

1.0 INTRODUCTION

1.1 Background

The Bucks County, Pennsylvania Hazard Mitigation Steering Committee (HMSC) and local officials recognize the importance of hazard mitigation and related planning. Members of the HMSC are listed in table 3-2.1. The HMSC is concerned with addressing both natural and human-made hazards throughout the County. Bucks County is considered part of the Greater Philadelphia metropolitan area and includes approximately 64 miles of the Delaware River along its southeastern border. Since 1955, there have been 25 Presidential Major Disaster and Emergency Declarations which affected Bucks County. Of the 25, 2 are related to the COVID-19 pandemic, 17 were related to hurricanes, tropical storms, and flooding, and five were related to winter storms, snow, and blizzards. The emergency management community, citizens, elected officials and other partner agencies in Bucks County, Pennsylvania recognize the impact of disasters on their community and support proactive efforts needed to reduce the impact of natural and human-caused hazards.

Bucks County Planning Commission in collaboration with Bucks County Emergency Management Agency have taken an all-hazards approach to this Hazard Mitigation Plan Update.

Hazard mitigation describes sustained actions taken to prevent or minimize the long-term risks to life and property from hazards. 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, mitigation actions can be long-term, cost-effective means of reducing the risk of loss.

Hazard mitigation planning has the potential to produce long-term and recurring benefits by breaking the cycle of loss. 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 local residents, businesses, and industries to re-establish themselves in the wake of a disaster, getting the economy back on track sooner and with less interruption. Bucks County has recognized the importance of mitigation and implemented mitigation projects for more than 100 properties in Bucks County as of 2017, making the county a leader in Hazard Mitigation Planning in Pennsylvania.

Accordingly, the Bucks County Hazard Mitigation Planning Team (HMPT) composed of government leaders, community organizations, and university representatives from Bucks County and the surrounding counties, in cooperation with elected officials of the County and its municipalities, have prepared this Hazard Mitigation Plan (HMP). The HMP is the result of work by the HMSC and HMPT to develop a pre-disaster, multi-hazard mitigation plan that will not only guide the County towards greater disaster resistance but will also respect the character and needs of the community.

2011 Plan Update

The 2011 Plan Update consisted of a review of the initial Hazard Mitigation Plan developed in 2006. Eighteen hazards were profiled in the 2011 Plan Update – drought, earthquake, extreme temperature, flood/flash flood/ice jam, hailstorm, hurricane/tropical storm/nor'easter, landslide, lightning strike, subsidence/sinkhole, tornado/windstorm, wildfire, winter storm, structure collapse, dam failure, environmental hazards, transportation accident, urban fire and explosion, and utility interruption. The Plan Update included a review of the original plan's hazards, mitigation goals, and actions, which all were revised, deleted, or modified to address the priorities of Bucks County.

2016 Plan Update

The 2016 Plan Update consisted of a review of the 2011 Plan, which was used as a base document. Each chapter in the 2016 HMP was updated as necessary. A summary was included at the beginning of each chapter to indicate how this Plan was updated from the 2011 version. The Plan Update involved the review of data on potential hazards and reprioritization of these hazards in terms of frequency and severity: twenty-one hazards were profiled in the 2016 Plan Update – drought, earthquake, extreme temperature, flood/flash flood/ice jam, hailstorm, hurricane/tropical storm/nor'easter, landslide, lightning strike, pandemic and infectious disease, radon exposure, subsidence/sinkhole, tornado/windstorm, wildfire, winter storm, structure collapse (infrastructure), dam failure, environmental hazards, terrorism, transportation accident, urban fire and explosion, and utility interruption. Pandemic and infectious disease, radon exposure, and terrorism were all new hazard profiles included in the 2016 Plan Update. The Plan Update included a review of mitigation actions, which were revised, deleted, or modified to address the high priority hazards as well as a Plan Maintenance section.

2021 Plan Update

The 2021 Plan Update is intended to enable the County and its municipalities to effectively reduce the potential risks of identified hazards to the health, safety and property of the residents, business owners, and visitors to the County. The Plan Update will also allow Bucks County municipalities to be eligible for a range of grants and financial assistance following hazard events.

The 2021 Plan Update includes a thorough review and evaluation of the 2016 Plan. Each chapter in the 2021 HMP has been updated where applicable. A summary is included at the beginning of each chapter to indicate how this Plan was updated from the 2016 version. The Plan Update involves the review of data on potential hazards and reprioritization of these hazards in terms of frequency and severity; one additional hazard was added to the risk assessment: gas and liquid pipelines. The pandemic profile was also expanded based on the impacts and experiences of COVID-19. The Plan Update includes a review of mitigation actions, which were revised, deleted, or modified to address the high priority hazards as well as a Plan Maintenance section that describes how the Plan will be updated and maintained during the next five-year cycle.

The 2021 Hazard Mitigation Plan Update comprises seven chapters. Chapter 1 includes the prerequisites of the Plan including letters of adoption by the County Commission and the individual municipalities. Chapter 2 introduces the plan update process and includes an overview of the socio-economic and demographic characteristics. Chapter 3 discusses the planning process. Chapter 4 comprises hazard identification and risk assessment and examines vulnerability and the potential losses from the top priority hazards. Chapter 4 also includes a historic profile of hazard types and associated losses, and a vulnerability assessment, which analyzes the potential for future damage due to the hazards identified. Chapter 5 contains a capability assessment including a review of existing plans and ordinances from the counties and municipalities. Chapter 6 discusses the mitigation strategy including updated mitigation goals and objectives, mitigation actions, and the method for prioritization and implementation of mitigation actions. Chapter 7 outlines how Bucks County and its municipalities will implement the Plan once it is adopted and ways to monitor progress and ensure continued public involvement.

2026 Plan Update

The 2026 Plan Update consisted of a review of the 2021 Plan, which was used as a base document. Each chapter in the 2026 HMP was updated to reflect the PEMA Standard Operating Guide and the FEMA Local Mitigation Plan Review Guide 2025. The Plan Update involved the review of data on potential hazards and reprioritization of these hazards in terms of frequency and severity: twenty-four hazards were profiled in the 2026 Plan Update – drought, earthquake, extreme temperature, flood/flash flood/ice jam, hailstorm, hurricane/tropical storm/nor’easter, landslide, lightning strike, pandemic and infectious disease, radon exposure, subsidence/sinkhole, tornado/windstorm, wildfire, winter storm, structure collapse (infrastructure), cyberterrorism, dam failure, environmental hazards (gas and liquid pipelines) environmental hazards (hazardous materials release), substance use disorder, terrorism, transportation accident, urban fire and explosion, and utility interruption. Substance Use Disorder and Cyberterrorism were new hazard profiles included in the 2016 Plan Update. The Plan Update included a review of mitigation actions, which were revised, deleted, or modified to address the high priority hazards as well as a Plan Maintenance section.

1.2 Purpose

This Hazard Mitigation Plan was developed for the purpose of:

- Providing a blueprint for reducing property damage and saving lives from the effects of future natural and man-made disasters in Bucks County;
- Qualifying the County for pre-disaster and post-disaster grant funding;
- Complying with state and federal legislative requirements related to local hazard mitigation planning;
- Demonstrating a firm local commitment to hazard mitigation principles; and
- Improving community resiliency following a disaster event.

The Disaster Mitigation Act of 2000 (DMA 2000), Section 322 requires that local governments (communities/counties), as a condition of receiving federal disaster mitigation funds, have a mitigation plan that describes the process for identifying hazards, creating a risk assessment and vulnerability analysis, identifying and prioritizing mitigation strategies, and developing an implementation schedule for the County and each of the municipalities.

Congress authorized the establishment of a Federal grant program to provide financial assistance to States and communities for flood mitigation planning and activities. The Federal Emergency Management Agency (FEMA) has designated this Flood Mitigation Assistance (FMA).

1.3 Scope

The Bucks County 2026 HMP Update has been prepared to meet requirements set forth by the FEMA and the Pennsylvania Emergency Management Agency (PEMA) in order for the County to be eligible for funding and technical assistance from state and federal hazard mitigation programs. The original plan is being updated in order to continually address both natural and human-made hazards determined to be of significant risk to the County and/or its local municipalities. Updates will take place following significant disasters and/or after a review each year and/or when other plan updates impact the HMP.

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.
- CFR, Title 44, Parts 60, 77, 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.*
- National Dam Safety Program Act (Pub. L. 92-367), as amended.

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 Stormwater Management Act of October 4, 1978. P.L. 864, No. 167.
- Pennsylvania Floodplain Management Act of 1978. P.L. 851, No. 166.
- Pennsylvania Hazardous Material Emergency Planning and Response Act of 1990 (Act 165).

The following FEMA guides and reference documents were used to prepare this document:

- FEMA: *Integrating Hazard Mitigation into Local Planning: Case Studies and Tools for Community Officials*. March 2013.
- FEMA: *Mitigation Ideas: A Resource for Reducing Risk to Natural Hazards*. January 2013.
- FEMA: *National Fire Incident Reporting System 5.0: Complete Reference Guide*. January 2015.
- FEMA: *Local Mitigation Planning Handbook*. May 2023.
- FEMA: *Local Mitigation Planning Policy Guide*. 2025.
- FEMA. *Region 3 High Hazard Potential Dams: Local and Tribal Mitigation Planning Tips*. July 2024.
- FEMA. *Rehabilitation of High Hazard Potential Dams (HHPD) Grant Program FAQ*. June 2020.

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

- PEMA: *Hazard Mitigation Planning Made Easy!*
- PEMA Mitigation Ideas: *Potential Mitigation Measures by Hazard Type; A Mitigation Planning Tool for Communities*. March 2009.
- PEMA. *Administrative Processes*. December 20, 2019.
- PEMA: *Pennsylvania's Hazard Mitigation Planning Standard Operating Guide*. August 2025.
- PEMA: *Pennsylvania State Hazard Mitigation Plan, 2023 Update*.