

SECTION 1. INTRODUCTION

1.1 BACKGROUND

Communities, residents and businesses have been faced with continually increasing costs associated with both natural and man-made hazards. Hazard mitigation is the first step in reducing risk and is the most effective way to reduce costs associated with hazards. Westchester County and 42 participating jurisdictions located therein, have developed this Westchester County Multi-Jurisdictional Hazard Mitigation Plan (WCHMP, also referred herein as the “Hazard Mitigation Plan” or the “plan”), which is a multi-jurisdictional, multi-hazard mitigation plan. The WCHMP includes countywide analysis and assessment of hazards, risk and capabilities and represents both an update of the 2005 “Westchester County Hazard Mitigation Plan for County Owned Property and Infrastructure” (single jurisdiction plan) as well as an update of single- and multi-jurisdictional hazard mitigation plans (HMPs) developed previously by the participating Westchester municipalities. The plan has been prepared following the requirements of the federal Disaster Mitigation Act of 2000 (DMA 2000). DMA 2000 amends the 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 the development of multi-jurisdictional hazard mitigation plans, and the New York State Division of Homeland Security and Emergency Services (DHSES) also supports plan development for jurisdictions in New York State.

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 (HMP)** as the documentation of a state or local government evaluation of natural hazards and the strategies to mitigate such hazards.

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

1.1.1 DMA 2000 Origins -The Robert T. Stafford Disaster Relief and Emergency Assistance Act

The **Federal Emergency Management Agency (FEMA)** estimates that for every dollar spent on damage prevention (mitigation), twice that amount is saved through avoided post-disaster damage

In the early 1990s, a new federal policy regarding disasters began to evolve. Rather than simply reacting whenever disasters strike communities, the federal government began encouraging communities to first assess their vulnerability to various disasters and proceed to take actions to reduce or eliminate potential risks. The logic is simply that a disaster-resistant community can rebound from a natural disaster with less loss of property or human injury, at much lower cost and more quickly. Moreover, other costs associated with disasters, such as the time lost from productive activity by business and industries, are minimized.

DMA 2000 provides an opportunity for states, tribes and local governments to take a new and revitalized approach to mitigation planning. DMA 2000 amended the Robert T. Stafford Disaster Relief and Emergency Assistance Act by repealing the previous mitigation planning provisions (Section 409) and replacing them with a new set of requirements (Section 322). This section sets forth the requirements that communities evaluate natural hazards within their respective

jurisdictions and develop an appropriate plan of action to mitigate those hazards, while emphasizing the need for state, tribal and local governments to closely coordinate mitigation planning and implementation efforts.

The amended Stafford Act requires that each local jurisdiction identify potential natural hazards to the health, safety and well-being of its residents and identify and prioritize actions that can be taken by the community to mitigate those hazards—before disaster strikes. For communities to remain eligible for hazard mitigation assistance from the federal government, they must first prepare, and then maintain and update an HMP (this plan).

Responsibility for fulfilling the requirements of Section 322 of the Stafford Act and administering the FEMA Hazard Mitigation Program has been delegated to the State of New York, specifically to NYS DHSES. FEMA also provides support through guidance, resources, and plan reviews.

1.1.2 Benefits of Mitigation Planning

Effective mitigation planning will help prepare citizens and government agencies to better prepare for and respond when disasters occur. Also, mitigation planning allows Westchester County as a whole, including the participating Westchester County cities, towns, and villages, to remain eligible for mitigation grant funding for mitigation projects that will reduce the impact of future disaster events. The long-term benefits of mitigation planning and implementation include:

- An increased understanding of hazards faced by Westchester County communities
- A more sustainable and disaster-resistant community
- Financial savings through partnerships that support planning and mitigation efforts
- Focused use of limited resources on hazards that have the biggest impact on the community
- Reduced long-term impacts and damages to human health and structures
- Reduced costs associated with response and recovery efforts, including repairs

1.1.3 Organizations Involved in the Mitigation Planning Effort

Westchester County and the participating jurisdictions have prepared this hazard mitigation plan with full coordination and participation of county and local government, relevant organizations and groups, as well as state and federal agencies and the general public. Coordination helps to ensure that stakeholders have established communication channels and relationships necessary to support mitigation planning and mitigation actions included in Section 6 and in the jurisdictional annexes in Section 9. In addition to Westchester County, 42 of the 45 municipal governments in the county have participated in the planning process as indicated in Table 1-1 below. It is noted that the City of White Plains, the Town of Mount Pleasant and Village of Sleepy Hollow elected not to formally participate in this planning process, having either recently completed or were in an active hazard mitigation planning process. The format of this plan is such that these communities can readily join in the regulatory 5-year plan update process, as identified in Section 7.

Table 1-1. Participating Jurisdictions in Westchester County

Jurisdictions		
Westchester County		
City of Mount Vernon	Town of Ossining	Village of Hastings-On-Hudson
City of New Rochelle	Town of Pelham	Village of Irvington
City of Peekskill	Town of Pound Ridge	Village of Larchmont
City of Rye	Town of Rye	Village of Mamaroneck



Jurisdictions		
City of Yonkers	Town of Somers	Village of Mount Kisco
Town of Bedford	Town of Yorktown	Village of Ossining
Town of Cortlandt	Village of Ardsley	Village of Pelham
Town of Eastchester	Village of Briarcliff Manor	Village of Pelham Manor
Town of Greenburgh	Village of Bronxville	Village of Pleasantville
Town of Lewisboro	Village of Buchanan	Village of Port Chester
Town of Mamaroneck	Village of Croton-On-Hudson	Village of Rye Brook
Town of New Castle	Village of Dobbs Ferry	Village of Scarsdale
Town of North Castle	Village of Elmsford	Village of Tarrytown
Town of North Salem	Village of Harrison	Village of Tuckahoe

Multiple Agency Support for Hazard Mitigation

Primary responsibility for the development and implementation of mitigation strategies and policies lies with local governments. However, local governments are not alone; various partners and resources at the regional, state and federal levels are available to assist communities in the development and implementation of mitigation strategies. Within New York State, NYS DHSES is the lead agency providing hazard mitigation planning assistance to local jurisdictions. In addition, FEMA provides grants, tools, guidance and training to support mitigation planning.

Additional input and support for this planning effort was obtained from a range of agencies and through public involvement (as discussed in Section 3). The project is managed by the Westchester County Department of Emergency Services – Office of Emergency Management (WCDES-OEM), with oversight provided by a Steering Committee consisting of representative from WCDES-OEM and the Westchester County Department of Planning (WCDP) to guide the planning process. The 42 participating municipalities provided significant input into the preparation of the plan, in particular the preparation of the annexes included in Section 9 for each municipality. Details regarding the roles and responsibilities of the various committees and other participants are further discussed in Section 3.

Figure 1-1. Westchester County, New York Mitigation Plan Area



Source: Westchester County Department of Planning



This hazard mitigation plan was prepared in accordance with the following regulations and guidance:

- FEMA “Local Mitigation Planning Handbook”, March 2013
- FEMA “Integrating Hazard Mitigation into Local Planning”, March 2013
- Local Mitigation Plan Review Guide, October 1, 2011
- DMA 2000 (Public Law 106-390, October 30, 2000)
- 44 Code of Federal Regulations (CFR) Parts 201 and 206 (including: Feb. 26, 2002, Oct. 1, 2002, Oct. 28, 2003, and Sept. 13, 2004 Interim Final Rules)
- FEMA. 2004. “How-To Guide for Using HAZUS-MH for Risk Assessment.” FEMA Document No. 433. February
- FEMA Mitigation Planning How-to Series (FEMA 386-1 through 4, 2002), available at: <https://www.fema.gov/media-library/collections/6>

Table 1-2 summarizes the requirements outlined in the DMA 2000 Interim Final Rule and where each of these requirements is addressed in this hazard mitigation plan.

Table 1-2. FEMA Local Mitigation Plan Review Crosswalk

Plan Criteria	Primary Location in Plan
Prerequisites	
Adoption by the Local Governing Body: §201.6(c)(5)	Section 2.0; Appendix A
Planning Process	
Documentation of the Planning Process: §201.6(b) and §201.6(c)(1)	Section 3.0
Risk Assessment	
Identifying Hazards: §201.6(c)(2)(i)	Sections 5.2
Profiling Hazards: §201.6(c)(2)(i)	Section 5.4
Assessing Vulnerability: Overview: §201.6(c)(2)(ii)	Section 5.4
Assessing Vulnerability: Identifying Structures: §201.6(c)(2)(ii)(A)	Section 4.0 Section 5.4
Assessing Vulnerability: Estimating Potential Losses: §201.6(c)(2)(ii)(B)	Section 5.4
Assessing Vulnerability: Analyzing Development Trends: §201.6(c)(2)(ii)(C)	Section 4.0; Section 9 Annexes
Mitigation Strategy	
Local Hazard Mitigation Goals: §201.6(c)(3)(i)	Section 6.0; Section 9 Annexes
Identification and Analysis of Mitigation Actions: §201.6(c)(3)(ii)	Section 6.0; Section 9 Annexes
Implementation of Mitigation Actions: §201.6(c)(3)(iii)	Section 6.0; Section 9 Annexes
Multi-Jurisdictional Mitigation Actions: : §201.6(c)(3)(iv)	Section 6.0; Section 9 Annexes
Plan Maintenance Process	
Monitoring, Evaluating, and Updating the Plan: §201.6(c)(4)(i)	Section 7.0
Incorporation into Existing Planning Mechanisms: §201.6(c)(4)(ii)	Section 7.0; Section 9 Annexes
Continued Public Involvement: §201.6(c)(4)(iii)	Section 7.0

Organization

The Westchester County Hazard Mitigation Plan has been organized into a two-volume plan to facilitate use of this plan as a resource for each participant. The plan provides a detailed review and analysis of hazards of concern, resources, and relevant statistical information for Westchester County and participating municipalities.

Volume I is intended for use as a resource for on-going mitigation analysis. It includes a description of the county and local municipalities as well as information on mitigation planning and how the risk assessment and capability analysis was performed. Volume II consists of an annex dedicated to each participating jurisdiction. Each annex summarizes the jurisdiction's legal, regulatory, and fiscal capabilities; evaluates vulnerabilities to natural hazards; describes the status of past mitigation actions; and provides specific mitigation strategies. The annexes are intended to provide an expedient resource for each jurisdiction for implementation of mitigation projects and maximizing future grant opportunities.

Hazards of Concern

Westchester County and participating jurisdictions reviewed the natural hazards that caused measurable impacts based on events, losses and information available since the development of the original Westchester County HMP (2005) and other single- and multi-jurisdictional HMPs within the County. Westchester County and participating jurisdictions evaluated the risk and vulnerability due to each of the hazards of concern on the assets of each participating jurisdiction. Although the resulting hazard risk rankings varied for each jurisdiction, the summary risk rankings corresponded with that of Westchester County and are indicated in each jurisdictional annex. The hazard risk ranks were used to focus and prioritize individual jurisdictional mitigation strategies.

Hazard Mitigation Goals

Mitigation goals were developed by the Steering Committee as a basis for the planning process and to guide the selection of appropriate mitigation actions addressing all hazards of concern by evaluating and incorporating the mitigation goals expressed in the New York State HMP, the existing County HMP, available local HMPs within the county, as well as other relevant County and local planning documents. The goals and objectives are described in more detail in Section 6.

Plan Integration into Other Planning Mechanisms

Effective mitigation is achieved when hazard awareness and risk management approaches and strategies become an integral part of public activities and decision-making. Within the county there are many existing plans and programs that support hazard risk management, and thus it is critical that this hazard mitigation plan integrate, complement, and reference those plans and programs to the extent practical in order to be a comprehensive resource for hazard mitigation.

The "Capability Assessment" section of Chapter 6 (Mitigation Strategy) provides a summary and description of the existing plans, programs and regulatory mechanisms at all levels of government (Federal, State, County and local) that support hazard mitigation within the county. Within each jurisdictional annex in Chapter 9, the County and each participating jurisdiction have identified how they have integrated hazard risk management into their existing planning, regulatory and operational/administrative framework ("integration capabilities"), and how they intend to continue to promote this integration ("integration actions"). A further summary of these continued efforts to develop and promote a comprehensive and holistic approach to hazard risk management and mitigation is presented in Section 7.

1.1.4 Implementation of Prior and Existing Local Hazard Mitigation Plans

The status of the mitigation projects identified in prior or existing local HMPS are provided in Section 6 (Mitigation Strategy) and Section 9 (Jurisdictional Annexes) of the plan. Numerous projects and programs have been implemented that have reduced hazard vulnerability to assets in the planning area. Those projects not completed have been reevaluated, modified as necessary and incorporated into this plan. The County and municipal annexes describe these mitigation activities in more detail, and plan maintenance procedures (Section 7) have been developed to encourage thorough integration with local decisions and processes and regular review of implementation progress.

1.1.5 Implementation of the Planning Process

To support the planning process in developing this plan, Westchester County and the participating jurisdictions have accomplished the following:

- Developed a Steering Committee and countywide planning partnership with municipalities and stakeholders,
- Reviewed the 2005 “Westchester County Hazard Mitigation Plan for County Owned Property and Infrastructure” (single jurisdiction plan), and prior and existing single- and multi-jurisdictional local HMPS within the County,
- Identified/reviewed hazards that are of greatest concern to the community (hazards of concern) to be included in the update,
- Profiled these hazards,
- Estimated the inventory at risk and potential losses associated with these hazards,
- Developed appropriate hazard mitigation goals,
- Reviewed mitigation strategies identified in prior and existing local HMPS to indicate progress,
- Developed new mitigation actions to address reduction of vulnerability of hazards of concern,
- Involved a wide range of stakeholders and the public in the plan update process,
- Developed mitigation plan maintenance procedures to be executed after obtaining approval of the plan from NYS DHSES and FEMA.

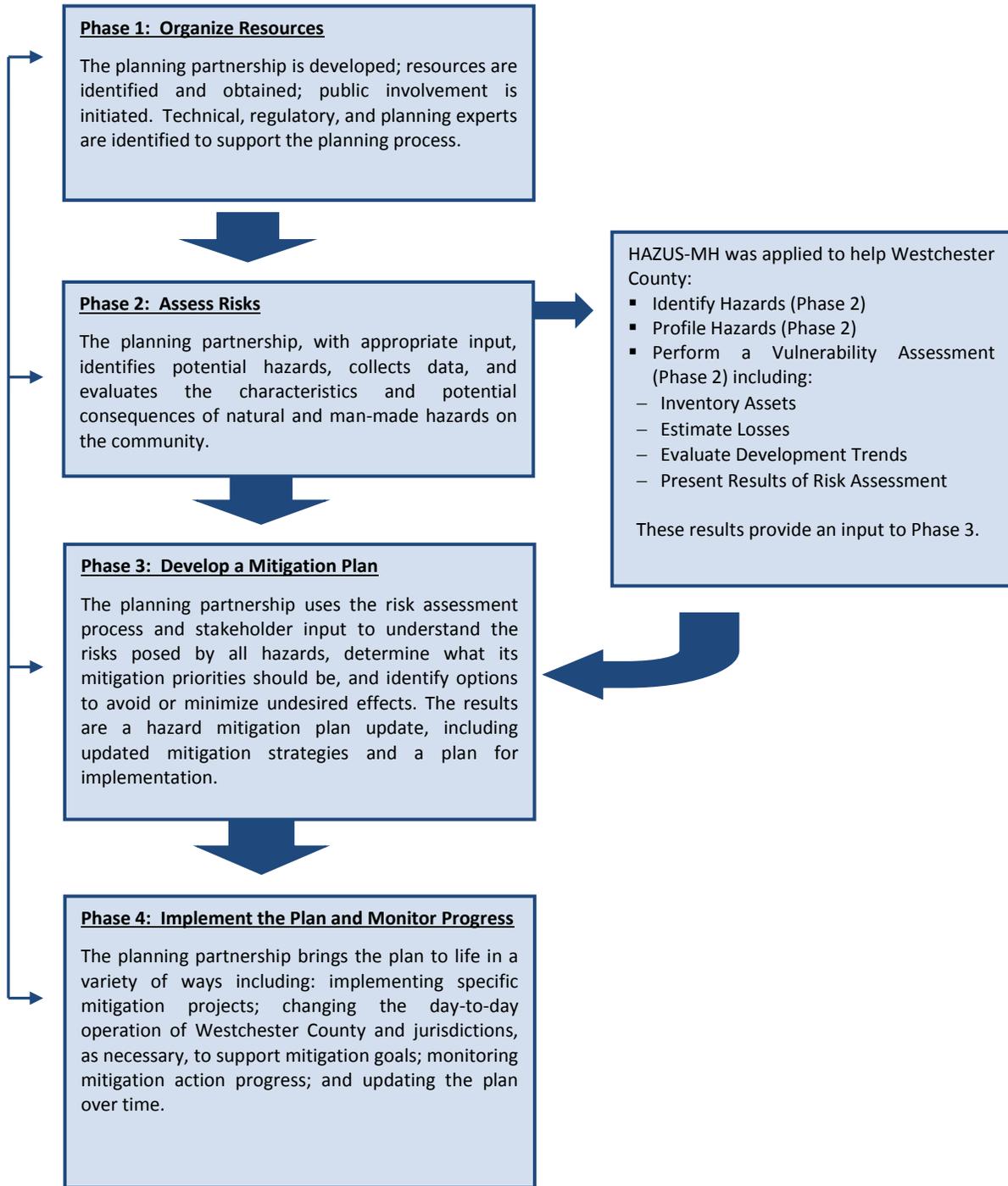
As required by DMA 2000, Westchester County and participating jurisdictions have informed the public and provided opportunities for public comment and input. In addition, numerous agencies and stakeholders have participated as core or support members, providing input and expertise throughout the planning process.

This Hazard Mitigation Plan documents the process and outcomes of Westchester County and the jurisdictions’ efforts. Additional information on the plan update process is included in Section 3, Planning Process. Documentation that the prerequisites for plan approval have been met is included in Section 2, Plan Adoption.

1.1.6 Organization of This Mitigation Plan

The planning effort followed the four-phase planning process recommended by FEMA and summarized in Figure 1-2.

Figure 1-2. Westchester County Hazard Mitigation Planning Process



This plan was organized in accordance with FEMA and NYS DHSES guidance, organized into two volumes: Volume I includes all information that applies to the entire planning area (Westchester County); and Volume II includes specific information for the County as a jurisdiction as well as each participating jurisdiction.

More specifically, 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 plan by Westchester County and each participating jurisdiction.

Section 3: Planning Process: A description of the plan methodology and development process, committee and stakeholder roles and activities, and how the plan will be incorporated into existing programs.

Section 4: County Profile: An overview of Westchester County, including: (1) general information and physical conditions, (2) economy, (3) land use patterns and 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 and health; general building stock; critical facilities and 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 County and local mitigation strategies have been developed or updated.

Section 7: Plan Maintenance Procedures: A system to continue to monitor, evaluate, maintain and update the plan.

Volume II of this plan includes the following sections:

Section 8: Planning Partnership: Description of the planning partnership and jurisdictional annexes.

Section 9: Jurisdictional Annexes: A jurisdiction-specific annex for each participating jurisdiction and Westchester County containing their hazards of concern, hazard risk ranking, capability assessments, mitigation actions, action prioritization, progress on prior mitigation strategies, and a discussion of hazard mitigation plan integration into local planning processes.

Appendices include:

Appendix A: Sample Resolution of Plan Adoption: Documentation that supports the plan approval signatures included in Section 2 of this plan.

Appendix B: Meeting Documentation: Agendas, attendance sheets, minutes, and other documentation (as available and applicable) of planning meetings convened during the development of the plan.

Appendix C: 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 update process.

Appendix D: Participation Matrix

Appendix E: Action Worksheet Template and Instructions

Appendix F: Plan Review Tools: Examples of plan review templates available to support annual plan review, including the plan review document used for the 2005 Westchester County HMP review process and example FEMA Guidance Worksheets (FEMA 386-4).

Appendix G: Critical Facility Inventory