



SECTION 1. INTRODUCTION

1.1 PURPOSE

Erie County and its jurisdictions have prepared this multi-hazard mitigation plan to better protect the residents and property throughout the County from the effects of hazard events. This plan demonstrates the County’s and each jurisdiction’s commitment to reducing risk from hazards, increasing resilience overall, and provide a tool to help decision makers integrate mitigation in their day-to-day processes. This plan was also developed to position Erie County and its participating jurisdictions for eligibility of pre- and post-disaster Federal Emergency Management Agency (FEMA) grants, including: Hazard Mitigation Assistance grant programs (HMA), which include Hazard Mitigation Grant Program (HMGP), Building Resilient Infrastructure and Communities (BRIC), and Flood Mitigation Assistance (FMA). This plan also aligns with the planning elements of the National Flood Insurance Program’s Community Rating System (CRS) which provides for lower flood insurance premiums in CRS communities.

1.2 BACKGROUND

A Hazard Mitigation Plan (HMP) is a living document that communities use to reduce their vulnerability to hazards. It forms the foundation for a community's long-term strategy to reduce disaster losses and creates a framework for decision making to reduce damages to lives, property, and the economy from future disasters. Examples of mitigation projects include home acquisitions or elevations to remove structures from high-risk areas, upgrades to critical public facilities, and infrastructure improvements. Ultimately, these actions reduce vulnerability, and communities are able to recover more quickly from disasters. Erie County has demonstrated its commitment to reducing disaster losses by initially developing its multi-jurisdictional HMP in 2005 and updating information upon which to base a successful mitigation strategy to reduce the impacts of natural disasters and to increase the resiliency of its communities.

In response to the requirements of the Disaster Mitigation Act of 2000 (DMA 2000), Erie County and the jurisdictions located therein have developed this hazard mitigation plan, which represents a regulatory update to the *2015 Erie County Multi-Jurisdictional All-Hazards Mitigation Plan* (HMP; also referred herein as the *Hazard Mitigation Plan* or *the plan*). The DMA 2000 amends the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act) and is designed to improve planning for, response to, and recovery from disasters by requiring state and local entities to implement pre-disaster mitigation planning and develop HMPs. The Federal Emergency Management Agency (FEMA) has issued guidelines for HMPs. The New York State Division of Homeland Security and Emergency Services (NYS DHSES), formerly the New York State Office of Emergency Management (NYSOEM), also supports plan development for jurisdictions in New York and issued the NYS DHSES Hazard Mitigation Planning Standards for HMPs developed with NYS DHSES-administered funds.

Hazard Mitigation is any sustained action taken to reduce or eliminate the long-term risk and effects that can result from specific hazards.

FEMA defines a *Hazard Mitigation Plan* as the documentation of a state or local government evaluation of natural hazards and the strategies to mitigate such hazards.

Specifically, the DMA 2000 requires that states, with support from local governmental agencies, develop and update HMPs on a five-year basis to prepare for and reduce the potential impacts of natural hazards. The DMA 2000 is intended to facilitate cooperation between state and local authorities, prompting them to work together. This enhanced planning better enables local and state governments to articulate accurate needs for mitigation, resulting in faster allocation of funding and more effective risk reduction projects.



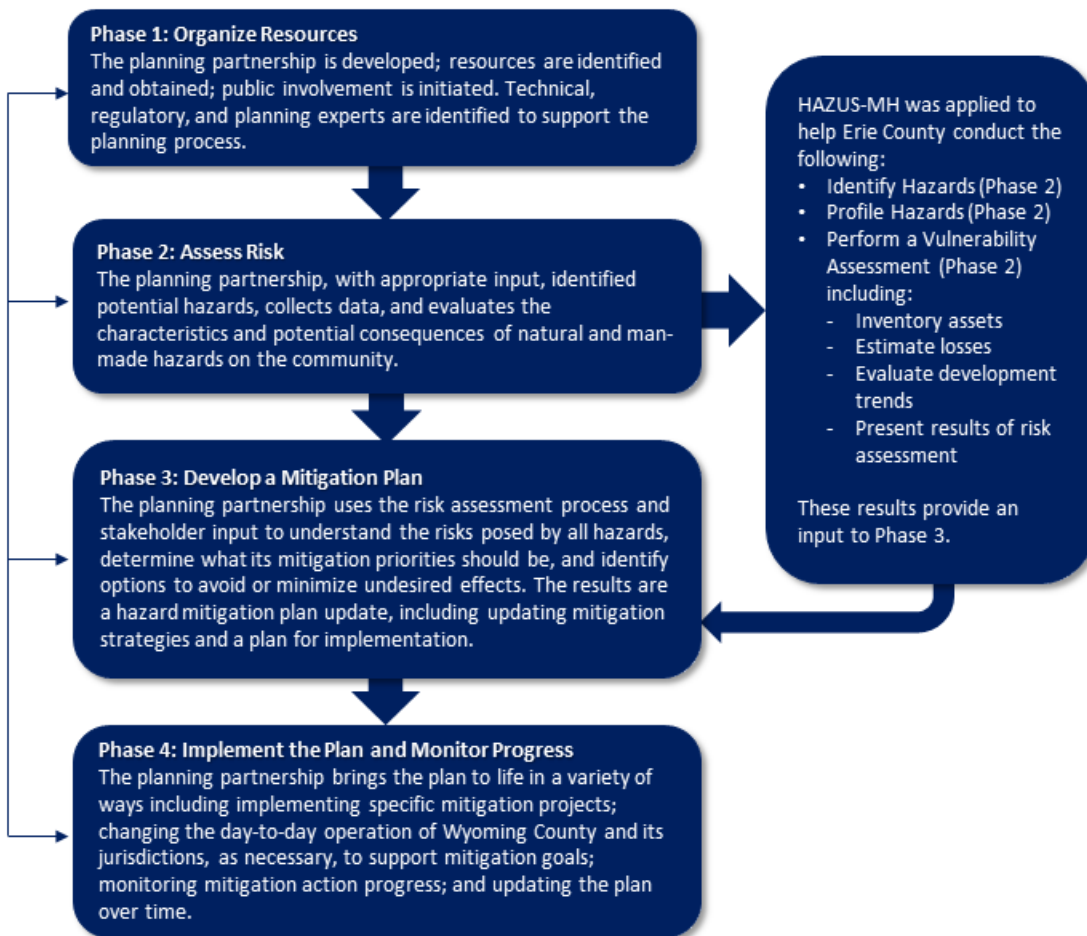
1.3 PLAN ORGANIZATION

The Erie County Hazard Mitigation Plan 2021 Update is organized as a two-volume plan and is in alignment with the DMA planning requirements, the 2013 FEMA *Local Mitigation Planning Handbook*, and the FEMA *Local Mitigation Plan Review Tool*.

Volume I provides information on the overall planning process and hazard profiling and vulnerability assessments, which serves as a basis for understanding risk and identifying mitigation actions. As such, Volume I is intended for use as a resource for on-going mitigation analysis.

Volume II provides an annex dedicated to each participating jurisdiction. Each annex summarizes the jurisdiction’s legal, regulatory, and fiscal capabilities; identifies vulnerabilities to hazards; documents mitigation plan integration with other planning efforts; records status of past mitigation actions; and presents an individualized mitigation strategy. The annexes are intended to provide a useful resource for each jurisdiction for implementation of mitigation projects and future grant opportunities, as well as a place for each jurisdiction to record and maintain their local aspect of the countywide plan.

Figure 1-1. Erie County Hazard Mitigation Planning Process



The HMP is organized into two volumes: Volume I includes all information that applies to the entire planning area (Erie County) and Volume II includes participating jurisdiction-specific information.

Volume I of this plan includes the following sections:



- Section 1:** Introduction: Overview of participants and planning process.
- Section 2:** Plan Adoption: Information regarding the adoption of the HMP by Erie County and each participating jurisdiction.
- Section 3:** Planning Process: Description of the HMP methodology and development process; Steering Committee, Planning Committee, and stakeholder involvement efforts; and a description of how this HMP will be incorporated into existing programs.
- Section 4:** County Profile: Overview of Erie County, including: (1) general information, (2) economy, (3) land use trends, (4) population and demographics, (5) general building stock inventory, and (6) critical facilities.
- Section 5:** Risk Assessment: Documentation of the hazard identification and hazard risk ranking process, hazard profiles, and findings of the vulnerability assessment (estimates of the impact of hazard events on life, safety, health, general building stock, critical facilities, the economy); description of the status of local data; and planned steps to improve local data to support mitigation planning.
- Section 6:** Mitigation Strategies: Information regarding the mitigation goals and objectives identified by the Steering Committee in response to priority hazards of concern and the process by which Erie County and local mitigation strategies have been developed or updated.
- Section 7:** Plan Maintenance Procedures: System established by the Steering Committee to continue to monitor, evaluate, maintain, and update the HMP.

Volume II of this plan includes the following sections:

- Section 8:** Planning Partnership: Description of the planning partnership, their responsibilities, and description of jurisdictional annexes.
- Section 9:** Jurisdictional Annexes: Jurisdiction-specific annex for Erie County and each participating jurisdiction containing their hazards of concern, hazard risk ranking, capability assessments, mitigation actions, action prioritization specific only to Erie County or that jurisdiction, progress on prior mitigation activities (as applicable), and a discussion of prior local HMP integration into local planning processes.

Appendices include the following:

- Appendix A:** Resolution of Plan Adoption: Resolutions from the county and each jurisdiction included as each formally adopts the HMP update.
- Appendix B:** Participation Matrix: Matrix to give a broad overview of who attended meetings and when input was provided to the HMP update, as well as Letters of Intent to Participate as described in Section 3.
- Appendix C:** Meeting Documentation: Agendas, attendance sheets, minutes, and other documentation (as available and applicable) of planning meetings convened during the development of the plan.
- Appendix D:** Public and Stakeholder Outreach Documentation: Documentation of the public and stakeholder outreach effort including webpages, informational materials, public and stakeholder meetings



and presentations, surveys, and other methods used to receive and incorporate public and stakeholder comment and input to the plan process.

Appendix E: Risk Assessment Supplementary Data: Expanded explanation of community lifelines; and the previous hazard events from the 2015 HMP.

Appendix F: Critical Facilities: Critical facilities included in the risk assessment.

Appendix G: Coastal Hazard Area maps

Appendix H: FEMA Plan Review Tools: Examples of plan review templates available to support annual plan review.

Appendix I: Plan Review Matrix: Summary of plans reviewed, including documentation of content relevant to the mitigation planning process.

1.4 THE UPDATED PLAN – WHAT IS DIFFERENT?

Due to the success of the 2015 plan, no major changes were made to the format or function of the 2021 update. The 2021 update has been enhanced using best available data and technology, especially in the risk assessment portion of the plan in Section 5 (Risk Assessment). The updated plan differs from the initial plan in a variety of ways:

- Updated NYS DHSES guidance existed at the time of its development. The 2017 New York State Hazard Mitigation Planning Standards and Guide were used to develop the 2021 update.
- Newly available data provided for a more detailed and accurate risk assessment. The updated plan is based on new data including FEMA’s countywide Digital Flood Insurance Rate Maps (DFIRMs).
- User-friendly tone to cater to the strong desire for this plan to be understandable to the general public and not overly technical.
- Actions are identified, rather than strategies. Strategies provide direction, but actions are fundable under grant programs. The identified actions meet multiple measurable objectives so that each planning partner can measure the effectiveness of their mitigation actions.
- Identification and priority for numerous actions to be implemented by the planning partnership. The status of these actions will be monitored over the plan performance period by a plan maintenance strategy identified in Section 7 (Plan Maintenance) that included annual progress reporting.

Table 1-3 indicates the major changes between the two plans as they relate to 44 CFR planning requirements.

Table 1-1. Plan Changes Crosswalk

44 CFR Requirement	2015 Plan	2021Updated Plan
<i>Requirement §201.6(b): In order to develop a more comprehensive approach to reducing the effects of natural disasters, the planning process shall include:</i> (1) <i>An opportunity for the public to comment on the plan during the drafting stage and prior to plan approval;</i> (2) <i>An opportunity for neighboring communities, local and regional agencies involved in hazard mitigation activities, and agencies that have the authority to regulate</i>	The 2015 plan followed an outreach strategy utilizing multiple media developed and approved by the Steering Committee. This strategy involved the following: <ul style="list-style-type: none"> • Public participation on an oversight Steering Committee. • Establishment of a plan informational website. • Press releases. Use of a public information survey.	Building upon the success of the 2015 plan, the 2021 planning effort deployed the same public engagement methodology. The plan included the following enhancements: <ul style="list-style-type: none"> • Using social media. • HMP project website. • Web-deployed survey. • Informational brochure. As with the 2015 plan, the 2021 planning process identified key stakeholders and coordinated with



44 CFR Requirement	2015 Plan	2021 Updated Plan
<p><i>development, as well as businesses, academia and other private and non-profit interests to be involved in the planning process; and</i></p> <p><i>(3) Review and incorporation, if appropriate, of existing plans, studies, reports and technical information.</i></p>	<p>Stakeholders were identified and coordinated with throughout the process. A comprehensive review of relevant plans and programs was performed by the planning team.</p>	<p>them throughout the process. The planning team performed a comprehensive review of relevant plans and programs.</p>
<p><i>§201.6(c)(2): The plan shall include a risk assessment that provides the factual basis for activities proposed in the strategy to reduce losses from identified hazards. Local risk assessments must provide sufficient information to enable the jurisdiction to identify and prioritize appropriate mitigation actions to reduce losses from identified hazards.</i></p>	<p>The 2015 plan included a comprehensive risk assessment of hazards of concern. Risk was defined as (probability x impact), where impact is the impact on people, property, and economy of the planning area. All planning partners ranked risk as it pertains to their jurisdiction. The potential impacts of climate change are discussed for each hazard.</p>	<p>The same methodology, using new, updated data, was deployed for the 2021 plan update.</p>
<p><i>§201.6(c)(2)(i): [The risk assessment] shall include a) description of the ... location and extent of all-natural hazards that can affect the jurisdiction. The plan shall include information on previous occurrences of hazard events and on the probability of future hazard events.</i></p>	<p>The 2015 plan presented a risk assessment of each hazard of concern. Each section included the following:</p> <ul style="list-style-type: none"> • Hazard profile, including maps of extent and location, previous occurrences, and probability of future events. • Climate change impacts on future probability. • Impact and vulnerability on life, health, safety, general building stock, critical facilities, and economy. • Impact on people, property, critical facilities, and environment. • Future growth and development. • Additional data and next steps. • Overall vulnerability assessment. 	<p>The same format, using new and updated data, was used for the 2021 plan update. Each section of the risk assessment includes the following:</p> <ul style="list-style-type: none"> • Hazard profile, including maps of extent and location, previous occurrences, and probability of future events. • Climate change impacts on future probability using the best available data for New York State. • Vulnerability assessment includes: impact on life, safety, and health, general building stock, critical facilities, and the economy, as well as future changes that could impact vulnerability. • The vulnerability assessment also includes changes in vulnerability since the 2021 plan. • Identified issues have been documented in each hazard profile.
<p><i>§201.6(c)(2)(ii): [The risk assessment] shall include a) description of the jurisdiction's vulnerability to the hazards described in paragraph (c)(2)(i). This description shall include an overall summary of each hazard and its impact on the community.</i></p>	<p>Vulnerability was assessed for all hazards of concern. The HAZUS-MH-MH computer model was used for the severe storm, earthquake, and flood hazards. These were Level 2 analyses using county data. Site-specific data on county-identified critical facilities were entered into the HAZUS-MH model. HAZUS-MH outputs were generated for other hazards by applying an estimated damage function to an asset inventory extracted from HAZUS-MH-MH.</p>	<p>The same methodology was deployed for the 2021 plan update, using new and updated data. Additional hazards of concern include the following:</p> <ul style="list-style-type: none"> • Coastal Erosion • Cybersecurity (distinct from Terrorism hazard) • Expansive Soils • Utility Failure
<p><i>§201.6(c)(2)(ii): [The risk assessment] must also address National Flood</i></p>	<p>A summary of NFIP insured properties including an analysis of repetitive loss</p>	<p>The same methodology was deployed for the 2021 plan update using new and updated data.</p>



44 CFR Requirement	2015 Plan	2021 Updated Plan
<i>Insurance Program insured structures that have been repetitively damaged floods.</i>	property locations was included in the plan.	
<i>Requirement §201.6(c)(2)(ii)(A): The plan should describe vulnerability in terms of the types and numbers of existing and future buildings, infrastructure and critical facilities located in the identified hazard area.</i>	A complete inventory of the numbers and types of buildings exposed was generated for each hazard of concern. The Steering Committee defined “critical facilities” for the planning area, and these were inventoried by exposure. Each hazard chapter provides a discussion on future development trends.	The same methodology was deployed for the 2021 plan update using new and updated data.
<i>Requirement §201.6(c)(2)(ii)(B): [The plan should describe vulnerability in terms of an] estimate of the potential dollar losses to vulnerable structures identified in paragraph (c)(2)(i)(A) and a description of the methodology used to prepare the estimate.</i>	Loss estimates were generated for all hazards of concern. These were generated by HAZUS-MH-MH for the severe storm, earthquake, and flood hazards. For the other hazards, loss estimates were generated by applying a regionally relevant damage function to the exposed inventory. In all cases, a damage function was applied to an asset inventory. The asset inventory was the same for all hazards and was generated in HAZUS-MH.	The same methodology was deployed for the 2021 plan update using new and updated data.
<i>Requirement §201.6(c)(2)(ii)(C): [The plan should describe vulnerability in terms of] providing a general description of land uses and development trends within the community so that mitigation options can be considered in future land use decisions.</i>	There is a summary of anticipated development in the county profile, as well as in each individual annex.	The same methodology was deployed for the 2021 plan update using new and updated data.
<i>§201.6(c)(3): [The plan shall include a mitigation strategy that provides the jurisdiction’s blueprint for reducing the potential losses identified in the risk assessment, based on existing authorities, policies, programs and resources, and its ability to expand on and improve these existing tools.]</i>	The 2015 plan contained a mission statement, goals, objectives and actions. The guiding principal, goals and objectives were regional and covered all planning partners. Each planning partner identified actions that could be implemented within their capabilities. The actions were jurisdiction-specific and strove to meet multiple objectives. All objectives met multiple goals and stand alone as components of the plan. Each planning partner completed an assessment of its regulatory, technical, and financial capabilities.	The same methodology for setting goals, objectives, and actions was applied to the 2021 plan update. The Steering Committee reviewed and reconfirmed the mission statement, goals, and objectives for the plan. Each planning partner used the progress reporting from the plan maintenance and evaluated the status of actions identified in the 2015 plan. Actions that were completed or no longer considered to be feasible were removed. The balance of the actions was carried over to the 2021 plan, and in some cases, new actions were added to the action plan.
<i>Requirement §201.6(c)(3)(i): [The hazard mitigation strategy shall include a] description of mitigation goals to reduce or avoid long-term vulnerabilities to the identified hazards.</i>	The Steering Committee identified a mission statement, goals, and objectives targeted specifically for this HMP. These planning components supported the actions identified in the plan.	The same methodology for setting goals, objectives, and actions was applied to the 2021 plan update. The Steering Committee reviewed and updated the mission statement, goals, and objectives for the plan to include a focus on increased resiliency. This resulted in the finalization of six goals and 30 objectives to frame the plan.
<i>Requirement §201.6(c)(3)(ii): [The mitigation strategy shall include a] section that identifies and analyzes a comprehensive range of specific mitigation actions and projects being considered to reduce the effects of each hazard, with</i>	The 2015 plan includes a hazard mitigation catalog that was developed through a facilitated process. This catalog identifies actions that manipulate the hazard, reduce exposure to the hazard, reduce	The mitigation catalog was reviewed and updated by the Steering Committee for the 2021 update. As with the 2015 plan, the catalog has been included in the 2021 plan to represent the comprehensive range of



44 CFR Requirement	2015 Plan	2021 Updated Plan
<i>particular emphasis on new and existing buildings and infrastructure.</i>	vulnerability, or increase mitigation capability. The catalog further segregates actions by scale of implementation. A table in the action plan section analyzes each action by mitigation type to illustrate the range of actions selected.	alternatives considered by each planning partner. The table with the analysis of mitigation actions was used in jurisdictional annexes to the plan.
<i>Requirement: §201.6(c)(3)(ii): [The mitigation strategy] must also address the jurisdiction's participation in the National Flood Insurance Program, and continued compliance with the program's requirements, as appropriate.</i>	All municipal planning partners that participate in the National Flood Insurance Program identified an action stating their commitment to maintain compliance and good standing under the program.	The same methodology was deployed for the 2021 plan update, using new and updated data.
<i>Requirement: §201.6(c)(3)(iii): [The mitigation strategy shall describe] how the actions identified in section (c)(3)(ii) will be prioritized, implemented and administered by the local jurisdiction. Prioritization shall include a special emphasis on the extent to which benefits are maximized according to a cost benefit review of the proposed projects and their associated costs.</i>	Each recommended action was prioritized using a qualitative methodology based on the objectives the project will meet, the timeline for completion, how the project will be funded, the impact of the project, the benefits of the project, and the costs of the project.	A revised methodology based on the STAPLEE criteria and using new and updated data was used for the 2021 plan update.
<i>Requirement §201.6(c)(4)(i): [The plan maintenance process shall include a] section describing the method and schedule of monitoring, evaluating, and updating the mitigation plan within a five-year cycle.</i>	The 2015 plan outlined a detailed maintenance strategy.	The 2021 plan details a plan maintenance strategy similar to that of the initial plan.
<i>Requirement §201.6(c)(4)(ii): [The plan shall include a] process by which local governments incorporate the requirements of the mitigation plan into other planning mechanisms such as comprehensive or capital improvement plans, when appropriate.</i>	The 2015 plan details recommendations for incorporating the plan into other planning mechanisms.	The 2021 plan details recommendations for incorporating the plan into other planning mechanisms such as the following: <ul style="list-style-type: none"> • Comprehensive Plan • Emergency Response Plan • Capital Improvement Programs • Municipal Code
<i>Requirement §201.6(c)(4)(iii): [The plan maintenance process shall include a] discussion on how the community will continue public participation in the plan maintenance process.</i>	The 2015 plan details a strategy for continuing public involvement.	The 2015 plan maintenance strategy was carried over to the 2021 plan. In addition, the county will use a proprietary online tool to support the annual progress reporting of mitigation actions.
<i>Requirement §201.6(c)(5): [The local hazard mitigation plan shall include] documentation that the plan has been formally adopted by the governing body of the jurisdiction requesting approval of the plan (e.g., City Council, County Commissioner, Tribal Council).</i>	46 planning partners participated in the 2015 planning process.	The 2021 plan achieves DMA compliance for 46 planning partners. Resolutions for each partner adopting the plan can be found in Appendix A of this volume.