents is the key. If you were unsure or answered no to any of these questions, how would you put a plan together to address them? Are there other partners/resources needed to be successful in that action?

NEXT STEPS

- What are your short- and long-term action items?
- If you need help identifying trainings or other resources, consider contacting your State Hazard Mitigation Officer or State NFIP Coordinator.

Updated March 2021

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Borough of Williamsburg

NFIP Check In Work Sheet

FEMA requires us to have updated information and check in our compliance with the National Flood Insurance Program. Attached below is the worksheet.

Attached in the email you receive is the original source document of "FEMA Checking National Flood Insurance Program" for more details.

At the bottom I have attached the list of floodplain coordinators. Please verify or correct the information we have.

- ☑ The information is correct
- ☐ The information is NOT correct. Write in below new information.

SD - Substantial Damage
SI - Substantial Improvement

After a flood, do you conduct **Substantial Damage determinations**? (Yes/No)

If yes, **who performs** the determination (municipal staff, county, third party)?

What do you use for **pre-damage market value**? (assessment/appraisal/other)

What do you use for **repair cost estimates**? (contractor estimates, SDE, cost guide)

Do you have a **written SD/SI procedure** or checklist? (Yes/No)

What are your top obstacles? (staffing, training, valuation method, enforcement, political pushback)

NFIP Check In Work Sheet

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- ☑ The information is correct
- ☐ The information is NOT correct. Write in below new information.

_____

_____

SD - Substantial Damage
SI - Substantial Improvement

After a flood, do you conduct **Substantial Damage determinations**? (Yes No)

If yes, **who performs** the determination (municipal staff, county, third party)?

What do you use for **pre-damage market value**? (assessment/appraisal/other)

What do you use for **repair cost estimates**? (contractor estimates, SDE, cost guide)

Do you have a **written SD/SI procedure** or checklist? (Yes No)

What are your top obstacles? (staffing, training, valuation method, enforcement, political pushback)



NFIP Check In Work Sheet

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At the bottom I have attached the list of floodplain coordinators. Please verify or correct the information we have.

- [X] The information is correct
- [ ] The information is NOT correct. Write in below new information.

_____

_____

SD - Substantial Damage
SI - Substantial Improvement

After a flood, do you conduct **Substantial Damage determinations**? (Yes/No)
NO
If yes, **who performs** the determination (municipal staff, county, third party)?

What do you use for **pre-damage market value**? (assessment/appraisal/other)
assessment
What do you use for **repair cost estimates**? (contractor estimates, SDE, cost guide)

Do you have a **written SD/SI procedure** or checklist? (Yes/No)
NO
What are your top obstacles? (staffing, training, valuation method, enforcement, political pushback) Staffing, training, and funding



COMMUNITY WORKSHEET

FLOODPLAIN IDENTIFICATION AND MAPPING

1. Who is your FPA or floodplain manager? Please provide office/agency name, position title, and contact information.	Dawn Brawley, Secretary/Treasurer 814-693-0620 juniatatwpblairctysecretary@outlook.com
2. Where do you keep your FIRM and FIS report?	In the municipal building where we hold our public meetings
3. Has your community adopted the most recent FIRM? When was the adoption? Where is that information stored? Has your community updated the floodplain ordinance language to include the current FIRM and FIS?	Yes, January 3, 2011, File Cabinet in our municipal building No
4. Does your municipality support requests for map updates?	Yes
5. Is there a specific agency/department responsible for compiling these updates and tracking LOMCs?	No, The Floodplain Manager would track on excel sheet & map. For my township there has been no changes
6. Do you collect updated technical or scientific data and modeling? How do you share this with FEMA?	No
7. Does your municipality provide assistance with local floodplain determinations? If yes, specify how.	No
8. Do the people/agencies responsible for using these tools in your community have the access they need? Which tools does your community rely on?	We rely on the county Hazard Mitigation Planning Committee

Floodplain management requires that you understand the mapping and data side when working with the public. If you were unsure or answered no to any of these questions, how would you put a plan together to address them? Are there other partners/resources needed to be successful in that action?

COMMUNITY WORKSHEET

FLOODPLAIN MANAGEMENT

1. Does your municipality issue permits for all proposed development in the SFHA? What office/ position is responsible?	No, we have no development in the SFHA it is a field.
2. Does your municipality require BFE data for subdivision proposals and other development proposals larger than 50 lots or 5 acres? If so, what department or office is responsible?	Engineers of the subdivision would provide the data to the township
3. How does your community identify substantially improved structures? When do they intervene?	Track through permits
4. Does your community have a coordinated process to determine substantial damage and to permit repair and improvement? Does the municipality conduct substantial damage assessments in the SFHA? Does your community have a plan for who will conduct substantial damage assessments and a procedure for assessment?	No we do not have any of these
5. Does your municipality require Elevation Certificates for new or substantially improved structures? If yes, how is it documented and which office/agency/department is responsible?	No we do not require Elevation Certificates we do not have much development or improvements
6. How does the municipality enforce the floodplain ordinance sections? How does the municipality address SI/SD violations?	we have a small floodplain area and it is a field with no structures -no violations
7. Has your municipality had a Community Assistance Visit? If so, were any corrective actions required?	Not that I am aware
8. Does your municipality have or is considering higher ordinance standards than the NFIP? Please describe the higher standards and where they are documented.	No
9. Are any local officials/departments in your community interested in a training? What topics relate most to your community?	Flooding would relate the most

Floodplain management has many parts. If you were unsure or answered no to any of these questions, how would you put a plan together to address them? Are there other partners/resources needed to be successful in that action?

Updated March 2021 Checking In On The NFIP | 9

COMMUNITY WORKSHEET

FLOOD INSURANCE

1. How does the municipality educate community members about the availability and value of flood insurance?	we have no houses in a floodplain
2. Does the municipality inform community property owners about changes to the FIRM that would impact their insurance rates?	we have not had any changes
3. How does the municipality provide general assistance to community members regarding insurance issues?	We do not have any insurance issues
4. Does the municipality keep track of the number of residential and non-residential structures in the SFHA? How many structures are in the SFHA in your community?	we have no structures in the SFHA
5. Does the municipality have any levees or levee systems in its jurisdiction?	No
6. Is the levee or levee system certified and accredited?	No Levee system in the twp
7. Is the levee or levee system a Provisionally Accredited Levee (PAL)?	No levee in the twp
8. Is the levee or levee system part of the USACE Rehabilitation and Inspection Program?	No levee system in the twp
9. Does your community have any Major Dams or High Hazard Dams, and if so, have you applied for FEMA's High Hazard Potential Dam grant?	We have several High Hazard Dams around our area. No grants have been applied for.

Flood risk communication to the public is vital for a community to be truly resilient. Understanding what, where, and how a disaster may affect your residents is the key. If you were unsure or answered no to any of these questions, how would you put a plan together to address them? Are there other partners/resources needed to be successful in that action?

NEXT STEPS

- What are your short- and long-term action items?
- If you need help identifying trainings or other resources, consider contacting your State Hazard Mitigation Officer or State NFIP Coordinator.

Updated March 2021 Checking In On The NFIP | 15

NFIP Check In Work Sheet

FEMA requires us to have updated information and check in our compliance with the National Flood Insurance Program. Attached below is the worksheet.

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At the bottom I have attached the list of floodplain coordinators. Please verify or correct the information we have.

- ☑ The information is correct
- ☐ The information is NOT correct. Write in below new information.

_____

_____

SD - Substantial Damage
SI - Substantial Improvement

After a flood, do you conduct **Substantial Damage determinations**? (Yes/No)

If yes, **who performs** the determination (municipal staff, county, third party)?

What do you use for **pre-damage market value**? (assessment/appraisal/other)

What do you use for **repair cost estimates**? (contractor estimates, SDE, cost guide)

Do you have a **written SD/SI procedure** or checklist? (Yes/No)

What are your top obstacles? (staffing, training, valuation method, enforcement, political pushback)

FLOODPLAIN IDENTIFICATION AND MAPPING

1. Who is your FPA or floodplain manager? Please provide office/agency name, position title, and contact information.	Hope A Ray Bellwood Borough Manager hray@bellwoodborough.com
2. Where do you keep your FIRM and FIS report?	Bellwood maintains their documents in the Bellwood Municipal Building
3. Has your community adopted the most recent FIRM? When was the adoption? Where is that information stored? Has your community updated the floodplain ordinance language to include the current FIRM and FIS?	Bellwood adoped the FIRM's on June 4, 2012
4. Does your municipality support requests for map updates?	Yes, they are tracked by the Borough Manager.
5. Is there a specific agency/department responsible for compiling these updates and tracking LOMCs?	No
6. Do you collect updated technical or scientific data and modeling? How do you share this with FEMA?	No
7. Does your municipality provide assistance with local floodplain determinations? If yes, specify how.	Yes, permits are reviewed by floodplain manager.
8. Do the people/agencies responsible for using these tools in your community have the access they need? Which tools does your community rely on?	Yes

Floodplain management requires that you understand the mapping and data side when working with the public. If you were unsure or answered no to any of these questions, how would you put a plan together to address them? Are there other partners/resources needed to be successful in that action?

COMMUNITY WORKSHEET

FLOODPLAIN MANAGEMENT

1. Does your municipality issue permits for all proposed development in the SFHA? What office/ position is responsible?	Yes, Borough Manager
2. Does your municipality require BFE data for subdivision proposals and other development proposals larger than 50 lots or 5 acres? If so, what department or office is responsible?	There are not any lots over 5 acres.
3. How does your community identify substantially improved structures? When do they intervene?	Review of prior issued permits.
4. Does your community have a coordinated process to determine substantial damage and to permit repair and improvement? Does the municipality conduct substantial damage assessments in the SFHA? Does your community have a plan for who will conduct substantial damage assessments and a procedure for assessment?	Property is inspected by a Code Enforcement Officer from PA Municipal Code Alliance.
5. Does your municipality require Elevation Certificates for new or substantially improved structures? If yes, how is it documented and which office/agency/department is responsible?	Yes, if a permit is issued for any property in the floodplain.
6. How does the municipality enforce the floodplain ordinance sections? How does the municipality address SI/SD violations?	Yes, but no violations have happened.
7. Has your municipality had a Community Assistance Visit? If so, were any corrective actions required?	No
8. Does your municipality have or is considering higher ordinance standards than the NFIP? Please describe the higher standards and where they are documented.	No
9. Are any local officials/departments in your community interested in a training? What topics relate most to your community?	Maybe

Floodplain management has many parts. If you were unsure or answered no to any of these

COMMUNITY WORKSHEET

FLOOD INSURANCE

1. How does the municipality educate community members about the availability and value of flood insurance?	Nothing at this time
2. Does the municipality inform community property owners about changes to the FIRM that would impact their insurance rates?	No
3. How does the municipality provide general assistance to community members regarding insurance issues?	Nothing at this time
4. Does the municipality keep track of the number of residential and non-residential structures in the SFHA? How many structures are in the SFHA in your community?	Yes
5. Does the municipality have any levees or levee systems in its jurisdiction?	No
6. Is the levee or levee system certified and accredited?	Not applicable
7. Is the levee or levee system a Provisionally Accredited Levee (PAL)?	Not applicable
8. Is the levee or levee system part of the USACE Rehabilitation and Inspection Program?	Not applicable
9. Does your community have any Major Dams or High Hazard Dams, and if so, have you applied for FEMA's High Hazard Potential Dam grant?	No

Flood risk communication to the public is vital for a community to be truly resilient. Understanding what, where, and how a disaster may affect your residents is the key. If you were unsure or answered no to any of these questions, how would you put a plan together to address them? Are there other partners/resources needed to be successful in that action?

NEXT STEPS

- What are your short- and long-term action items?
- If you need help identifying trainings or other resources, consider contacting your State Hazard Mitigation Officer or State NFIP Coordinator.

CAPABILITY ASSESSMENT FORMS

ordinances.

Administrative and Technical Capability: Availability of staff, expertise, and technical resources to manage projects and activities.

Fiscal Capability: Ability to fund and financially support projects, activities, and personnel.

Community Political Capability: Level of leadership support and public willingness to influence projects and politics.

Figure 5.2.5-1 2025 Capability Self-Assessment Matrix

Blair County Municipalities Capability Self-Assessment				
Municipality Name	**Capability Category**			
	Planning and Regulatory Capability	**Administrative and Technical Capability**	**Fiscal Capability**	**Community Political Capability**
Allegheny Township				
Altoona Home Rule				
Antis Township	3	3	3	3
Bellwood Borough				

Community Political Capability: Level of leadership support and public willingness to influence projects and politics.

Figure 5.2.5-1 2025 Capability Self-Assessment Matrix

Blair County Municipalities Capability Self-Assessment				
Municipality Name	**Capability Category**			
	Planning and Regulatory Capability	**Administrative and Technical Capability**	**Fiscal Capability**	**Community Political Capability**
Allegheny Township				
Altoona Home Rule				
Antis Township				
Bellwood Borough	2	3	2	2

Blair Township				
Catharine Township				
Duncansville Borough				
Frankstown Township				
Freedom Township				
Greenfield Township	2	2	2	2
Hollidaysburg Borough				
Huston Township				
Juniata Township				
Logan Township				
Martinsburg Borough				

Freedom Township				
Greenfield Township				
Hollidaysburg Borough				
Huston Township				
Juniata Township	2	2	1	2
Logan Township				
Martinsburg Borough				
Newry Borough				
North Woodbury Township				
Roaring Spring Borough				
Snyder Township				
Taylor Township				
Tunnelhill Borough				
Tyrone Home Rule				

Greenfield Township				
Hollidaysburg Borough				
Huston Township				
Juniata Township				
Logan Township				
Martinsburg Borough	3	2	2	3
Newry Borough				
North Woodbury Township				
Roaring Spring Borough				
Snyder Township				
Taylor Township				
Tunnelhill Borough				

Hollidaysburg Borough				
Huston Township				
Juniata Township				
Logan Township				
Martinsburg Borough				
Newry Borough				
North Woodbury Township	3	2	3	1
Roaring Spring Borough				
Snyder Township				
Taylor Township				
Tunnelhill Borough				
Tyrone Home Rule				
Tyrone Township				
Williamsburg Borough				
Woodbury Township				

Hollidaysburg Borough				
Huston Township				
Juniata Township				
Logan Township				
Martinsburg Borough				
Newry Borough				
North Woodbury Township				
Roaring Spring Borough				
Snyder Township				
Taylor Township				
Tunnelhill Borough				
Tyrone Home Borough Rule	3	4	2	4
Tyrone Township				

Antis Township				
Bellwood Borough				

Name Date modified

Williamsburg Borough	2	1	1	2
Woodbury Township	2	1	1	2

- APPENDIX D -LOCAL MUNICIPALITY FLOOD MAPS

Figure 31: Allegheny Township

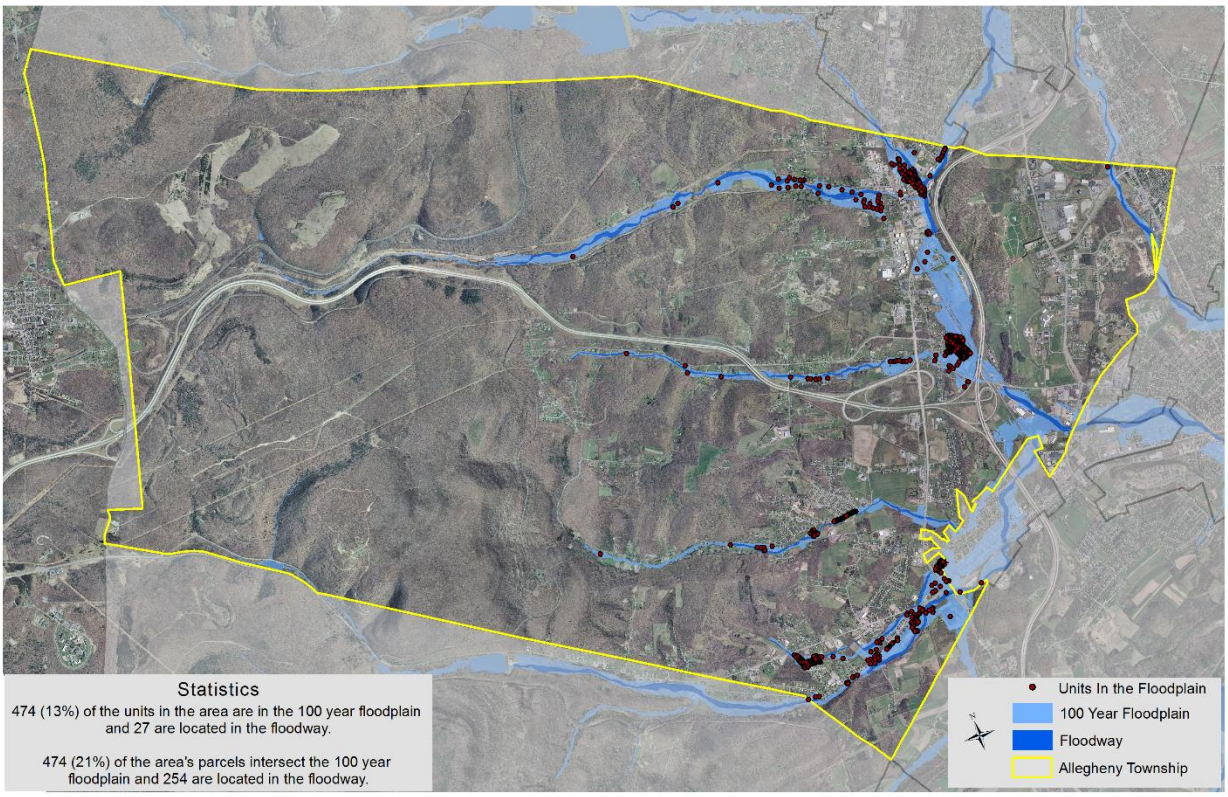


Figure 32: Altoona (Home Rule Municipality)

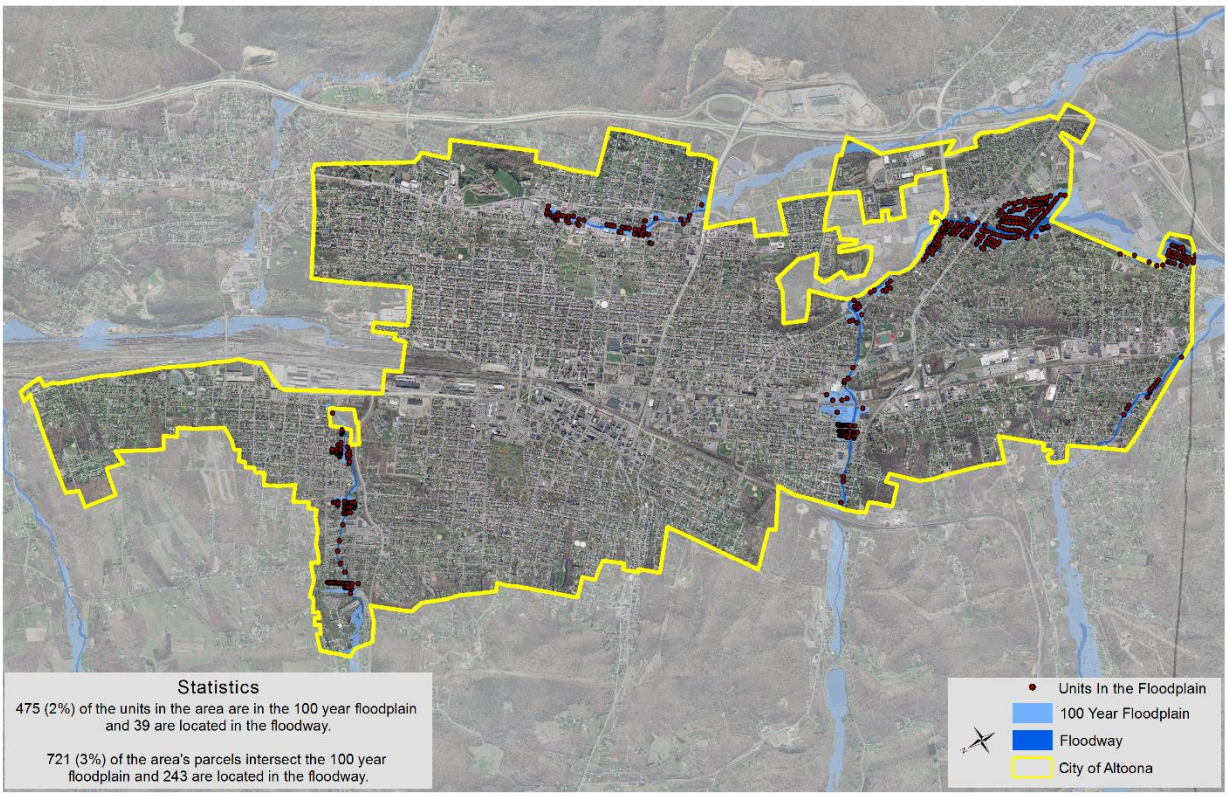


Figure 33: Antis Township

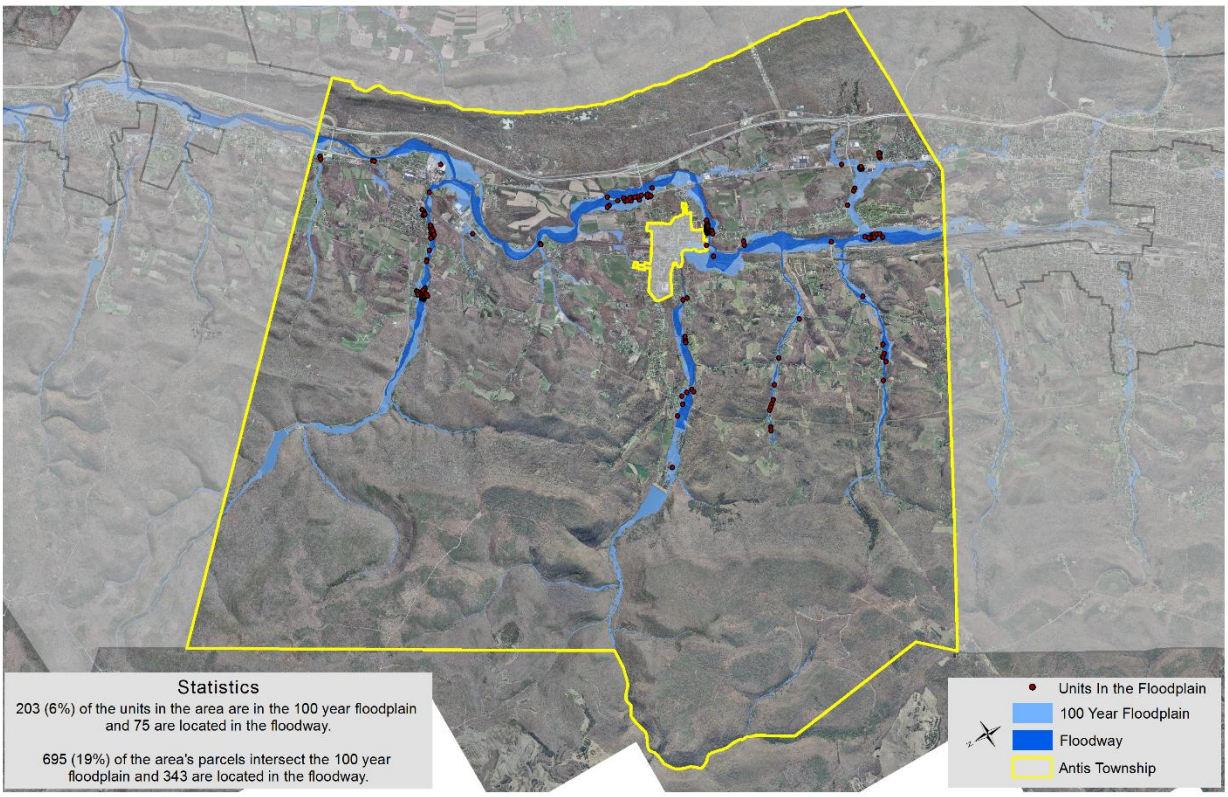


Figure 34: Bellwood Borough



Figure 35: Blair Township

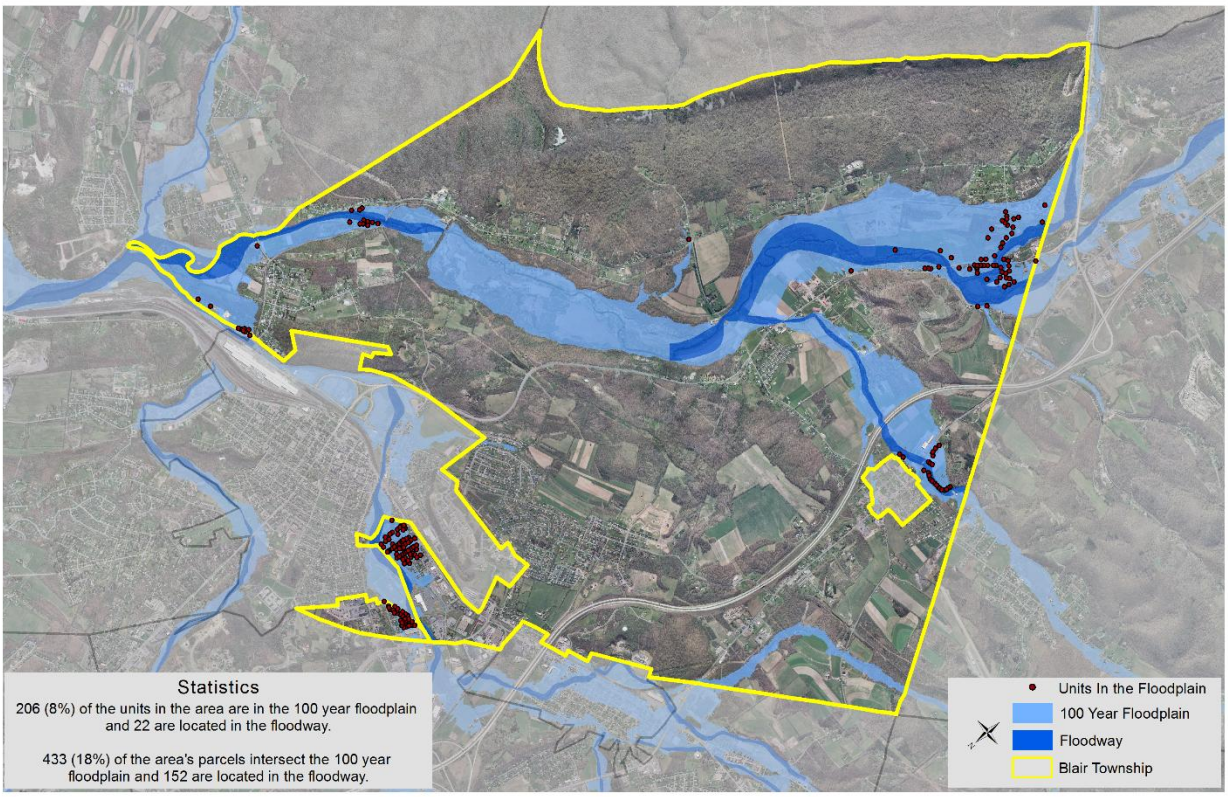


Figure 36: Catharine Township

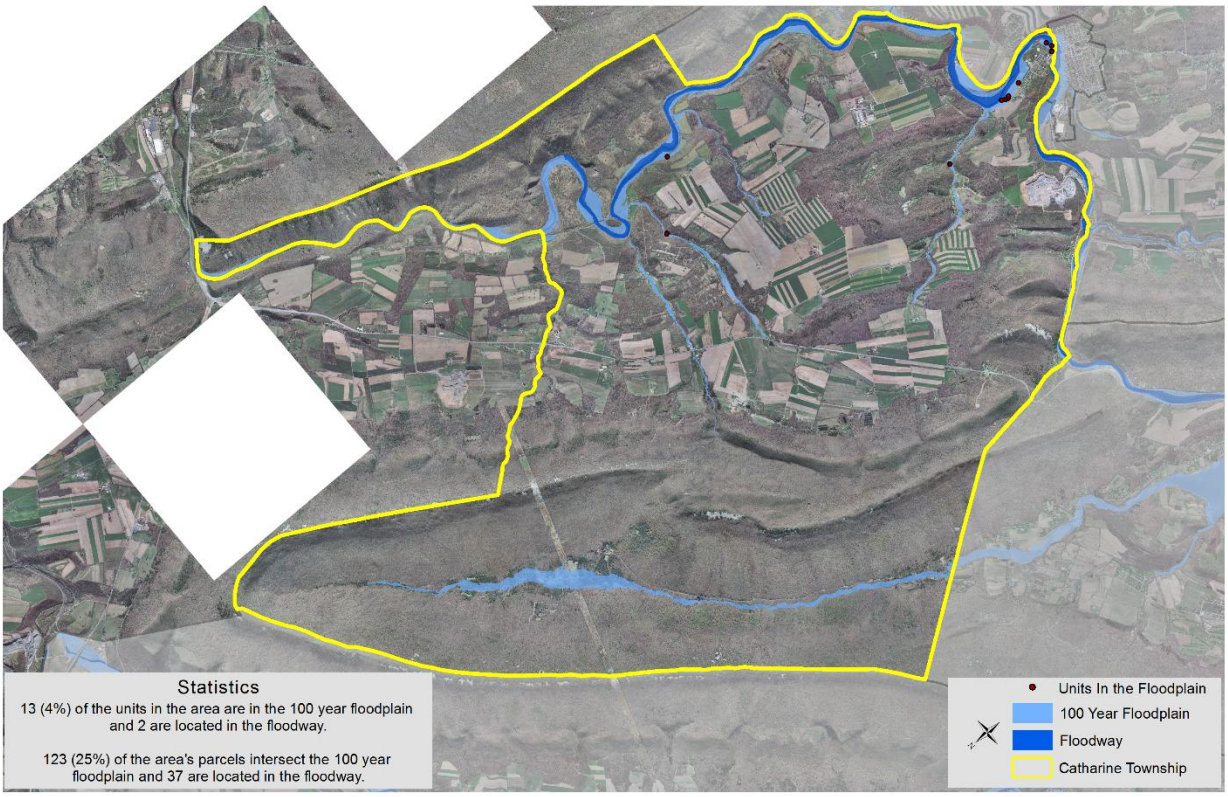


Figure 37: Duncansville Borough

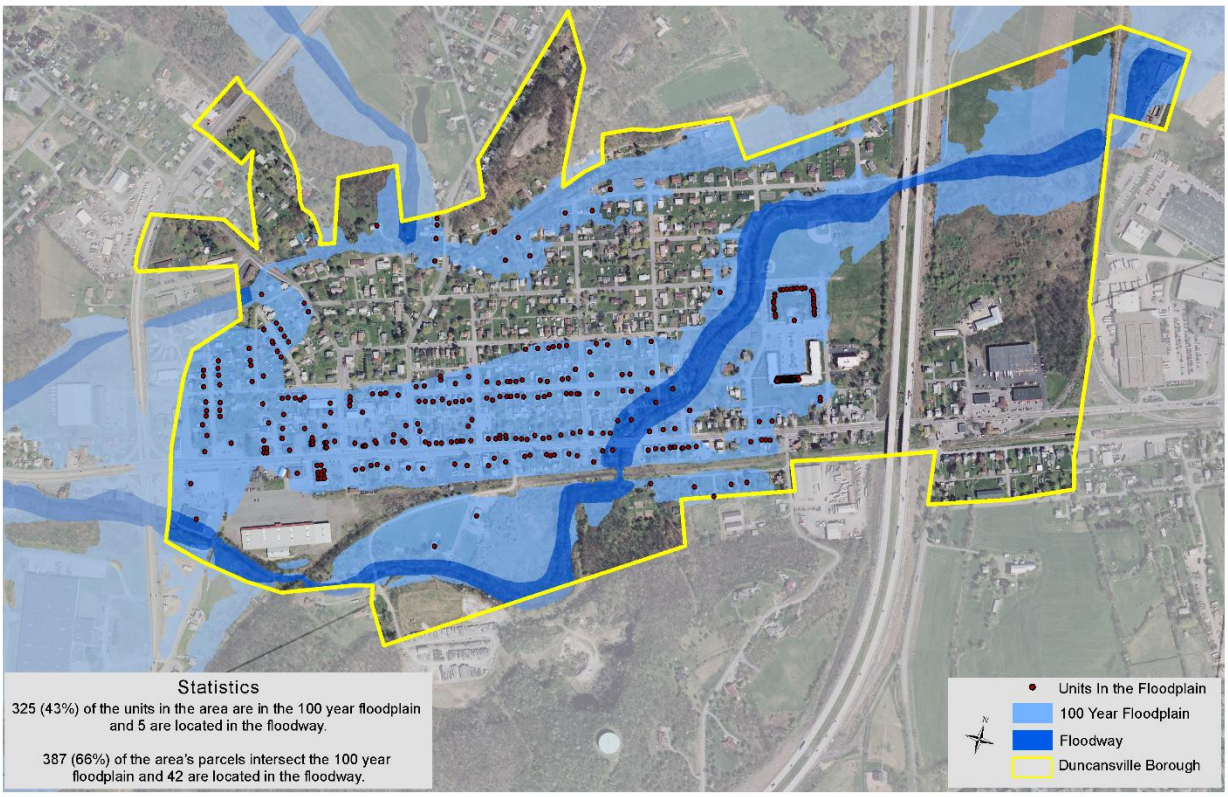


Figure 38: Frankstown Township

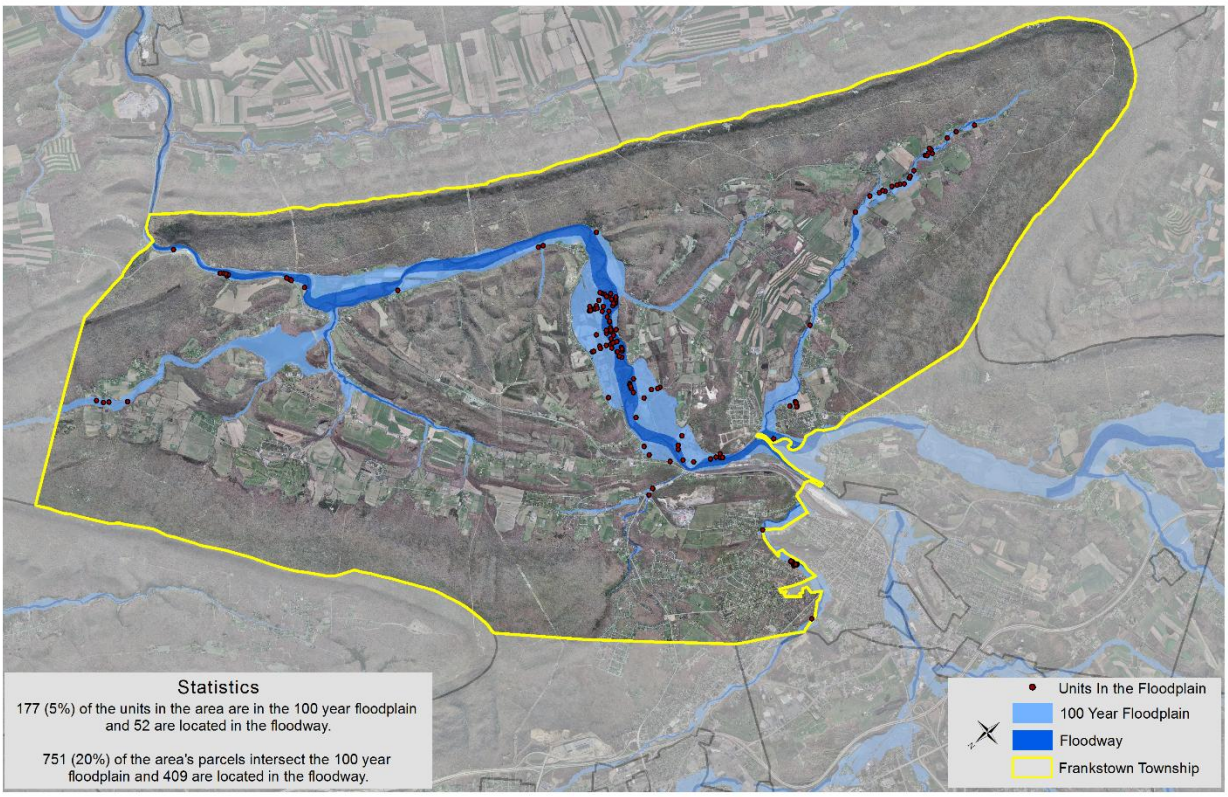


Figure 39: Freedom Township

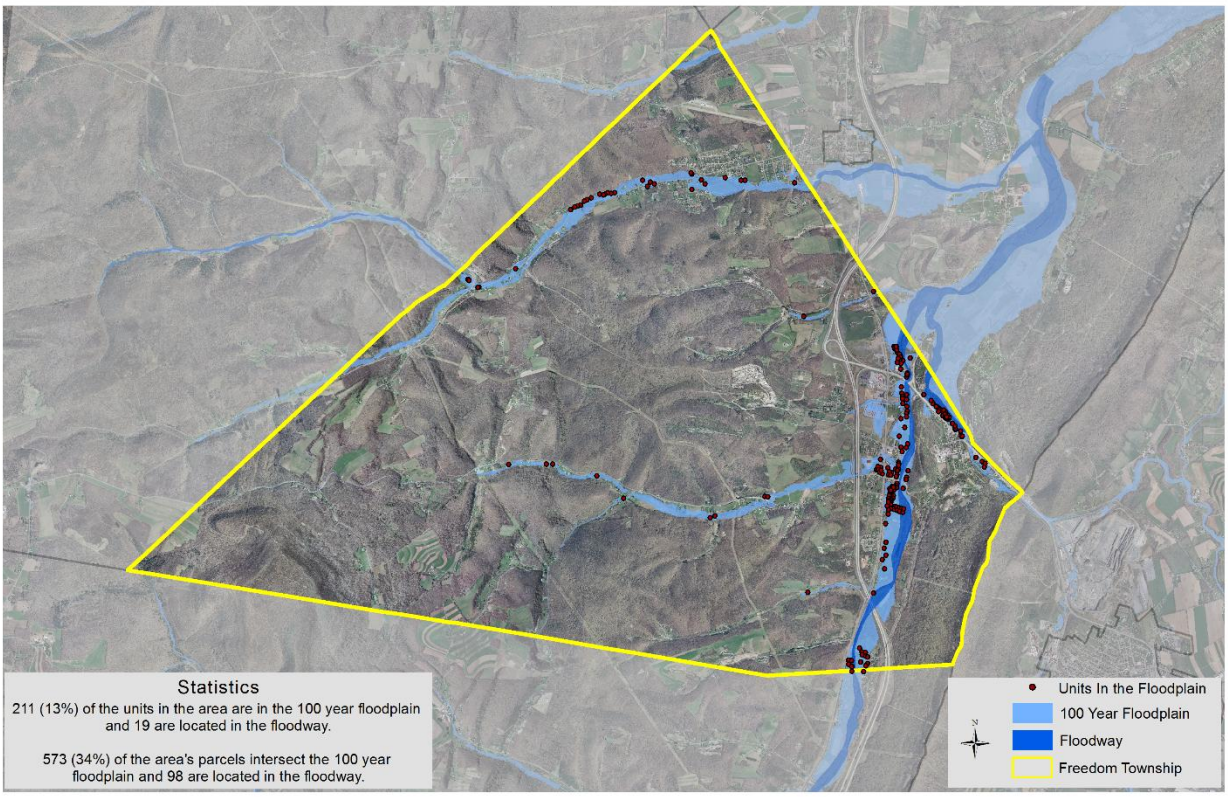


Figure 40: Greenfield Township

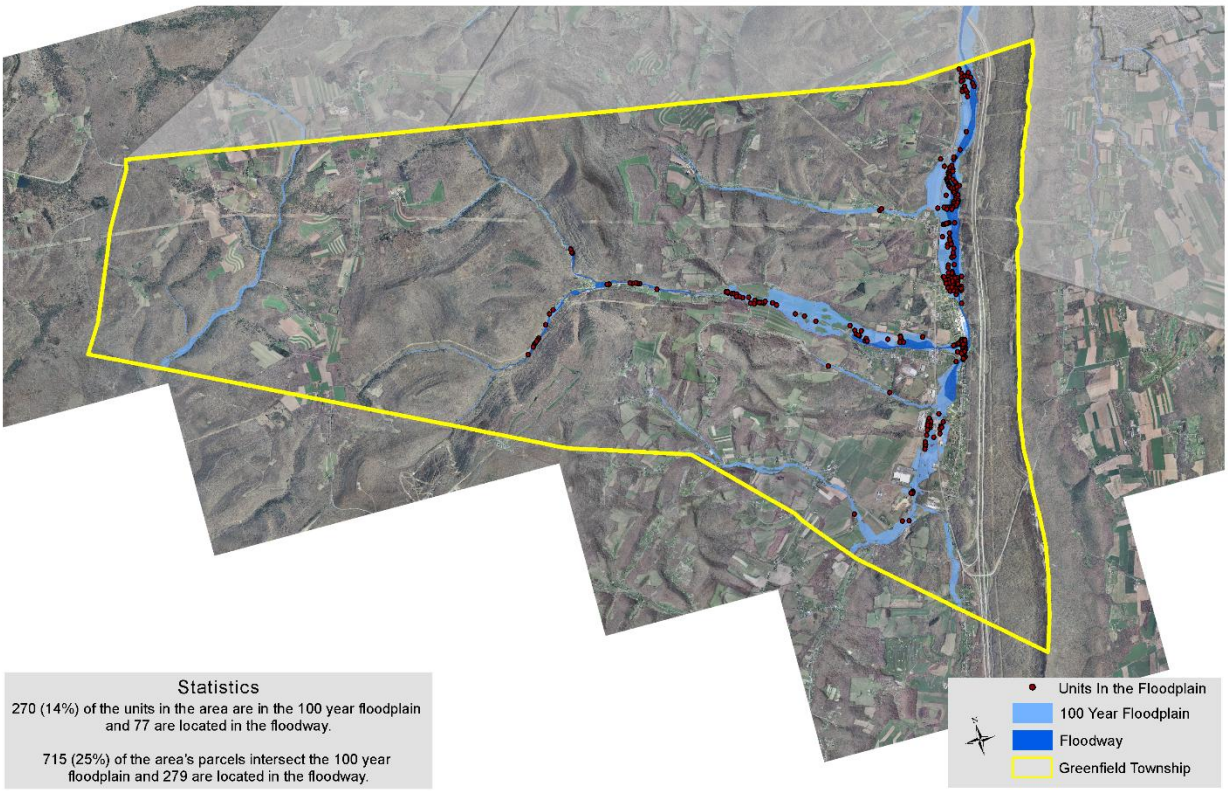


Figure 41: Hollidaysburg Borough

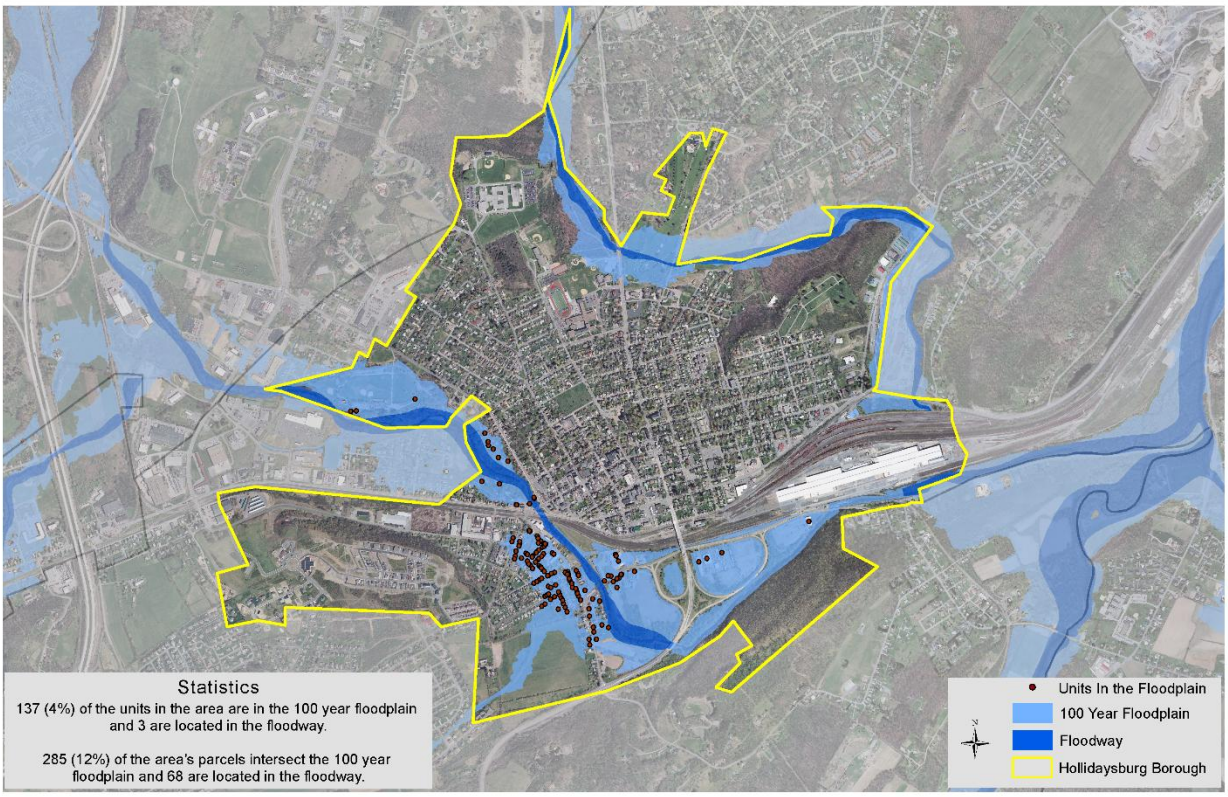


Figure 42: Huston Township

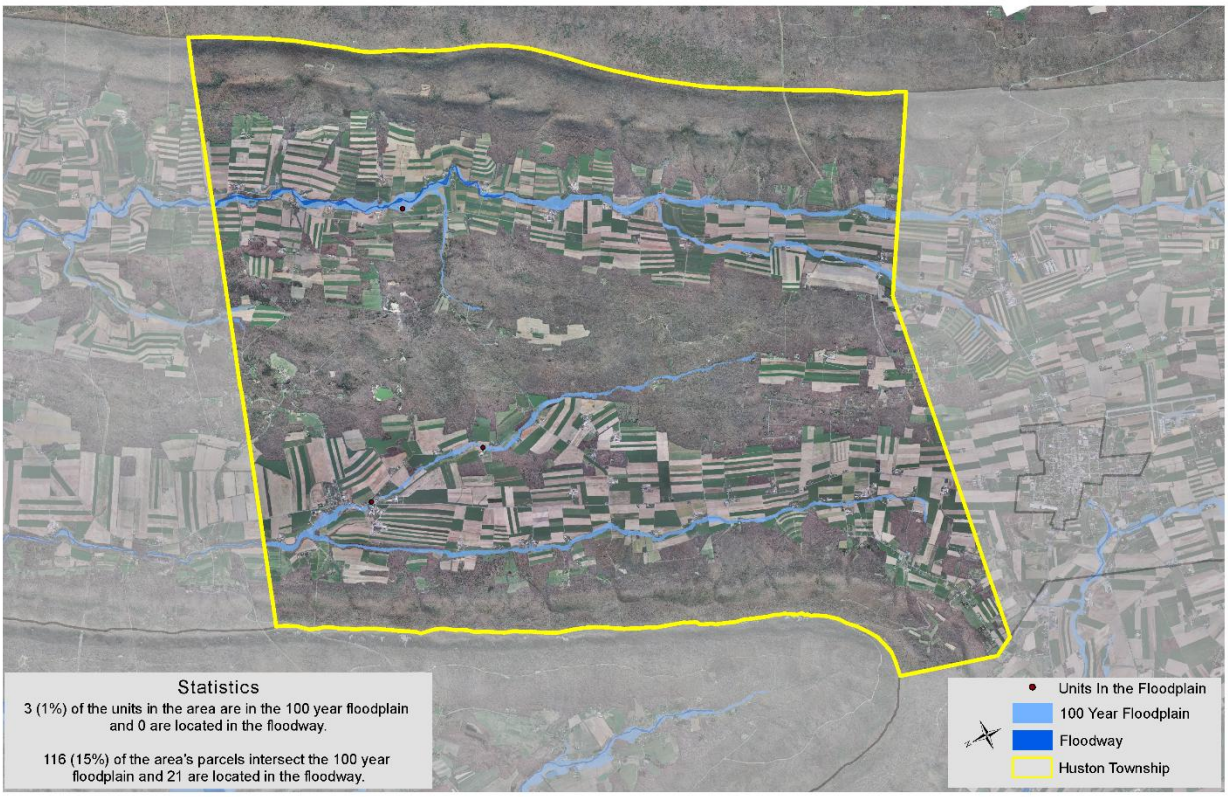


Figure 43: Juniata Township

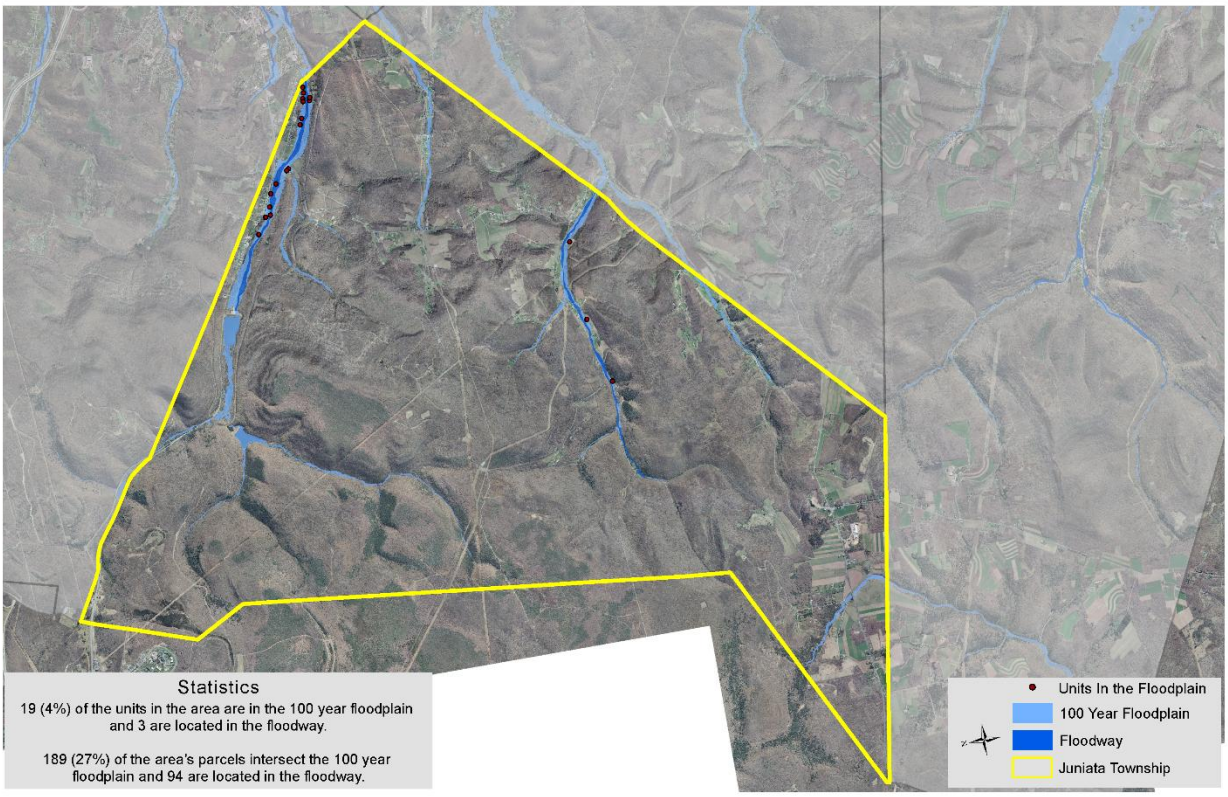


Figure 44: Logan Township

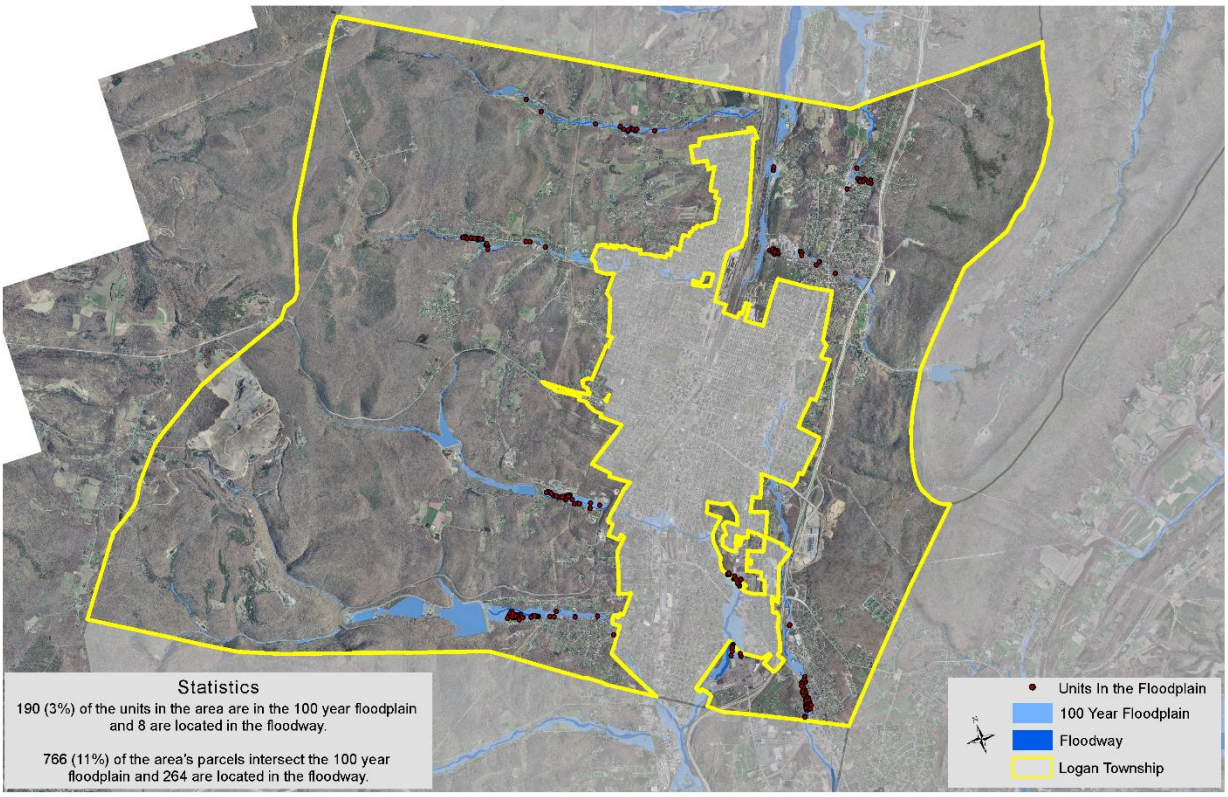


Figure 45: Martinsburg Borough

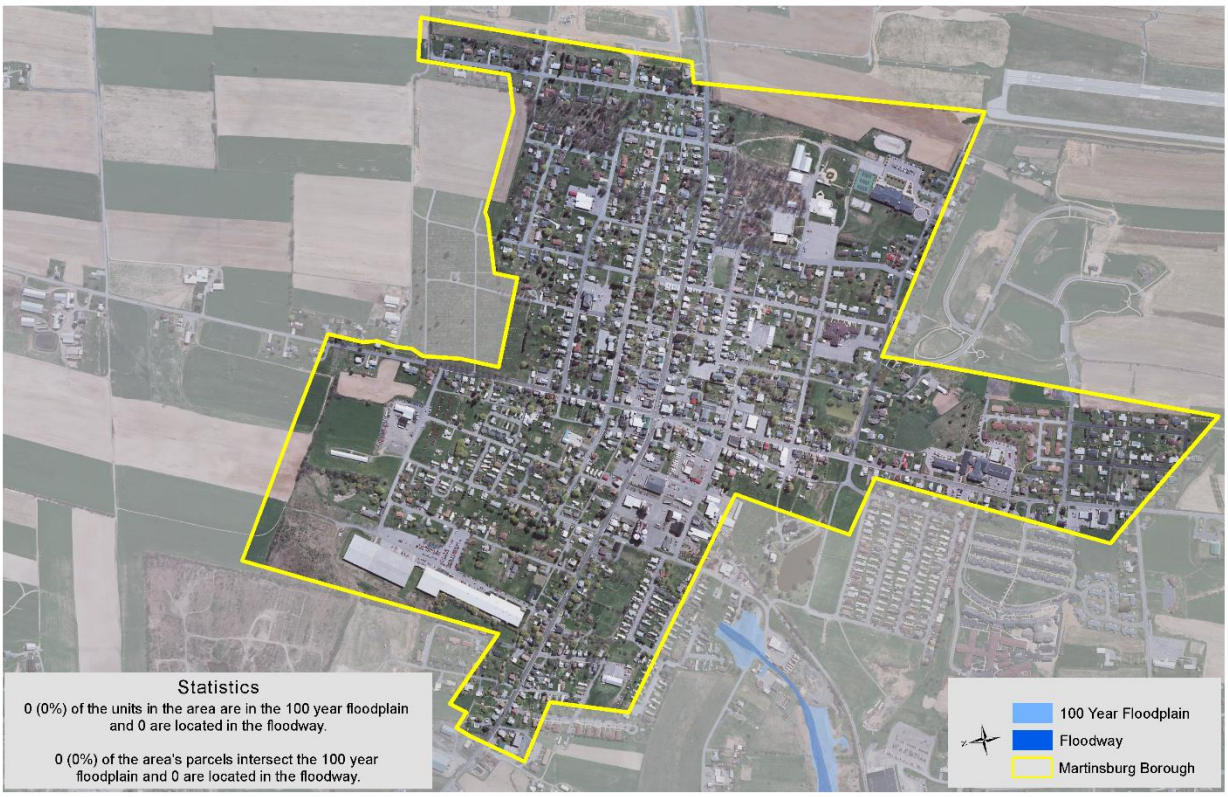


Figure 46: Newry Borough

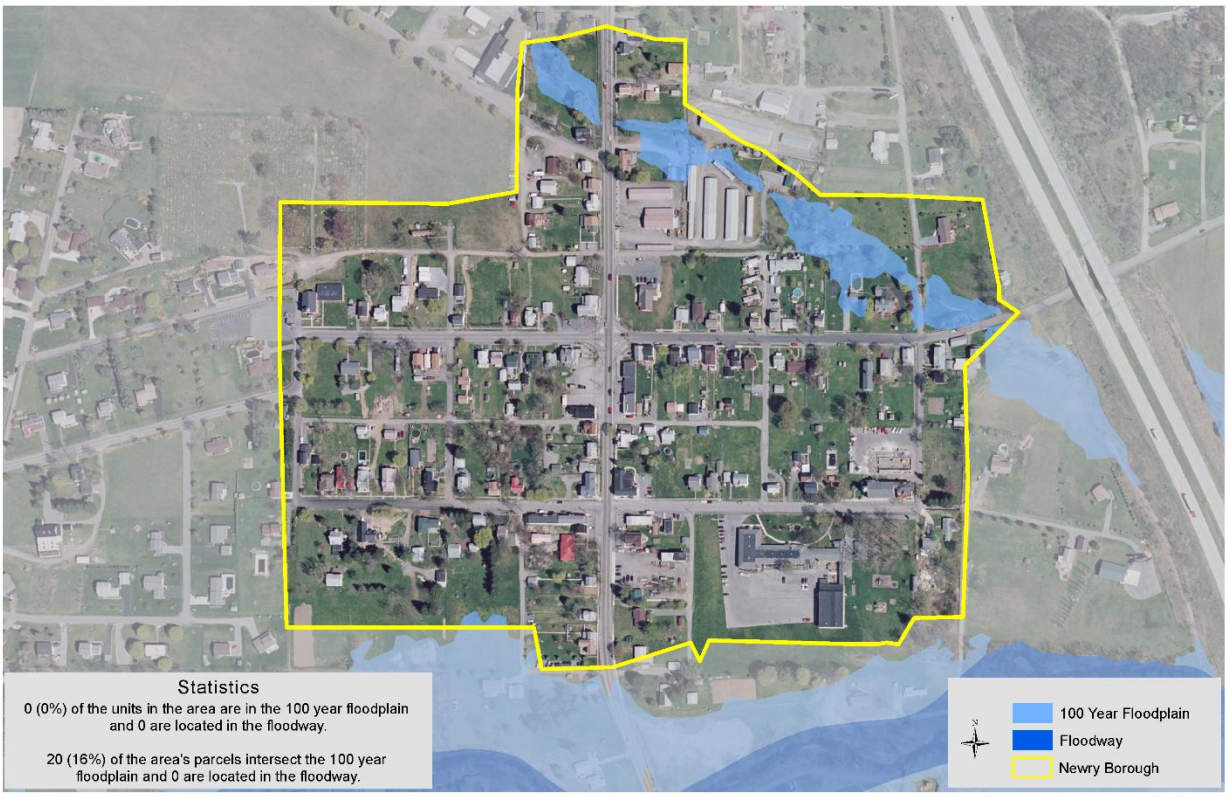


Figure 47: North Woodbury Township

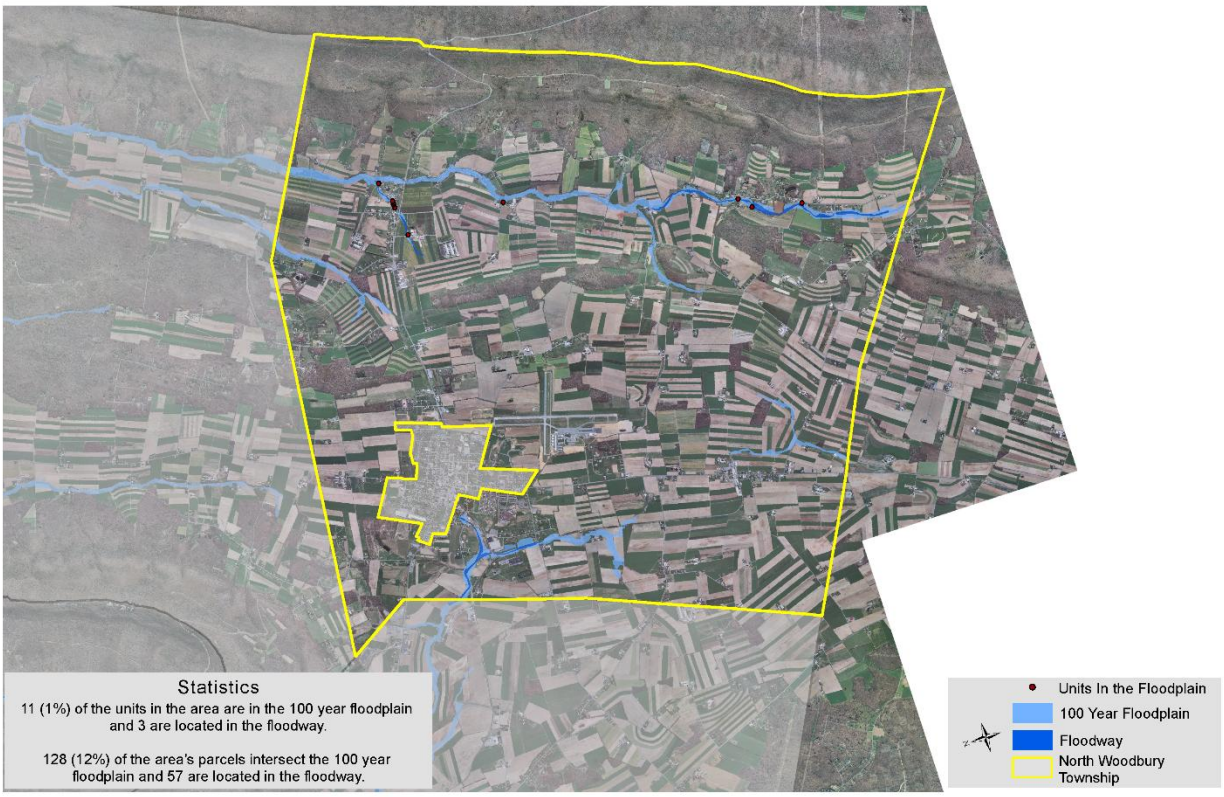


Figure 48: Roaring Spring Borough

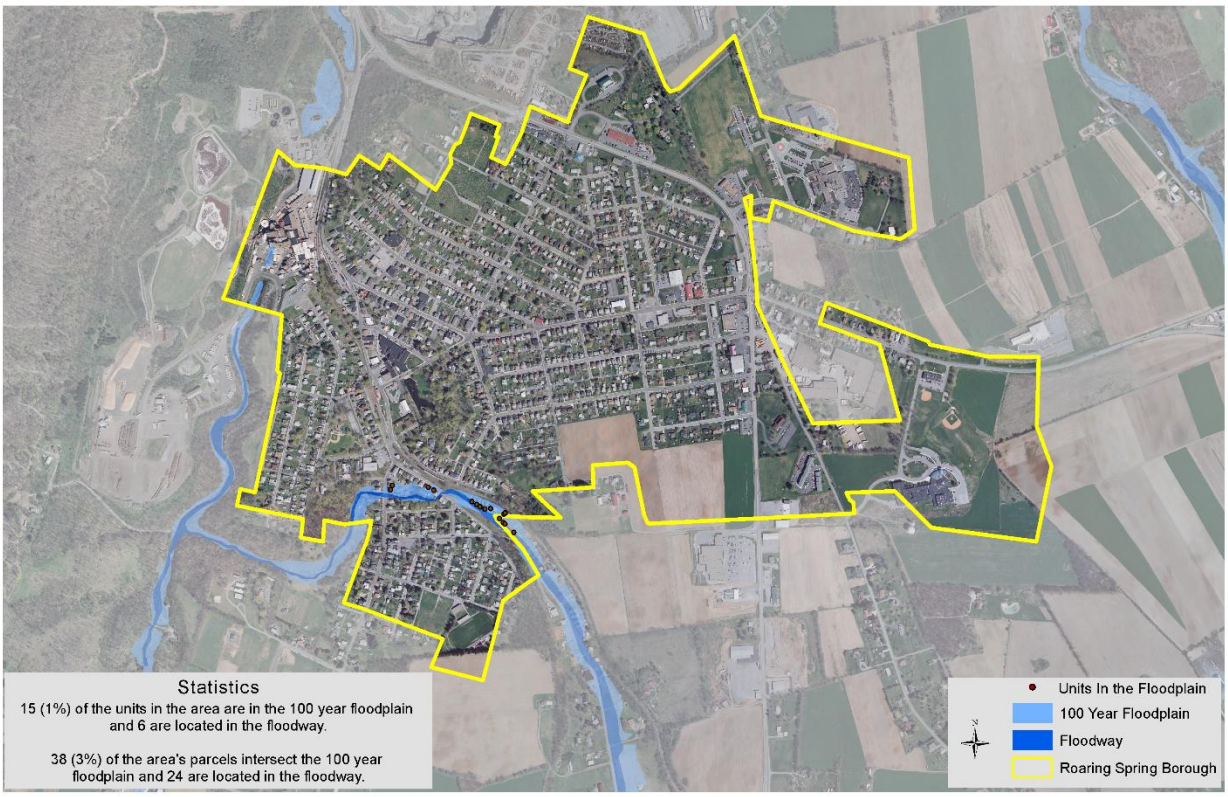


Figure 49: Snyder Township

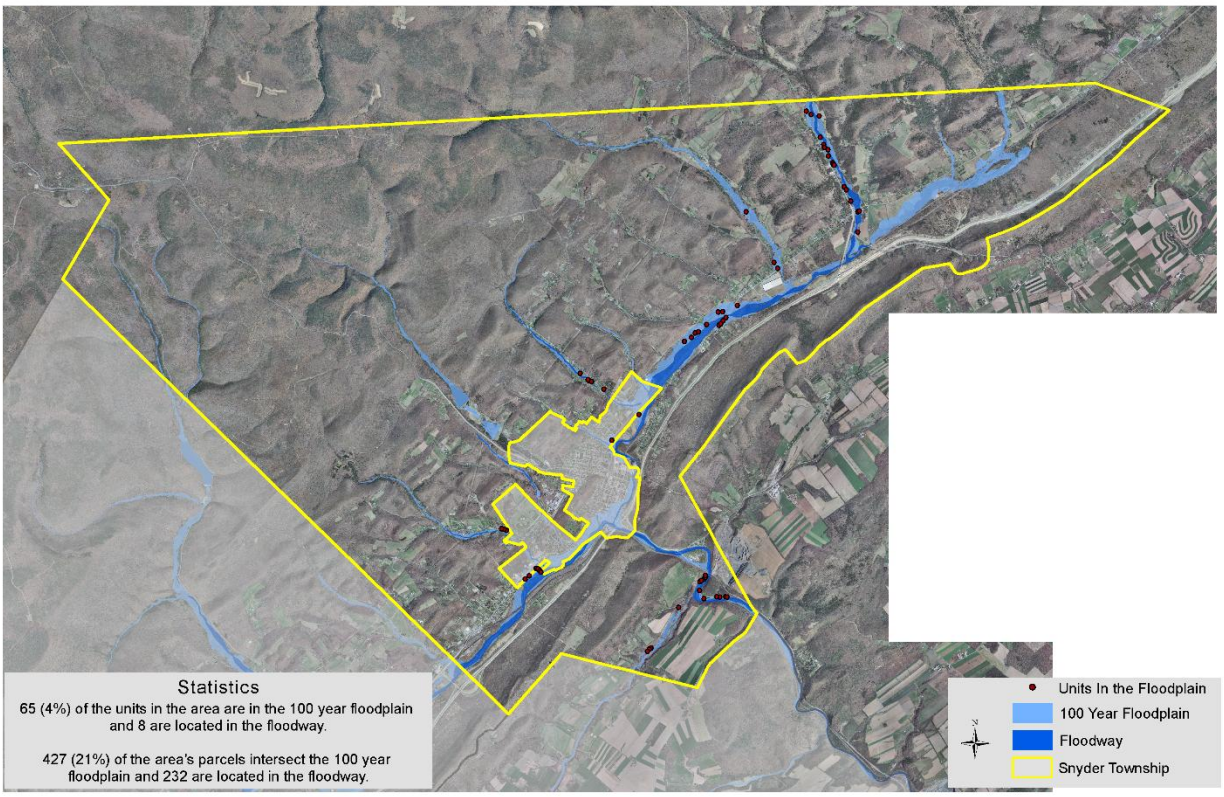


Figure 50: Taylor Township

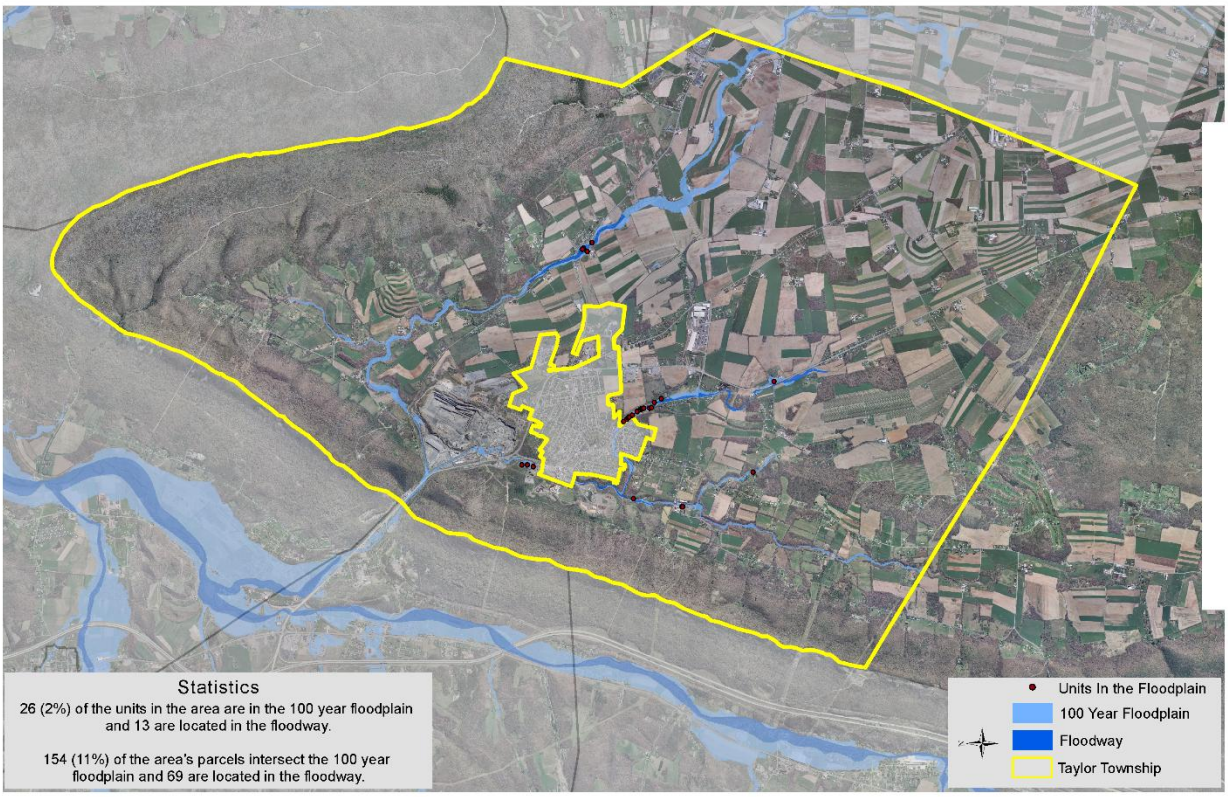


Figure 51: Tyrone (Home Rule Municipality)

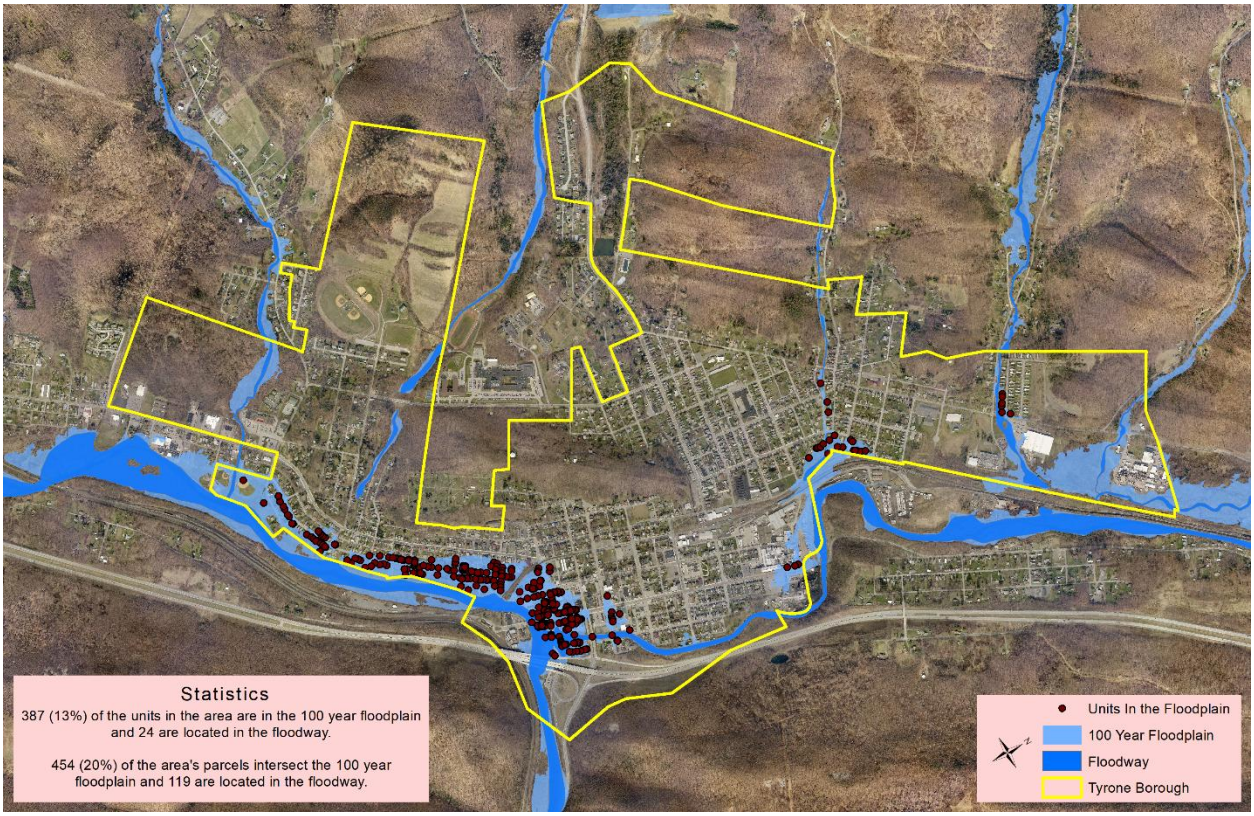


Figure 52: Tyrone Township

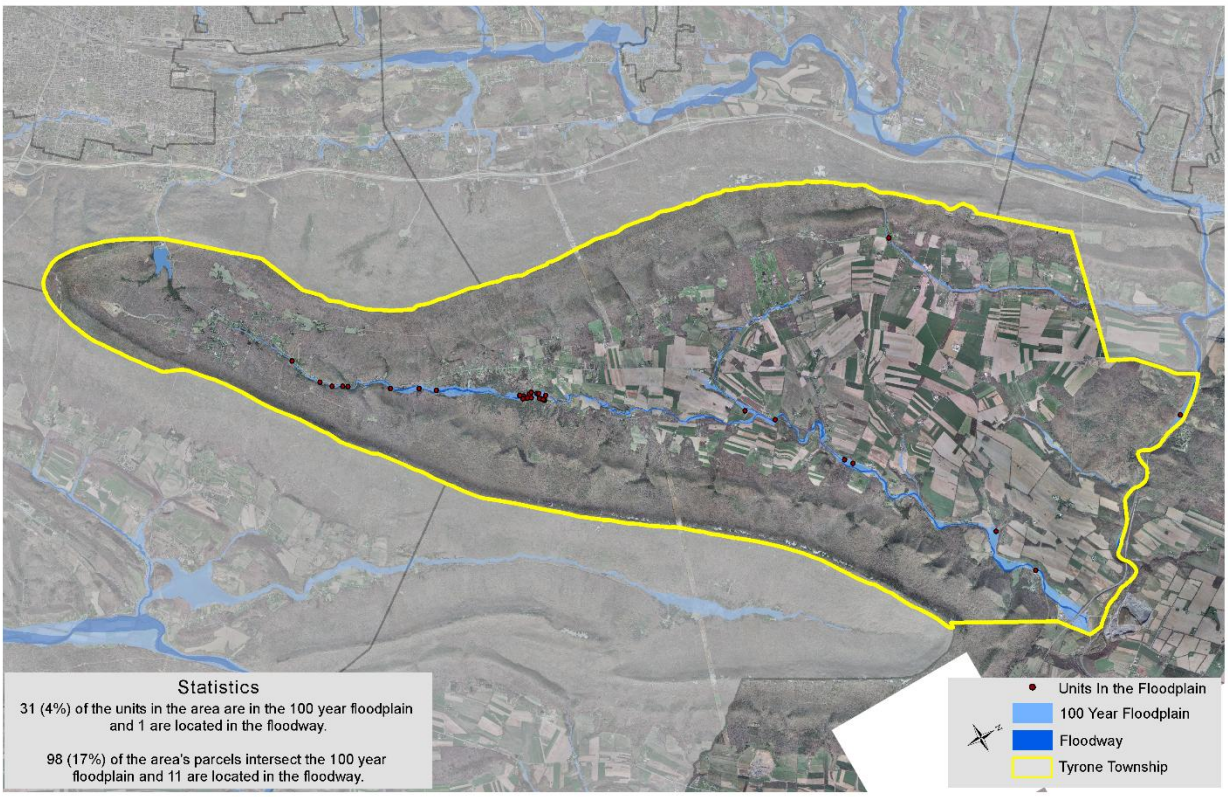


Figure 53: Williamsburg Borough

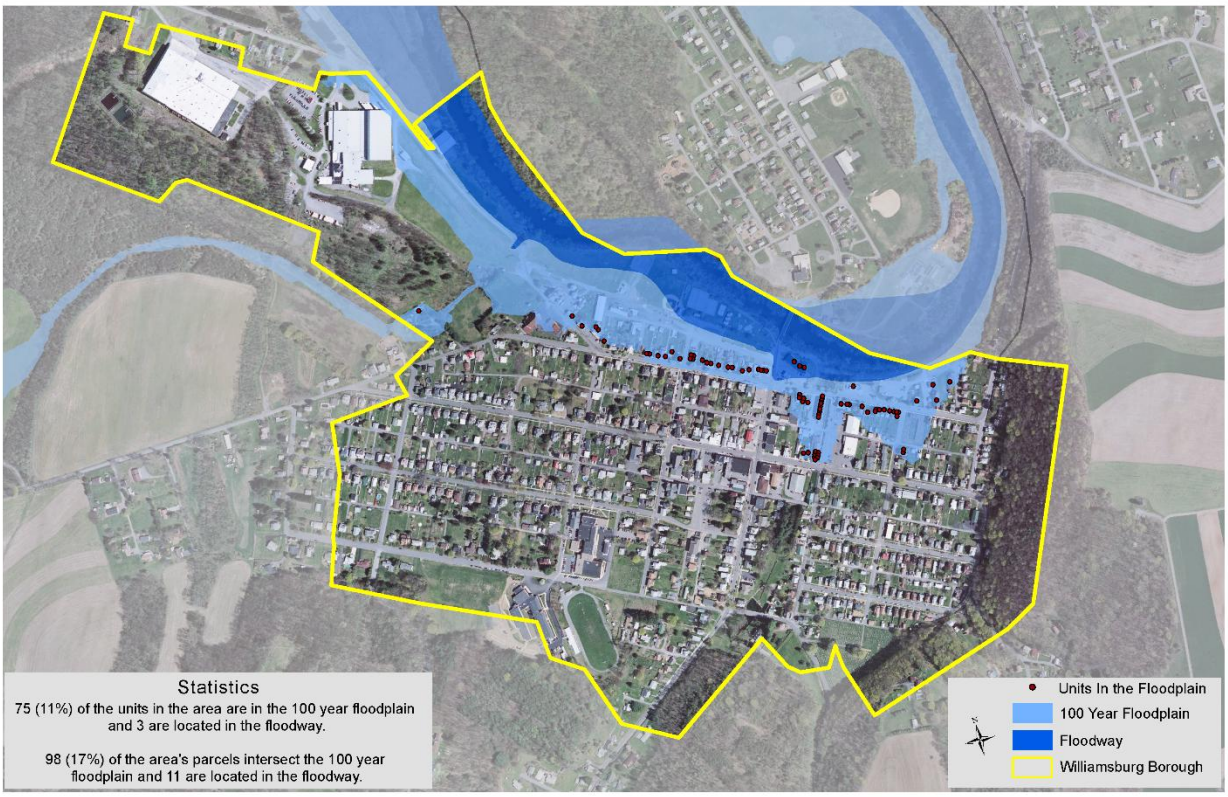
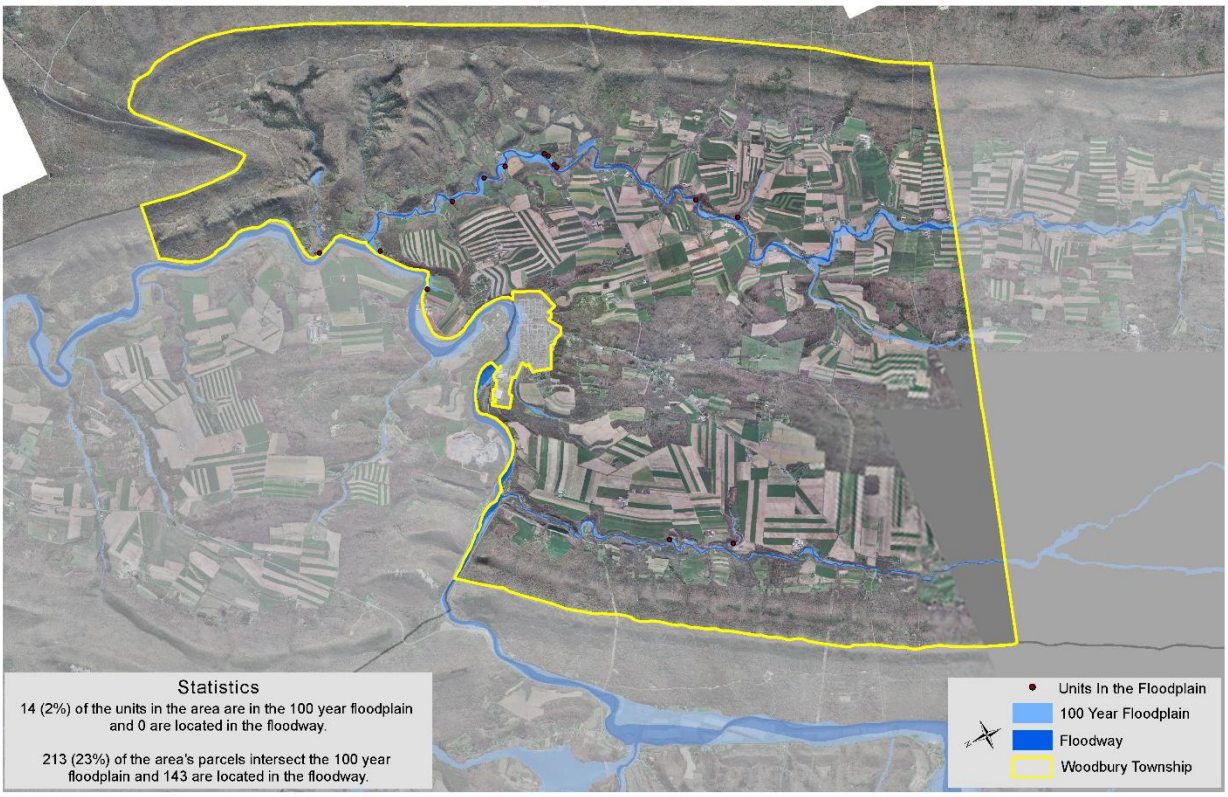


Figure 54: Woodbury Township



- APPENDIX E -CRITICAL INFRASTRUCTURES

Table 105: Emergency Services Facilities

Emergency Services Facilities		
AMED 400 Tyrone	1216 Blair Ave	Tyrone Municipality
AMED 430 Altoona	1012 7th Ave	Altoona Municipality
AMED 440 Roaring Spring	808 E Main St	Roaring Spring Borough
AMED 480 Lakemont	312 Lotz Ave	Logan Township
Bellwood 450	601 N 3rd St	Bellwood Borough
Duncansville 420	1414 Peach St	Duncansville Borough
Duncansville 429	1934 Plank Rd	Allegheny Township
Hollidaysburg 410	801 Scotch Valley Rd	Hollidaysburg Borough
Hollidaysburg 419	303 W Allegheny St	Martinsburg Borough
Hollidaysburg 419	1381 Plank Rd	Allegheny Township
Williamsburg 490	420 W 2nd St	Williamsburg Borough
Blair County Emergency Operations Center	615 4th St	City of Altoona

Table 106: Fire Stations

Fire Stations			
Tyrone Blazing Arrow Fire Department	1216 Blair Ave	Tyrone	16686
Northern Blair County Forest Fire Crew	1260 Lincoln Ave	Tyrone	16686
Altoona Fire Department	1319 Washington Ave	Altoona	16601
Claysburg Fire Department	13223 Dunnings Hwy	Claysburg	16625
Bald Eagle Fire Department	13389 S Eagle Valley Rd	Tyrone	16686
Freedom Township Fire Department	139 Municipal St	East Freedom	16637
Greenwood Fire Department	1500 E Pleasant Valley Blvd	Altoona	16602
Tyrone Neptune Fire Department	1701 Lincoln Ave	Tyrone	16686
Martinsburg Fire Department	205 S Market St	Martinsburg	16662
Phoenix (Hollidaysburg) Fire Deparment	206 Wayne St	Hollidaysburg	16648
Pinecroft Fire Department	2134 Old 6th Avenue Rd	Altoona	16601
Geeseytown Fire Department	215 Mary St	Hollidaysburg	16648
Tipton-Antis Fire Department	269 Tipton Road	Tipton	16684
Newburg Fire Department	2808 Washington Ave	Altoona	16601
Williamsburg Fire Department	305 E 2nd St	Williamsburg	16693
Lakemont Fire Department	312 Lotz Ave	Altoona	16602
Duncansville Fire Department	313 14th St	Duncansville	16635
Excelsior (Bellwood) Fire Department	399 S 1st St	Bellwood	16617
Logan United Fire Department	611 Grandview Rd	Altoona	16601
Allegheny Township Fire Department	651 Sugar Run Rd	Altoona	16601
Sinking Valley Fire Department	710 Laurel Ln	Altoona	16601
Friendship Fire Department	808 E Main St	Roaring Spring	16673
Logan Township United (Kittanning Trail) Fire Department	937 Edison Ave	Altoona	16601

Table 107: Police Stations

Police Stations			
Martinsburg Borough Police Dept	109 S Mulberry St	Martinsburg	16662
Allegheny Township Police Dept	3131 Colonial Dr	Duncansville	16635
Altoona Police Dept	1106 16th St	Altoona	16601
Bellwood Borough Police Dept	516 Main St	Bellwood	16617
Blair Township Police Dept	375 Cedarcrest Dr	Duncansville	16635
Duncansville Boro Police Dept	1146 3rd Ave	Duncansville	16635
Freedom Township Police Dept	131 Municipal St	East Freedom	16637
Greenfield Township Police Dept	477 Ski Gap Rd	Claysburg	16625
Hollidaysburg Borough Police Dept	401 Blair St	Hollidaysburg	16648
Logan Township Police Dept	100 Chief Logan Cir	Altoona	16602
North Woodbury Township Police Dept	113 Cranberry Rd	Martinsburg	16662
Roaring Spring Borough Police Dept	616 Spang St	Roaring Spring	16673
Tyrone Police Dept	1100 Logan Ave	Tyrone	16686
Williamsburg Borough Police Dept	305 E 2nd St	Williamsburg	16693
Pennsylvania State Police Troop G	1510 North Juniata St	Hollidaysburg	16648

Table 108: Hospitals

Hospitals				
UPMC Altoona	620 Howard Avenue	Altoona	PA	16601
James E Van Zandt Va Medical Center	2907 Pleasant Valley Boulevard	Altoona	PA	16602
Healthsouth Rehabilitation Hospital Of Altoona	2005 Valley View Boulevard	Altoona	PA	16602
Tyrone Hospital	187 Hospital Drive	Tyrone	PA	16686
Nason Hospital	105 Nason Drive	Roaring Spring	PA	16673

Table 109: Schools

Schools				
Claysburg-Kimmel El School	240 Ck Elementary Drive	Claysburg	PA	16625
Greater Altoona Ctc	1500 4th Avenue	Altoona	PA	16602
Juniata El Sch	418 N 8th Ave Juniata	Altoona	PA	16601
Logan El Sch	301 Sycamore Street Greenwood	Altoona	PA	16602
Pleasant Valley El Sch	310 Cayuga Avenue	Altoona	PA	16602
Bellwood Antis Ms	400 Martin Street	Bellwood	PA	16617
Martinsburg El Sch	415 Spring Street	Martinsburg	PA	16662
Tyrone Area Ms	1001 Clay Ave	Tyrone	PA	16686
Mowrie A Ebner El Sch	308 Hillside Avenue	Altoona	PA	16601
Spring Cove El Sch	137 Spring Cove Dr	Roaring Spring	PA	16673
Irving El Sch	110 Cherry Ave	Altoona	PA	16601
Tyrone Area El Sch	601 Clay Avenue	Tyrone	PA	16686
Altoona Area Hs	1415 6th Ave	Altoona	PA	16602
Tyrone Area Hs	1001 Clay Ave	Tyrone	PA	16686
Charles W Longer El Sch	1320 Union St	Hollidaysburg	PA	16648
Lewis M Myers El Sch	220 Martin Street	Bellwood	PA	16617
Kimmel Alternative School	900 S Jaggard Street	Altoona	PA	16602
Altoona Area Jr Hs	1400 7th Ave	Altoona	PA	16602
Juniata Gap El Sch	3365 Juniata Gap Road	Altoona	PA	16601
Foot Of Ten El Sch	450 Foot Of Ten Rd	Duncansville	PA	16635
Spring Cove Ms	185 Spring Cove Drive	Roaring Spring	PA	16673
Williamsburg Community Jshs	515 W Third St	Williamsburg	PA	16693
Frankstown El Sch	2463 Reservoir Rd	Hollidaysburg	PA	16648
Hollidaysburg Area Shs	1510 North Montgomery Street	Hollidaysburg	PA	16648
Bellwood-Antis Hs	400 Martin Street	Bellwood	PA	16617
Baker El Sch	108 W Ward Ave	Altoona	PA	16602
Hollidaysburg Area Jhs	1000 Hewit St	Hollidaysburg	PA	16648
Claysburg-Kimmel Hs	531 Bedford St	Claysburg	PA	16625
Central Hs	718 Central High Road	Martinsburg	PA	16662
Central Pa Digital Lrng Foundation Cs	721 N. Juniata St. Suite 3	Hollidaysburg	PA	16648
Penn-Lincoln El Sch	411 12th St	Altoona	PA	16602
Williamsburg Community El Sch	16 Sage Hill Dr	Williamsburg	PA	16693
Adelphoi Education At Altoona	600s. Jaggard St.	Altoona	PA	16602
Lighthouse Christian School	4200 Broad Ave	Altoona	PA	16601

Lone Pine School	133 Lone Pine Ln	Tyrone	PA	16686
Bishop Guilfoyle Catholic High School	2400 Pleasant Valley Blvd	Altoona	PA	16602
Blair County Christian School	925 Blacks Lane	Duncansville	PA	16635
Great Commission Schools	1100 6th Ave	Altoona	PA	16602
Harbor House Center Early Academics	113 Byron Ave	Altoona	PA	16602
Hollidaysburg Catholic School	321 Spruce St	Hollidaysburg	PA	16648
Penn Montessorri Academy	131 Holliday Hills Dr	Hollidaysburg	PA	16648
Shady Pond School	560 Golf Course Rd	Altoona	PA	16601
St Matthew Elementary School	1105 Cameron Ave	Tyrone	PA	16686
St Patrick School	731 Patrick Ln	Newry	PA	16665
St Rose Of Lima School	5519 6th Ave	Altoona	PA	16602
Tender Love For Children Child Care	1401 12th Ave 1st Lutheran Ch	Altoona	PA	16601
Faith Tabernacle School	439 5th Ave	Altoona	PA	16602
White Oak School	5791 Kettle Rd	Tyrone	PA	16686
St John The Evangelist School	311 Lotz Ave	Altoona	PA	16602
Altoona Central Catholic School	1400 4th Ave	Altoona	PA	16602
Living Water Christian Academy	1960 William Penn Hwy	Williamsburg	PA	16693
Northwestern Human Services Autism School	1012 8th Ave	Altoona	PA	16602
Piney Creek Parochial School	982 Piney Creek Rd	Martinsburg	PA	16662
Cove Lane Parochial School	1769 Cove Lane Rd	Martinsburg	PA	16662
Emmanuel Baptist Christian School	480 Emmanuel Dr	Claysburg	PA	16625
Greater Altoona Career & Technology Center	1500 Fourth Avenue	Altoona	PA	16602
Altoona Beauty School Inc	1528 Valley View Blvd.	Altoona	PA	16602
The Salon Professional Academy-Altoona	415 D Orchard Avenue	Altoona	PA	16601
Pennsylvania State University-Penn State Altoona	3000 Ivyside Park	Altoona	PA	16601
Yti Career Institute-Altoona	2900 Fairway Dr	Altoona	PA	16602
Yellow Springs Mennonite School	2474 William Penn Highway	Williamsburg	PA	16693

- APPENDIX F -HAZUS RESULT & REPORT



Hazus: Flood Global Risk Report

Region Name:	Blair_County
Flood Scenario:	100yr
Print Date:	Thursday, August 01, 2019

Disclaimer:
This version of Hazus utilizes 2010 Census Data.
Totals only reflect data for those census tracts/blocks included in the user's study region.

The estimates of social and economic impacts contained in this report were produced using Hazus loss estimation methodology software which is based on current scientific and engineering knowledge. There are uncertainties inherent in any loss estimation technique. Therefore, there may be significant differences between the modeled results contained in this report and the actual social and economic losses following a specific Flood. These results can be improved by using enhanced inventory data and flood hazard information.



FEMA

RiskMAP
Increasing Resilience Together



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RiskMAP
Increasing Resilience Together

General Description of the Region

Hazus is a regional multi-hazard loss estimation model that was developed by the Federal Emergency Management Agency (FEMA) and the National Institute of Building Sciences (NIBS). The primary purpose of Hazus is to provide a methodology and software application to develop multi-hazard losses at a regional scale. These loss estimates would be used primarily by local, state and regional officials to plan and stimulate efforts to reduce risks from multi-hazards and to prepare for emergency response and recovery.

The flood loss estimates provided in this report were based on a region that included 1 county(ies) from the following state(s):

- Pennsylvania

Note:
Appendix A contains a complete listing of the counties contained in the region.

The geographical size of the region is approximately 527 square miles and contains 5,654 census blocks. The region contains over 52 thousand households and has a total population of 127,089 people (2010 Census Bureau data). The distribution of population by State and County for the study region is provided in Appendix B.

There are an estimated 53,225 buildings in the region with a total building replacement value (excluding contents) of 13,407 million dollars. Approximately 91.92% of the buildings (and 72.14% of the building value) are associated with residential housing.

Building Inventory

General Building Stock

Hazus estimates that there are 53,225 buildings in the region which have an aggregate total replacement value of 13,407 million dollars. Table 1 and Table 2 present the relative distribution of the value with respect to the general occupancies by Study Region and Scenario respectively. Appendix B provides a general distribution of the building value by State and County.

Table 1
Building Exposure by Occupancy Type for the Study Region

Occupancy	Exposure ($1000)	Percent of Total
Residential	9,671,687	72.1%
Commercial	2,363,555	17.6%
Industrial	738,812	5.5%
Agricultural	47,075	0.4%
Religion	306,472	2.3%
Government	103,440	0.8%
Education	176,222	1.3%
Total	**13,407,263**	**100%**

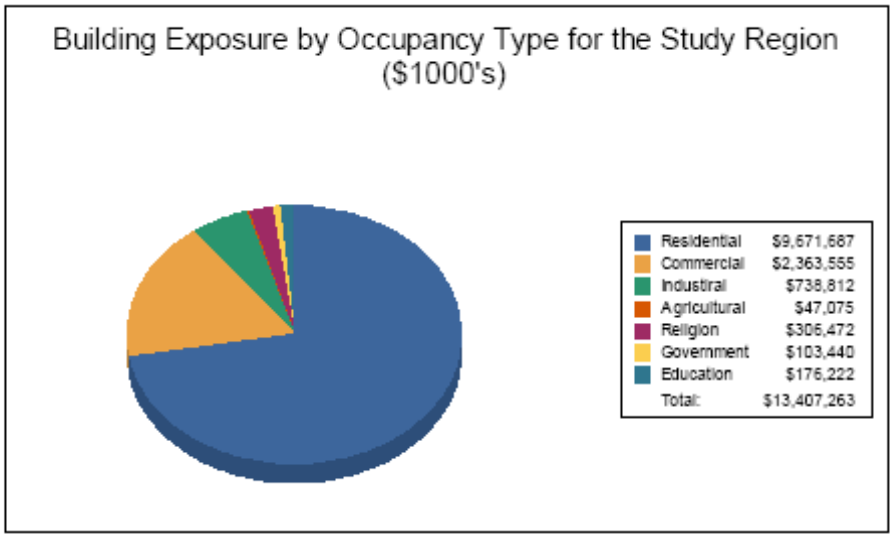
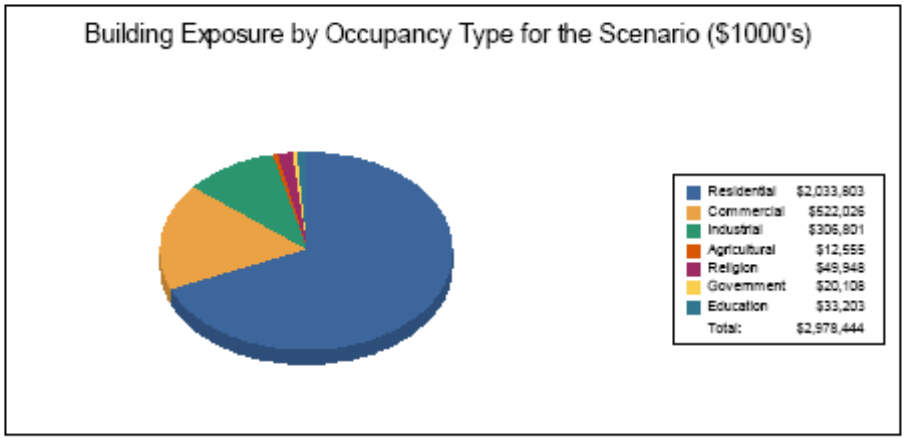


Table 2
Building Exposure by Occupancy Type for the Scenario

Occupancy	Exposure ($1000)	Percent of Total
Residential	2,033,803	68.3%
Commercial	522,026	17.5%
Industrial	306,801	10.3%
Agricultural	12,555	0.4%
Religion	49,948	1.7%
Government	20,108	0.7%
Education	33,203	1.1%
Total	**2,978,444**	**100%**



Essential Facility Inventory

For essential facilities, there are 6 hospitals in the region with a total bed capacity of 598 beds.
There are 60 schools, 28 fire stations, 16 police stations and 1 emergency operation center.

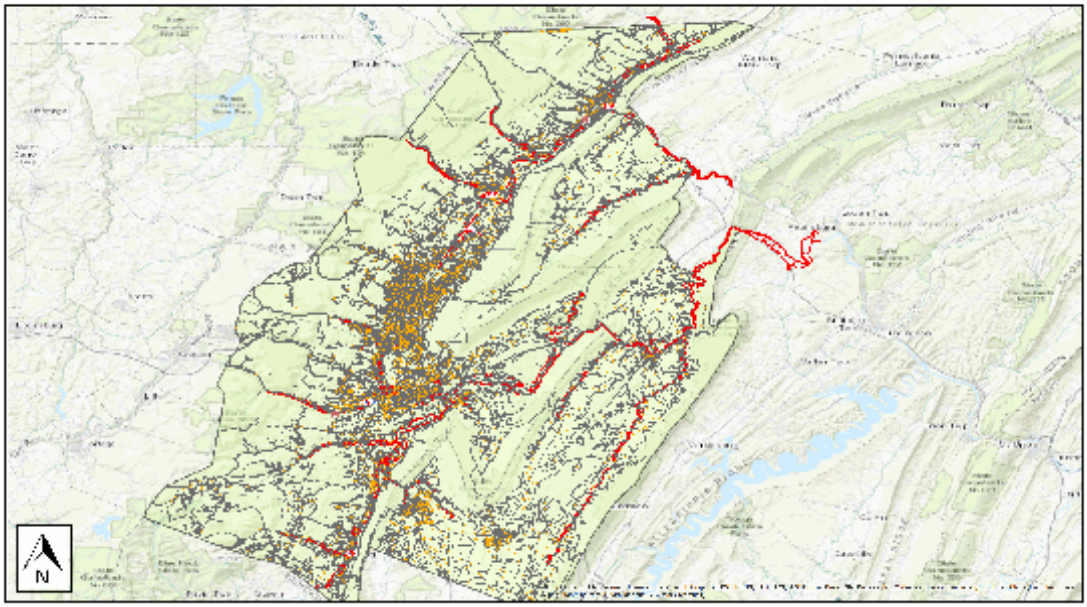
Flood Scenario Parameters

Hazus used the following set of information to define the flood parameters for the flood loss estimate provided in this report.

Study Region Name:	Blair_County
Scenario Name:	100yr
Return Period Analyzed:	100
Analysis Options Analyzed:	No What-Ifs

Study Region Overview Map

Illustrating scenario flood extent, as well as exposed essential facilities and total exposure



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Building Damage

General Building Stock Damage

Hazus estimates that about 797 buildings will be at least moderately damaged. This is over 83% of the total number of buildings in the scenario. There are an estimated 25 buildings that will be completely destroyed. The definition of the 'damage states' is provided in the Hazus Flood Technical Manual. Table 3 below summarizes the expected damage by general occupancy for the buildings in the region. Table 4 summarizes the expected damage by general building type.

Total Economic Loss (1 dot = $300K) Overview Map

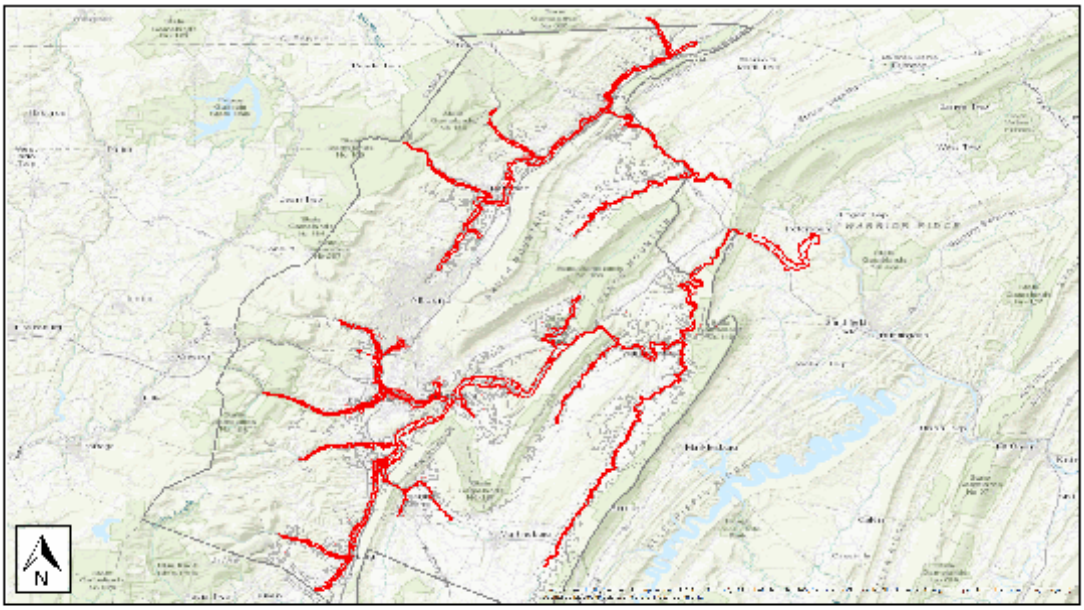


Table 3: Expected Building Damage by Occupancy

	1-10		11-20		21-30		31-40		41-50		>50	
Occupancy	Count	(%)	Count	(%)	Count	(%)	Count	(%)	Count	(%)	Count	(%)
Agriculture	0	0	0	0	0	0	0	0	0	0	0	0
Commercial	6	75	1	13	1	13	0	0	0	0	0	0
Education	0	0	0	0	0	0	0	0	0	0	0	0
Government	0	0	0	0	0	0	0	0	0	0	0	0
Industrial	4	67	2	33	0	0	0	0	0	0	0	0
Religion	0	0	0	0	0	0	0	0	0	0	0	0
Residential	396	33	531	45	170	14	45	4	22	2	25	2
Total	406		534		171		45		22		25	

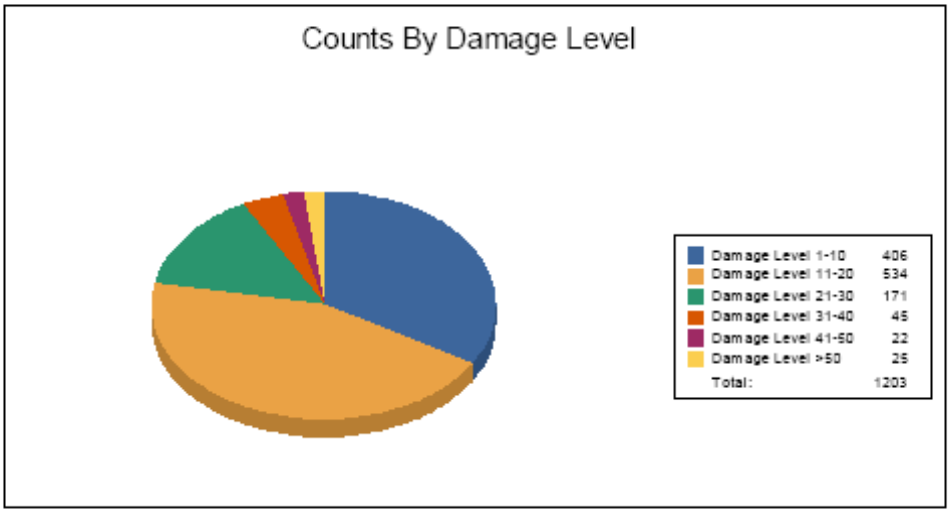




Table 4: Expected Building Damage by Building Type

Building Type	1-10		11-20		21-30		31-40		41-50		>50	
	Count	(%)	Count	(%)	Count	(%)	Count	(%)	Count	(%)	Count	(%)
Concrete	1	100	0	0	0	0	0	0	0	0	0	0
ManufHousing	2	67	0	0	0	0	0	0	0	0	1	33
Masonry	113	35	146	45	42	13	12	4	6	2	5	2
Steel	6	75	1	13	1	13	0	0	0	0	0	0
Wood	283	33	386	45	128	15	33	4	16	2	19	2



Essential Facility Damage

Before the flood analyzed in this scenario, the region had 598 hospital beds available for use. On the day of the scenario flood event, the model estimates that 598 hospital beds are available in the region.

Table 5: Expected Damage to Essential Facilities

		# Facilities		
Classification	Total	At Least Moderate	At Least Substantial	Loss of Use
Emergency Operation Centers	1	0	0	0
Fire Stations	28	5	0	5
Hospitals	6	0	0	0
Police Stations	16	1	0	1
Schools	60	2	0	2

If this report displays all zeros or is blank, two possibilities can explain this.

(1) None of your facilities were flooded. This can be checked by mapping the inventory data on the depth grid.

(2) The analysis was not run. This can be tested by checking the run box on the Analysis Menu and seeing if a message box asks you to replace the existing results.





Induced Flood Damage

Debris Generation

Hazus estimates the amount of debris that will be generated by the flood. The model breaks debris into three general categories: 1) Finishes (dry wall, insulation, etc.), 2) Structural (wood, brick, etc.) and 3) Foundations (concrete slab, concrete block, rebar, etc.). This distinction is made because of the different types of material handling equipment required to handle the debris.

Analysis has not been performed for this Scenario.



Social Impact

Shelter Requirements

Analysis has not been performed for this Scenario.



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Economic Loss

The total economic loss estimated for the flood is 594.01 million dollars, which represents 19.94 % of the total replacement value of the scenario buildings.

Building-Related Losses

The building losses are broken into two categories: direct building losses and business interruption losses. The direct building losses are the estimated costs to repair or replace the damage caused to the building and its contents. The business interruption losses are the losses associated with inability to operate a business because of the damage sustained during the flood. Business interruption losses also include the temporary living expenses for those people displaced from their homes because of the flood.

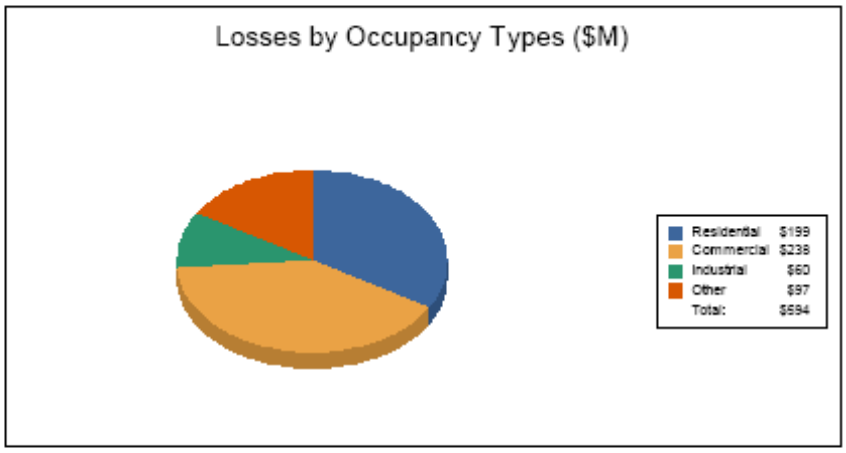
The total building-related losses were 312.51 million dollars. 47% of the estimated losses were related to the business interruption of the region. The residential occupancies made up 33.50% of the total loss. Table 6 below provides a summary of the losses associated with the building damage.

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Table 6: Building-Related Economic Loss Estimates

(Millions of dollars)

Category	Area	Residential	Commercial	Industrial	Others	Total
Building Loss						
	Building	90.25	22.05	12.83	3.79	128.92
	Content	49.49	70.04	34.42	21.27	175.22
	Inventory	0.00	2.16	5.90	0.32	8.38
	Subtotal	139.74	94.26	53.15	25.37	312.51
Business Interruption						
	Income	2.16	51.29	1.97	8.16	63.58
	Relocation	36.79	17.95	2.00	4.78	61.53
	Rental Income	15.23	12.84	0.46	0.68	29.22
	Wage	5.10	61.25	2.47	58.35	127.18
	Subtotal	59.28	143.34	6.90	71.98	281.50
ALL	Total	199.02	237.59	60.05	97.35	594.01





Appendix A: County Listing for the Region

Pennsylvania
- Blair







Appendix B: Regional Population and Building Value Data

		Building Value (thousands of dollars)		
	Population	Residential	Non-Residential	Total
Pennsylvania				
Blair	127,089	9,671,687	3,735,576	13,407,263
Total	**127,089**	**9,671,687**	**3,735,576**	**13,407,263**
Total Study Region	**127,089**	**9,671,687**	**3,735,576**	**13,407,263**