



SECTION 6. MITIGATION STRATEGIES

This section presents mitigation actions for Chenango County to reduce potential exposure and losses identified as concerns in the Risk Assessment portion of this plan. The Planning 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) Overview of Mitigation Strategy Development
- 3) Review and Update of Mitigation Goals and Objectives
- 4) Capability Assessment
- 5) Review and Update of Mitigation Strategies
- 6) Mitigation Strategy Prioritization, including Review of Cost-Effectiveness

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 DMA 2000 requirements, 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. The County, through previous and ongoing hazard mitigation activities, has demonstrated that it is pro-active 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 2008 “Chenango County All Hazards Mitigation Plan”. The current planning process represents the regulatory five-year plan update process, which includes participation of all municipal governments in the County, along with key county and regional stakeholders.
- All municipalities participating in this Plan participate in the National Flood Insurance Program (NFIP), which requires the adoption of FEMA floodplain mapping and certain minimum construction standards for building within the floodplain. Further, Chenango County Code Enforcement Division of Public Health provides NFIP floodplain administration support for many of the municipalities in Chenango County under Memorandums of Understanding (MOU).
- Municipalities have actively participated in available mitigation grant funding opportunities to implement mitigation projects, including the ongoing New York Rising Hazard Mitigation Grant Program.
- The County and municipalities have implemented mitigation actions to protect critical facilities and infrastructure throughout the planning area. As an example, the Highway Department maintains a multi-year, rotating program of roadway and culvert (drainage) maintenance and improvements to help mitigate stormwater damage to county roads.
- Numerous studies have been conducted by Federal, State, County and local agencies/entities to examine natural hazards affecting Chenango County, and have been reviewed and incorporated into this plan update as appropriate (see Section 3 and References).
- Municipalities in Chenango County have adopted regulatory standards regarding land-use and zoning that exceed minimum requirements and provide the communities with greater capability to manage development without increasing hazard risk and vulnerability. Examples of these standards are presented in the Capability Assessment subsection later in this chapter.



- The county has been incorporating flood risk reduction through stormwater management into its infrastructure and building improvement projects. All projects, especially in areas adjacent to waterways, are oversized to accommodate the potential of future flooding.

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:

- DMA 2000 regulations, specifically 44 CFR 201.6 (local mitigation planning)
- FEMA “Local Mitigation Planning Handbook”, March 2013
- FEMA Local Mitigation Plan Review Guide
- FEMA “Integrating Hazard Mitigation into Local Planning”, March 2013
- FEMA Mitigation Planning How-To Guide #3, Identifying Mitigation Actions and Implementing Strategies (FEMA 386-3)
- FEMA “Mitigation Ideas: A Resource for Reducing Risk to Natural Hazards”, January 2013

The mitigation strategy update approach includes the following steps that are further detailed in later sections of this section:

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

6.3 Review and Update of Mitigation Goals and Objectives

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

6.3.1 Mission Statement

Per FEMA guidance (386-1), a mission statement or guiding principle describes the overall duty and purpose of the planning process, and serves to identify the principle message of the plan. It focuses or constrains the range of goals and objectives identified. This is not a goal because it does not describe outcomes, rather it is broad in scope, and provides a direction for the Plan.

During the original county hazard mitigation planning process the mitigation Planning Committee developed a mission statement. As part of the update process, the Chenango County Hazard Mitigation Steering Committee reviewed the mission statement and elected to maintain it without edit or amendment, as:

Eliminate or reduce the risk of future loss of life and property due to natural disasters and subsequent economic losses experienced by both the private and public sectors, through partnerships and careful planning.



6.3.2 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 original goals and objectives of the County HMP were established by the Planning Committee during the 2007/8 planning process, based on the risk assessment results, discussions, research, and input from amongst the committee, existing authorities, polices, programs, resources, stakeholders and the public. The Planning Committee identified six goals through a facilitated exercise, working from a catalog of goal statements created through review of similar plans and FEMA planning guidance. Once the goals were established, objectives that meet multiple goals were selected through a similar facilitated exercise. For the purposes of this plan, goals are defined as follows:

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.

Goals are general guidelines that explain what is to be achieved. They are usually broad, long-term, policy-type statements and 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).

The Chenango County goals are compatible with the needs and goals expressed in other available community planning documents as well as the NYS HMP. Achievement of these goals helps to define the effectiveness of a mitigation strategy.

Objectives were then developed and/or selected by the Planning Committee through its knowledge of the local area, review of past efforts, findings of the risk assessment, qualitative evaluations, and identification of mitigation options. The objectives are used to 1) measure the success of the plan once implemented, and 2) to help prioritize identified mitigation actions. For the purposes of this plan, objectives are defined as follows:

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.

The Planning Committee selected objectives that would meet multiple goals. The objectives serve as a stand-alone measurement of a mitigation action, rather than as a subset of a goal. Achievement of the objectives will be a measure of the effectiveness of a mitigation strategy. The objectives also are used to help establish priorities.

During the 2015 plan update process, the Steering Committee reviewed the 2008 goals and objectives. Further, all participating municipalities were provided a Goals and Objectives worksheet to facilitate their input to the update process. The 2008 goals and objectives were reviewed in consideration of the hazard events and losses since the 2008 plan, the updated hazard profiles and vulnerability assessment, the goals and objectives established in the other related State, county and local risk management plans, as well as direct input on how the County and municipalities recognize they need to move forward to best manage their hazard risk.

As a result of this review process, the Goals and Objectives for the 2015 update remain unchanged, as indicated in Tables 6-1 and 6-2).



Table 6-1. Chenango County Hazard Mitigation Plan Goals

Goal Number	Goal Statement
G-1	Protect Life.
G-2	Protect Property.
G-3	Protect Economic Viability.
G-4	Protect the Environment.
G-5	Promote Hazard Mitigation Awareness and Education.
G-6	Develop and Implement Mitigation Strategies that use Public Funds in an Efficient and Cost-Effective Way.

Table 6-2. Chenango County Hazard Mitigation Plan Objectives

Objective Number	Objective Statement
O-1	Encourage hazard mitigation measures that result in the least adverse effect on the natural environment and that use natural processes. (Geared towards restoration – aimed more at existing construction)
O-2	Strengthen codes so that new construction can withstand the impacts of natural hazards and lessen the impact of that development on the environment’s ability to absorb the impact of natural hazards. (Focused on new construction and codes that can affect land use – addresses both protecting the environment and assuring construction is hazard resistant, something also addressed in the next objective)
O-3	Prevent (or discourage) new development in hazardous areas or ensure that if building occurs in high-risk areas that it is done in such a way as to minimize risk
O-4	Integrate the recommendations of this plan into existing County and local plans/programs (incl. comprehensive and emergency operations plans).
O-5	Incorporate hazard considerations into land-use planning and natural resource management.
O-6	Seek partnership opportunities with stakeholders in hazard mitigation that will leverage resources and enhance opportunities to implement mitigation activities within the planning area.
O-7	Seek mitigation actions that will assist in protecting lives and property by making homes, businesses, infrastructure, and critical facilities more resistant to hazards.
O-8	Better characterize flood/stormwater hazard events by conducting additional hazard studies and identify inadequate stormwater facilities and poorly drained areas.
O-9	Develop or improve early warning emergency response systems and evacuation procedures (this is directly life safety)
O-10	Develop and implement additional education and outreach programs to increase public awareness of the risks associated with hazards and to educate the public on specific, individual mitigation, preparedness, and response and recovery activities.
O-11	Ensure continuity of government operations, emergency services, and essential facilities at the local level during and immediately after disaster and hazard events.
O-12	Strengthen inter-jurisdiction and inter-agency communication, coordination, and partnerships in all phases of emergency management.
O-13	Retrofit, purchase, or relocate structures in high hazard areas including those known to be repetitively damaged



Table 6-3. Chenango County Hazard Mitigation Plan Objectives

Obj. #	Objective Statement	Protect Life	Protect Property	Protect Economic Viability	Protect the Environment	Promote HM Education and Awareness	Dev./Imp. Mit. Strat. Using Public Funds Efficiently
O-1	Encourage hazard mitigation measures that result in the least adverse effect on the natural environment and that use natural processes. (Geared towards restoration – aimed more at existing construction)		X		X		X
O-2	Strengthen codes so that new construction can withstand the impacts of natural hazards and lessen the impact of that development on the environment’s ability to absorb the impact of natural hazards. (Focused on new construction and codes that can affect land use – addresses both protecting the environment and assuring construction is hazard resistant, something also addressed in the next objective)	X	X		X		
O-3	Prevent (or discourage) new development in hazardous areas or ensure that if building occurs in high-risk areas that it is done in such a way as to minimize risk	X	X	X			X
O-4	Integrate the recommendations of this plan into existing County and local plans/programs (incl. comprehensive and emergency operations plans).	X		X	X	X	
O-5	Incorporate hazard considerations into land-use planning and natural resource management.	X		X	X		X
O-6	Seek partnership opportunities with stakeholders in hazard mitigation that will leverage resources and enhance opportunities to implement mitigation activities within the planning area.			X			X
O-7	Seek mitigation actions that will assist in protecting lives and property by making homes, businesses, infrastructure, and critical facilities more resistant to hazards.	X	X	X			
O-8	Better characterize flood/stormwater hazard events by conducting additional hazard studies and identify inadequate stormwater facilities and poorly drained areas.				X	X	
O-9	Develop or improve early warning emergency response systems and evacuation procedures (this is directly life safety)	X				X	
O-10	Develop and implement additional education and outreach programs to increase public awareness of the risks associated with hazards and to educate the public on specific, individual mitigation, preparedness, and response and recovery activities.	X	X			X	X
O-11	Ensure continuity of government operations, emergency services, and essential facilities at the local level during and immediately after disaster and hazard events.	X		X			
O-12	Strengthen inter-jurisdiction and inter-agency communication, coordination, and partnerships in all phases of emergency management.	X		X			X
O-13	Retrofit, purchase, or relocate structures in high hazard areas including those known to be repetitively damaged		X				



6.4 Capability Assessment

According to FEMA 386-3, 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 local and state programs, policies, regulations, funding and practices currently in place that may either facilitate or hinder mitigation.

During the original planning process, the County and all municipalities identified and assessed their capabilities in the areas of planning and regulatory, administrative and technical, and fiscal capabilities. By completing this assessment, the Planning Committee and each jurisdiction learned how or whether they would be able to implement certain mitigation actions by determining the following:

- Limitations that may exist on undertaking actions;
- The range of local and/or state administrative, programmatic, regulatory, financial and technical resources available to assist in implementing their mitigation actions;
- Action is currently outside the scope of capabilities;
- Types of mitigation actions that may 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 2015 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 areas of planning and regulatory, administrative and technical, and fiscal may be found in the Capability Assessment section of their jurisdictional annexes in Section 9. Further, within each annex participating jurisdictions have identified how they have integrated hazard risk management into their existing planning, regulatory and operational/administrative framework (“integration capabilities”), and how they intend to promote this integration (“integration actions”). A further summary of these continued efforts to develop and promote a comprehensive and holistic approach to hazard risk management and mitigation is presented in Section 7.

6.4.1 Summary of Plans, Programs and Resources Available to Support Mitigation

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 Chenango County are presented below.

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 Section 5.4.3 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 U.S. 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% less damage annually than those not built in compliance (FEMA, 2008).

All municipalities in Chenango County actively participate in the NFIP. As of April 31, 2015, there were 709 NFIP policyholders in Chenango County. There have been 517 claims made, totaling nearly \$11 million for damages to structures and contents. There are 65 NFIP Repetitive Loss (RL) properties, and 2 NFIP Severe Repetitive Loss (SRL) properties in the County. Further details on the County's flood vulnerability may be found in the flood hazard profile in Section 5.

Municipal participation in and compliance with the NFIP is supported at the Federal level by FEMA Region II and the Insurance Services Organization (ISO), at the state-level by the New York State Department of Environmental Conservation (NYSDEC) and New York State Office of Emergency Management (NYS DHSES). Further, the Chenango County Building Department provides floodplain administration service support to many of the municipalities through Memorandums of Understanding (MOU). Additional information on the NFIP program and its implementation throughout the County may be found in the flood hazard profile (Section 5).

The State and communities may 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 single- and two-family residential construction, and BFE+1 for all other types of construction. Communities may go beyond this State requirement, providing for additional freeboard or requiring BFE+2 for all types of construction. Further, a number of communities have supported property owners meeting and exceeding freeboard requirements through the site plan review and zoning board of approvals process; for instance, allowing overall structure heights to be determined from BFE+2 rather than grade within NFIP floodplains.

Cumulative Substantial Improvements/Damages: The NFIP allows improvements valued at up to 50% of the building's pre-improvement value to be permitted without meeting the flood protection requirements. Over the years, a community may issue a succession of permits for different repairs or improvement to the same structures. This can greatly increase the overall flood damage potential for the structure and within a community. The community may 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)

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).

New York State Flood Plain Management

There are two departments that have statutory authorities and programs that affect floodplain management at the local jurisdiction level in New York State: the New York State Department of Environmental Conservation (NYSDEC) and the Department of State's Division of Code Enforcement and Administration (DCEA).



In 1992, the New York State Legislature amended an existing law, finding that “it is in the interests of the people of this state to provide for participation” in the NFIP (New York Laws, Environmental Conservation, Article 36). Although the Legislature recognized that “land use regulation is principally a matter of local concern” and that local governments “have the principal responsibility for enacting appropriate land use regulations,” the law requires all local governments with land use restrictions over SFHAs to comply with all NFIP requirements. The law clearly advises local governments that failure to qualify for the NFIP may result in sanctions under Federal law, and specifies that the State “will cooperate with the federal government in the enforcement of these sanctions.”

The 1992 law that provides for local government participation in the NFIP also requires State agencies to “take affirmative action to minimize flood hazards and losses in connection with state-owned and state-financed buildings, roads and other facilities, the disposition of state land and properties, the administration of state and state-assisted planning programs, and the preparation and administration of state building, sanitary and other pertinent codes.” In particular, the commissioner of the NYSDEC is to assist State agencies in several respects, including reviewing potential flood hazards at proposed construction sites.

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.

Land Use Planning

The County and municipalities have various land use planning mechanisms that can be leveraged to mitigate flooding and support natural hazard risk reduction. A summary of land use planning mechanisms currently in-place in each municipality is identified in the following table, in addition to within the Planning and Regulatory table in each municipal annex in Section 9.



Table 6-4. Land Use Plans and Regulations in Effect in Chenango County

	Building & Fire (County) (Local)	Floodplain	Junkyard / Junk Storage	Mobile Home	Refuse	Sanitary	Telecommunications	Site Plan Review	Subdivision	Zoning	Local Right to Farm	Comprehensive Plan	Road Use Law / Agreement	County Floodplain Administrator
Towns														
Afton	X	X	X		X	X	X	X	X	X			L	—
Bainbridge	X	X	X		X	X	X	X	X			X		X
Columbus	X	X	X		X	X	X		X		X	X	L	X
Coventry	X	X	X		X	X	X	X	**		X			X
German	X	X	X			X			X	X			L	X
Greene	X X	X	X	X	X	X	X	X	X	X		X		—
Guilford	X	X	X		X	X			X			X		X
Lincklaen	X	X	X	X		X		X	X					X
McDonough	X	X	X								X		L	X
New Berlin	X X	X	X	X	X	X	X	X	X		X	X	L	X
North Norwich	X	X	X X	X	X	X	X	X	X		X			X
Norwich	X	X	X		X			X	X	X				X
Otselie	X	X	X	X	X	X		X	X					X
Oxford	X	X	Z	Z			X	Z	X	X		X	A	X
Pharsalia	X	X	X		X	X								X
Pitcher	X	X	X			X			X					X
Plymouth	X	X	X X		X	X	X		X		X			X
Preston	X	X	X X		X	X					X			X
Sherburne	X	X	X X	X	X	X		X	X		X	X	L	X
Smithville	X	X	X		X	X	X	X	X	X		X		X
Smyrna	X	X	X	X		X			X	X	X	X		X
Cities														
Norwich		X	X	X	X	X		X	X	X		X		—
Villages														
Afton	X	X	X	X	X	X		X	X	X				—
Bainbridge	X	X	X	X	X	X	X	X	X	X		X	X	X
Earlville		X	X									X		X
Greene		X	X	Z	Z	X	X	X	X	X		X		—
New Berlin	X	X	X	X	X	X	X	X	X	X				X
Oxford	X	X	Z	Z	X	X		Z	X	X		X		X
Sherburne	X	X	X	X	X	X				X		X		X
Smyrna	X	X	X	X		X					X		X	X

Source: Chenango County Department of Planning and Development, 2015

Z – Refer to Zoning Ordinances (For copies of these regulations, contact the Town/Village or City Clerk. ** Subdivision Regulations addressed in Site Plan Regulations.





Natural Gas Development in New York State

The Article 23, Title 3 of the Environmental Conservation Law (ECL) delegates all authority to regulate natural gas drilling to the NYS DEC. The ECL specifies that local governments retain jurisdiction over local roads and their rights under the Real Property Tax Law.

NYS DEC's Division of Mineral Resources administers regulations and a permitting program to mitigate to the greatest extent possible any potential environmental impact of drilling and well operation. NYSDEC inspects well sites and reviews all plans for natural gas well sites addressing flood zones, spacing unit decisions, etc.

Natural gas is primarily transported by pipelines. Interstate pipelines are regulated by the Federal Energy Regulatory Commission (FERC) and intrastate pipelines are regulated by the New York State Public Service Commission (NYSPSC). The intrastate pipelines are under the jurisdiction of the NYSPSC Gas Safety Division (Chenango County Natural Gas Advisory Committee, 2011). Low-pressure (<125 psi) gathering pipelines are regulated by the Gas Safety Division. Towns do not have regulatory authority over them. The PSC has regulatory authority over intrastate lines at all levels, including, but not limited to, the Safety Division (Planning Committee Input, 2014).

The Chenango County Department of Planning and Development maintains a Natural Gas webpage (<http://www.co.chenango.ny.us/planning/natural-gas/>) that includes links to the activities of the Chenango County Natural Gas Advisory Committee, and the Four County Natural Gas Collaborative (Chenango, Otsego, Delaware and Madison Counties), as well as mitigation strategies Chenango municipalities can implement to address some of the impacts (primarily heavy vehicle traffic over local roads, and noise) of natural gas development.

The Four County Natural Gas Collaborative met actively in 2011, but has not formally convened since that time. The Chenango County Natural Gas Advisory Committee met from 2008 through 2012, but has not formally convened since 2012. It would be expected, due to the 239 Review process, that any major new projects would be brought before the review committee at the County level before construction began.

The Chenango County Bureau of Fire and Emergency Management addresses spill and explosion response in the County Emergency Plan.

Department of Defense Innovative Readiness Training (IRT) Program

The Department of Defense's Innovative Readiness Training Program is a US military training opportunity that provides training and readiness for military personnel while addressing the needs of underserved American communities. Through this program, military units refine their engineering, health care, diving, and transportation skills by performing services and developing projects for communities that otherwise would not have the resources to conduct them on their own. Through this program, in July 2015 "Greater Chenango Cares" held a large-scale event to support the medical and veterinary needs of individuals from all over the local area and beyond. The next phase of this program in Chenango County anticipates rewiring the electrical system at the county fairgrounds. It is noted that the county fairgrounds could be used for the post-disaster location of temporary housing, and support other disaster response and recovery functions



6.4.2 Administrative and Technical Capabilities - Local

Chenango County Department of Planning and Development (CCDPD)

The mission of the Department of Planning and Development is to improve the quality of life in Chenango County by providing professional services and programs that promote economic vitality, environmental integrity and strong communities.

Chenango County Soil & Water Conservation District (SWCD)

The Chenango County Soil & Water Conservation District is an agency committed to the conservation of the natural resources of our region. The Soil and Water District works primarily with the farming community to assist producers in installing management practices to ensure soil health and increase the water quality of our region. The Soil & Water District acts as both an administrator of government funds and as a technical service provider for management practices relating to grazing, livestock waste management, riparian buffers, comprehensive nutrient management plans, manure management, field & crop management, wetland construction, and livestock watering systems.

As a County agency, the District provides free technical advice on other water, soil and agricultural issues. The District has often been called to help mitigate storm water issues, drainage issues (both agricultural and non-agricultural) and other land management problems and inquires.

Chenango County Public Health – Code Enforcement

This division of Public Health is responsible for the administration and enforcement of New York State Uniform Fire Prevention and Building Codes in Chenango County. The goal of this division is to insure that new and existing homes, shops, restaurants, places of worship, work places, and all buildings within the county are safe for those who enter. This is accomplished by overseeing the planning, construction, and use of all buildings.

Chenango County Fire and Building Code Enforcement Department enforces the NYS Fire and Building codes for all municipalities within Chenango County except: Town and Village of Greene, Town of New Berlin, Village of Earlville and the Town and City of Norwich.

The Code Enforcement staff work closely with Environmental Health, Nursing staff, Child-Protective Services, the Department of Social Services, the Department of Environmental Conservation, Town and Village Officials, local Fire Departments, and the Office of Emergency Management in an attempt to provide a safe and clean environment for all residents of Chenango County.

Chenango County Bureau of Fire & Emergency Management City of Norwich Emergency Management

The mission of the Chenango County Bureau of Fire and all of its staff is to enhance and improve the overall Fire and EMS operations and safety in Chenango County by providing staff services such as training, fire investigation, supervision of Emergency Medical Services, fire protection programs, technical support (such as Hazardous Materials, Dive, High Angle and Search & Rescue teams), public relations and Communications guidance and support for all Fire and EMS agencies of Chenango County.

The Bureau of Fire's role also serves as the Emergency Management agency for the County. The staff operates the EOC during planned and emergency incidents and fills various functions during the activation, response, recovery and mitigation phase of disasters by coordinating planning efforts, response, resource acquisition and tracking and mitigation planning for all the respective jurisdictions within the County boundaries.



To support public notification during emergency situations (including evacuation and sheltering instructions) County Emergency Management works closely with the City of Norwich, as together have developed a smart phone emergency management application (app), designed as a one-stop resource for emergency preparedness and response. The application allows for push notifications to reach people quickly during an emergency situation, and includes the following features:

- Notify Chenango alerts of road closures, emergency evacuations (both locations where evacuations are being ordered, as well as specified evacuation routes), shelter information and more.
- Live weather conditions direct from the weather station at the joint City/County Emergency Operations Center.
- Local National Weather Service forecasts, including hour-by-hour information.
- Weather camera of downtown Norwich, updated every several minutes.
- River and stream gauge information for all local rivers running through Chenango County, plus the Canasawacta Creek in Norwich and South Plymouth.
- Countywide school closings, as reported to The Evening Sun.
- A link to NYSEG power outages for Chenango County, broken down by town and road.
- Road work updates from the NY-511 system.
- Live NOAA Weather Radio feed from the Norwich transmitter.
- Emergency preparedness information.

The City of Norwich Emergency Management Office, working with the Binghamton Office of the National Weather Service, monitors regional and national weather information for its potential impact on the City. This is particularly true during flooding and severe storm seasons.

Chenango County Department of Public Works – Highway Department (CCDPW)

The Chenango County Department of Public Works is responsible for 308 centerline miles of roadways and 140 bridges within Chenango County.

The DPW is charged with designing, constructing, and maintaining an extensive infrastructure system for Chenango County. The department also provides oversight on many capital projects big and small. Whenever possible, the DPW is available to assist local city, town and village public works departments.

6.4.3 Administrative and Technical Capabilities – State and Regional

Local mitigation is further supported by county, regional, state and federal administrative and technical capabilities, including the following:

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 – NYSOEM) 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. It was approved by FEMA in 2015 and it keeps New York 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 Chenango County HMP Update.

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

Within the NYSDEC – Division of Water, the Bureau of Flood Protection and Dam Safety cooperates with federal, state, regional, and local partners to protect lives and property from floods, coastal erosion and dam failures through floodplain management and both structural and non-structural means; 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: Is 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: Is responsible for reducing flood risk to life and property through construction, operation and maintenance of flood control facilities.
- Floodplain Management: Is 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.

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

Technical Bulletins for the 2010 Codes of New York State

The DCEA publishes 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 to 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 web page. The Building Permit Application requests the applicant to indicate whether the site is or is not in a floodplain and advises checking with town clerks 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).



6.4.4 Fiscal Capabilities-Federal and State

Mitigation projects and initiatives are largely or entirely dependent on available funding. Chenango County is able to fund mitigation projects through existing local budgets, local appropriations (including referendums and bonding), and through a myriad of Federal and State loan and grant programs.

Federal Hazard Mitigation Funding Opportunities

Federal mitigation grant funding is available to all communities with a current hazard mitigation plan (this plan); however most of these grants require a “local share” in the range of 10-25% of the total grant amount. The FEMA mitigation grant programs are described below.

Hazard Mitigation Grant Program (HMGP)

The HMGP is a post-disaster mitigation program. It is made available to states by FEMA after each Federal disaster declaration. The HMGP can provide up to 75% funding for hazard mitigation measures. The HMGP can be used to fund cost-effective projects that will protect public or private property in an area covered by a federal disaster declaration or that will reduce the likely damage from future disasters. 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 Hazard Mitigation Plan (this plan).

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 and 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 may be considered as additional HMGP funding becomes available.

Chenango County participated in the Catskill Flood Rehabilitation Project where the County was granted monies to aid residents in property acquisitions as a result from flooding. During this project, residents could apply to receive funding, using the FEMA guidelines for property acquisitions. In turn, the properties were turned over to the local municipalities and used forever as “Green Space”.

Flood Mitigation Assistance (FMA) Program

The FMA combines the previous Repetitive Flood Claims and Severe Repetitive Loss Grants into one grant program. 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 75%. At least 25% of the total eligible costs must be provided by a non-federal source. Of this 25%, 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. FMA funds are distributed from FEMA to the state. NYS DHSES serves as the grantee and program administrator for FMA.



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% of a project's cost up to \$3 million. As with the HMGP and FMA, a FEMA-approved local Hazard Mitigation Plan is required to be approved for funding under the PDM program.

Federal and State Disaster and Recovery Assistance Programs

Following a disaster, various types of assistance may 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. Among the general types of assistance that may be provided should the President of the United States declare the event a major disaster are the following:

Individual Assistance (IA)

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 may 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 may borrow up to \$200,000 to repair or replace real estate, \$40,000 to cover losses to personal property and an additional 20% for mitigation. For businesses, loans may 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, private universities, etc. are also eligible. An Economic Injury Disaster Loan provides necessary working capital until normal operations resume after a physical disaster. These loans are restricted, by law, to small businesses only.

Public Assistance (PA)

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.

Small-Business Administration (SBA) Loans

Small Business Administration (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 may apply for up to \$200,000 to replace or repair their primary residence. Renters and homeowners may borrow up to \$40,000 to replace or repair personal property—such as clothing, furniture, cars, and appliances – damaged or destroyed in a disaster. Physical disaster loans of up to \$2 million are available to qualified businesses or most private nonprofit organizations.

Social Services Block Grant

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 Social Services Block Grant funding. The State will distribute \$200,034,600 through a public and transparent solicitation for proposals. The State is also allocating \$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.

Department of Homeland Security

The Homeland Security Grant Program (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 2013 HSGP supports core capabilities across the five mission area of Prevention, Protection, Mitigation, Response, and Recovery based on allowable cost. 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.

Community Development Block Grants (CDBG)

CDBG are federal funds intended to provide low and moderate-income households with viable communities, including decent housing, as 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, planning, and administration. Public improvements may 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 may 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.

Community Development Block Grants – Disaster Recovery (CDBG-DR)

On September 27, 2013, the New York State Homes & Community Renewal Office of Community Renewal finalized the Chenango County Floodplain Managing document in accordance with Executive Order 11988. The State of New York was awarded funding, to be administered by the New York State Homes and Community Renewal (HCR), to provide financial assistance to homeowners whose residences were substantially damaged by storms Sandy, Lee and Irene within various New York State Counties, including Chenango County. HCR is awarding this funding in accordance with the State of New York Action Plan For Community Development Block Grant Program – Disaster Recovery (Action Plan). The Action Plan provides for, among other things, home buyout and acquisition assistance to owners of 1-2 family homes. This Floodplain Management Document applies to homes in Chenango County, New York (Action Plan Activities). “Buyouts” involve the purchase of properties located within a floodplain. Structures and improvements will be removed, and the parcel will be allowed to return to its natural state in perpetuity. “Acquisitions” also involve purchase of properties, however, the specific details of reuse will be determined based on site specific conditions. Reuse will be in accordance with local zoning and land use plans. This action is of fundamental importance in assisting landowners with damaged property.

NYCDEP Flood Hazard Mitigation Implementation (FHMI) Program

The Flood Hazard Mitigation Implementation (FHMI) Program is intended to help fund projects such as property protection measures, floodplain reclamation, public infrastructure protection and property buyout/relocation. These projects must be identified through a Local Flood Analysis (LFA) conducted in Watershed municipalities by consultants funded by New York City Department of Environmental Protection's Stream Management Program, or consultants engaged through other flood response programs.



Municipalities with completed LFAs may apply to the CWC for funds to implement projects recommended in those analysis. Interested municipalities should first contact the Stream Management Program partner (generally Soil & Water Conservation Districts) in their county for information on funding for Local Flood Analysis.

When FHMI funding becomes available (anticipated in 2015), applications will be available at <http://www.cwconline.org/index.html>.

Homeownership Repair and Rebuilding Fund

The Homeownership Repair and Rebuilding Fund provides grants of up to an additional \$10,000 to eligible homeowners who have already qualified for FEMA housing assistance's maximum grant (\$31,900) and will not receive other assistance from private insurance or government agencies that would duplicate the grant's funding. The HRRF includes \$100 million dedicated to help homeowners affected by Sandy and was provided directly from the State of New York.

Empire State Relief Fund

The Empire State Relief Fund is dedicated to providing resources to help recover from Hurricane Sandy and rebuild and restore homes. In many cases, New Yorkers face a substantial gap between the cost of repair or replacement of their home and the funds available to them to cover this cost. The Empire State Relief Fund will focus on long-term residential housing assistance to help fill the funding gap by providing up to \$10,000 in additional grants. Homeowners eligible for the funding must have received the maximum FEMA grant assistance as well as the maximum funding from HRRF (\$41,900). The ESRF is funded through donations where 100% of the money is dedicated to NYS housing programs.

Federal Highway Administration - Emergency Relief

The Federal Highway Administration Emergency Relief is a grant program that may 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.

Federal Transit Administration - Emergency Relief

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.

New York State Department of Transportation (NYSDOT)

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 (FPE).



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 may 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 (DSR) 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

Privately-owned lands or lands owned by local and state governments may 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 may 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.

6.5 Mitigation Strategy Development and Update

6.5.1 Update of Municipal Mitigation Strategies

To evaluate progress on local mitigation actions, each jurisdiction with actions in previous DMA2000 or related plans, was provided with a Mitigation Action Plan Review Worksheet. Each worksheet was pre-populated with those actions identified for their jurisdiction in the prior 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 progress or why actions were discontinued. Each jurisdictional annex provides a table identifying their 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”, have been removed from the updated strategies. Those local actions that municipalities identified as “No



Progress/Unknown”, “In Progress/Not Yet Complete” as well as certain actions/initiatives identified as “Continuous”, have been carried forward in their local updated mitigation strategies. Municipalities were asked to provide further details on these projects to help better define the projects, identify benefits and costs, and improve implementation.

Certain continuous or ongoing strategies represent programs that are, or since prior and existing local hazard mitigation plans have become, fully integrated into the normal operational and administrative framework of the community. Such programs and initiatives have been identified within the Capabilities section of each annex, and removed from the updated mitigation strategy.

At the Kick-Off and subsequent planning meetings, all participating municipalities were provided a survey (“Municipal Information Worksheet”) to further assist in identifying 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 (see Section 3), communities were made aware of these either through direct communication (local meetings, email, phone) or via their draft municipal annexes.

The County and municipalities identified projects that have been submitted to NYS DHSES for grant funding, including projects for which Letters of Intent (LOI) and grant applications have been submitted under the New York Rising Hazard Mitigation Grant Program. In general, LOI/application-based projects submitted directly by the communities are identified within their updated mitigation strategies. Communities may also have included other LOI/application-based projects submitted by special-purpose districts (e.g. fire or school districts), local utilities, and hospitals and health care entities.

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, through review of available county and local plans and reports, and through the hazard profiling and vulnerability assessment process.

Beginning in October 2013, the Chenango County Department of Planning and Development and contract consultant 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 also involves projects to construct manmade structures to reduce the impact of hazards.
- Natural Systems Protection – These are actions that minimize damage and losses, and also 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 may also include participation in national programs, such as the National Flood Insurance Program and Community Rating System, StormReady (NOAA) and Firewise (NFPA) Communities.

In consideration of federal and state mitigation guidance, the Planning Committee recognized that all municipalities would benefit from the inclusion of certain mitigation initiatives. These include initiatives to address vulnerable public and private properties, including RL and SRL properties; initiatives to support continued and enhanced participation in the NFIP; improved public education and awareness programs; and initiatives to support countywide and regional efforts to build greater local mitigation capabilities. Municipalities have included such initiatives as appropriate, typically amended with specific details to best meet the needs and interests of their community and promote implementation.

In May 2014, a mitigation strategy workshop was conducted in the County by a FEMA Region II representative to support the identification, evaluation and prioritization of local mitigation strategies, as well as how to present and document this process within the plan. Based on FEMA’s guidance and recommendations provided at this workshop and otherwise, the approach to the mitigation strategy identification, evaluation and documentation process emphasized the following:

- An overarching effort has been made to focus local mitigation strategies to clearly defined, readily actionable projects and initiatives that meet the definition or characteristics of mitigation.
- Continuous or ongoing strategies that represent programs that are, or have become, fully integrated into the normal operational and administrative framework of the community have been identified within the Capabilities section of each annex.
- Where applicable, mitigation projects have been documented with an Action Worksheet, based on FEMA’s Action Worksheet templates and recent guidance documents.

FEMA Action Worksheets have been included for new physical projects identified by the County and participating municipalities. Physical projects being carried forward from the prior plan strategies are not necessarily documented on Action Worksheets as the project screening, identification and development, and prioritization process was accomplished during the last planning process. Whether or not the projects were new or “carry forward”, and documented on Action Worksheets or not, all projects included in the updated County and local mitigation strategies have identified hazards addressed, project description, benefits, costs, responsible party, sources of funding, timeline and priority. Further, non-physical actions (e.g. integration actions, studies, etc.) are typically not documented on Action Worksheets.

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 extreme temperatures, 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 have been proposed in consideration of protection against 500-year events, or worst-case scenarios. When determined to be feasible and practical, mitigation planning for critical facilities identified as previously sustaining flooding and/or being located in a FEMA floodplain will be developed to achieve protection to the 500-year flood event or the actual worst-damage scenario, whichever is greater.



It is recognized, however, that in the case of projects being funded through Federal mitigation programs, the level of protection may 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, it must be recognized that the County and municipalities have limited authority over privately-owned critical facility owners with regard to 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 2008 “Chenango County All Hazards Mitigation Plan”, using a process similar to that used to review municipal mitigation strategy progress. The County, through their various department representatives, were provided with a Mitigation Action Plan Review Worksheet identifying all of the county-level actions/initiatives from the 2008 plan. 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”, “Discontinued”), and provide review comments on each.

Projects/initiatives identified as “Complete”, as well as though 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.

Throughout the course of the plan update process, additional regional and county-level mitigation actions have been identified. These were identified through:

- 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:
 - Department of Planning and Development
 - Bureau of Fire and Emergency Management
 - Department of Public Works – Highway Department
 - Department of Public Health – Code Enforcement
 - Soil and Water Conservation District
- Input received through the public and stakeholder outreach process.

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 extreme temperatures, flood, severe storm, severe winter storm and wildfire. As such, 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 have included mitigation actions to address vulnerable critical facilities. These actions have been proposed in consideration of protection against 500-year events, or worst-case scenarios. These actions have been proposed in consideration of protection against 500-year events, or worst-case scenarios. When determined to be feasible and practical, mitigation planning for critical facilities identified as previously sustaining flooding and/or being located in a FEMA floodplain will be developed to achieve protection to the 500-year flood event or the actual worst-damage scenario, whichever is greater. As an example, the County continues to work the United States Army Corps of Engineers (ACOE), FEMA, NYS



DHSES to address the ongoing issue of erosion along the eastern bank of the Susquehanna River in area north of NYS 206 and CR 39 intersection, creating potential of compromising integrity of road base by undermining CR 39. The County will make every effort to assure that mitigation actions meet the 500-year event protection level.

It is recognized, however, that in the case of projects being funded through Federal mitigation programs, the level of protection may be influenced by cost-effectiveness as determined through a formal benefit-cost analysis. In the case of “self-funded” projects, local government authority must be recognized. Further, it must be recognized that the County has limited authority over privately-owned critical facility owners with regard to 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.

Recent FEMA planning guidance (March 2013) identifies a modified STAPLEE (Social, Technical, Administrative, Political, Legal, Economic, and Environmental) mitigation action evaluation methodology that uses a set of 10 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 particular mitigation action. The January mitigation workshop presented by FEMA representatives further amplified these evaluation criteria, and indicated that communities may want to consider other factors.

Based on this guidance, the Steering and Planning Committees have developed and applied an action evaluation and prioritization methodology which includes an expanded set of fourteen (14) criteria to include the consideration of cost-effectiveness, availability of funding, anticipated timeline, and if the action addresses multiple hazards.

The fourteen (14) evaluation/prioritization criteria used in the 2015 update process are:

- 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)? Or 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 or 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 2015 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 brief summary of the rationale behind the numeric rankings assigned, as applicable. The numerical results of this exercise were then used by each jurisdiction to help prioritize the action or strategy as “Low”, “Medium,” or “High.” While this provided a consistent, systematic methodology to support the evaluation and prioritization of mitigation actions, jurisdictions may have additional considerations that could influence their overall prioritization of mitigation actions.

It is noted that jurisdictions may be carrying forward mitigation actions and initiatives from prior mitigation strategies that were prioritized using a different, but not necessarily contrary, approach. Mitigation actions in the 2008 Chenango County plan were prioritized according to the following criteria:

- **High Priority:** A project that meets multiple plan goals and objectives, benefits exceed cost, has funding secured under existing programs or authorizations, or is grant-eligible, and can be completed in 1 to 5 years (short-term project) once project is funded.
- **Medium Priority:** A project that meets at least one plan goal and objective, benefits exceed costs, funding has not been secured and would require a special funding authorization under existing programs, grant eligibility is questionable, and can be completed in 1 to 5 years once project is funded.
- **Low Priority:** A project that will mitigate the risk of a hazard, benefits exceed costs, funding has not been secured, and project is not grant-eligible and/or timeline for completion is considered long-term (5 to 10 years).

It is important to note that certain initiatives from the 2008 Chenango County HMP are being carried forward in their updated strategies, with or without modification. These initiatives were previously prioritized using approaches that may be different from that used in this update process; however it is reasonable to assume that all evaluation and prioritization approaches included similar considerations (e.g. mitigation effectiveness, technical and administrative feasibility, cost-effectiveness, etc.)

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. Where communities have determined that their original priority ranking for “carry forward” initiatives remained valid, their earlier priority ranking is indicated on the prioritization table, however the 2015 criteria ratings are indicated with a null “-” marking.

For the 2015 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 have been well-vetted, and are seen by the community as the most effective approaches to advance their local mitigation goals and objectives within their capabilities. 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 not-



withstanding. 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 44CFR 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 Grant Program (HMGP) and Pre-Disaster Mitigation (PDM) grant program. 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 may 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 may 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 may 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

Where quantitative estimates of costs and/or benefits were not available, qualitative ratings using the following definitions were used:



Table 6-5. 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, etc.) are considered cost-effective.

For some of the Chenango County initiatives identified, the Planning Committee may seek financial assistance under FEMA’s HMGP or Hazard Mitigation Assistance (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 BCA model process. The Planning Committee 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 Committee reserves the right to define “benefits” according to parameters that meet its needs and the goals and objectives of this plan.