



## SECTION 6. MITIGATION STRATEGIES

This section presents mitigation strategies for Broome County to reduce potential exposure and losses identified as concerns in the Risk Assessment portion of this plan. The Steering Committee reviewed the Risk Assessment to identify and develop these mitigation actions, which are presented herein.

This section includes:

1. Background and Past Mitigation Accomplishments
2. General Planning Approach
3. Review and Update of Mitigation Goals and Objectives
4. Capability Assessment
5. Mitigation Strategy Development

*Hazard mitigation* reduces the potential impacts of, and costs associated with, emergency and disaster-related events. Mitigation actions address a range of impacts, including impacts on the population, property, the economy, and the environment.

*Mitigation actions* can include activities such as: revisions to land-use planning, training and education, and structural and nonstructural safety measures.

### 6.1 BACKGROUND AND PAST MITIGATION ACCOMPLISHMENTS

In accordance with the requirements of the Disaster Mitigation Act of 2000, detailed on Page 1-1 in Section 1 (Introduction), a discussion regarding past mitigation activities and an overview of past efforts is provided as a foundation for understanding the mitigation goals, objectives, and activities outlined in this plan update. Broome County, through previous and ongoing hazard mitigation activities, has demonstrated that it is proactive in protecting its physical assets and citizens against losses from natural hazards. Examples of previous and ongoing actions and projects include the following:

- The county facilitated the development of the original and 2013 update of the Broome County All Hazards Mitigation Plan. The current planning process represents the regulatory five-year plan update process, which includes participation of the county, 21 municipal governments in the county, and key county and regional stakeholders.
- All municipalities participating in this HMP update participate in the NFIP, which requires the adoption of FEMA floodplain mapping and certain minimum standards for building within the floodplain.
- Municipalities have actively participated in available mitigation grant funding opportunities to implement mitigation projects, as identified in their jurisdictional annexes in Section 9 (Jurisdictional Annexes).
- Reports, plans, and studies relating to or including information on natural hazards or natural hazard policies affecting Broome County have been reviewed and incorporated into this plan update as appropriate, as discussed in Section 3 (Planning Process and References).
- During the planning process, Tetra Tech reviewed the available levee data for Broome County to integrate components of the levee accreditation process and identify ways the hazard mitigation process can help to establish a path forward for the levee accreditation process. Basic information was gathered on the nine NYSDEC levee and floodwall systems in the county. A phased approach to levee certification was used that will allow communities to understand data gaps and what improvements might be needed to meet FEMA Levee Certification criteria. The first phase is a data needs and engineering assessment phase that is a collection of data required to perform engineering analyses to determine if the levee meets design criteria. For details on the summaries of the levee system features and associated risk, refer to Section 4 (County Profile). The initial planning level for each levee system in the county can be found in each of the municipal annexes:
  - City of Binghamton (Section 9.3)
  - Village of Deposit (Section 9.8)



- Village of Endicott (Section 9.10)
- Village of Johnson City (Section 9.12)
- Town of Lisle (Section 9.14)
- Village of Port Dickinson (Section 9.18)
- Town of Vestal (Section 9.22)
- Village of Whitney Point (Section 9.23)
- Broome County and its municipalities organized numerous public outreach efforts to keep residents informed about flood hazards and recovery. Broome County has flood-related information available online (<http://www.gobroomecounty.com/planning/hazardmitigation>) to promote public awareness and help municipalities with planning activities. Within the Broome County GIS Parcel Mapper, users can interactively choose floodplain data layers including FEMA existing and preliminary floodplains, 2006 and 2011 flood inundations, Susquehanna River Basin Commission flood stages, and 2011 aerial photos of the flood in the urban area. The Towns of Chenango and Union and the Village of Johnson City created webpages to provide residents with information about flood insurance, property protection measures, safety tips, flood definitions, and flood recovery projects and updates.
- In February 2015, the NYS Citizens Preparedness Corps held a free training event at the Broome County Library to educate attendees how to properly prepare for any disaster, including developing a family emergency plan and stocking up on emergency supplies. In November 2015, the USACE and NYSDEC provided flood-fight training to educate municipalities and residents about USACE assistance available and emergency preparedness. In addition, the USACE continually holds levee safety programs in Broome County; these programs include inspections to determine operations and maintenance issues, risk assessments associated with living behind a levee, the anticipated performance of the levees during a high-water event, and the consequences following potential water overtopping the structures. Public awareness efforts will continue to ensure residents are prepared in the event of another flood.
- **Broome County Watershed Flood Hazard Mitigation Plan (2016):** This plan provides a broad comprehensive view of the flood hazards in Broome County and their impacts. The plan is a resource tool for local municipal officials to make informed decisions on where to locate flood mitigation activities to achieve maximum benefit of their flood mitigation funds.
- **Building Resiliency (2016):** This report was prepared by the Broome County Department of Planning in 2016 and provided details on what the county and its municipalities are doing to improve safety and create a flood resilient community. Since 2006, over 170 large and small-scale flood mitigation projects were initiated or are underway to strengthen resiliency throughout Broome County. During the report, municipalities indicated there were numerous on-going projects and other large-scale projects planned for in the future, depending on funding. The report summarized the different mitigation projects completed and in progress throughout the county. Projects fell under the different mitigation categories: property protection, structural projects, prevention, emergency services, natural resource protection, and public awareness. The report stated that since 2006, there were at least 377 home buyouts covering over 136 in Broome County. *Building Resiliency* was prepared in 2016, and updated information on the buyouts in the county were provided by the Planning Department that Between 2006 and 2018, there have been 509 home buyouts in the jurisdictions of: City of Binghamton, Town of Colesville, Town of Conklin, Town of Kirkwood, Town of Union, Town of Vestal, Village of Endicott, Village of Johnson City, and Village of Windsor. The following table provides a summary of the types of projects and their locations in Broome County. Section 4 (County Profile) and Section 9 (Jurisdictional Annexes) provide additional information on the different mitigation projects identified in *Building Resiliency*.



Table 6-1. Project Summary from *Building Resiliency*

Jurisdiction	Project Summary	Project Type
Broome County	<ul style="list-style-type: none"> <li>▪ 20 bridges and 2 culverts repair and mitigation</li> <li>▪ dam spillways engineering analyses</li> <li>▪ regional evacuation center evaluation</li> <li>▪ Broome County Watershed Flood Hazard Mitigation Plan development</li> <li>▪ Debris Management Plan and COOP/COG Plan development</li> </ul>	Structural Projects, Prevention, Emergency Services
Binghamton (C)	<ul style="list-style-type: none"> <li>▪ 20 property acquisitions</li> <li>▪ Riverside Drive reconstruction</li> </ul>	Property Protection
Binghamton (T)	<ul style="list-style-type: none"> <li>▪ Maxian Road bridge replacement</li> </ul>	Structural Projects
Colesville (T)	<ul style="list-style-type: none"> <li>▪ property acquisitions</li> </ul>	Property Protection
Conklin (T)	<ul style="list-style-type: none"> <li>▪ 111 property acquisitions</li> <li>▪ 10 home elevations</li> <li>▪ community center relocation</li> <li>▪ new stormwater drainage system design</li> <li>▪ new culvert installation and drainage ditch rerouting</li> <li>▪ feasibility study/preliminary design of an evacuation route and flood protection measures for the Powers Road neighborhood</li> </ul>	Property Protection, Structural Projects, Emergency Services
Dickinson (T)	<ul style="list-style-type: none"> <li>▪ NYSDOT installed flap gate underneath I-81</li> </ul>	Structural Projects
Endicott (V)	<ul style="list-style-type: none"> <li>▪ property acquisitions</li> <li>▪ backflow prevention devices for residential properties</li> <li>▪ water supply interconnection</li> </ul>	Property Protection, Emergency Services
Fenton (T)	<ul style="list-style-type: none"> <li>▪ replacement of storm sewer system preliminary design</li> <li>▪ bank stabilization projects</li> <li>▪ Port Crane Fire Station</li> </ul>	Structural Projects, Natural Resource Protection
Johnson City (V)	<ul style="list-style-type: none"> <li>▪ property acquisitions</li> <li>▪ home elevation</li> <li>▪ DPW office floodproof</li> <li>▪ wastewater treatment plant improvements</li> <li>▪ 3,500 feet of drainage ditch rehabilitation</li> <li>▪ Brown Street sanitary pump station improvements</li> <li>▪ Pine Street drainage improvements</li> <li>▪ storm and sewer line separation project</li> <li>▪ SCADA equipment elevation</li> <li>▪ Deyo Hill Road erosion control measures</li> </ul>	Property Protection, Structural Projects, Emergency Services, Natural Resource Protection
Kirkwood (T)	<ul style="list-style-type: none"> <li>▪ 19 property acquisitions</li> <li>▪ 5 home elevations</li> <li>▪ town highway garage relocation</li> <li>▪ culvert upgrades</li> </ul>	Property Protection, Structural Projects, Prevention
Union (T)	<ul style="list-style-type: none"> <li>▪ 149 property acquisitions</li> <li>▪ town highway and refuse facility relocation</li> <li>▪ YMCA floodproof</li> <li>▪ Watson Blvd. sectional gate installation and flood control structure repairs</li> <li>▪ stormwater management study</li> <li>▪ Taft Heights/Taft Avenue Sewer Collection Area Sanitary Study completed</li> <li>▪ stream bank restoration and stabilization</li> </ul>	Property Protection, Structural Projects, Prevention, Natural Resource Protection
Vestal (T)	<ul style="list-style-type: none"> <li>▪ 71 property acquisitions</li> <li>▪ civic center relocation</li> <li>▪ fire station #3 floodproof</li> <li>▪ automatic stormwater pump station construction</li> <li>▪ floodwall around parts of the town hall building</li> <li>▪ bank stabilization projects</li> </ul>	Property Protection, Structural Projects, Natural Resource Protection



Jurisdiction	Project Summary	Project Type
Whitney Point (V)	<ul style="list-style-type: none"> <li>new emergency evacuation plan</li> </ul>	Emergency Services
Binghamton-Johnson City Joint Sewage Treatment Plant	<ul style="list-style-type: none"> <li>pump elevations</li> <li>sewage treatment plant floodproof</li> </ul>	Property Protection, Structural Projects
Broome County Community Organizations Active in Disaster	<ul style="list-style-type: none"> <li>monthly newsletters that provides readers with safety and preparedness information</li> <li>aid to local communities to recover from disasters</li> </ul>	Emergency Services
Broome County Soil and Water Conservation District	<ul style="list-style-type: none"> <li>state Stream Recovery Grant for stabilization and restoration of streams at high priority locations for prevention of future flooding damages</li> <li>excess stream debris removal from over 4,500 feet of streams in Windsor, Fenton, Vestal, Sanford, Maine, and Chenango</li> </ul>	Natural Resource Protection
Lourdes Hospital	<ul style="list-style-type: none"> <li>floodwall construction</li> </ul>	Structural Projects
MacArthur Elementary School (City of Binghamton)	<ul style="list-style-type: none"> <li>new, floodproofed school construction</li> </ul>	Structural Projects
Union-Endicott High School	<ul style="list-style-type: none"> <li>floodwall construction</li> <li>field house elevation</li> </ul>	Structural Projects
USACE	<ul style="list-style-type: none"> <li>Vestal and Endicott-Johnson City levee system repairs</li> <li>Upper Susquehanna River Basin Flood Risk Management and Watershed Assessment Study</li> </ul>	Structural Projects

Source: Broome County Department of Planning and Economic Development 2016

- Broome County Planning Department Annual Report (2017):** The annual report provides a detailed summary of the accomplishments of the county and its municipalities throughout 2017. Mitigation-related accomplishments included:
  - The Planning Department submitted a grant application to the NYS Office of Storm Recovery for funding to develop a Countywide Resiliency Plan. The intent of the plan would be to build upon the data and analysis in existing plans, including the Hazard Mitigation Plan, Watershed Flood Analysis, and Building Resiliency report, to improve overall resiliency to disasters. The proposed study includes the following components: Identification of key assets, Economic Impact Assessment, Green Infrastructure Network Analysis and Site Level GI Framework, Built Infrastructure and Utilities (including a Smart Cities Readiness Evaluation), Bluefield Redevelopment Plans, and a Public Information Strategy. While the grant has not been awarded, this is considered a source for integration of resiliency components into the recommended actions of this HMP.
  - Broome County Planning Department assisted many of the county’s municipalities with updating their comprehensive plans. The plans updated include: Town of Binghamton Comprehensive Plan, Town of Maine Comprehensive Plan, and the Town of Sanford Comprehensive Plan. Section 9 (Jurisdictional Annexes) provides a summary of each of the municipal comprehensive plans.
  - The Planning Department supported the USACE on the Upper Susquehanna Study Basin Comprehensive Flood Damage Reduction Feasibility Study. As of March 2018, the us Army Corps of Engineers provided the planning area communities with the Watershed Screening Results for their communities. They were to submit letters of intent about which identified projects they would like to pursue. From their letter "The next step in the study is to select which of the potential alternatives (improved existing and/or new FRM projects or strategies)



to advance for conceptual designs. Prior to this selection, NYSDEC is seeking input from local communities. Project selection will be based on USACE criteria (potential federal interest, engineering feasibility, and environmental acceptability) and, at this conceptual stage, local community support.

- If your community supports advancement of one or more FRM projects or strategies for further study, please email the attached form to NYSDEC by April 27, 2018.
- Funding for the next phases of this study is currently limited. NYSDEC and USACE will review the responses received from each municipality to assess which projects and strategies have both local support and high potential for advancement."
- The Planning Department contributed to the FEMA LAMP process, which was initiated for several of the levee protected communities in the county. This is the levee analysis and mapping procedures for addressing flood hazards in areas located behind non-accredited levee systems. As partners in the process, the Planning served as a liaison between FEMA and the NYSDEC and the local municipalities, coordinated the municipal response to FEMA regarding the process, and participated in meetings, offering technical input as necessary. As the project continues into 2018, Planning Department will continue to coordinate this project.
- Broome County is a member of the Broome-Tioga Stormwater Coalition (BTSC), a group of regulated municipalities that collaborate to address local stormwater issues and meet federal and state stormwater mandates. The Planning Department staff works with other BTSC members on implementation and compliance by providing public education, opportunities for public participation, and training and outreach services.
- In 2017 the Executive Office formed the Broome County Sustainability Committee. The intent of the community is to bring together key county staff and representatives from relevant community organizations for planning, implementing, and programing sustainability projects for Broome County. The Planning Department was tasked with administrating the group and associated programming. The group, that meets quarterly, met three times over the year, and decided to pursue certification under the NYSDEC's Climate Smart Communities (CSC) Program and NYSERDA's Clean Energy Communities Program. In December 2017, the Planning Department submitted documentation to the state to become a Climate Smart Community. The department continues to collect and submit additional documentation as available. Certification is expected via the adoption of the CSC pledge in 2019.
- Throughout 2017, the Planning Department partnered on the Climate Based Flood Risk Assessment with Abt Associates, a firm that selected the county as a target for researching climate-based flood projections as part of a project funded by NYSERDA. The results of this assessment provided the county with the tools to assess areas that might be impacted by flooding in the future and potential additional damages. The department worked with Abt Associates to develop a scope for the project that would be useful for local municipalities, provided input about county flood impacts, and organized outreach to municipal representatives. The project provides the county with innovative tools at the forefront of flood mitigation planning to help with hazard mitigation and resiliency planning efforts throughout Broome County.

## 6.2 GENERAL MITIGATION PLANNING APPROACH

The overall approach used to update the county and local hazard mitigation strategies are based on FEMA and NYS regulations and guidance regarding local mitigation plan development, including the following:

- DMA 2000 regulations, specifically 44 CFR 201.6 (local mitigation planning).
- FEMA *Local Mitigation Planning Handbook*, March 2013.





- FEMA *Local Mitigation Plan Review Guide*, October 1, 2011.
- FEMA *Integrating Hazard Mitigation into Local Planning*, March 1, 2013.
- FEMA *Plan Integration: Linking Local Planning Efforts*, July 2015.
- FEMA *Mitigation Planning How-To Guide #3, Identifying Mitigation Actions and Implementing Strategies* (FEMA 386-3), DATE.
- FEMA *Mitigation Ideas: A Resource for Reducing Risk to Natural Hazards*, January 2013.
- NYS DHSES *New York State Hazard Mitigation Planning Standards*, 2017.
- NYS DHSES *New York State Hazard Mitigation Planning Standards Guide*, 2017.

The mitigation strategy update approach includes the following steps that are further detailed in later subsections:

- 6.3 Review and update mitigation goals and objectives.
- 6.4 Identify mitigation capabilities and evaluate their capacity and effectiveness to mitigate and manage hazard risk.
- 6.5 Prepare an implementation strategy, including:
  - Identify progress on previous county and local mitigation strategies.
  - Develop updated county and local mitigation strategies.
  - Prioritize projects and initiatives in the updated mitigation strategy.

### 6.3 REVIEW AND UPDATE OF MITIGATION GOALS AND OBJECTIVES

This section documents the county’s efforts to develop hazard mitigation goals and objectives that are established to reduce or avoid long-term vulnerabilities to the identified hazards.

#### 6.3.1 Goals and Objectives

According to CFR 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.” The mitigation goals were developed based on the risk assessment results, discussions, research, and input from the committee, existing authorities, polices, programs, resources, stakeholders, and the public.

For the purposes of this plan, goals and objectives are defined as follows:

**Goals** are general guidelines that explain what is to be achieved. They are broad, long-term, policy-type statements that represent global visions. Goals help define the benefits that the plan is trying to achieve. The success of the plan, once implemented, should be measured by the degree to which its goals have been met (that is, by the actual benefits in terms of hazard mitigation).

**Objectives** are short-term aims, which when combined form a strategy or course of action to meet a goal. Unlike goals, objectives are specific and measurable.

During the 2018 plan update process, the Steering Committee reviewed the goals and objectives established in the 2013 HMP in consideration of the hazard events and losses since the 2013 plan, the updated hazard profiles and vulnerability assessment, the goals and objectives established in the New York State 2014 HMP, and county and local risk management plans. The update incorporates direct input for how the county and municipalities need to move forward to best manage their hazard risk. Amendments include additions and edits to goals and objectives to express the planning partnership’s interests in integrating this plan with other planning mechanisms/programs and to support mitigation through the protection and preservation of natural

FEMA defines **Goals** as general guidelines that explain what should be achieved. Goals are usually broad, long-term, policy statements, and represent a global vision.

FEMA defines **Objectives** as strategies or implementation steps to attain mitigation goals. Unlike goals, objectives are specific and measurable, where feasible.

FEMA defines **Mitigation Actions** as specific actions that help to achieve the mitigation goals and objectives.



systems, including particular reference to certain goals and objectives in the New York State 2014 HMP update, as identified in the table below.

As a result of this review process, the Goals and Objectives for the 2018 update were amended, as presented in Table 6-1. *Italicized* text indicates the updates for this plan.

**Table 6-2. Broome County Hazard Mitigation Plan Goals and Objectives**

Goals	Objectives
Goal 1: Protect Life, Property, and Economy	Objective 1-1: Work with all levels of government to implement publicly led mitigation projects to protect lives and property by making homes, businesses, infrastructure, and critical facilities more resistant to hazards.
	Objective 1-2: Educate and encourage private property owners to take preventive mitigation actions in areas that are especially vulnerable to hazards.
	Objective 1-3: Better characterize flood hazard events by conducting additional hazard studies, improved flood hazard mapping and creating flood and dam inundation models.
	Objective 1-4: Review existing local laws and ordinances, building codes, safety inspection procedures, and applicable rules to ensure that they employ best practices for the protection of buildings and environmental resources.
	Objective 1-5: Ensure that public and private facilities and infrastructure meet established building codes and rigorously enforce the codes to address any identified deficiencies.
	Objective 1-6: Encourage homeowners, renters, and businesses to purchase insurance coverage for damages caused by hazards.
	Objective 1-7: Fully integrate the recommendations of this plan into existing local and county laws, plans, ordinances, natural resource management activities and programs <i>to encourage resilient and sustainable efforts throughout the county.</i>
	Objective 1-8: Implement mitigation activities that encourage environmental stewardship and protection of the environment.
	Objective 1-9: Minimize new development within hazard prone areas.
	Objective 1-10: Incorporate hazard mitigation planning into post disaster recovery projects and operations.
	Objective 1-11: Mitigate impacts of natural hazards to businesses, communities and local economies.
<i>Goal 2: Increase Public Awareness and Preparedness</i>	Objective 2-1: Develop and implement additional education and outreach programs to increase public awareness of the hazard risks and educate the public on specific, individual preparedness activities. Specifically target residents, businesses, realtors, insurance agents, and mortgage lenders.
	<i>Objective 2-2: Inform government officials, school districts, and non-profits about tools, partnership opportunities, funding resources, and government initiatives to assist in implementing mitigation activities.</i>
	Objective 2-3: Enhance the technological capabilities of the jurisdictions and agencies in the county to better profile and assess exposure of hazards.
	<i>Objective 2-4: Provide comprehensive information online for local emergency service providers, municipalities, the media and the public during and immediately following disaster and hazard events including emergency traffic routes, restrictions and road closures, evacuations, shelter locations, and others</i>
	<i>Objective 2-5: Increase public awareness of existing warning systems</i>
	<i>Objective 2-6: Establish consistent message for “State of Emergency” declarations and educate the public on the meaning of those declarations.</i>
Goal 3: Encourage Partnerships	<i>Objective 3-1: Strengthen inter-jurisdiction and inter-agency communication, coordination, and partnerships to inform agencies of local project priorities and to foster hazard mitigation strategies and/or projects designed to benefit multiple jurisdictions.</i>
	Objective 3-2: Identify and implement ways to engage public agencies with individual citizens, non-profit organizations, business, and industry to implement mitigation activities more effectively.
	Objective 3-3: Encourage shared services in acquiring, maintaining, and providing emergency services and equipment, and planning and executing mitigation projects.



Goals	Objectives
	<i>Objective 3-4: Implement tools to enhance capability to collect, analyze and share data amongst partners.</i>
Goal 4: Provide for Enhanced Emergency Services	Objective 4-1: Where appropriate, coordinate and integrate hazard mitigation activities with existing local emergency operations plans.
	Objective 4-2: Identify the need for, and acquire, any special emergency services, training, and equipment to enhance response capabilities for specific hazards.
	Objective 4-3: Review and improve, if necessary, emergency traffic routes; communicate such routes to the public and communities.
	Objective 4-4: Ensure continuity of governmental operations, emergency services, and essential facilities at the county and local level during and immediately after disaster and hazard events.
	Objective 4-5: Improve communications to residents and businesses during and after disasters.
	Objective 4-6: Improve warnings prior to disasters.
	Objective 4-7: Encourage NIMS training for all appropriate personnel including elected officials.
Goal 5: Improve the resilience and strength of the built environment and communities to reduce impacts of natural hazard events.	<i>Objective 5-1: Improve or protect vital infrastructure and critical facilities to reduce the disruption of activities after a natural hazard event.</i>
	<i>Objective 5-2: Promote sustainable land development practices.</i>
	<i>Objective 5-3: Decrease the potential local economic loss and maintain local and government business continuity after a natural hazard event.</i>
	<i>Objective 5-4: Encourage the establishment of policies at the local level to ensure the prioritization and implementation of mitigation projects that benefit essential facilities, services, and infrastructure.</i>
	<i>Objective 5-6: Encourage the establishment of policies that reflect the best available information regarding current and future hazard risk.</i>
	<i>Objective 5-6: Identify technological solutions that may help to improve the resiliency and redundancy of our infrastructure and enhance our ability to inform the public during a disaster.</i>

## 6.4 CAPABILITY ASSESSMENT

According to FEMA’s *Mitigation Planning How-To Guide #3*, a capability assessment is an inventory of a community’s missions, programs, and policies and an analysis of its capacity to carry them out. This assessment is an integral part of the planning process. The assessment process enables identification, review, and analysis of current local and state programs, policies, regulations, funding, and practices that could either facilitate or hinder mitigation.

During the original planning process, the county and participating municipalities identified and assessed their capabilities in the areas of existing programs, policies, and technical documents. By completing this assessment, each jurisdiction learned how or whether they would be able to implement certain mitigation actions by determining the following:

- Limitations that could exist on undertaking actions.
- The range of local and state administrative, programmatic, regulatory, financial, and technical resources available to assist in implementing their mitigation actions.
- Actions deemed infeasible, as they are currently outside the scope of capabilities.
- Types of mitigation actions that could be technically, legally (regulatory), administratively, politically, or fiscally challenging or infeasible.
- Opportunities to enhance local capabilities to support long term mitigation and risk reduction.

During the plan update process, all participating jurisdictions were tasked with developing or updating their capability assessment, paying particular attention to evaluating the effectiveness of these capabilities in supporting hazard mitigation, and identifying opportunities to enhance local capabilities.



County and municipal capabilities in the Planning and Regulatory, Administrative and Technical, and Fiscal arenas can be found in the Capability Assessment section of each jurisdictional annex in Section 9 (Jurisdictional Annexes). Within each annex, participating jurisdictions identified integration of hazard risk management into their existing planning, regulatory, and operational/administrative framework (“integration capabilities”) and intended integration promotion (*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 (Plan Maintenance).

A summary of the various federal, state, county, and local planning and regulatory, administrative and technical, and fiscal programs available to promote and support mitigation and risk reduction in Broome County are presented below.

### 6.4.1 Planning and Regulatory Capabilities - County and Local

#### Municipal Land Use Planning and Regulatory Authority

The county and municipalities have various land use planning mechanisms that can be leveraged to mitigate flooding and support natural hazard risk reduction. Specific county and local planning and regulatory capabilities are identified in their jurisdictional annexes in Section 9 (Jurisdictional Annexes). Broome County Department of Planning and Economic Development provides technical planning guidance and assistance to the county executive and county legislature and implements projects and programs designed to improve the economy, environment, and physical infrastructure of the county.

Section 239 of New York State General Municipal Law requires the referral of certain local planning actions to the county Planning Department for the examination of possible inter-municipal impacts. The department conducts reviews and renders advisory opinions on land use proposals in the county.

The Senior Planner from the department serves as the Hazard Mitigation Coordinator, provides continuous support for the implementation of mitigation projects and educational outreach, and serves as a resource to the county and municipalities.

#### Broome County Comprehensive Emergency Management Plan (CEMP)

The Broome County Department of Emergency Services provides planning, training, resources, responses, warning, coordination, and information through communications to the public, elected officials, and public safety agencies to assist in preparing for, responding to, and mitigating emergencies and disasters that affect the residents of Broome County. The department maintains the Broome County CEMP, an all-hazard plan that describes how Broome County will organize and respond to emergencies and disasters throughout the county. It is based on, and is consistent with, federal, state, and county laws, as well as all other applicable plans and policies, including the National Response Framework and the State of New York CEMP.

#### Broome County Debris Management Plan

To assist municipalities with disaster recovery, the county developed a debris management plan. The plan provides municipalities with an organizational structure, guidance, and standardized procedures for the removal and disposal of flood debris. This plan details the roles and responsibilities of offices and personnel involved with debris management; health and safety procedures to be followed; environmental regulations and permits to obtain for debris management; the county’s approach for using reduction, reuse, and reclamation; and the protocol and prioritization of areas for debris removal.



### Broome County Watershed Flood Hazard Mitigation Plan

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In 2016, Broome County Planning Department released the Broome County Watershed Flood Hazard Mitigation Plan. This plan provides an overview of the flood hazard risks throughout the county and acts as a tool for local municipal officials to make informed decisions on where to locate flood mitigation activities to achieve maximum benefit of their flood mitigation funds. This report established a database of flood hazards throughout the county with a systematic method to evaluate and rank flood risks. In addition, the report included conceptual designs and a cost-benefit analysis for three high-risk mitigation projects. The plan can be found online here: [http://www.gobroomecounty.com/files/planning/\\_pdf/BCWFHMA%20-%20Report%20for%20Web.pdf](http://www.gobroomecounty.com/files/planning/_pdf/BCWFHMA%20-%20Report%20for%20Web.pdf).

### Local Waterfront Revitalization Program

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The Waterfront Revitalization of Coastal Areas and Inland Waterways Act offers local governments the opportunity to participate in the state's Coastal Management Program (CMP) on a voluntary basis by preparing and adopting a Local Waterfront Revitalization Program (LWRP) and providing more detailed implementation of the state's CMP through use of such existing broad powers as zoning and site plan review (New York State Division of Planning 2018).

When an LWRP is approved by the New York State Secretary of State, state agency actions are required to be consistent with the approved LWRP to the maximum extent practicable. When the federal government concurs with the incorporation of an LWRP into the CMP, federal agency actions must be consistent with the approved addition to the CMP. Title 19 of NYCRR Part 600, 601, 602, and 603 provide the rules and regulations that implement each of the provisions of the Waterfront Revitalization of Coastal Areas and Inland Waterways Act including but not limited to the required content of an LWRP, the processes of review and approval of an LWRP, and LWRP amendments (New York State Division of Planning 2018).

An LWRP consists of a planning document prepared by a community and the program established to implement the plan. An LWRP could be comprehensive and address all issues that affect a community's entire waterfront, or it might address the most critical issues facing a significant portion of its waterfront. An approved LWRP reflects community consensus and provides a clear direction for appropriate future development. It establishes a long-term partnership among local government, community-based organizations, and the state. Also, funding to advance preparation, refinement, or implementation of LWRP is available under Title 11 of the New York State Environmental Protection Fund LWRP, among other sources (New York State Division of Planning 2018).

Any village, town, or city located along the state's coast or designated inland waterway can prepare a new or amend an existing LWRP. Municipalities are encouraged to address local revitalization issues in a broader context, aligned with regional economic development strategies and regional resource protection and management programs (New York State Division of Planning 2018).

As of the date of this plan update, the City of Binghamton is the only approved LWRP plan in Broome County and this plan is currently under update. The NY Department of State website ([https://www.dos.ny.gov/opd/programs/WFRevitalization/LWRP\\_status.html](https://www.dos.ny.gov/opd/programs/WFRevitalization/LWRP_status.html)) provides a list of all approved LWRPs.

Broome County has a County-wide Intermunicipal Waterfront Access Plan. While this is not a full LWRP, it does integrate many of the components on a County-wide scale and can serve as a framework for communities in developing localized LWRP or in other waterfront planning. Broome County was awarded a grant to update the plan and will begin that process in 2019.



## 6.4.2 Planning and Regulatory Capabilities – State and Federal

### National Flood Insurance Program (NFIP)

The U.S. Congress established the NFIP with the passage of the National Flood Insurance Act of 1968 (FEMA's 2002 National Flood Insurance Program (NFIP): Program Description). The NFIP is a federal program enabling property owners in participating communities to purchase insurance as a protection against flood losses in exchange for state and community floodplain management regulations that reduce future flood damages. Please refer to the Flood Hazard Profile in Section 5.4.2 (Flood) for information on recent legislation related to reforms to the NFIP.

There are three components to the NFIP: flood insurance, floodplain management, and flood hazard mapping. Communities participate in the NFIP by adopting and enforcing floodplain management ordinances to reduce future flood damage. In exchange, the NFIP makes federally backed flood insurance available to homeowners, renters, and business owners in these communities. Community participation in the NFIP is voluntary. Flood insurance is designed to provide an alternative to disaster assistance to reduce the escalating costs of repairing damage to buildings and their contents caused by floods. Flood damage in the United States is reduced by nearly \$1 billion each year through communities implementing sound floodplain management requirements and property owners purchasing flood insurance. Additionally, buildings constructed in compliance with NFIP building standards suffer approximately 80 percent less damage annually than those not built in compliance (FEMA 2008).

All municipalities in Broome County actively participate in the NFIP. As of May 31, 2018, there were 2,530 NFIP policies in Broome County. There have been 2,991 claims made, totaling over \$135.8 million for damages to structures and contents. There are 478 NFIP Repetitive Loss properties and 11 Severe Repetitive Loss properties in the county. Further details on the county's flood vulnerability can be found in the flood hazard profile in Section 5.4.2 (Flood).

Municipal participation in and compliance with the NFIP is supported at the federal level by FEMA Region II and the Insurance Services Organization, at the state-level by the New York State Department of Environmental Conservation (NYSDEC) and New York State Office of Emergency Management (NYS DHSES). Additional information on the NFIP program and its implementation throughout the county can be found in the flood hazard profile in Section 5.4.2 (Flood).

The state and municipalities within the NFIP could adopt higher regulatory standards when implementing the provisions of the NFIP. Specifically identified are the following:

**Freeboard:** By law, NYS requires Base Flood Elevation plus 2 feet (BFE+2) for all construction. When there is a base flood elevation available, the lowest floor including any basement, must be at or above the base flood elevation (plus two feet beginning in 2007). Elevation could be by means of properly compacted fill, a solid slab foundation, or a *crawl space* foundation, which contains permanent openings to let flood waters in and out. Non-residential structures might be flood proofed in lieu of elevation. Where a local floodplain administrator has information to estimate a base flood elevation, such as historic flood records or a hydraulic study, that elevation must be used. If the development consists of more than 5 acres or more than 50 lots, the permit applicant must develop a base flood elevation and build accordingly (NYSDEC 2018). Communities could go beyond this requirement, providing for additional freeboard. In most New York communities, new structures must have the lowest floor three feet or more above the highest adjacent grade.

**Cumulative Substantial Improvements/Damages:** The NFIP allows improvements valued at up to 50 percent of the building's pre-improvement value to be permitted without meeting the flood protection requirements.



Over the years, a community could issue a succession of permits for different repairs or improvement to the same structures. This can greatly increase the overall flood damage potential for structures within a community. The community might wish to deem *substantial improvement* cumulatively so that once a threshold of improvement within a certain length of time is reached, the structure is considered to be substantially improved and must meet flood protection requirements.

### **NFIP Community Rating System (CRS)**

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As an additional component of the NFIP, the Community Rating System (CRS) is a voluntary incentive program that recognizes and encourages community floodplain management activities that exceed the minimum NFIP requirements. As a result, flood insurance premium rates are discounted to reflect the reduced flood risk resulting from the community actions meeting the three goals of the CRS: (1) reduce flood losses, (2) facilitate accurate insurance rating, and (3) promote the awareness of flood insurance (FEMA 2012). Municipalities, and the county as a whole, could expect significant cost savings on premiums if enrolled in the CRS program.

As of October 2018, the Town of Union (Class 8), the Town of Chenango (Class 9), and the Village of Johnson City (Class 9) are actively participating in the CRS program. Other communities in Broome County noted they explored the possibility of participating, but the program savings would not be cost-beneficial in the long run.

### **New York State Floodplain Management**

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The following two departments have statutory authorities and programs that affect floodplain management at the local jurisdiction level in New York State: the NYSDEC and the Department of State's Division of Code Enforcement and Administration (DCEA). DCEA is detailed in Section 6.4.4 (Administrative and Technical Capabilities - State and Federal).

The NYSDEC is charged with conserving, improving, and protecting the state's natural resources and environment, and preventing, abating, and controlling water, land, and air pollution. Programs that have bearing on floodplain management are managed by the Bureau of Flood Protection and Dam Safety, which cooperates with federal, state, regional, and local partners to protect lives and property from floods, coastal erosion, and dam failures. These objectives are accomplished through floodplain management and both structural and nonstructural means.

The Dam Safety Section is responsible for "reviewing repairs and modifications to dams and assuring [sic] that dam owners operate and maintain dams in a safe condition through inspections, technical reviews, enforcement, and emergency planning." The Flood Control Projects Section is responsible for reducing flood risk to life and property through construction, operation, and maintenance of flood control facilities.

The Floodplain Management Section is responsible for reducing flood risk to life and property through management of activities, such as development in flood hazard areas, and for reviewing and developing revised flood maps. The section serves as the NFIP State Coordinating Agency and in this capacity, is the liaison between FEMA and New York communities that elect to participate in the NFIP. The section provides a wide range of technical assistance.

## **6.4.3 Administrative and Technical Capabilities - County and Local**

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### **Broome County Department of Planning and Economic Development**

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The Broome County Department of Planning and Economic Development serves to promote the sound and orderly economic and physical growth of Broome County and its constituent municipalities. It provides technical planning guidance and assistance to the county executive and county legislature and implements projects and



programs designed to improve the economy, environment, and physical infrastructure of the county. The department extends professional services to local municipalities and other public and private entities in the areas of land use planning and zoning, grantsmanship, economic development, cartography, community assistance, research, and infrastructure development. The Department of Planning and Economic Development consists of the following divisions:

- Planning and Economic Development.
- Geographic Information System/Mapping.
- *Environmental Management Council* (EMC) is Broome County government's citizen advisory board on local environmental matters. The EMC is the focal point for public participation in local government decisions that affect the county's environment.
- *Binghamton Metropolitan Transportation Study* (BMTS) is a regional transportation planning agency. Designated under federal law as a Metropolitan Planning Organization, BMTS is responsible for developing transportation plans and programs. These plans explore both long-range and near terms needs of the transportation system, and how those needs relate to broader community goals of mobility, quality of life, and economic growth.

Planning services provided by Broome County Department of Planning and Economic Development include the following:

- Comprehensive plans—provide on-going community technical assistance, including the provision of assistance to municipalities, on drafting or updating their comprehensive plans. Assistance ranges from the full spectrum of planning services to minor assistance such as mapping and community surveys.
- Regional plan development—oversee and often administer the development of regional planning efforts, including partnering with other municipalities for a government funding request and subsequent administering and coordination of projects.
- Land use reviews—under NYS General Municipal Law 239, conduct reviews and render advisory opinions on land use proposals covered under the law.
- Planning and zoning seminars—host trainings in land use and zoning issues for local appointed and elected officials.
- Grant assistance
- Environmental reviews—assist regarding the State Environmental Quality Review (SEQR) to other departments in the county in conjunction with the Environmental Management Council (EMC) and conduct federal environmental reviews linked to specific projects or grants.
- Capital Improvement Program (CIP)—review, evaluate, and rate county departmental requests for projects to be included in the CIP to be given to the Budget and Research Department for inclusion in the CIP.
- Demographic and related data and research—provide demographic data products like census figures, and other data, including business and construction figures, to the county Industrial Development Agency (IDA), the public, and the private sector.
- Agricultural district reviews—mandated under Article 25AA of the New York State Agriculture and Markets Law, conduct reviews of the three districts in the county to measure the effectiveness of the district with respect to compliance with the intent of the law and to modify its boundaries if necessary.

### Broome County Emergency Services Department

The mission of the Emergency Services Department is to provide planning, training, resources, response, warning, coordination, and information through communications to the public, elected officials, and public



safety agencies to assist them in preparing for, responding to, and mitigating emergencies and disasters that affect the residents of Broome County. The department is comprised of five divisions:

- Communications: administers the Broome County Emergency Dispatch/911 Center that takes nearly 500,000 calls per year and dispatches approximately 200,000 of them.
- Public Safety Systems: administers the Broome County emergency communications systems and infrastructure. Broome County also contracts for an extensive study of the Public Safety Radio System.
- Emergency Management: conducts hazard vulnerability studies, provides Disaster Planning and preparedness for response and recovery, and administers the county's NY-Alert emergency public notification system.
- Emergency Medical Services: administers NYS certified emergency medical training programs, plans for adequate delivery of emergency medical services, and coordinates mutual aid among EMS providers.
- Fire Prevention & Control: administers New York State Outreach Fire Training program, Broome County Fire Mutual Aid Plan, Hazardous Materials Response Team, Wildland Search & Rescue Team, Water Rescue and Dive Team, Firefighter Assist and Search Teams, and Fire Investigation Team.

### **Broome County SWCD**

The Broome County SWCD assists citizens and local government in making sound decisions concerning the management of soil, water, and other natural resources. They received a state stream recovery grant to stabilize and restore streams at high priority locations, and to prevent future flooding damages. With these funds the SWCD stabilized over 2,500 feet of stream banks in Binghamton, Windsor, Vestal, Sanford, Fenton, Kirkwood, and the Town of Binghamton. In addition, they removed excess stream debris over 4,500 feet of streams in Windsor, Fenton, Vestal, Sanford, Maine, and Chenango to help slow down stream flows and reduce erosion. Currently, they are working with the New York State Governor's Office of Storm Recovery to administer a \$3 million of New York Communities Rising Regional River Initiative, which will go towards flood mitigation projects throughout the county.

### **Broome County Department of Public Works**

The Department of Public Works is comprised of 6 different divisions that provide valuable services to enhance the community. The divisions include: Administration, Engineering, Building and Grounds, Security, Highway, and Solid Waste Management.

#### **Administration Division**

The Administration Division of the Department of Public Works provides staff and support functions to the other Divisions of Public Works and for Department of Public Works Capital Projects in accordance with General Municipal Law, Highway Law, the Broome County Charter and Administrative Rules, and Broome County Policy and Procedure.

These services include, but are not limited to: accounts payable, accounts receivable, payroll, personnel management, and clerical support. The staff plays a major role in the fiscal management of the Department of Public Works, operational and capital budgets, preparation of engineering project specifications, tracking of expenses and revenues (both operational and capital), preparation of the annual budget, and preparation of quarterly and annual reports. Special projects in support of the operating divisions and commissioner are performed, as required. The Administrative Division also responds to the inquiries and requirements of other county departments and generates valid information and reports, as required for both internal and external consumption.



### **Engineering Division**

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The Engineering Division is a principal unit of the Department of Public Works with the primary objective to provide engineering design and project management for repair, renovation, rehabilitation, and replacement projects related to county buildings, bridges, roadways, watersheds, culverts, facilities, and other county infrastructure and to deliver technical support to other public works divisions, county departments, and residents of Broome County.

The Engineering Division's fundamental responsibility is the implementation of projects identified by the Broome County Legislature through the Capital Improvement Program (CIP) in conjunction with projects initiated via individual departmental operating budgets. Although many of the major projects managed by the Engineering Division originate within the CIP, the division also provides project support and management to other divisions within the Department of Public Works (e.g., Highways, Buildings & Grounds, Parks & Recreation), as well as to other departments within Broome County (e.g., Planning & Economic Development, Public Safety, Willow Point Nursing Home, Aviation).

In addition to CIP project responsibilities, division personnel are responsible for ongoing monitoring and maintenance projects related to the county's 108 bridges and 126 large diameter culverts (i.e., spans from 5- to 20-feet). The 21 flood control watersheds owned by Broome County are inspected annually by division staff, who also coordinate with other departments to keep these structures in compliance with state and federal regulations. The Engineering Division is tasked with maintaining environmental compliance related to county-wide environmental permitting including: (1) the county's Municipal Separate Storm Sewer System (MS4) stormwater permit program and implementation and (2) Bulk Petroleum Storage permitting and requirements.

### **Buildings and Grounds Division**

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The mission of the Buildings and Grounds Division is to provide a diverse range of efficient and cost-effective high-quality services, which will ensure uninterrupted facility utilization while providing an atmosphere of professionalism to both internal and external customers. The Buildings and Grounds Division of Public Works provides support services for all departments throughout Broome County government, including:

- Primary maintenance operations to the Court House Complex, the Fleet Garage, George Harvey Justice Building, Edwin L. Crawford County Office Building, Public Safety Facility and Dog Shelter.
- Secondary maintenance operations to the Greater Binghamton Airport (Edwin A. Link Field), Libraries, Arena, Forum, Health, Mental Health, Transit, Social Services, Central Foods, Department of Motor Vehicles, WPNH, and Highway Garage.
- Primary maintenance operations of the Governmental Plaza, under the Government Tripartite Agreement.

These services are provided by three units under the leadership of the deputy commissioner: fleet management, custodial services, and maintenance services.

### **Security Division**

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The Broome County Government Security Division provides security services that ensure the safety and security of the county employees and the public that enter county facilities and attend county sponsored special events. These services are designed to provide and maintain an efficient, safe, and orderly work environment.

Broome County Security Officers are designated Peace Officers, with arrest powers and law enforcement authority under the New York State Criminal Procedure and Penal Law. The division consists of four distinct



units, under the leadership of the Director of Security, including Administrative Services, Uniformed Security Operations, Case Integrity Investigations, Dog Shelter Services, and Security Officer Recruitment.

### **Solid Waste Management**

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The mission station for Solid Waste Management is to provide their constituency (residents and businesses) with a comprehensive program for managing solid waste, which is consistent with New York State's Hierarchy for Solid Waste Management, in an economically sound and environmentally safe manner.

Partial funding for recycling, waste reduction, household hazardous waste, and some landfill projects is provided by New York State Department of Environmental Conservation.

### **Broome County Public Works Highway Division**

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The mission of the highway division is to provide a highway road system to move people and goods throughout the county in a cost effective, efficient, and professional manner to enhance community growth, economic well-being, and quality of life.

The Highway Division is responsible for: maintenance and upkeep of 343.24 centerline miles of roads, 105 bridges with spans of 20 feet or more, 150 culverts with diameters ranging from 5 to 20 feet, and 3,500 culverts with diameters 5 feet or less. This involves the inspection and evaluation of county roads and bridges, and planning, reconstruction, repair, and maintenance projects.

The Highway Division is responsible for the administration, operation, and maintenance of highway bridge and capital projects, including road widening, straightening, resurfacing, and patching of existing county roads to ensure that maintenance is at required engineering standards and safety levels. Emphasis is placed on snow and ice control. The department assists other local municipalities with specialized equipment and expertise.

Revenues attributed to the operation of Highway Department County Road Fund are derived primarily from the sale of supplies, such as road signs, sand and salt mix to other local governments, and highway work permit fees for work completed by utility companies and others in highway right-of-way. State Aid revenues fund general highway operating and capital aid under the State Consolidated Local Highway Assistance Program (CHIPS). An interfund transfer from the general fund is received to balance the Highway Department County Road Fund.

### **Broome County Community Organizations Active in Disaster (COAD)**

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The Broome County COAD is an organization whose mission is to provide a collaborative structure to coordinate the work of community organizations and resources to mitigate, prepare for, respond to, and recover from disasters in Broome County. COAD was officially created in 2009 and is a membership program, comprised of independent agencies and organizations that may be active in any phase of disaster in Broome County. Since 2011, COAD has recruited over 1,000 volunteers, working over 50,000 hours to help the local community recover from disasters, including the 2011 flood recovery process by assisting individuals with their FEMA registration and by repairing or rebuilding over 100 homes. In 2015, COAD hosted a FEMA Local Volunteer and Donations Management training to strengthen the capacity of local organizations to handle volunteers and donations during a disaster. COAD publishes a monthly newsletter that provides readers with safety and preparedness information.

### **Shelters**

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Due to the variable nature of hazard events and associated sheltering needs within the county, Broome County relies on real-time outreach methods to inform the public of pending and active evacuations and available



sheltering resources. Outreach methods include variable message sign boards, media (radio, television, and newspapers), and social media.

As supported by the Broome County Department of Social Services, the county works directly with the American Red Cross, schools, and local jurisdictions to establish and maintain an inventory of suitable shelter locations and can assist with the coordination and communication of shelter availability by the execution of the Broome County CEMP.

Sheltering needs and the location of shelters depends on the type of event, where the event is located, and what facilities will be used. Countywide sheltering policies and procedures are documented in the Broome County CEMP. The Mass Care, Emergency Assistance, Housing, and Human Services Emergency Support Function (ESF) #6 of the CEMP supports county, local, and non-governmental organizations efforts to address the non-medical mass care, emergency assistance, housing, and human services needs of individuals and families impacted by an emergency or disaster. Broome County Department of Social Services is the primary county agency for ESF #6 and is responsible for supporting mass care activities of the county government for large-scale incident management. This includes sheltering, feeding operations, emergency first aid, bulk distribution of emergency items, and collecting and providing information on victims to family members. Broome County agencies supporting sheltering during an emergency include Broome County Health Department, Broome County Government Security Division, American Red Cross, UHS, Inc., Our Lady of Lourdes Hospital, BOCES, pharmacies and medical suppliers, and animal shelters.

Broome County Department of Emergency Services encourages residents to subscribe for NY-Alert, New York State's Mass Notification System, to receive critical information and emergency alerts on what is happening in Broome County. This system contains critical, emergency-related information including instructions and recommendations in real-time by emergency personnel. Information can include severe weather warnings, significant highway closures, hazardous material spills, and other emergency conditions.

### 6.4.4 Administrative and Technical Capabilities - State and Federal

#### **New York State Division of Homeland Security and Emergency Services (NYS DHSES)**

For more than 50 years, NYS DHSES (formerly New York State Office of Emergency Management) and its predecessor agencies have been responsible for coordinating the activities of all state agencies to protect New York's communities, the state's economic well-being, and the environment from natural and man-made disasters and emergencies. NYS DHSES routinely assists local governments, voluntary organizations, and private industry through a variety of emergency management programs, including hazard identification, loss prevention, planning, training, operational response to emergencies, technical support, and disaster recovery assistance.

NYS DHSES administers the FEMA mitigation grant programs in the state and supports local mitigation planning in addition to developing and routinely updating the State Hazard Mitigation Plan. NYS DHSES prepared the current State Hazard Mitigation Plan, working with input from other state agencies, authorities and organizations. The plan was approved by FEMA in 2014 and enables New York to remain eligible for recovery assistance in all Public Assistance Categories A through G and Hazard Mitigation assistance in each of the Unified Hazard Mitigation Assistance Program's five grant programs. For example, the 2008-2011 State Mitigation Plan allowed the state and its communities to access nearly \$57 million in mitigation grants to prepare plans and carry out projects. The 2014 New York State HMP was used as guidance in completing the Broome County HMP Update. The state HMP can be found here: <http://www.dhSES.ny.gov/recovery/mitigation/plan.cfm>



### **New York State Department of Environmental Conservation (NYSDEC) – Division of Water - Bureau of Flood Protection and Dam Safety**

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Within the NYSDEC, the Division of Water's Bureau of Flood Protection and Dam Safety (<http://www.dec.ny.gov/about/61432.html>) cooperates with federal, state, regional, and local partners to protect lives and property from floods, coastal erosion, and dam failures through both structural and non-structural means of floodplain management and provides support for information technology needs in the division. The bureau consists of the following sections:

- Coastal Management: works to reduce coastal erosion and storm damage to protect lives, natural resources, and properties through structural and non-structural means.
- Dam Safety: responsible for reviewing repairs and modifications to dams and assuring that dam owners operate and maintain dams in a safe condition through inspections, technical reviews, enforcement, and emergency planning.
- Flood Control Projects: responsible for reducing flood risk to life and property through construction, operation and maintenance of flood control facilities.
- Floodplain Management: responsible for reducing flood risk to life and property through proper management of activities including, development in flood hazard areas and review and development of revised flood maps.

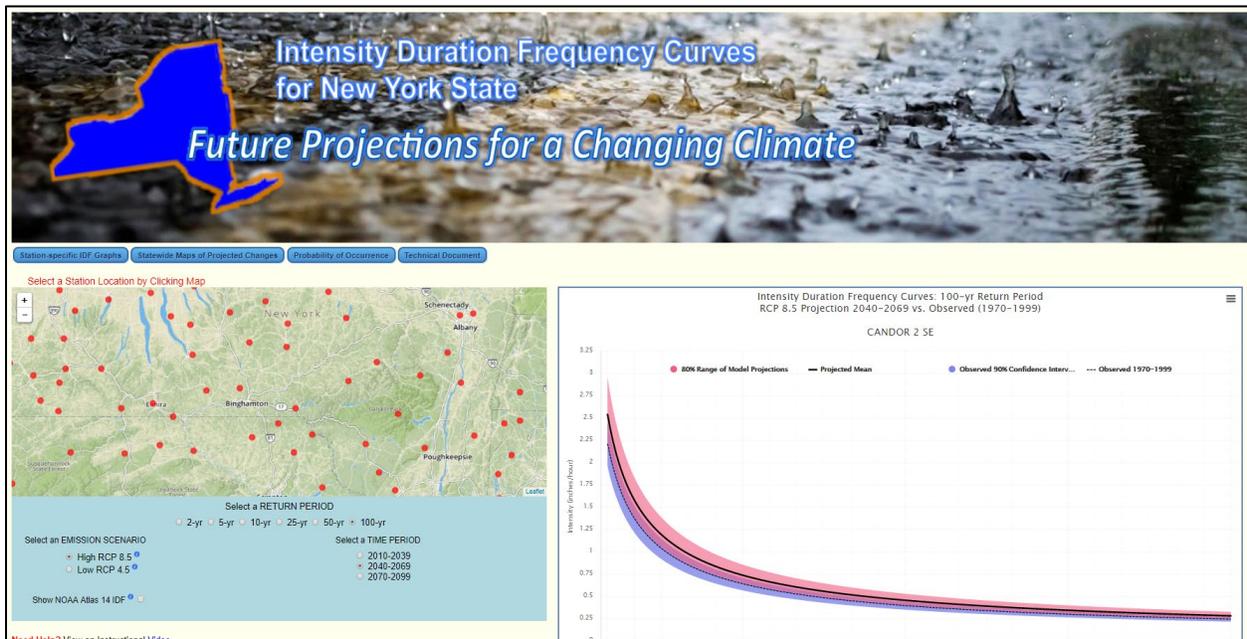
### **Northeast Regional Climate Center**

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The Northeast Regional Climate Center (NRCC) partnered with the New York State Energy Research and Development Authority (NYSERDA) to compare various methods of downscaling global climate model (GCM) output and create extreme precipitation projections for New York State. These projections will ultimately be incorporated into climate change adaptation planning. In 2009 alone, 175 total flooding events in New York State led to \$32.82 million in property damage. The state is also still recovering from the \$42 billion toll of Superstorm Sandy. Climate change is resulting in an increase in the frequency of heavy rainfall events. To help New York State communities plan for effects of climate change, new graphics are now available showing the increased likelihood of heavy precipitation events. These graphs, called Intensity Duration Frequency (IDF) curves, show anticipated increases of storm events from 2- to 100-year intervals and are projected into the future as far as 2099. These products are designed for use by municipal officials, researchers, planners, highway departments, and other decision-makers who need to take storm events into account. These IDF curves display how precipitation events are being affected by New York State's rapidly changing climate (NRCC 2015). Figure 6-1 displays the screenshot of the website.



Figure 6-1. Screenshot of the IDF Curves for New York State



NRCC also maintains the Extreme Precipitation in New York & New England website, an interactive tool for extreme precipitation analysis. The site includes estimates of extreme rainfall for various durations (5 minutes to 10 days) and recurrence intervals (1 year to 500 years). These data are interpolated to a 30-second grid. Confidence intervals for these values are included as are the partial duration rainfall series used in their computation. Regional extreme rainfall maps and graphic products are available. Precipitation distribution curves can be generated for each grid either directly or from the USDA NRCS Win TR-20 software, eliminating the need to use a static Type II or Type III curve (NRCC 2018). This tool can be used by municipalities to assist them in the design and feasibility assessment of future projects and allow them to see the future intensity and frequency of rain events. Figure 6-2 shows a screenshot of the website.



Figure 6-2. Screenshot of the Extreme Precipitation in New York & New England website

## Department of State’s Division of Code Enforcement and Administration (DCEA)

### Technical Bulletins for the 2010 Codes of New York State

The DCEA has published 14 technical bulletins, including two recent bulletins with guidance related to flood hazard areas: Electrical Systems and Equipment in Flood-damaged Structures and Accessory Structures. One archived bulletin from January 2003, Flood Venting in Foundations and Enclosures Below Design Flood Elevation, refers to the out-of-date edition of FEMA Technical Bulletin 1 and the American Society of Civil Engineers (ASCE) 24-98, which is not the edition referenced by the current codes.

### Forms and Publications

The DCEA posts several model reporting forms and related publications on its webpage. The Building Permit Application requests the applicant to indicate whether the site is or is not in a floodplain and advises checking with the jurisdiction’s clerk or NYSDEC. The General Residential Code Plan Review form includes a reminder to “add 2’ freeboard.” Sample Flood Hazard Area Review Forms, including plan review checklists and inspection checklists for Zone A and Zone V, are based on the forms in Reducing Flood Losses through the International Code Series published by International Code Council and FEMA (2008).

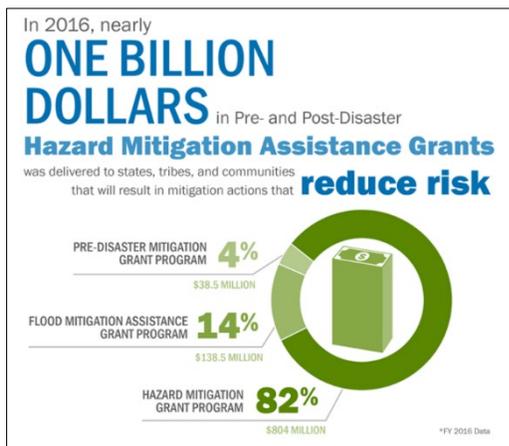


### 6.4.5 Fiscal Capabilities – County and Local

#### Municipal Fiscal Capabilities

Broome County municipalities fund mitigation projects through existing local budgets, local appropriations (including referendums and bonding), and a variety of federal and state loan and grant programs. Many municipalities noted throughout the planning process that they are faced with increasing fiscal constraints, including decreasing revenues, budget constraints, and tax caps. In an effort to overcome these fiscal challenges, municipalities continue to leverage the sharing of resources and combining available funding with grants and other sources and note that plans and inter-municipal cooperation are beneficial in obtaining grants.

### 6.4.6 Fiscal Capabilities – State and Federal



Source: FEMA, 2018

Section 4 of the 2014 New York State Hazard Mitigation Plan provides information pertaining to the various funding sources available for mitigation projects which can be found at: <http://www.dhhs.ny.gov/recovery/mitigation/documents/2014-shmp/Section-4-Mitigation-Strategy.pdf>

As noted on the FEMA hazard mitigation assistance website (<https://www.fema.gov/hazard-mitigation-assistance>), *Currently, FEMA administers three programs that provide funding for eligible mitigation planning and projects that reduces disaster losses and protect life and property from future disaster damages. The three programs are the Hazard Mitigation Grant Program (HMGP), the Flood Mitigation Assistance (FMA) Program, and the Pre-Disaster Mitigation (PDM) Program.*

*HMGP assists in implementing long-term hazard mitigation planning and projects following a Presidential major disaster declaration. PDM provides funds for hazard mitigation planning and projects on an annual basis. FMA provides funds for planning and projects to reduce or eliminate risk of flood damage to buildings that are insured under the National Flood Insurance Program (NFIP) on an annual basis*

*HMGP funding is generally 15% of the total amount of Federal assistance provided to a State, Territory, or federally-recognized tribe following a major disaster declaration. PDM and FMA funding depends on the amount congress appropriates each year for those programs.*

*Individual homeowners and business owners may not apply directly to FEMA. Eligible local governments may apply on their behalf. (FEMA, 2018)*

Table 6-3 provides an overview of program funding eligibility and cost share and Table 6-4 presents HMA eligible activities by program.

**Table 6-3. FEMA HMA Grant Cost Share Requirements**

Programs	Mitigation Activity (Percent of Federal / Non-Federal Share)	Recipient Management Costs (Percent of Federal / Non-Federal Share)	Subrecipient Management Costs (Percent of Federal / Non-Federal Share)
HMGP	75 / 25	100 / 0	- / -(1)



Programs	Mitigation Activity (Percent of Federal / Non-Federal Share)	Recipient Management Costs (Percent of Federal / Non-Federal Share)	Subrecipient Management Costs (Percent of Federal / Non-Federal Share)
PDM	75 / 25	75 / 25	75 / 25
PDM – subrecipient is small and impoverished community	90 / 10	90 / 10	90 / 10
PDM – Tribal Recipient / subrecipient is small and impoverished	90 / 10	90 / 10	90 / 10
FMA – insured properties and planning grants	75 / 25	75 / 25	75 / 25
FMA – repetitive loss property <sup>(2)</sup>	90 / 10	90 / 10	90 / 10
FMA – severe repetitive loss property <sup>(2)</sup>	100 / 0	100 / 0	100 / 0

Source: FEMA HMA Guidance 2015

- (1) Subapplicants should consult their State Hazard Mitigation Officer (SHMO) for the amount of percentage of HMGP subrecipient management cost funding their State has determined to be passed through subrecipients.
- (2) To be eligible for an increased federal cost share, a FEMA-approved state or tribal (standard or enhanced) mitigation plan that addressed repetitive loss properties must be in effect at the time of award, and the property is being submitted for consideration must be a repetitive loss property.

**Table 6-4. FEMA HMA Grant Eligible Activities by Program**

Eligible Activities	HMGP	PDM	FMA
<b>1. Mitigation Projects</b>	✓	✓	✓
Property Acquisition and Structure Demolition	✓	✓	✓
Property Acquisition and Structure Relocation	✓	✓	✓
Structure Elevation	✓	✓	✓
Mitigation Reconstruction	✓	✓	✓
Dry Floodproofing of Historic Residential Structures	✓	✓	✓
Dry Floodproofing of Non-residential Structures	✓	✓	✓
Generators	✓	✓	
Localized Flood Risk Reduction Projects	✓	✓	✓
Non-localized Flood Risk Reduction Projects	✓	✓	
Structural Retrofitting of Existing Buildings	✓	✓	✓
Safe Room Construction	✓	✓	
Wind Retrofit for One- and Two-Family Residences	✓	✓	
Infrastructure Retrofit	✓	✓	✓
Soil Stabilization	✓	✓	✓
Wildfire Mitigation	✓	✓	
Post-Disaster Code Enforcement	✓		
Advance Assistance	✓		
5 Percent Initiative Projects	✓		
Miscellaneous/Other <sup>(1)</sup>	✓	✓	✓
<b>2. Hazard Mitigation Planning</b>	✓	✓	✓
Planning Related Activities	✓		
<b>3. Technical Assistance</b>			✓
<b>4. Management Cost</b>	✓	✓	✓

Source: FEMA HMA Guidance 2015

- (1) Miscellaneous/Other indicates that any proposed action will be evaluated on its own merit against program requirements. Eligible projects will be approved provided funding is available



### Federal Hazard Mitigation Funding Opportunities

Federal mitigation grant funding is available to all communities with a current HMP (this plan); however most of these grants require a “local share” in the range of 10-25 percent of the total grant amount. Details about grant programs and further descriptions of these opportunities can be found at: <https://www.fema.gov/hazard-mitigation-assistance>. The FEMA mitigation grant programs are described below.

#### Hazard Mitigation Grant Program (HMGP)

The HMGP is a post-disaster mitigation program. FEMA makes these grants available to states by after each federal disaster declaration. The HMGP can provide up to 75 percent funding for hazard mitigation measures and can be used to fund cost-effective projects that will protect public or private property or that will reduce the likely damage from future disasters in an area covered by a federal disaster declaration. Examples of projects include acquisition and demolition of structures in hazard prone areas, flood-proofing or elevation to reduce future damage, minor structural improvements, and development of state or local standards. Projects must fit into an overall mitigation strategy for the area identified as part of a local planning effort. All applicants must have a FEMA-approved HMP (this plan).

Figure 6-3. FEMA HMGP Funding Allocation



Source: FEMA 2018

Applicants who are eligible for the HMGP are state and local governments, certain nonprofit organizations or institutions that perform essential government services, and Indian tribes and authorized tribal organizations. Individuals or homeowners cannot apply directly for the HMGP; a local government must apply on their behalf. Applications are submitted to NYS DHSES, placed in rank order for available funding, and submitted to FEMA for final approval. Eligible projects not selected for funding are placed in an inactive status and could be considered as additional HMGP funding becomes available. Additional information regarding the HMGP is available on the FEMA website: <https://www.fema.gov/hazard-mitigation-grant-program>.

Figure 6-4. FEMA HMGP Applicant/Subapplicant Process



Source: FEMA 2018

#### Flood Mitigation Assistance (FMA) Program

The FMA program combines the previous Repetitive Flood Claims and Severe Repetitive Loss Grants into one grant program. The FMA provides funding to assist states and communities in implementing measures to reduce or eliminate the long-term risk of flood damage to buildings, manufactured homes, and other structures insurable



under the NFIP. The FMA is funded annually; no federal disaster declaration is required. Only NFIP insured homes and businesses are eligible for mitigation in this program. Funding for FMA is very limited and, as with the HMGP, individuals cannot apply directly for the program. Applications must come from local governments or other eligible organizations. The federal cost share for an FMA project is at least 75 percent. For the non-federal share, at most 25 percent of the total eligible costs must be provided by a non-federal source; of this 25 percent, no more than half can be provided as in-kind contributions from third parties. At minimum, a FEMA-approved local flood mitigation plan is required before a project can be approved. The FMA funds are distributed from FEMA to the state. The NYS DHSES serves as the grantee and program administrator for the FMA program.

The FMA program is detailed on the FEMA website: <https://www.fema.gov/flood-mitigation-assistance-grant-program>

### Pre-Disaster Mitigation (PDM) Program

The PDM program is an annually funded, nationwide, competitive grant program. No disaster declaration is required. Federal funds will cover 75 percent of a project's cost up to \$3 million. As with the HMGP and FMA, a FEMA-approved local HMP is required to be approved for funding under the PDM program.

In some cases, whereby the local HMP is under development, but not formally approved by FEMA, the jurisdiction can request a Letter of Extraordinary Circumstance to enable consideration of the grant application. According to the FEMA Hazard Mitigation Assistance Guidance (2015), for Hazard Mitigation Grant Program (HMGP) project subawards, the FEMA Regional Administrator might grant an exception to the local mitigation plan requirement in extraordinary circumstances when justification is provided. If this exception is granted, a local mitigation plan must be approved by FEMA within 12 months of the award of the project subaward to that community. For Pre-Disaster Mitigation (PDM) and Flood Mitigation Assistance (FMA) project subawards, the FEMA Region could grant an exception to the local mitigation plan requirement in extraordinary circumstances.

The PDM program is detailed on the FEMA website: <https://www.fema.gov/pre-disaster-mitigation-grant-program>.

### Extraordinary Circumstances

For PDM and FMA project subawards, the FEMA Region might apply extraordinary circumstances when justification is provided and with concurrence from FEMA Headquarters (Risk Reduction and Risk Analysis Divisions) prior to granting an exception. If this exception is granted, a local mitigation plan must be approved by FEMA within 12 months of the award of the project subaward to that community.

For HMGP, PDM, and FMA, extraordinary circumstances exist when a determination is made by the applicant and FEMA that the proposed project is consistent with the priorities and strategies identified in the State (Standard or Enhanced) Mitigation Plan and that the jurisdiction meets at least one of the criteria below. If the jurisdiction does not meet at least one of these criteria, the region must coordinate with FEMA Headquarters (Risk Reduction and Risk Analysis Divisions) for HMGP; however, for PDM and FMA the region must coordinate and seek concurrence prior to granting an exception. The criteria are as follows:

- The jurisdiction meets the small impoverished community criteria (see Part VIII, B.2 of HMA Unified Guidance).
- The jurisdiction has been determined to have had insufficient capacity due to lack of available funding, staffing, or other necessary expertise to satisfy the mitigation planning requirement prior to the current disaster or application deadline.



- The jurisdiction has been determined to have been at low risk from hazards because of low frequency of occurrence or minimal damage from previous occurrences as a result of sparse development.
- The jurisdiction experienced significant disruption from a declared disaster or another event that impacts its ability to complete the mitigation planning process prior to award or final approval of a project award.
- The jurisdiction does not have a mitigation plan for reasons beyond the control of the state, federally-recognized tribe, or local community, such as Disaster Relief Fund restrictions that delay FEMA from granting a subaward prior to the expiration of the local or tribal mitigation plan.

For HMGP, PDM, and FMA, the applicant must provide written justification that identifies the specific criteria or circumstance listed above, explains why there is no longer an impediment to satisfying the mitigation planning requirement, and identifies the specific actions or circumstances that eliminated the deficiency.

When an HMGP project funding is awarded under extraordinary circumstances, the recipient shall acknowledge in writing to the Regional Administrator that a plan will be completed within 12 months of the subaward. The recipient must provide a work plan for completing the local or tribal mitigation plan, including milestones and a timetable, to ensure that the jurisdiction will complete the plan in the required time. This requirement shall be incorporated into the award (both the planning and project subaward agreements, if a planning subaward is also awarded).

### **Federal and State Disaster and Recovery Assistance Programs**

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Following a disaster, various types of assistance could be made available by local, state, and federal governments. The types and levels of disaster assistance depend on the severity of the damage and the declarations that result from the disaster event. The following sections detail the general types of assistance that might be provided should the President of the United States declare the event a major disaster.

#### **Individual Assistance (IA)**

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Individual Assistance (IA) provides help for homeowners, renters, businesses, and some non-profit entities after disasters occur. This program is largely funded by the U.S. Small Business Administration. For homeowners and renters, those who suffered uninsured or underinsured losses could be eligible for a Home Disaster Loan to repair or replace damaged real estate or personal property. Renters are eligible for loans to cover personal property losses. Individuals are allowed to borrow up to \$200,000 to repair or replace real estate, \$40,000 to cover losses to personal property, and an additional 20 percent for mitigation. For businesses, loans could be made to repair or replace disaster damages to property owned by the business, including real estate, machinery and equipment, inventory, and supplies. Businesses of any size are eligible. Non-profit organizations, such as charities, churches, and private universities are eligible. An Economic Injury Disaster Loan provides necessary working capital until normal operations resume after a physical disaster but are restricted by law to small businesses only. IA is detailed on the FEMA website: <https://www.fema.gov/individual-disaster-assistance>.

#### **Public Assistance (PA)**

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Public Assistance (PA) provides cost reimbursement aid to local governments (state, county, local, municipal authorities, and school districts) and certain non-profit agencies that were involved in disaster response and recovery programs or that suffered loss or damage to facilities or property used to deliver government-like services. This program is largely funded by FEMA with both local and state matching contributions required. PA is detailed on the FEMA website: <https://www.fema.gov/public-assistance-local-state-tribal-and-non-profit>.



### Small-Business Administration (SBA) Loans

SBA provides low-interest disaster loans to homeowners, renters, business of all sizes, and most private nonprofit organizations. SBA disaster loans can be used to repair or replace the following items damaged or destroyed in a declared disaster: real estate, personal property, machinery and equipment, and inventory and business assets.

Homeowners could apply for up to \$200,000 to replace or repair their primary residence. Renters and homeowners could borrow up to \$40,000 to replace or repair personal property-such as clothing, furniture, cars, and appliances that were damaged or destroyed in a disaster. Physical disaster loans of up to \$2 million are available to qualified businesses or most private nonprofit organizations. Additional information regarding SBA loans is available on the SBA website: <https://www.sba.gov/managing-business/running-business/emergency-preparedness/disaster-assistance>.

### Social Services Block Grant Program (SSBG)

To address the needs of critical health and human service providers and the populations they serve, the State of New York will receive a total of \$235.4 million in federal Superstorm Sandy SSBG funding. The state will distribute \$200,034,600 through a public and transparent solicitation for proposals and allocate \$35.4 million in State Priority Projects, using the SSBG funding. Sandy SSBG resources are dedicated to covering necessary expenses resulting from Superstorm Sandy, including social, health, and mental health services for individuals, and for repair, renovation, and rebuilding of health care facilities, mental hygiene facilities, child care facilities, and other social services facilities. Additional information regarding the SSBG program is available on the website: <https://www.acf.hhs.gov/ocs/programs/ssbg>.

### Department of Homeland Security Grant Program (HSGP)

The HSGP plays an important role in the implementation of the National Preparedness System by supporting the building, sustainment, and delivery of core capabilities essential to achieving the National Preparedness Goal of a secure and resilient nation. The FY 2017 HSGP supports efforts to build and sustain core capabilities across the Prevention, Protection, Mitigation, Response, and Recovery mission areas. This includes two priorities: building and sustaining law enforcement terrorism prevention capabilities and maturation and enhancement of state and major urban area fusion centers (HSGP 2017). HSGP is comprised of three interconnected grant programs including the State Homeland Security Program (SHSP), Urban Areas Security Initiative (UASI), and the Operation Stonegarden (OPSG). Together, these grant programs fund a range of preparedness activities, including planning, organization, equipment purchase, training, exercises, and management and administration. Additional information regarding HSGP is available on the website: <https://www.fema.gov/homeland-security-grant-program>.

### Community Development Block Grants (CDBG)

CDBG are federal funds intended to provide low and moderate-income households with viable communities, including decent housing, a suitable living environment, and expanded economic opportunities. Eligible activities include community facilities and improvements, roads and infrastructure, housing rehabilitation and preservation, development activities, public services, economic development, and planning and administration. Public improvements could include flood and drainage improvements. In limited instances and during the times of “urgent need” (e.g., post disaster) as defined by the CDBG National Objectives, CDBG funding could be used to acquire a property located in a floodplain that was severely damaged by a recent flood, demolish a structure severely damaged by an earthquake, or repair a public facility severely damaged by a hazard event. Additional information regarding CDBG is available on the website: <https://www.hudexchange.info/programs/cdbg-entitlement/>.



### U.S. Economic Development Administration

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The U.S. Economic Development Administration (USEDA) is an agency of the U.S. Department of Commerce that supports regional economic development in communities around the country. It provides funding to support comprehensive planning and makes strategic investments that foster employment creation and attract private investment in economically distressed areas of the United States. Through its Public Works Program, USEDPA invests in key public infrastructure, such as traditional public works projects, including water and sewer systems improvements, expansion of port and harbor facilities, brownfields, multitenant manufacturing and other facilities, business and industrial parks, business incubator facilities, redevelopment technology-based facilities, telecommunications facilities, and development facilities. Through its Economic Adjustment Program, USEDPA administers its Revolving Loan Fund Program, which supplies small businesses and entrepreneurs with the gap financing needed to start or expand their business in areas that have experienced or are under threat of serious structural damage to the underlying economic base. Additional information is available on the USEDPA website: <https://www.eda.gov/>.

### Federal Highway Administration - Emergency Relief

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The Federal Highway Administration Emergency Relief is a grant program that can be used for repair or reconstruction of Federal-aid highways and roads on Federal lands which have suffered serious damage as a result of a disaster. NYS is serving as the liaison between local municipalities and FHWA. \$30 Million in funding was released in October-November of 2012 for emergency repair work conducted in first 180 days following Hurricane Sandy. Another \$220 Million in additional funding became available February 2013. For information regarding the FHWA Emergency Relief Program, please refer to: <https://www.fhwa.dot.gov/programadmin/erelief.cfm>

### Federal Transit Administration - Emergency Relief

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The Federal Transit Authority Emergency Relief is a grant program that funds capital projects to protect, repair, reconstruct, or replace equipment and facilities of public transportation systems. Administered by the Federal Transit Authority at the U.S. Department of Transportation and directly allocated to MTA and Port Authority, this transportation-specific fund was created as an alternative to FEMA PA. Currently, a total of \$5.2 Billion has been allocated to NYS-related entities. Additional information regarding the FTA Emergency Relief Program is available on the website: <https://www.transit.dot.gov/funding/grant-programs/emergency-relief-program/emergency-relief-program>.

### Empire State Development

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Empire State Development offers a wide range of financing, grants, and incentives to promote business and employment growth and real estate development throughout the state. Several programs address infrastructure construction associated with project development, acquisition, and demolition associated with project development and brownfield remediation and redevelopment. Additional information regarding Empire State Development is available on the website: <https://esd.ny.gov/>.

### New York State Department of Transportation (NYSDOT)

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#### *Scour Critical/Floodprone Bridge Program*

The Scour Critical/Flood Prone Bridge Program is an initiative developed to harden New York State's at-risk bridges to withstand extreme weather events. In the past three years, the state has suffered 9 presidentially declared disasters due to extreme weather, many involving severe flooding (NYSDOT 2014).



For this initiative, 105 scour critical/flood prone bridges throughout New York State were identified as most at-risk from repeated flooding and are located in the Capital District, Long Island, Mid-Hudson, Mohawk Valley, North Country, Finger Lakes, Central/Western and Southern Tier regions. The locations encompass 78 communities within 30 counties across the State (NYSDOT 2014). Additional information of the list of bridges is available on the website: [https://www.dot.ny.gov/main/business-center/cbow/repository/CBOW\\_list\\_2014.pdf](https://www.dot.ny.gov/main/business-center/cbow/repository/CBOW_list_2014.pdf).

All the bridges included in this program were built to the codes and standards of their time and remain safe and open for everyday traffic; however, due to a variety of natural severe weather events and the increasing frequency of major storms and floods, they are vulnerable to scour and flooding caused by the intensity and velocity of water from extreme natural events. Bridge scour erodes and carries away foundation materials, such as sand and rocks from around and beneath bridge abutments, piers, foundations, and embankments (NYSDOT 2014).

This program encompasses a variety of bridge improvement work, including upgrading concrete bridge abutments and/or piers by adding steel or concrete pile foundations, increasing the size of waterway openings to meet 100-year flood projections, and reducing or eliminating the number of bridge piers in the water to prevent debris and ice jams that can flood surrounding areas. Completion of the program will ensure continual access to critical facilities and essential personnel during emergency events. Adverse impacts to travel throughout the state will be greatly reduced during severe weather events, as well (NYSDOT 2014).

This program aims to increase the state's resiliency and mitigate the risks of loss and damage associated with future disasters. The total cost of the program, including all 105 bridges across the state, is \$518 million. It will be paid for with a mix of funding from FEMA and the U.S. Department of Housing and Urban Development. No state funding will be required (NYSDOT 2014).

### Emergency Watershed Protection Program

The purpose of the Emergency Watershed Protection Program (EWP) was established by Congress to respond to emergencies created by natural disasters. The EWP Program is designed to help people and conserve natural resources by relieving imminent hazards to life and property caused by floods, fires, drought, windstorms, and other natural occurrences. The U.S. Department of Agriculture's Natural Resources Conservation Service (NRCS) administers the EWP Program, EWP-Recovery, and EWP-Floodplain Easement. Additional information regarding the EWP is detailed below and available on the website: <https://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/landscape/ewpp/>.

#### *EWP - Recovery*

The EWP Program is a recovery effort program aimed at relieving imminent hazards to life and property caused by floods, fires, windstorms, and other natural occurrences. Public and private landowners are eligible for assistance but must be represented by a project sponsor that must be a legal subdivision of the state, such as a city, county, township, or conservation district, and Native American Tribes or Tribal governments. NRCS will pay up to 75 percent of the construction cost of emergency measures. The remaining 25 percent must come from local sources and can be in the form of cash or in-kind services.

EWP work is not limited to any one set of measures. It is designed for installation of recovery measures to safeguard lives and property as a result of a natural disaster. NRCS completes a Damage Survey Report, which provides a case-by-case investigation of the work necessary to repair or protect a site.

Watershed impairments that the EWP Program addresses are debris-clogged stream channels, undermined and unstable streambanks, jeopardized water control structures and public infrastructures, wind-borne debris removal, and damaged upland sites stripped of protective vegetation by fire or drought.



### *EWP - Floodplain Easement (FPE)*

Privately-owned lands or lands owned by local and state governments might be eligible for participation in EWP-FPE. To be eligible, lands must meet one of the following criteria:

- Lands that have been damaged by flooding at least once within the previous calendar year or have been subject to flood damage at least twice within the previous 10 years.
- Other lands within the floodplain are eligible, provided the lands would contribute to the restoration of the flood storage and flow, provide for control of erosion, or that would improve the practical management of the floodplain easement.
- Lands that would be inundated or adversely impacted as a result of a dam breach.

EWP-FPE easements are restored to the extent practicable to the natural environment and can include both structural and nonstructural practices to restore the flood storage and flow, erosion control, and improve the practical management of the easement.

Structures, including buildings, within the floodplain easement must be demolished and removed or relocated outside the 100-year floodplain or dam breach inundation area.

### **New York State Department of Environmental Conservation Climate Smart Communities (CSC) Program**

The CSC program is jointly sponsored by the following six New York State agencies: DEC; Energy Research and Development Authority; Public Service Commission; Department of State; NYSDOT; and the Department of Health. The program encourages municipalities to minimize the risks of climate change and reduce long-term costs through actions which reduce greenhouse gas emissions and adapt to a changing climate. The program offers free technical support on energy and climate and guidance tailored to New York State communities. As of April 2016, more than 170 communities, representing 6.6 million New Yorkers in every region of the state, have committed to acting on climate through New York State's Climate Smart Communities program.

Benefits of participating in the program include saving taxpayer dollars, improving operations and infrastructure, increasing energy independence and security, demonstrating leadership, and positioning for economic growth. Registered Climate Smart Communities receive notification of state and federal assistance that they can leverage to help adopt low-carbon technologies and of programs and support for efficiency improvements and energy conservation. Further, those communities receive an advantage in accessing some state assistance programs, can call on the help of other local governments that already have adopted climate smart practices and policies, and receive statewide recognition for their climate-smart accomplishments. Key elements of the Climate Smart Communities program are described below.

Additional information regarding the CSC program is available on the website: <http://www.dec.ny.gov/energy/50845.html>.

### **Climate Smart Communities Pledge**

Any city, town, village or county in New York can join the program by adopting the Climate Smart Communities Pledge. To become a registered Climate Smart Community, the municipality's governing body must adopt a resolution that includes all ten elements of the pledge and inform DEC of the passage of the resolution. The required ten elements of the pledge are as follows:

- Pledge to be a Climate Smart Community.
- Set goals, inventory emissions, plan for climate action.



- Decrease community energy use.
- Increase community use of renewable energy.
- Realize benefits of recycling and other climate-smart solid waste management practices.
- Reduce greenhouse gas emissions through use of climate-smart land-use tools.
- Enhance community resilience and prepare for the effects of climate change.
- Support development of a green innovation economy.
- Inform and inspire the public.
- Commit to an evolving process of climate action.

At the time of this plan update, two communities in Broome County adopted the Climate Smart Communities Pledge—the City of Binghamton and Village of Whitney Point.

### Climate Smart Communities Certification (CSC) Program

The CSC program enables high-performing registered communities to achieve recognition for their leadership. Designed around the existing ten pledge elements, the certification program recognizes communities achieving any on over 130 total possible actions through a rating system leading to four levels of award: Certified, Bronze, Silver, and Gold. Recertification of completed actions is required every five years. Details of the program and the specific documentation required for each action are described in the CSC Certification Manual at [http://www.dec.ny.gov/docs/administration\\_pdf/certman.pdf](http://www.dec.ny.gov/docs/administration_pdf/certman.pdf). At the time of this plan update, no communities in the county have achieved certification.

### Climate Smart Communities Grant Program

In April 2016, DEC announced an expansion of the Environmental Protection Fund to support communities ready to reduce greenhouse gas emissions and prepare for the effects of climate change. Climate Smart Community Implementation grants support mitigation and adaptation projects and range from \$100,000 to \$2 million. Competitive grants ranging from \$25,000 to \$100,000 will provide support for local governments to become certified Climate Smart Communities. All counties, cities, towns, and villages of the State of New York are eligible to receive funding. The CSC grant program will provide 50/50 matching grants for eligible projects in the following categories.

Funding is available for **implementation projects** that advance a variety of climate adaptation and mitigation actions, including the following:

- Construction of natural resiliency measures.
- Relocation or retrofit of climate-vulnerable facilities.
- Conservation or restoration of riparian areas and tidal marsh migration area.
- Reduction of flood risk.
- Clean transportation.
- Reduction or recycling of food waste.

Funding is available for **certification projects** that advance several specific actions aligned with Climate Smart Communities Certification requirements, including the following:

- Right-sizing of government fleets.
- Developing natural resource inventories.
- Conducting vulnerability assessments.
- Developing climate adaptation strategies.
- Updating hazard mitigation plans to address changing conditions and reduce climate vulnerability.



In scoring grant applications, increasing points are awarded to communities who have already taken the CSC pledge and to those that have achieved certification status. All grant recipients must take the Climate Smart Communities Pledge within the term of their grant contract. For climate mitigation projects, grant recipients must provide a report of estimates of emissions reduction. Certification actions must adhere to the requirements and standards described in the Climate Smart Communities Certification Manual that is available on the website: <http://www.dec.ny.gov/energy/96511.html>. For implementation projects involving property (construction, improvements, restoration, rehabilitation), grant recipients that do not have ownership of the property must obtain a climate change mitigation easement.

Round 3 of the Climate Smart Communities Grant Program was available through the NYS Consolidated Funding Application from May 1, 2018 through July 27, 2018. Applications for the third round of funding were due July 27, 2018.

The Climate Smart Communities Toolkit was developed to educate New York communities on recommended practices that will help to reduce greenhouse gas emissions and adapt to the effects of climate change, specifically in the areas of land-use, transportation policy, green buildings, infrastructure investment, green infrastructure, housing policy, adaptation, and resilience. The Climate Smart Communities Guide to Local Action contains overviews of possible community actions, how-to's and case studies to help communities implement the CSC pledge. The Climate Smart Communities Land Use Toolkit allows New York communities to find recommended practices that will help to reduce greenhouse gas emissions in the areas of land use, transportation policy, green building, infrastructure investment, green infrastructure, and housing policy.

### **New York State Department of Environmental Conservation (NYSDEC)**

#### **Water Quality Improvement Project (WQIP) Program**

The WQIP program is a competitive, reimbursement grant program that funds projects that directly address documented water quality impairments. The competitive, statewide grant program is open to local governments and not-for-profit corporations. Grant recipients can receive up to 75 percent of the project costs for high priority wastewater treatment improvement, non-agricultural nonpoint source abatement and control, land acquisition for source water protection, aquatic habitat restoration, and municipal separate storm sewer system projects; up to 50 percent for salt storage projects; and up to 40 percent for general wastewater infrastructure improvement projects. Additional information regarding this program are available on the website: <https://www.dec.ny.gov/pubs/4774.html>. Eligible activities for the WQIP Program include the following:

- Wastewater treatment improvement.
- Non-agricultural nonpoint source abatement and control.
- Land acquisition for source water protection.
- Salt storage.
- Aquatic habitat restoration.
- MS4s.

#### **New York State DEC/ Environmental Facilities Corporation (EFC) Wastewater Infrastructure Engineering Planning Grant (EPG)**

The DEC, in conjunction with the New York State EFC, offers grants to municipalities to help pay for the initial planning of eligible Clean Water State Revolving Fund (CWSRF) water quality projects.

The Wastewater Infrastructure EPG assists municipalities with the engineering and planning costs of CWSRF-eligible water quality projects. Eligible municipalities have a median household income (MHI) of \$65,000 or



less in the Regional Economic Development Council (REDC) regions of Capital District, Southern Tier, North Country, Mohawk Valley, Central NY, Finger Lakes, or Western NY OR an MHI of \$85,000 or less in REDC regions of Long Island, New York City, or Mid-Hudson. Grants with a 20 percent required local match could finance activities, including engineering and consultant fees for engineering and planning services for the production of an engineering report.

The goal of the EPG program is to advance water quality projects to construction, so successful applicants can use the engineering report funded by the grant to seek financing through the CWSRF program, WQIP program, or other funding entities to further pursue the identified solution. Details regarding this program can be found on the website: <https://www.dec.ny.gov/pubs/81196.html>. Funding priorities go to projects that have one of the following qualities:

- Required by an executed Order on Consent.
- Required by a draft or final State Pollutant Discharge Elimination System (SPDES) permit.
- Upgrading or replacing an existing wastewater system.
- Constructing a wastewater treatment and/or collection system for an area with failing onsite septic systems.
- Identified in a Total Maximum Daily Load (TMDL) Implementation Plan.

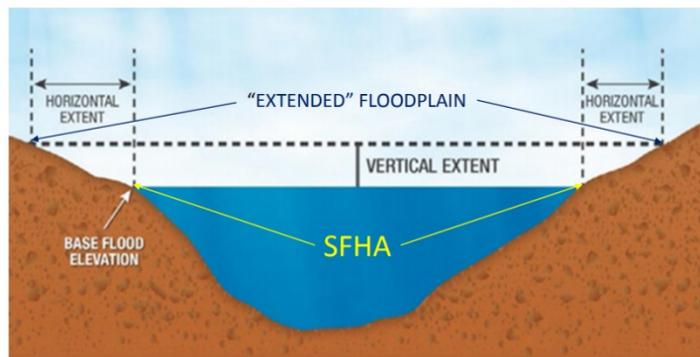
### New York State Department of Transportation

#### BRIDGE NY

The BRIDGE NY program, administered by the NYSDOT, is open to all municipal owners of bridges and culverts. Projects are awarded through a competitive process and support all phases of project development. Projects selected for funding under the BRIDGE NY Initiative are evaluated based on the resiliency of the structure, including such factors as hydraulic vulnerability and structural resiliency; the significance and importance of the bridge, including traffic volumes, detour considerations, number and types of businesses served, and impacts on commerce; and the current bridge and culvert structural conditions. Information regarding the program can be found on the website: <https://www.dot.ny.gov/BRIDGENY>.

### Community Risk and Resiliency Act (CRRA)

On September 22, 2014, Governor Andrew Cuomo signed bill A06558/S06617-B, the CRRA. The purpose of the bill is to ensure that certain state monies, facility-siting regulations, and permits include consideration of the effects of climate risk and extreme-weather events. According to NYSDEC (2018), CRRA's five major provisions include the following:



- Official Sea-level Rise Projections—CRRA requires the DEC to adopt science-based sea-level rise projections into regulation.
- Consideration of Sea-Level Rise, Storm Surge and Flooding—CRRA requires applicants for permits or funding in a number of specified programs to demonstrate that future physical climate risk due to sea-level rise, storm surge, and flooding have been considered and that DEC considered incorporating these factors into certain facility-siting regulations.



- Smart Growth Public Infrastructure Policy Act Criteria—CRRA adds mitigation of risk due to sea-level rise, storm surge, and flooding to the list of smart-growth criteria to be considered by state public-infrastructure agencies.
- Guidance on Natural Resiliency Measures—CRRA requires DEC, in consultation with the Department of State, to develop guidance on the use of natural resources and natural processes to enhance community resiliency.
- Model Local Laws Concerning Climate Risk—CRRA requires the Department of State, in cooperation with DEC, to develop model local laws that include consideration of future risk due to sea-level rise, storm surge, and flooding. These model local laws must be based on available data predicting the likelihood of extreme-weather events, including hazard-risk analysis.

CRRA requires NYSDEC, in consultation with the Department of State, to prepare guidance on implementation of the statute. To meet its obligation to develop guidance for the implementation of CRRA, DEC is proposing a new document, State Flood Risk Management Guidance (SFRMG). The SFRMG is intended to inform state agencies as they develop program-specific guidance to require that applicants demonstrate consideration of sea-level rise, storm surge, and flooding, as permitted by program-authorizing statutes and operating regulations. The SFRMG incorporates possible future conditions, including the greater risks of coastal flooding presented by sea-level rise and enhanced storm surge and of inland flooding expected to result from increasingly frequent extreme-precipitation events (NYSDEC 2018). Additional details on the CRRA are provided on the website: <https://www.dec.ny.gov/energy/102559.html>.

#### **6.4.7 Potential Mitigation Funding Sources**

While it is important to recognize the mitigation strategies for each jurisdiction to help achieve the mitigation goals and objectives of the (HMP, it is also important to provide sources for funding to implement these strategies. The table below provides a list of programs, descriptions, and links for those seeking funding sources. Please note that this table is not intended to be a comprehensive list, but rather a starting point to help identify potential sources of funding for the identified mitigation strategies.



Table 6-5. Mitigation Funding Sources

Program	Description	Lead Agency	Website
<b>Federal</b>			
Hazard Mitigation Assistance (HMA)	Grants to provide funding for eligible mitigation activities that reduce disaster losses and protect life and property from future disaster damages – includes FMA, HMGP, PDM	FEMA	<a href="https://www.fema.gov/hazard-mitigation-assistance">https://www.fema.gov/hazard-mitigation-assistance</a>
Flood Mitigation Assistance (FMA)	Program Grants to States and communities for pre-disaster mitigation planning and projects to help reduce or eliminate the long-term risk of flood damage to structures insurable under the National Flood Insurance Program	FEMA	<a href="https://www.fema.gov/flood-mitigation-assistance-grant-program">https://www.fema.gov/flood-mitigation-assistance-grant-program</a>
Hazard Mitigation Grant Program (HMGP)	Grants to States and communities for planning and projects providing long-term hazard mitigation measures following a major disaster declaration	FEMA	<a href="https://www.fema.gov/hazard-mitigation-grant-program">https://www.fema.gov/hazard-mitigation-grant-program</a>
Pre-Disaster Mitigation (PDM) Competitive Grant Program	Grants to States and communities for planning and projects that provide long-term hazard pre-disaster mitigation measures	FEMA	<a href="https://www.fema.gov/pre-disaster-mitigation-grant-program">https://www.fema.gov/pre-disaster-mitigation-grant-program</a>
Public Assistance: Hazard Mitigation Funding Under Section 406	Hazard mitigation discretionary funding available under Section 406 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act following a Presidentially declared disaster	FEMA	<a href="https://www.fema.gov/news-release/2017/05/03/4309/fema-hazard-mitigation-grants-404-and-406">https://www.fema.gov/news-release/2017/05/03/4309/fema-hazard-mitigation-grants-404-and-406</a>
Assistance to Firefighters Grant Program	The primary goal of the Assistance to Firefighters Grants (AFG) is to enhance the safety of the public and firefighters with respect to fire-related hazards by providing direct financial assistance to eligible fire departments, nonaffiliated Emergency Medical Services organizations, and State Fire Training Academies. This funding is for critically needed resources to equip and train emergency personnel to recognized standards, enhance operations efficiencies, foster interoperability, and support community resilience.	FEMA	<a href="https://www.fema.gov/welcome-assistance-firefighters-grant-program">https://www.fema.gov/welcome-assistance-firefighters-grant-program</a>



Program	Description	Lead Agency	Website
Disaster Housing Program	Emergency assistance for housing, including minor repair of home to establish livable conditions, mortgage and rental assistance	HUD	<a href="https://www.hud.gov/program_offices/public_indian_housing/publications/dhap">https://www.hud.gov/program_offices/public_indian_housing/publications/dhap</a>
HOME Investment Partnerships Program	Grants to local and state government and consortia for permanent and transitional housing, (including financial support for property acquisition and rehabilitation for low income persons)	HUD	<a href="https://www.hud.gov/program_offices/comm_planning/affordablehousing/programs/home/">https://www.hud.gov/program_offices/comm_planning/affordablehousing/programs/home/</a>
HUD Disaster Recovery Assistance	Grants to fund gaps in available recovery assistance after disasters (including mitigation)	HUD	<a href="https://www.hud.gov/info/disasterresources">https://www.hud.gov/info/disasterresources</a>
Section 108 Loan Guarantee	Enables states and local governments participating in the Community Development Block Grant (CDBG) program to obtain federally guaranteed loans for disaster-distressed areas	HUD	<a href="https://www.hudexchange.info/programs/section-108/">https://www.hudexchange.info/programs/section-108/</a>
Smart Growth Implementation Assistance (SGIA) program	The SGIA program focuses on complex or cutting-edge issues, such as stormwater management, code revision, transit-oriented development, affordable housing, infill development, corridor planning, green building, and climate change. Applicants can submit proposals under 4 categories: community resilience to disasters, job creation, the role of manufactured homes in sustainable neighborhood design or medical and social service facilities siting.	EPA	<a href="https://www.epa.gov/smartgrowth">https://www.epa.gov/smartgrowth</a>
Partners for Fish and Wildlife	Financial and technical assistance to private landowners interested in pursuing restoration projects affecting wetlands and riparian habitats	U.S. Fish and Wildlife Service	<a href="https://www.fws.gov/partners/">https://www.fws.gov/partners/</a>
FHWA Emergency Relief Program	Fund for the repair or reconstruction of Federal-aid highways that have suffered serious damage as a result of (1) natural disasters or (2) catastrophic failures from an external cause	U.S. Department of Transportation (DOT)	<a href="https://www.fhwa.dot.gov/programadmin/erelief.cfm">https://www.fhwa.dot.gov/programadmin/erelief.cfm</a>
Transportation Investment Generating Economic Recovery (TIGER)	Investing in critical road, rail, transit and port projects across the nation	U.S. DOT	<a href="https://www.transportation.gov/tags/tiger-grants">https://www.transportation.gov/tags/tiger-grants</a>



Program	Description	Lead Agency	Website
Community Facilities Direct Loan & Grant Program	This program provides affordable funding to develop essential community facilities in rural areas. An essential community facility is defined as a facility that provides an essential service to the local community for the orderly development of the community in a primarily rural area, and does not include private, commercial or business undertakings.	USDA	<a href="https://www.rd.usda.gov/programs-services/community-facilities-direct-loan-grant-program">https://www.rd.usda.gov/programs-services/community-facilities-direct-loan-grant-program</a>
Emergency Loan Program	USDA's Farm Service Agency (FSA) provides emergency loans to help producers recover from production and physical losses due to drought, flooding, other natural disasters or quarantine	USDA	<a href="https://www.fsa.usda.gov/programs-and-services/farm-loan-programs/emergency-farm-loans/index">https://www.fsa.usda.gov/programs-and-services/farm-loan-programs/emergency-farm-loans/index</a>
Emergency Watershed Protection (EWP) program	Provide assistance to relieve imminent hazards to life and property caused by floods, fires, drought, windstorms, and other natural occurrences	NRCS	<a href="https://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/landscape/ewpp/">https://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/landscape/ewpp/</a>
Financial Assistance	Financial assistance to help plan and implement conservation practices that address natural resource concerns or opportunities to help save energy, improve soil, water, plant, air, animal and related resources on agricultural lands and non-industrial private forest land	NRCS	<a href="https://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/financial/">https://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/financial/</a>
Emergency Management Performance Grants (EMPG) Program	Assist local, tribal, territorial, and state governments in enhancing and sustaining all-hazards emergency management capabilities	U.S. DHS	<a href="https://www.fema.gov/emergency-management-performance-grant-program">https://www.fema.gov/emergency-management-performance-grant-program</a>
Land & Water Conservation Fund	Matching grants to states and local governments for the acquisition and development of public outdoor recreation areas and facilities (as well as funding for shared federal land acquisition and conservation strategies)	National Park Service	<a href="https://www.nps.gov/subjects/lwcf/index.htm">https://www.nps.gov/subjects/lwcf/index.htm</a>
<b>State</b>			
Local Government Records	Grants for disaster recovery projects related to damage caused by a sudden, unexpected event involving fire, water, man-made or	New York State Archives / New York	<a href="http://www.archives.nysed.gov/grants/grants_lgrmif.shtml">http://www.archives.nysed.gov/grants/grants_lgrmif.shtml</a>



Program	Description	Lead Agency	Website
Management Improvement Fund (LGRMIF) Disaster Recovery Grants	natural phenomena where a timely response is necessary to prevent the irretrievable loss of vital or archival records, or to ensure reasonable, timely access to vital records	State Education Department	
The New York State Emergency Services Revolving Loan	Repair of firefighting apparatus, ambulances, or rescue vehicles; Renovation, rehabilitation, or repair of facilities that house firefighting equipment, ambulances, rescue vehicles, and related equipment	NYS DHSES	<a href="http://www.dhSES.ny.gov/ofpc/services/loan/">http://www.dhSES.ny.gov/ofpc/services/loan/</a>
Environmental Protection Fund (EPF)	Matching grants for the acquisition, planning, development, and improvement of parks, historic properties	New York State Parks, Recreation & Historic Preservation (NYSOPRHP)	<a href="https://www.dec.ny.gov/about/92815.html">https://www.dec.ny.gov/about/92815.html</a>
Recreational Trails (RTP)	Program Matching grants for the acquisition, development, rehabilitation and maintenance of trails and trail-related projects	NYSOPRHP	<a href="https://parks.ny.gov/grants/recreational-trails/default.aspx">https://parks.ny.gov/grants/recreational-trails/default.aspx</a>
Environmental Protection & Improvement Grants	Competitive grants for environmental protection and improvement; available for municipalities, community organizations, not-for-profit organizations and others	New York State Department of Environmental Conservation	<a href="https://www.dec.ny.gov/about/92815.html">https://www.dec.ny.gov/about/92815.html</a>
Volunteer Fire Assistance Grants	The grant is a 50/50 matching funds program. Its purpose is to make funds available to rural fire companies for the purchase of wildland firefighting equipment such as portable backpack pumps, Nomex protective clothing, hand tools, hard hats, hose, portable radios and dry hydrants.	NYSDEC	<a href="https://www.dec.ny.gov/regulations/2364.html">https://www.dec.ny.gov/regulations/2364.html</a>
Clean Water Act Section 604(b) Water Quality Planning Grants	Provide funding to implement regional comprehensive water quality management planning activities as described in Section 604(b) of the federal Clean Water Act. 604(b) funds are to be used for water quality management planning activities, including tasks to determine the nature, extent and causes of point and nonpoint source water	NYSDEC	<a href="https://www.dec.ny.gov/lands/53122.html">https://www.dec.ny.gov/lands/53122.html</a>



Program	Description	Lead Agency	Website
	pollution problems, and to develop plans to resolve these problems.		
Water Quality Improvement Project (WQIP) Program	The Water Quality Improvement Project (WQIP) program is a competitive, reimbursement grant program that funds projects that directly address documented water quality impairments. Applications are typically available each spring through the Consolidated Funding Application.	NYSDEC	<a href="https://www.dec.ny.gov/pubs/4774.html">https://www.dec.ny.gov/pubs/4774.html</a>
New York State DEC/EFC Wastewater Infrastructure Engineering Planning Grant (EPG)	The New York State Department of Environmental Conservation (DEC), in conjunction with the New York State Environmental Facilities Corporation (EFC), will offer grants to municipalities to help pay for the initial planning of eligible Clean Water State Revolving Fund (CWSRF) water quality projects. The ultimate goal of the EPG program is to advance water quality projects to construction, so successful applicants can use the engineering report funded by the grant to seek financing through the CWSRF program, Water Quality Improvement Project program, or other funding entities to further pursue the identified solution.	NYSDEC	<a href="https://www.dec.ny.gov/pubs/81196.html">https://www.dec.ny.gov/pubs/81196.html</a>
Climate Smart Communities Grant Program	The CSC Grant program was established in 2016 to provide 50/50 matching grants to cities, towns, villages, and counties (or boroughs of New York City) of the State of New York for eligible climate adaptation and mitigation projects.	NYSDEC	<a href="https://www.dec.ny.gov/energy/109181.html">https://www.dec.ny.gov/energy/109181.html</a>
BRIDGE NY	The State is making funding available for local governments to rehabilitate and replace bridges and culverts statewide.	NYS DOT	<a href="https://www.dot.ny.gov/BRIDGENY">https://www.dot.ny.gov/BRIDGENY</a>



## 6.5 MITIGATION STRATEGY DEVELOPMENT AND UPDATE

### 6.5.1 Update of Municipal Mitigation Strategies

To evaluate progress on local mitigation actions, each jurisdiction was provided with a Mitigation Action Plan Review Worksheet, pre-populated with those actions identified for their jurisdiction in the prior (2013) plan. For each action, municipalities were asked to indicate the status of each action (*No Progress/Unknown, In Progress/Not Yet Complete, Continuous, Completed, Discontinued*) and provide review comments on each. Municipalities were requested to quantify the extent of progress and provide reasons for the level of progress or why actions were discontinued. Each jurisdictional annex in Section 9 (Jurisdictional Annexes) provides a table identifying the jurisdiction's prior mitigation strategy, the status of those actions and initiatives, and their disposition within their updated strategy.

Local mitigation actions identified as *Complete*, and those actions identified as *Discontinued*, were removed from the updated strategies. Those local actions that municipalities identified as *No Progress/Unknown, In Progress/Not Yet Complete*, or certain actions/initiatives identified as *Continuous* were carried forward in their local updated mitigation strategies. Actions considered ongoing capabilities were marked as *Discontinued* and included in the plan as ongoing capabilities. Municipalities were asked to provide further details on these projects to help better define the projects, identify benefits and costs, and improve implementation.

At the Kick-Off and during subsequent local-level planning meetings, all participating municipalities were further surveyed to identify mitigation activities completed, ongoing, and potential/proposed. As new additional potential mitigation actions, projects, or initiatives became evident during the plan update process, including as part of the risk assessment update and as identified through the public and stakeholder outreach process detailed in Section 3 (Planning Process), communities were made aware of these either through direct communication (local meetings, email, phone) or via their draft municipal annexes.

To help support the selection of an appropriate, risk-based mitigation strategy, each annex provided a summary of hazard vulnerabilities identified during the plan update process, either directly by municipal representatives or through review of available county and local plans and reports, and through the hazard profiling and vulnerability assessment process.

Beginning in June 2018, members of the Steering Committee and contract consultants worked directly with each jurisdiction (phone, email, local support meetings) to assist with the development and update of their annex and include mitigation strategies, focusing on identifying well-defined, implementable projects with a careful consideration of benefits (risk reduction, losses avoided), costs, and possible funding sources (including mitigation grant programs).

Concerted efforts were made to assure that municipalities develop updated mitigation strategies that included activities and initiatives covering the range of mitigation action types described in recent FEMA planning guidance (FEMA *Local Mitigation Planning Handbook* March 2013), specifically:

- Local Plans and Regulations—These actions include government authorities, policies, or codes that influence the way land and buildings are being developed and built.
- Structure and Infrastructure Project—These actions involve modifying existing structures and infrastructure to protect them from a hazard or remove them from a hazard area. This could apply to public or private structures, as well as critical facilities and infrastructure. This type of action involves projects to construct manmade structures to reduce the impact of hazards.



- **Natural Systems Protection**—These are actions that minimize damage and losses and preserve or restore the functions of natural systems.
- **Education and Awareness Programs**—These are actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. These actions could include participation in national programs, such as the National Flood Insurance Program and Community Rating System, StormReady (NOAA), and Firewise (NFPA) Communities.

A mitigation strategy workshop was conducted by NYSDHSES and FEMA Region II representatives on October 17, 2018, for all participating jurisdictions to support the development of focused problem statements based on the impacts of natural hazards in the county and their communities. These problem statements are intended to provide a detailed description of the problem area, including impacts to the jurisdiction, past damages, and loss of service. An effort was made to include the street address of the property/project location, adjacent streets, water bodies, and well-known structures, as well as a brief description of existing conditions (topography, terrain, hydrology) of the site. These problem statements form a bridge between the hazard risk assessment, which quantifies impacts to each community, with the development of actionable mitigation strategies.

A strong effort has been made to better focus local mitigation strategies to clearly defined, readily implementable projects and initiatives that meet the definition or characteristics of mitigation. Broadly defined mitigation objectives were eliminated from the updated strategy unless accompanied by discrete actions, projects, or initiatives.

Certain continuous or ongoing strategies that represent programs that are fully integrated into the normal operational and administrative framework of the community have been identified within the Capabilities section of each annex and removed from the updated mitigation strategy.

At least two mitigation projects per jurisdiction have been documented with an Action Worksheet, as per the New York State Hazard Mitigation Planning Standards Guide.

As discussed within the hazard profiles in Section 5.4, the long-term effects of climate change are anticipated to exacerbate the impacts of weather-related hazards including flood, severe storm, severe winter storm, and wildfire. By way of addressing these climate change-sensitive hazards within their local mitigation strategies and integration actions, communities are working to evaluate and recognize these long-term implications and potential impacts, and to incorporate in planning and capital improvement updates.

Municipalities included mitigation actions to address vulnerable critical facilities. These actions were proposed in consideration of protection against 500-year events, or worst-case scenarios. It is recognized, however, that in the case of projects being funded through federal mitigation programs, the level of protection can be influenced by cost-effectiveness, as determined through a formal benefit-cost analysis. In the case of “self-funded” projects, municipal discretion must be recognized. Further, the county and municipalities have limited authority over privately-owned critical facility owners regarding mitigation at any level of protection.

### 6.5.2 Update of County Mitigation Strategy

The update of the county-level mitigation strategies included a review of progress on the actions/initiatives identified in the 2013 HMP using a process similar to that used to review municipal mitigation strategy progress. The county, through their various department representatives, was provided with a Mitigation Action Plan Review Worksheet identifying all county-level actions and initiatives from the 2013 plan. The county reviewed each action and provided progress. For each action, relevant county representatives were asked to indicate the



status of each action (*No Progress/Unknown, In Progress/Not Yet Complete, Continuous, Completed, or Discontinued*), and provide review comments on each.

Projects/initiatives identified as “*Complete*”, as well as those actions identified as *Discontinued*, have been removed from this plan update. Those actions the county has identified as *No Progress/Unknown, In Progress/Not Yet Complete, or Continuous* have been carried forward in the county’s updated mitigation strategy. Actions considered ongoing capabilities were marked as *Discontinued* and included in the plan as ongoing capabilities.

Throughout the course of the plan update process, additional regional and county-level mitigation actions were identified by the following processes:

- Review of the results and findings of the updated risk assessment.
- Review of available regional and county plans reports and studies.;
- Direct input from county departments and other county and regional agencies, including:
  - Broome County Department of Planning and Economic Development.
  - Broome County Department of Emergency Services.
  - Broome County Geographic Information Systems.
  - Broome County Health Department.
  - Broome County Department of Public Works.
- Input received through the public and stakeholder outreach process.

As discussed within the hazard profiles in Section 5.4 (Risk Assessment), the long-term effects of climate change are anticipated to exacerbate the impacts of weather-related hazards including drought, flood, severe storm, and severe winter storm. The county has included mitigation actions and initiatives, including continuing and long-term planning and emergency management support, to address these long-term implications and potential impacts.

Various county departments and agencies included mitigation actions to address vulnerable critical facilities. These actions were proposed in consideration of protection against 500-year events, or worst-case scenarios.

It is recognized, however, that in the case of projects being funded through federal mitigation programs, the level of protection can be influenced by cost-effectiveness, as determined through a formal benefit-cost analysis. In the case of “self-funded” projects, local government authority can affect the ability to implement. Further, the county has limited authority over privately-owned critical facility owners regarding mitigation at any level of protection.

### 6.5.3 Mitigation Strategy Evaluation and Prioritization

Section 201.c.3.iii of 44 CFR requires an action plan describing how the actions identified will be prioritized.

The county and participating municipalities utilized a modified STAPLEE (Social, Technical, Administrative, Political, Legal, Economic, and Environmental) mitigation action evaluation methodology based on a set of evaluation criteria suited to the purposes of hazard mitigation strategy evaluation. This method provides a systematic approach that considers the opportunities and constraints of implementing a specific mitigation action.

The Steering Committee applied an action evaluation and prioritization methodology, which includes an expanded set of 14 criteria to include the consideration of cost-effectiveness, availability of funding, anticipated timeline, and if the action addresses multiple hazards.



The 14 evaluation/prioritization criteria used in the 2018 update process are the following:

1. Life Safety—How effective will the action be at protecting lives and preventing injuries?
2. Property Protection—How significant will the action be at eliminating or reducing damage to structures and infrastructure?
3. Cost-Effectiveness—Are the costs to implement the project or initiative commensurate with the benefits achieved?
4. Technical—Is the mitigation action technically feasible? Is it a long-term solution? Eliminate actions that, from a technical standpoint, will not meet the goals.
5. Political—Is there overall public support for the mitigation action? Is there the political will to support it?
6. Legal—Does the municipality have the authority to implement the action?
7. Fiscal—Can the project be funded under existing program budgets (i.e., is this initiative currently budgeted for)? Would it require a new budget authorization or funding from another source such as grants?
8. Environmental—What are the potential environmental impacts of the action? Will it comply with environmental regulations?
9. Social—Will the proposed action adversely affect one segment of the population? Will the action disrupt established neighborhoods, break up voting districts, or cause the relocation of lower income people?
10. Administrative—Does the jurisdiction have the personnel and administrative capabilities to implement the action and maintain it? Will outside help be necessary?
11. Multi-hazard—Does the action reduce the risk to multiple hazards?
12. Timeline—Can the action be completed in less than 5 years (within our planning horizon)?
13. Local Champion—Is there a strong advocate for the action or project among the jurisdiction's staff, governing body, or committees that will support the action's implementation?
14. Other Local Objectives—Does the action advance other local objectives, such as capital improvements, economic development, environmental quality, or open space preservation? Does it support the policies of other plans and programs?

Participating jurisdictions were asked to use these criteria to assist them in evaluating and prioritizing mitigation actions identified in the 2018 update. Specifically, for each mitigation action, the jurisdictions were asked to assign a numeric rank (-1, 0, or 1) for each of the 14 evaluation criteria, defined as follows:

- 1 = Highly effective or feasible
- 0 = Neutral
- -1 = Ineffective or not feasible

Further, jurisdictions were asked to provide a summary of the rationale behind the numeric rankings assigned, as applicable. The numerical results were totaled and then used by each jurisdiction to help prioritize the action or strategy as *Low*, *Medium*, or *High*. Actions that had a numerical value between 1 and 5 were categorized as *low*; actions with numerical values between 6 and 9 were categorized as *medium*; and actions with numerical values between 10 and 14 were categorized as *high*. While this provided a consistent, systematic methodology to support the evaluation and prioritization of mitigation actions, jurisdictions might have additional considerations that could influence their overall prioritization of mitigation actions.

It is noted that jurisdictions might be carrying forward mitigation actions and initiatives from prior mitigation strategies that were prioritized using a different, but not inherently contrary, approach. Mitigation actions in the prior (2013) Broome County HMP were “qualitatively evaluated against the mitigation goals and objectives and other evaluation criteria. They were then prioritized into three categories: high, medium, and low.” At their



discretion, jurisdictions carrying forward prior initiatives were encouraged to re-evaluate their priority, particularly if conditions that would affect the prioritization criteria had changed.

For the plan update there has been an effort to develop more clearly defined and action-oriented mitigation strategies. These local strategies include projects and initiatives that are seen by the community as the most effective approaches to advance their local mitigation goals and objectives within their capabilities. In addition, each municipality was asked to develop problem statements. With active support from NYS DHSES planning staff, municipalities were able to develop action-oriented and achievable mitigation strategies.

As such, many of the initiatives in the updated mitigation strategy were ranked as *High* or *Medium* priority, as reflective of the community’s clear intent to implement, available resources notwithstanding. In general, initiatives that would have had *low* priority rankings were appropriately screened out during the local action evaluation process.

### 6.5.4 Benefit/Cost Review

Section 201.6.c.3iii of 44 CFR requires the prioritization of the action plan to emphasize the extent to which benefits are maximized according to a cost/benefit review of the proposed projects and their associated costs. Stated otherwise, cost-effectiveness is one of the criteria that must be applied during the evaluation and prioritization of all actions comprising the overall mitigation strategy.

The benefit/cost review applied in for the evaluation and prioritization of projects and initiatives in this plan update process was qualitative; that is, it does not include the level of detail required by FEMA for project grant eligibility under the Hazard Mitigation Assistance (HMA) grant programs. For all actions identified in the local strategies, jurisdictions have identified both the costs and benefits associated with project, action or initiative.

**Costs** are the total cost for the action or project, and could include administrative costs, construction costs (including engineering, design and permitting), and maintenance costs.

**Benefits** are the savings from losses avoided attributed to the implementation of the project, and could include life-safety, structure and infrastructure damages, loss of service or function, and economic and environmental damage and losses.

When available, jurisdictions were asked to identify the actual or estimated dollar value for project costs and associated benefits. Having defined costs and benefits allows a direct comparison of benefits versus costs and a quantitative evaluation of project cost-effectiveness. Often, however, numerical costs and/or benefits have not been identified or might be impossible to quantitatively assess.

For the purposes of this planning process, jurisdictions were tasked with evaluating project cost-effectiveness with both costs and benefits assigned to *High*, *Medium*, and *Low* ratings. Where quantitative estimates of costs and benefits were available, ratings/ranges were defined as:

*Low* = < \$10,000                      *Medium* = \$10,000 to \$100,000                      *High* = > \$100,000

Table 6-5 provides the qualitative cost and benefit ratings definitions when quantitative estimates of costs and benefits were not available.



**Table 6-6 Qualitative Cost and Benefit Ratings**

Costs	
High	Existing funding levels are not adequate to cover the costs of the proposed project, and implementation would require an increase in revenue through an alternative source (e.g., bonds, grants, and fee increases).
Medium	The project could be implemented with existing funding but would require a re-apportionment of the budget or a budget amendment, or the cost of the project would have to be spread over multiple years.
Low	The project could be funded under the existing budget. The project is part of or can be part of an existing, ongoing program.
Benefits	
High	Project will have an immediate impact on the reduction of risk exposure to life and property.
Medium	Project will have a long-term impact on the reduction of risk exposure to life and property or will provide an immediate reduction in the risk exposure to property.
Low	Long-term benefits of the project are difficult to quantify in the short term.

Using this approach, projects with positive benefit versus cost ratios (such as high over high, high over medium, medium over low) are considered cost-effective.

For some of the Broome County initiatives identified, the planning partnership might seek financial assistance under FEMA’s HMA programs. These programs require detailed benefit/cost analysis as part of the application process. These analyses will be performed when funding applications are prepared, using the FEMA benefit/cost analysis model process. The planning partnership is committed to implementing mitigation strategies with benefits that exceed costs. For projects not seeking financial assistance from grant programs that require this sort of analysis, the planning partnership reserves the right to define “benefits” according to parameters that meet its needs and the goals and objectives of this plan.



## SECTION 7. PLAN MAINTENANCE PROCEDURES

This section details the formal process that will ensure that the HMP remains an active and relevant document and that the Planning Partnership maintains their eligibility for applicable funding sources. The plan maintenance process includes a schedule for monitoring and evaluating the plan annually and producing an updated plan every five years. In addition, this section describes how public participation will be integrated throughout the plan maintenance and implementation process. It explains how the mitigation strategies outlined in this plan update will be incorporated into existing planning mechanisms and programs, such as comprehensive land use planning processes, capital improvement planning, and building code enforcement and implementation. The plan’s format allows sections to be reviewed and updated when new data become available, resulting in a plan that will remain current and relevant.

The plan maintenance matrix shown in Table 7-1 provides a synopsis of responsibilities for plan monitoring, evaluation, and update, which are discussed in further detail in the sections below.

**Table 7-1. Plan Maintenance Matrix**

Task	Approach	Timeline	Lead Responsibility	Support Responsibility
Monitoring	Preparation of status updates and action implementation tracking as part of submission for Annual Progress Report.	August or upon major update to Comprehensive Plan or major disaster	Jurisdictional points of contact identified in Section 8 (Planning Partnership) and Section 9 (Jurisdictional Annexes)	Jurisdictional implementation lead identified in Section 8 (Planning Partnership) and Section 9 (Jurisdictional Annexes)
Integration	In order for integration of mitigation principles action to become an organic part of the ongoing county and municipal activities, the county will incorporate the distribution of the safe growth worksheet (see 7.1.2 below) for annual review and update by all participating jurisdictions.	August each year with interim email reminders to address integration in county and municipal activities.	HMP Coordinator and jurisdictional points of contact identified in Section 8 (Planning Partnership) and Section 9 (Jurisdictional Annexes)	HMP Coordinator
Evaluation	Review the status of previous actions as submitted by the monitoring task lead and support to assess the effectiveness of the plan; compile and finalize the Annual Progress Report	Finalized progress report completed by October 14 of each year	Steering Committee; Plan Maintenance element	Jurisdictional points of contacts identified in Section 9 (Jurisdictional Annexes)
Update	Reconvene the planning partners, at a minimum, every 5 years to guide a comprehensive update to review and revise the plan.	Every 5 years or upon major update to Comprehensive Plan or major disaster	Broome County HMP Coordinator	Jurisdictional points of contacts identified in Section 9 (Jurisdictional Annexes)



## 7.1 MONITORING, EVALUATING AND UPDATING THE PLAN

The procedures for monitoring, evaluating, and updating the plan are provided below.

The HMP Coordinator is assigned to manage the maintenance and update of the plan during its performance period. The HMP Coordinator will chair the Planning Committee and be the prime point of contact for questions regarding the plan and its implementation as well as to coordinate incorporation of additional information into the plan.

The Planning Committee shall fulfill the monitoring, evaluation and updating responsibilities identified in this section which is comprised of a representative from each participating jurisdiction. Each jurisdiction is expected to maintain a representative on the Planning Committee throughout the plan performance period (five years from the date of plan adoption). As of the date of this plan, primary and secondary mitigation planning representatives (points-of-contact) are identified in each jurisdictional annex in Section 9 (Jurisdictional Annexes).

Regarding the composition of the committee, it is recognized that individual commitments change over time, and it shall be the responsibility of each jurisdiction and its representatives to inform the HMP Coordinator of any changes in representation. The HMP Coordinator will strive to keep the committee makeup as a uniform representation of planning partners and stakeholders within the planning area.

Currently, the Broome County HMP Coordinator is designated as:

Beth A. Lucas, Senior Planner  
Broome County Planning Department  
60 Hawley St, PO Box 1766, Binghamton, NY 13902  
607-778-2375  
Email: [BLucas@co.broome.ny.us](mailto:BLucas@co.broome.ny.us)

### 7.1.1 Monitoring

The Planning Committee shall be responsible for monitoring progress on, and evaluating the effectiveness of, the plan, and documenting annual progress. Each year, beginning one year after plan development, Broome County and local Planning Committee representatives will collect and process information from the departments, agencies and organizations involved in implementing mitigation projects or activities identified in their jurisdictional annexes (Section 9) of this plan, by contacting persons responsible for initiating and/or overseeing the mitigation projects.

In the first year of the performance period, this will be accomplished by utilizing an online performance progress reporting system, the BATool<sup>SM</sup> which will enable municipal and county representatives of directly access mitigation initiatives to easily update the status of each project, document successes or obstacles to implementation, add or delete projects to maintain mitigation project implementation. It is anticipated that all participating partners will be prompted by the tool to update progress on a quarterly basis, providing an incentive for participants to refresh their mitigation strategies and to continue implementation of projects. It is expected that this reporting system will support the submittal of an increased number of project grant fund applications due to the functionality of the system which facilitates the sorting and prioritization of projects.

In addition to progress on the implementation of mitigation actions, including efforts to obtain outside funding; and obstacles or impediments to implementation of actions, the information that Planning Committee representatives shall be expected to document, as needed and appropriate include:

- Any grant applications filed on behalf of any of the participating jurisdictions



- Hazard events and losses occurring in their jurisdiction,
- Additional mitigation actions believed to be appropriate and feasible,
- Public and stakeholder input.

Plan monitoring for years 2 through 4 of the plan performance periods will be similarly addressed via the BATool<sup>SM</sup> or manually.

### **7.1.2 Integration Process of the HMP into Municipal Planning Mechanisms**

Hazard mitigation is sustained action taken to reduce or eliminate the long-term risk to human life and property from natural hazards. Integrating hazard mitigation into a community's existing plans, policies, codes, and programs leads to development patterns that do not increase risk from known hazards or leads to redevelopment that reduces risk from known hazards. The Broome County Planning Partnership was tasked with identifying how hazard mitigation is integrated into existing planning mechanisms. Refer to Section 9 (Jurisdictional Annexes) for how this is done for each participating municipality. During this process, many municipalities recognized the importance and benefits of incorporating hazard mitigation into future municipal planning and regulatory processes.

The Planning Partnership representatives will incorporate mitigation planning as an integral component of daily government operations. Planning Partnership representatives will work with local government officials to integrate the newly adopted hazard mitigation goals and actions into the general operations of government and partner organizations. Further, the sample adoption resolution (Section 2 – Plan Adoption) includes a resolution item stating the intent of the local governing body to incorporate mitigation planning as an integral component of government and partner operations. By doing so, the Planning Partnership anticipates that:

1. Hazard mitigation planning will be formally recognized as an integral part of overall planning and emergency management efforts;
2. The Hazard Mitigation Plan, Comprehensive Plans, Emergency Management Plans and other relevant planning mechanisms will become mutually supportive documents that work in concert to meet the goals and needs of County residents.

During the HMP annual review process, each participating municipality will be asked to document how they are utilizing and incorporating the Broome County HMP into their day-to-day operations and planning and regulatory processes. Additionally, each municipality will identify additional policies, programs, practices, and procedures that could be modified to accommodate hazard mitigation actions and include these findings and recommendations in the Annual HMP Progress Report. The following checklist was adapted from FEMA's Local Mitigation Handbook (2013), Appendix A, Worksheet 4.2. This checklist will help a community analyze how hazard mitigation is integrated into local plans, ordinances, regulations, ordinances, and policies. By completing the checklist, it will help municipalities identify areas that integrate hazard mitigation currently and where to make improvements and reduce vulnerability to future development. In this manner, the integration of mitigation into municipal activities will evolve into an ongoing culture within the county and its municipalities.



Table 7-2. Safe Growth Check List

Planning Mechanisms	Do you Do This?		Notes: How is it being done or how will this be utilized in the future?
	Yes	No	
<b>Operating, Municipal and Capital Improvement Program Budgets</b>			
<ul style="list-style-type: none"> <li>When constructing upcoming budgets, hazard mitigation actions will be funded as budget allows. Construction projects will be evaluated to see if they meet the hazard mitigation goals.</li> </ul>			
<ul style="list-style-type: none"> <li>Annually, during adoption process, the municipality will review mitigation actions when allocating funding.</li> </ul>			
<ul style="list-style-type: none"> <li>Do budgets limit expenditures on projects that would encourage development in areas vulnerable to natural hazards?</li> </ul>			
<ul style="list-style-type: none"> <li>Do infrastructure policies limit extension of existing facilities and services that would encourage development in areas vulnerable to natural hazards?</li> </ul>			
<ul style="list-style-type: none"> <li>Do budgets provide funding for hazard mitigation projects identified in the County HMP?</li> </ul>			
<b>Human Resource Manual</b>			
<ul style="list-style-type: none"> <li>Do any job descriptions specifically include identifying and/or implementing mitigation projects/actions or other efforts to reduce natural hazard risk?</li> </ul>			
<b>Building and Zoning Ordinances</b>			
<ul style="list-style-type: none"> <li>Prior to, zoning changes, or development permitting, the municipality will review the hazard mitigation plan and other hazard analyses to ensure consistent and compatible land use.</li> </ul>			
<ul style="list-style-type: none"> <li>Does the zoning ordinance discourage development or redevelopment within natural areas including wetlands, floodways, and floodplains?</li> </ul>			
<ul style="list-style-type: none"> <li>Does it contain natural overlay zones that set conditions</li> </ul>			
<ul style="list-style-type: none"> <li>Does the ordinance require developers to take additional actions to mitigate natural hazard risk?</li> </ul>			
<ul style="list-style-type: none"> <li>Do rezoning procedures recognize natural hazard areas as limits on</li> </ul>			



**SECTION 7: PLAN MAINTENANCE PROCEDURES**

Planning Mechanisms	Do you Do This?		Notes: How is it being done or how will this be utilized in the future?
	Yes	No	
zoning changes that allow greater intensity or density of use?			
<ul style="list-style-type: none"> <li>Do the ordinances prohibit development within, of filling of, wetlands, floodways, and floodplains?</li> </ul>			
<b>Subdivision Regulations</b>			
<ul style="list-style-type: none"> <li>Do the subdivision regulations restrict the subdivision of land within or adjacent to natural hazard areas?</li> </ul>			
<ul style="list-style-type: none"> <li>Do the subdivision regulations restrict the subdivision of land within or adjacent to natural hazard areas?</li> </ul>			
<ul style="list-style-type: none"> <li>Do the regulations provide for conservation subdivisions or cluster subdivisions in order to conserve environmental resources?</li> </ul>			
<ul style="list-style-type: none"> <li>Do the regulations allow density transfers where hazard areas exist?</li> </ul>			
<b>Comprehensive Plan</b>			
<ul style="list-style-type: none"> <li>Are the goals and policies of the plan related to those of the County HMP?</li> </ul>			
<ul style="list-style-type: none"> <li>Does the future land use map clearly identify natural hazard areas?</li> </ul>			
<ul style="list-style-type: none"> <li>Do the land use policies discourage development or redevelopment with natural hazard areas?</li> </ul>			
<ul style="list-style-type: none"> <li>Does the plan provide adequate space for expected future growth in areas located outside natural hazard areas?</li> </ul>			
<b>Land Use</b>			
<ul style="list-style-type: none"> <li>Does the future land use map clearly identify natural hazard areas?</li> </ul>			
<ul style="list-style-type: none"> <li>Do the land use policies discourage development or redevelopment with natural hazard areas?</li> </ul>			
<ul style="list-style-type: none"> <li>Does the plan provide adequate space for expected future growth in areas located outside natural hazard areas?</li> </ul>			
<b>Transportation Plan</b>			
<ul style="list-style-type: none"> <li>Does the transportation plan limit access to hazard areas?</li> </ul>			



Planning Mechanisms	Do you Do This?		Notes: How is it being done or how will this be utilized in the future?
	Yes	No	
<ul style="list-style-type: none"> <li>Is transportation policy used to guide growth to safe locations?</li> </ul>			
<ul style="list-style-type: none"> <li>Are transportation systems designed to function under disaster conditions (e.g. evacuation)?</li> </ul>			
<b>Environmental Management</b>			
<ul style="list-style-type: none"> <li>Are environmental systems that protect development from hazards identified and mapped?</li> </ul>			
<ul style="list-style-type: none"> <li>Do environmental policies maintain and restore protective ecosystems?</li> </ul>			
<ul style="list-style-type: none"> <li>Do environmental policies provide incentives to development that is located outside protective ecosystems?</li> </ul>			
<b>Grant Applications</b>			
<ul style="list-style-type: none"> <li>Data and maps will be used as supporting documentation in grant applications.</li> </ul>			
<b>Municipal Ordinances</b>			
<ul style="list-style-type: none"> <li>When updating municipal ordinances, hazard mitigation will be a priority</li> </ul>			
<b>Economic Development</b>			
<ul style="list-style-type: none"> <li>Local economic development group will take into account information regarding identified hazard areas when assisting new businesses in finding a location.</li> </ul>			
<b>Public Education and Outreach</b>			
<ul style="list-style-type: none"> <li>Does the municipality have any public outreach mechanisms / programs in place to inform citizens on natural hazards, risk, and ways to protect themselves during such events?</li> </ul>			



### 7.1.3 Evaluating

The evaluation of the mitigation plan is an assessment of whether the planning process and actions have been effective, if the HMP goals are being achieved, and whether changes are needed. The HMP will be evaluated on an annual basis to determine the effectiveness of the programs, and to reflect changes that could affect mitigation priorities or available funding.

The status of the HMP will be discussed and documented at an annual plan review meeting of the Planning Committee, to be held either in person or via teleconference approximately one year from the date of local adoption of this update, and successively thereafter. At least two weeks before the annual plan review meeting, the Broome County HMP Coordinator will advise Planning Committee members of the meeting date, agenda and expectations of the members.

The Broome County HMP Coordinator will be responsible for calling and coordinating the annual plan review meeting and Soliciting input regarding progress toward meeting plan goals and objectives.. These evaluations will assess whether:

- Goals and objectives address current and expected conditions.
- The nature or magnitude of the risks has changed.
- Current resources are appropriate for implementing the HMP and if different or additional resources are now available.
- Actions were cost effective.
- Schedules and budgets are feasible.
- Implementation problems, such as technical, political, legal or coordination issues with other agencies are presents.
- Outcomes have occurred as expected.
- Changes in county, city, town or village resources impacted plan implementation (e.g., funding, personnel, and equipment)
- New agencies/departments/staff should be included, including other local governments as defined under 44 CFR 201.6.

Specifically, the Planning Committee will review the mitigation goals, objectives, and activities using performance-based indicators, including:

- New agencies/departments
- Project completion
- Under/over spending
- Achievement of the goals and objectives
- Resource allocation
- Timeframes
- Budgets
- Lead/support agency commitment
- Resources
- Feasibility

Finally, the Planning Committee will evaluate how 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 (“Implementation of Mitigation Plan through Existing



Programs” subsection later in this section discusses this process). Other programs and policies can include those that address:

- Economic development
- Environmental preservation
- Historic preservation
- Redevelopment
- Health and/or safety
- Recreation
- Land use/zoning
- Public education and outreach
- Transportation

The Planning Committee should refer to the evaluation forms, Worksheets #2 and #4 in the FEMA 386-4 guidance document, to assist in the evaluation process (see Appendix G – Plan Review Tools). Further, the Planning Committee should refer to any process and plan review deliverables developed by the county or participating jurisdictions as a part of the plan review processes established for prior or existing local HMPs within the county.

The Broome County HMP Coordinator shall be responsible for preparing an Annual HMP Progress Report for each year of the performance period, based on the information provided by the local Planning Committee members, information presented at the annual Planning Committee meeting, and other information as appropriate and relevant. These annual reports will provide data for the five-year update of this HMP and will assist in pinpointing any implementation challenges. By monitoring the implementation of the HMP on an annual basis, the Planning Committee will be able to assess which projects are completed, which are no longer feasible, and what projects should require additional funding.

The Annual HMP Progress Report shall be posted on the Broome County Planning Department website to keep the public apprised of the plan’s implementation (<http://www.gobroomecounty.com/planning/hazardmitigation>). Additionally, the website provides details on the HMP update planning process. For communities who might choose to join the NFIP CRS program, this report will also be provided to each CRS participating community in order to meet annual CRS recertification requirements. To meet this recertification timeline, the Planning Committee will strive to complete the review process and prepare an Annual HMP Progress Report by October 14th of each year.

The HMP will also be evaluated and revised following any major disasters, to determine if 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 5.4 (Hazard Profiles) of this plan has 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.

### 7.1.4 Updating

44 CFR 201.6.d.3 requires that local hazard mitigation plans be reviewed, revised as appropriate, and resubmitted for approval in order to remain eligible for benefits awarded under DMA 2000. It is the intent of the Broome County HMP Planning Committee to update this plan on a five-year cycle from the date of initial plan adoption.

To facilitate the update process, the Broome County HMP Coordinator, with support of the Planning Committee, shall use the second annual Planning Committee meeting to develop and commence the implementation of a



detailed plan update program. The Broome County HMP Coordinator shall invite representatives from NYS DHSES to this meeting to provide guidance on plan update procedures. This program shall, at a minimum, establish who shall be responsible for managing and completing the plan update effort, what needs to be included in the updated plan, and a detailed timeline with milestones to assure that the update is completed according to regulatory requirements.

At this meeting, the Planning Committee shall determine what resources will be needed to complete the update. The Broome County HMP Coordinator shall be responsible for assuring that needed resources are secured.

Following each five-year update of the mitigation plan, the updated plan will be distributed for public comment. After all comments are addressed, the HMP will be revised and distributed to all planning group members and the New York State Hazard Mitigation Officer.

### **7.1.5 Grant Monitoring and Coordination**

Broome County recognizes the importance of having an annual coordination period that helps each planning partner become aware of upcoming mitigation grant opportunities identifies multi-jurisdiction projects to pursue. Grant monitoring will be the responsibility of each municipal partner as part of their annual progress reporting." The Broome County HMP Coordinator will keep the planning partners apprised of Hazard Mitigation Assistance grant openings and assist in developing letters of intent for grant opportunities when practicable.

Broome County intends to be a resource to the planning partnership in the support of project grant writing and development. The degree of this support will depend on the level of assistance requested by the partnership during open windows for grant applications. As part of grant monitoring and coordination, Broome County intends to provide the following:

- Notification to planning partners about impending grant opportunities.
- A current list of eligible, jurisdiction-specific projects for funding pursuit consideration.
- Notification about mitigation priorities for the fiscal year to assist the planning partners in the selection of appropriate projects.

Grant monitoring and coordination will be integrated into the annual progress report or as needed based on the availability of non-HMA or post-disaster funding opportunities.

## **7.2 IMPLEMENTATION OF MITIGATION PLAN THROUGH EXISTING PROGRAMS**

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 and coordinate with, and complement, those existing plans and programs.

The “Capability Assessment” section of Section 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 Section 9 (Jurisdictional Annexes), the county and each participating jurisdiction identified how they have integrated hazard risk management into their existing planning, regulatory and operational/administrative framework (“existing integration”), and how they intend to promote this integration (“opportunities for future integration”).



It is the intention of Planning Committee representatives to incorporate mitigation planning as an integral component of daily government operations. Planning Committee representatives will work with local government officials to integrate the newly adopted hazard mitigation goals and actions into the general operations of government and partner organizations. Further, the sample adoption resolution (Section 2 – Plan Adoption) includes a resolution item stating the intent of the local governing body to incorporate mitigation planning as an integral component of government and partner operations. By doing so, the Planning Committee anticipates that:

- 1) Hazard mitigation planning will be formally recognized as an integral part of overall emergency management efforts;
- 2) The Hazard Mitigation Plan, Comprehensive Plans, Emergency Management Plans and other relevant planning mechanisms will become mutually supportive documents that work in concert to meet the goals and needs of county residents.

Other planning processes and programs to be coordinated with the recommendations of the hazard mitigation plan include the following:

- Emergency response plans
- Training and exercise of emergency response plans
- Debris management plans
- Recovery plans
- Capital improvement programs
- Municipal codes
- Community design guidelines
- Water-efficient landscape design guidelines
- Stormwater management programs
- Water system vulnerability assessments
- Community Wildfire Protection Plans
- Comprehensive Flood Hazard Management Plans
- Resiliency plans
- Community Development Block Grant-Disaster Recovery action plans
- Public information/education plans

Some action items do not need to be implemented through regulation. Instead, these items can be implemented through the creation of new educational programs, continued interagency coordination, or improved public participation.

During the annual plan evaluation process, the Planning Committee representatives will identify additional policies, programs, practices, and procedures that could be modified to accommodate hazard mitigation actions and include these findings and recommendations in the Annual HMP Progress Report.

### 7.3 CONTINUED PUBLIC INVOLVEMENT

Broome County and participating jurisdictions are committed to the continued involvement of the public in the hazard mitigation process. This HMP update will continue to be posted on-line (<http://www.gobroomecounty.com/planning/hazardmitigation>). In addition, public outreach and dissemination of the HMP will include:

- Links to the plan on municipal websites of each jurisdiction with capability.



- Continued utilization of existing social media outlets (Facebook, Twitter) to inform the public of natural hazard events, such as floods and severe storms. Educate the public via the jurisdictional websites on how these applications can be used in an emergency situation.
- Development of annual articles or workshops on flood hazards to educate the public and keep them aware of the dangers of flooding.

Planning Committee representatives and the Broome County HMP Coordinator will be responsible for receiving, tracking, and filing public comments regarding this HMP. The public will have an opportunity to comment on the plan via the hazard mitigation website at any time. The HMP Coordinator will maintain this website, posting new information and maintaining an active link to collect public comments.

The public can also provide input at the annual review meeting for the HMP and during the next five-year plan update. The Broome County HMP Coordinator is responsible for coordinating the plan evaluation portion of the meeting, soliciting feedback, collecting and reviewing the comments, and ensuring their incorporation in the five-year plan update as appropriate. Additional meetings might also be held as deemed necessary by the planning group. The purpose of these meeting would be to provide the public an opportunity to express concerns, opinions, and ideas about the mitigation plan.

The Planning Committee representatives shall be responsible to assure that:

- Public comment and input on the plan, and hazard mitigation in general, are recorded and addressed, as appropriate.
- Copies of the latest approved plan (or draft in the case that the five-year update effort is underway) are available for review, along with instructions to facilitate public input and comment on the Plan.
- Appropriate links to the Broome County Hazard Mitigation Plan website are included on municipal websites.
- Public notices are made as appropriate to inform the public of the availability of the plan, particularly during Plan update cycles.

The Broome County HMP Coordinator shall be responsible to assure that:

- Public and stakeholder comment and input on the plan, and hazard mitigation in general, are recorded and addressed, as appropriate.
- The Broome County HMP website is maintained and updated as appropriate.
- Copies of the latest approved plan are available for review at appropriate county facilities along with instructions to facilitate public input and comment on the plan.
- Public notices, including media releases, are made as appropriate to inform the public of the availability of the plan, particularly during plan update cycles.