RESOLUTION NO. 2016206

RE: ADOPTION OF DUTCHESS COUNTY'S HAZARD MITIGATION PLAN ANNEX

Legislators BORCHERT, MICCIO, BOLNER, ROMAN, FLESLAND, HORTON, TRUITT, LANDISI, and INCORONATO offer the following and moves its adoption:

WHEREAS, the County with the assistance of Tetra Tech, Inc., has gathered information and prepared the Dutchess County's Hazard Mitigation Plan Annex "the Plan", a copy of which is annexed hereto, and

WHEREAS, the County's Plan has been prepared in accordance with the Disaster Mitigation Act of 2000, and

WHEREAS, the County is a unit of government that has afforded the citizens an opportunity to comment and provide input in the Plan and the actions in the Plan, and

WHEREAS, the County has reviewed the Plan and affirms the Plan will be updated no less than every five years, and

RESOLVED, that this Legislature approves and adopts the Dutchess County's Hazard Mitigation Plan Annex as this jurisdiction's Natural Hazard Mitigation Plan, and resolves to execute the actions in the Plan.

CA-124-16
CAB/kvh/G-0148-A
08/15/16

Fiscal Impact: See attached statement

STATE OF NEW YORK
ss:
COUNTY OF DUTCHESS

This is to certify that I, the undersigned Clerk of the Legislature of the County of Dutchess have compared the foregoing resolution with the original resolution now on file in the office of said clerk, and which was adopted by said Legislature on the 12th day of September 2016, and that the same is a true and correct transcript of said original resolution and of the whole thereof.

IN WITNESS WHEREOF, I have hereunto set my hand and seal of said Legislature this 12th day of September 2016.

CAROLYN MORRIS, CLERK OF THE LEGISLATURE

FISCAL IMPACT STATEMENT

☑ NO FISCAL IMPACT PROJECTED

APPROPRIATION RESOLUTIONS

(To be completed by requesting department)

Total Current Year Cost $ _____

Total Current Year Revenue $ _____
and Source

Source of County Funds *(check one)*: ☐ Existing Appropriations, ☐ Contingency,
☐ Transfer of Existing Appropriations, ☐ Additional Appropriations, ☐ Other *(explain)*.

Identify Line Items(s):

Related Expenses: Amount $ _____
Nature/Reason:

Anticipated Savings to County: _____

Net County Cost (this year): _____
Over Five Years: _____

Additional Comments/Explanation:
No cost involved

Prepared by: Laurie Colgan Prepared On: 8/11/2016

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Background to Resolution 20162206

What is Hazard Mitigation?

The term "hazard mitigation" describes actions that can help reduce or eliminate long-term risks caused by hazards, or disasters, such as floods, severe storms, severe winter storms and wildfires. As the costs of disasters continue to rise, governments and citizens must find ways to reduce hazard risks to communities. Efforts made to reduce hazard risks should be compatible with other community goals; safer communities are more attractive to employers as well as residents. As communities plan for new development and improvements to existing infrastructure, mitigation can and should be an important component of the planning effort.

While mitigation activities can and should be taken before a disaster occurs, hazard mitigation is essential. Often after disasters, repairs and reconstruction are completed in such a way as to simply restore damaged property to pre-disaster conditions. The implementation of such hazard mitigation actions leads to building stronger, safer and smarter communities that are better able to reduce future injuries and damage.

Hazard Mitigation Breaks the Cycle

When recurrent disasters take place such as riverine flooding, Nor'Easters and ice storms, repeated damage and reconstruction can occur. This recurrent reconstruction becomes more expensive as the years go by. Hazard mitigation breaks this expensive cycle of recurrent damage and increasing reconstruction costs by taking a long-term view of rebuilding and recovering from disasters.

What Are the Benefits?

Effective hazard mitigation planning can provide the following benefits:

- Reduces the loss of life, property, essential services, critical facilities and economic hardship
- Reduces short-term and long-term recovery and reconstruction costs
- Increases cooperation and communication within the community through the planning process
- Increases potential for state and federal funding for recovery and reconstruction projects

What Types of Mitigation Techniques Can Be Employed?

Hazard mitigation actions are commonly broken into four different categories:

- Local Plans and Regulations (LPR) – These actions include government authorities, policies or codes that influence the way land and buildings are being developed and built.
- Structure and Infrastructure Project (SIP) - 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 (NRP) – These are actions that minimize damage and losses, and also preserve or restore the functions of natural systems.
- Education and Awareness Programs (EAP) – These are actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them.

Common mitigation actions that are taken include:

Enforcement of building codes, floodplain management codes and environmental regulations

- Public safety measures such as upgrades of roadways, culverts and dams
- Acquisition or relocation of structures, such as purchasing buildings located in a floodplain
- Acquisition of hazard prone lands in their undeveloped state to ensure they remain so
- Retrofitting structures and design of new construction such as elevating a home or building
- Protecting critical facilities and infrastructure from future hazard events
- Mitigation, disaster recovery and Continuity of Operations (COOP) planning
- Development and distribution of outreach materials related to hazard mitigation
- Deployment of warning systems
- Drainage system upgrades

9.1 DUTCHESS COUNTY

This section presents the jurisdictional annex for Dutchess County.

9.1.1 Hazard Mitigation Plan Point of Contact

The following individuals have been identified as the hazard mitigation plan's primary and alternate points of contact.

Primary Point of Contact	Alternate Point of Contact
William H. Beale; Asst. Emergency Response Coordinator 392 Creek Road, Poughkeepsie, NY (845) 486-2082 wbeale@dutchessny.gov	Dana Smith; Emergency Response Coordinator 392 Creek Road, Poughkeepsie, NY (845) 486-2080 dsmith@dutchessny.gov

9.1.2 County Profile

Please refer to Section 4, Volume I of this Plan for details on Dutchess County's population, location, climate, history, growth and development.

9.1.3 Natural Hazard Event History Specific to Dutchess County

Dutchess County has a history of natural hazard events as detailed in Volume I, Section 5.0 of this plan. A summary of historical events is provided in each of the hazard profiles and includes a chronology of events that have affected the County and its municipalities.

9.1.4 Natural Hazard Risk/Vulnerability Risk Ranking

The hazard profiles in Section 5.0 of this plan have detailed information regarding each plan participant's vulnerability to the identified hazards. The risk ranking methodology is presented in Section 5.3. However, the County had the opportunity to adjust the final ranking based on feedback. The following summarizes the hazard vulnerabilities and their ranking in Dutchess County. For additional vulnerability information relevant to this jurisdiction, refer to Section 5.0.

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Table 9.1-1. Hazard Risk/Vulnerability Risk Ranking

Hazard type	Estimate of Potential Dollar Losses to Structures Vulnerable to the Hazard [a, c]	Probability of Occurrence	Risk Ranking Score (Probability x Impact)	Hazard Ranking [b]

Notes:

DRAFT

9.1.5 Capability Assessment

This section summarizes the following capabilities of the County. Refer to Section 6 (Mitigation Strategy – Capability Assessment) for additional details on County programs and capabilities.

- Planning and regulatory capability
- Administrative and technical capability
- Fiscal capability
- Education/Outreach and community classification
- National Flood Insurance Program
- Integration of mitigation planning into existing and future planning mechanisms

Planning and Regulatory Capability

The table below summarizes the planning and regulatory tools that are available to Dutchess County.

Table 9.1-2. Planning and Regulatory Tools

Tool / Program (code, ordinance, plan)	Enforcement Authority	Code Citation and Comments (Code Chapter, name of plan, explanation of authority, etc.)
Planning Capability		
General Plan or Comprehensive Plan	County and Local	County Plan available – no current plans to update
Capital Improvements Plan	County and Local	County maintains a 5-year plan
Habitat Conservation Plan	County and Local	"Greenway Connections"
Economic Development Plan	Local	
Emergency Response Plan	County and Local	County Comprehensive Emergency Management Plan (CEMP) updated every 5 years, last updated in 2015
Shoreline Management Plan	Federal, State, County and Local	Several municipalities have Local Waterfront Revitalization Plans (LWRP)
Post Disaster Recovery Plan	County	Included in 2015 CEMP
Growth Management	County and Local	Dutchess County (DC) Partnership for Manageable Growth
Floodplain Management/ Basin Plan	County and Local	2011 County HMP and this 2015 Countywide HMP Update
Storm Water Management Plan / Ordinance	Local	Through County and Municipal MS4 plans
Regulatory Capability		
Building Code	Local	Regulated at local and state levels.
Zoning Ordinance	Local	Municipal Code; Municipal Planning Boards and Zoning Boards of Appeal
Subdivision Ordinance	Local	Municipal Code; Municipal Planning Boards and Zoning Boards of Appeal
Site Plan Review Requirements	Local	Municipal Code; Municipal Planning Boards and Zoning Boards of Appeal County gets certain referrals through the 239 L&M Review process
Post Disaster Recovery Ordinance	Local	
Real Estate Disclosure req.	State and local	State mandated, locally enforced
General Comment		The Constitution of the State of New York is written in a fashion which provides local jurisdictions with home rule powers

Administrative and Technical Capabilities

The table below summarizes potential staff and personnel resources available to Dutchess County.

Table 9.1-3. Administrative and Technical Capabilities

Staff/ Personnel Resources	Available (Y or N)	Department/ Agency/Position
Planner(s) or Engineer(s) with knowledge of land development and land management practices	Y	Department of Planning and Development (DCDPD)
Engineer(s) or Professional(s) trained in construction practices related to buildings and/or infrastructure	Y	DC Department of Public Works (DCDPW); DC Health Department (DCHD); DC Water and Wastewater Authority (DCWWA)
Planners or engineers with an understanding of natural hazards	Y	DCSWCD; DCDER; DCDPW
NFIP Floodplain Administrator	N	Per NYS Coordinator of NFIP Floodplain Mgr not applicable on County level as requirement and jurisdiction is with Towns and Villages
Surveyor(s)	Y	Contracted
Personnel skilled or trained in "GIS" applications	Y	DCDPD; DC Office of Central and Information Services (DC OCIS); DC Real Property Tax Service Agency (DC RPT), DCDER
Scientist familiar with natural hazards in the municipality	Y	DCH; DCSWCD
Emergency Manager	Y	DCDER
Grant Writer(s)	Y	DCSWCD; DCDER
Staff with expertise or training in benefit/cost analysis	Y	DCDPW; DCDER

Fiscal Capability

Mitigation projects and initiatives are largely or entirely dependent on available funding. The table below summarizes financial resources available to Dutchess County.

Table 9.1-4. Fiscal Capabilities

Financial Resources	Accessible or Eligible to Use (Yes/No)
Community Development Block Grants (CDBG)	Yes; eligible but have not applied
Capital Improvements Project Funding	Yes; Bonding, County Capital Program, CHIPs
Authority to Levy Taxes for specific purposes	
User fees for water, sewer, gas or electric service	Yes – Through DCWWA
Impact Fees for homebuyers or developers of new development/homes	No
Incur debt through general obligation bonds	Yes
Incur debt through special tax bonds	Yes
Incur debt through private activity bonds	Possible through DC Industrial Development Corporation (DC IDA)
Withhold public expenditures in hazard-prone areas	CDBG funds cannot fund projects in floodprone areas
Mitigation grant programs	Yes, the County has historically applied for mitigation grant funding (e.g. generators)
Other	

Education/Outreach and Community Classifications

The table below summarizes education/outreach programs the community participates in and the classifications for community program available to Dutchess County.

Table 9.1-5. Education/Outreach and Community Classifications

Program	Do you have this? (Yes/No)	Classification (if applicable)	Date Classified (if applicable)
Community Rating System (CRS)	N/A	N/A	N/A
Building Code Effectiveness Grading Schedule (BCEGS)	N/A	N/A	N/A
Public Protection (ISO Fire Protection Classes 1 to 10)	N/A	N/A	N/A
Storm Ready	NP – County continues to consider participation in the NOAA StormReady program	N/A	NP
Firewise	NP	N/A	NP
Disaster/Safety Programs in/for Schools	Yes	N/A	County participates in the Safe Schools program
Organizations with Mitigation Focus (advocacy group, non-government)	Yes	N/A	DC SWCD; MS4 Coordinating Committee; Wappingers Intermunicipal Council
Public Education Program/Outreach (through website, social media)	Yes	N/A	Such programs identified throughout this annex and plan
Public-Private Partnerships	Yes	N/A	Red Cross; Salvation Army; Resilience Committee

The classifications listed above relate to the community's ability to provide effective services to lessen its vulnerability to the hazards identified. These classifications can be viewed as a gauge of the community's capabilities in all phases of emergency management (preparedness, response, recovery and mitigation) and are used as an underwriting parameter for determining the costs of various forms of insurance. The CRS class applies to flood insurance while the BCEGS and Public Protection classifications apply to standard property insurance. CRS classifications range on a scale of 1 to 10 with class 1 being the best possible classification, and class 10 representing no classification benefit. Firewise classifications include a higher classification when the subject property is located beyond 1000 feet of a creditable fire hydrant and is within 5 road miles of a recognized Fire Station.

Criteria for classification credits are outlined in the following documents:

- The Community Rating System Coordinators Manual
- The Building Code Effectiveness Grading Schedule
- The ISO Mitigation online ISO's Public Protection website at http://www.isomitigation.com/ppc/0000/ppc0001.html

- The National Weather Service Storm Ready website at http://www.weather.gov/stormready/howto.htm
- The National Firewise Communities website at http://firewise.org/

Self-Assessment of Capability

The table below provides an approximate measure of the County's capability to work in a hazard-mitigation capacity and/or effectively implement hazard mitigation strategies to reduce hazard vulnerabilities.

Table 9.1-6. Education/Outreach and Community Classifications

Area	Degree of Hazard Mitigation Capability		
	Limited (If limited, what are your obstacles?)	Moderate	High
Planning and Regulatory Capability			X
Administrative and Technical Capability			X
Fiscal Capability		X	
Community Political Capability			X
Community Resiliency Capability		X	
Capability to Integrate Mitigation into County Processes and Activities.			X

Integration of Hazard Mitigation into Existing and Future Planning Mechanisms

It is the intention of the County to incorporate hazard mitigation planning and natural hazard risk reduction as an integral component of the County's administrative, regulatory and operational framework. Such efforts which are now an ongoing part of County operations are identified in the Capability Assessment of Section 6, as well as in the completed mitigation initiatives identified in the following Section 9.1.6. In addition, the County identified specific integration activities that will be incorporated into procedures and are included in their updated mitigation strategy. Mitigation Strategy and Prioritization

This section discusses past mitigations actions and status, describes proposed hazard mitigation initiatives, and prioritization.

Past Mitigation Initiative Status

For the 2015 plan update, all previous county actions and their status are listed in the table below. Actions that are carried forward as part of this plan update are included in the following subsection in its own table with prioritization. Previous actions that are now on-going programs and capabilities are indicated as such in the following table and may also be found under 'Capability Assessment' presented previously in this annex.

Table 9.1-6. Past Mitigation Initiative Status

2010 Mitigation Action	Responsible Party	Status (In progress, No progress, Complete)	Describe Status 1. Please describe what was accomplished and indicate % complete. 2. If there was no progress, indicate what obstacles/delays encountered? 3. If there was progress, how is/was the action being funded (e.g., FEMA HMGP grant, local budget)?	Next Step (Include in 2015 HMP? or Discontinue)	Describe Next Step 1. If including action in the 2015 HMP, revise/reword to be more specific (as appropriate). 2. If discontinue, explain why.
Action 1. Public Education: Almost every single hazard can be mitigated with the education of the public. The New York State Emergency Management Office has available brochures on many of the natural hazards such as fire, hurricane, tornado and others. The more information the public has prior to an event, the better the response during and after the disaster for the responders. Dutchess County allocated funds for public education in the 2007 budget. This included television, radio and newspaper advertisements in preparing for disasters. There were also other public education items being planned for that year. The education of the public involves Emergency Management, Law Enforcement, Fire Departments, local utilities, American Red Cross, other county agencies and additional private companies that work with the public on a regular basis.					
See above.	County Emergency Management	In Progress	This is an ongoing program that is supported by a number of County departments and formats.	Include in 2015 HMP	A modified version of this initiative is being carried forward, combining the various public education and outreach initiatives in the 2010 strategy, and identify specific activities that will be undertaken to enhance the mitigation education and outreach program. Particularly this effort has been expanded through social media, and shall continue to be.
Action 2. There are numerous projects that need to be considered in order to prevent road closures and flooding issues. The projects that should be completed include stream maintenance, replacing culverts, and bank stabilization.	County Department of Public Works, County Planning Department, Dutchess Country Soil and Water Conservation District	In Progress	Examples of projects and programs completed or ongoing to date include: • Turkey Hill Culvert Replacement • Xxx • Xxx	Discontinue	This "generic" initiative is being replaced in the updated strategy with specific projects, *including those that are identified in the County capital plans.*

2010 Mitigation Action	Responsible Party	Status (In progress, No progress, Complete)	Describe Status 1. Please describe what was accomplished and indicate % complete. 2. If there was no progress, indicate what obstacles/delays encountered? 3. If there was progress, how is/was the action being funded (e.g., FEMA HMGP grant, local budget)?	Next Step (Include in 2015 HMP? or Discontinue)	Describe Next Step 1. If including action in the 2015 HMP, revise/reword to be more specific (as appropriate). 2. If discontinue, explain why.
Action 3. Dutchess County operates radio systems from many different tower sites in different locations. There are incidents related to commercial power supply failures due to trees taking down elevated power lines. The project would involve clearing the trees and debris leading to the towers from the roadways in order for the utility lines to be less prone to damage.	County Emergency Management	No Progress	County does not own these towers, however the County could undertake tree management if funding were to be secured.	Discontinue	This initiative shall be replaced with an initiative to seek grant funding to support a tree management program addressing critical facilities and infrastructure with overhead power vulnerability in the County.
Action 4. Severe Storms: There are numerous county buildings that should be retrofitted with shatterproof, efficient windows and brought up to the most current building codes. They need to be constructed to latest New York State Building Codes, with emphasis on fire protection, fire retardant materials, and security enhancements. For new buildings to be constructed by the county, emphasis on higher levels of protection, security, and the use of disaster resistant materials will be stressed.	DPW Buildings Division	In Progress	Specific examples of progress to mitigate natural hazard risk to County critical facilities include: • County OEM – hazard-resistant glazing • Highway Department Building on 626 (new) was elevated above the Fallkill Creek floodplain. • Xxx •	Discontinue	This initiative is being discontinued in lieu of specific projects in the updated strategy to address hazard vulnerabilities at County-owned critical facilities.

2010 Mitigation Action	Responsible Party	Status (In progress, No progress, Complete)	Describe Status 1. Please describe what was accomplished and indicate % complete. 2. If there was no progress, indicate what obstacles/delays encountered? 3. If there was progress, how is/was the action being funded (e.g., FEMA HMGP grant, local budget)?	Next Step (Include in 2015 HMP? or Discontinue)	Describe Next Step 1. If including action in the 2015 HMP, revise/reword to be more specific (as appropriate). 2. If discontinue, explain why.
Action 5. Improve security measures to new and existing buildings, including extra measures taken for certain buildings owned by the county such as barriers to reduce access to the buildings and other security measures.	County Sheriff's Office	In Progress	Examples of progress include: • County OEM – hazard-resistant glazing, access control, cameras, fencing • Sherriff's Office - hazard-resistant glazing, access control • D.A.'s Office	Include in 2015 HMP	A modified version of this initiative shall be included, identifying specific facilities and projects, to include: • Health and Transit • Family Court
Action 6. Promote Disaster-Resistant Development: Join the National Flood Insurance Program (for non-participating or suspended communities).	County Building Department, Planning Department, Emergency Management	No Progress	NFIP participation is a local function, not a County function. However the County can support local NFIP capability building.	Discontinue	This initiative shall be replaced with specific County-level initiatives to help build local floodplain management capabilities.
Action 7. Ensure that local comprehensive plans incorporate natural disaster mitigation techniques by requiring a courtesy- review of draft plans by the County Emergency Management Agency.		In Progress	The Department of Planning (not Emergency Management) continues to provide an advisory role as local communities update their comprehensive land use plans, and will encourage these plans to include consideration of natural hazard risk and risk management.	Discontinue	The County's advisory function has been identified as an ongoing mitigation capability.
Action 8. Explore the need for hazard zoning, high-risk hazard land use ordinances, subdivision regulations, and development density controls.		In Progress	This is an ongoing advisory function of the Department of Planning, however land use regulation is in the municipal purview.	Discontinue	The County's advisory function has been identified as an ongoing mitigation capability.

2010 Mitigation Action	Responsible Party	Status (In progress, No progress, Complete)	Describe Status 1. Please describe what was accomplished and indicate % complete. 2. If there was no progress, indicate what obstacles/delays encountered? 3. If there was progress, how is/was the action being funded (e.g., FEMA HMGP grant, local budget)?	Next Step (Include in 2015 HMP? or Discontinue)	Describe Next Step 1. If including action in the 2015 HMP, revise/reword to be more specific (as appropriate). 2. If discontinue, explain why.
Action 9. Organize an annual event / fair for homeowners, builders and county and local jurisdictions that includes sale of NOAA weather radios, dissemination of information brochures about disasters and building retrofits, demonstration of "defensible-space" concept and fire resistant construction materials (for roofs/exterior finishes and inflammable coverings for openings like chimneys and attics) etc.		Choose an item.	The County has continued to enhance and expand their emergency management related public outreach and education programs, including leveraging social media.	Discontinue	This initiative shall be replaced with a specific County-level public education and outreach initiative(s) that address multiple hazards.
Action 10. Develop a storm water management plan that includes subdivision regulations to control run-off, both for flood reduction and to minimize saturated soils on steep slopes that can cause landslides.		Choose an item.	No progress. This is performed at the municipal level; however DC SWCD does provide related support services to local municipalities.	Discontinue	
Action 11. Build and support local capacity to enable the public to prepare for, respond to, and recover from disasters (Capacity Building): Expand and disseminate GIS and other hazard information on the internet.		Choose an item.	Complete, and ongoing. This is an ongoing capability of the County GIS department.	Discontinue	

2010 Mitigation Action	Responsible Party	Status (In progress, No progress, Complete)	Describe Status 1. Please describe what was accomplished and indicate % complete. 2. If there was no progress, indicate what obstacles/delays encountered? 3. If there was progress, how is/was the action being funded (e.g., FEMA HMGP grant, local budget)?	Next Step (Include in 2015 HMP? or Discontinue)	Describe Next Step 1. If including action in the 2015 HMP, revise/reword to be more specific (as appropriate). 2. If discontinue, explain why.
Action 12. Develop a plan and seek funding for backup electric and telecommunications systems in local government-owned critical facilities.		In Progress	County continues to work with local municipalities to support backup power projects for critical facilities.	Discontinue	This is an ongoing capability and function within the County.
Action 13. Support and fund Community Emergency Response Team (CERT) programs that also include a mitigation component.		In Progress	County continues to support CERT programs.	Discontinue	This is an ongoing capability and function within the County.
Action 14. Create a Hazard Information Center - a virtual and physical library that contains all technical studies, particularly natural resources.		In Progress	Various departments compile and maintain relevant resource; for example, the DC OES library of Dam Emergency Action Plans.	Discontinue	This is an ongoing capability and function within the County.
Action 15. Implement public awareness, education, and outreach programs for all or targeted hazards.		In Progress	The County has continued to enhance and expand their emergency management related public outreach and education programs, including leveraging social media.	Discontinue	This initiative shall be replaced with a specific County-level public education and outreach initiative(s) that address multiple hazards.
Action 16. Expand GIS to collect and develop more sophisticated hazard mapping. Use information to update plan. Ensure information will be available to the public and to relevant communities and agencies.		Choose an item.	Complete, and ongoing. This is an ongoing capability of the County GIS department.	Discontinue	Specific initiatives to enhance risk-related datasets may be included in the updated strategy.

2010 Mitigation Action	Responsible Party	Status (In progress, No progress, Complete)	Describe Status 1. Please describe what was accomplished and indicate % complete. 2. If there was no progress, indicate what obstacles/delays encountered? 3. If there was progress, how is/was the action being funded (e.g., FEMA HMGP grant, local budget)?	Next Step (Include in 2015 HMP? or Discontinue)	Describe Next Step 1. If including action in the 2015 HMP, revise/reword to be more specific (as appropriate). 2. If discontinue, explain why.
Action 17. Provide training for inspection and enforcement of adopted codes and ordinances.		Choose an item.	Ongoing. The County continues to support and facilitate training programs for subjects within their purview, however inspection and enforcement is outside of the County authority and purview.	Discontinue	The County has included an initiative to facilitate training sessions and workshops related to hazard mitigation, and recently held an NFIP and CRS workshop for plan participants.
Action 18. Reduce the possibility of damage and losses due to drought (Drought): Encourage citizens to implement water conservation measures by distributing water saving kits which include replacement shower heads, flow restrictors, and educational pamphlets which describe water saving techniques. Also encourage conservation by offering rebates for ultra-low-flow toilets.		Choose an item.	In progress. While this is not considered a mitigation initiative, the County includes such information as part of their ongoing public education and outreach programs.	Discontinue	
Action 19. Drought: Modify rate structure to influence consumer water use including: increasing rates during summer months and imposing excess use charges during times of water shortage.		Choose an item.	No progress. This is not mitigation, and may have legal issues that will not be addressed at this time.	Discontinue	

2010 Mitigation Action	Responsible Party	Status (In progress, No progress, Complete)	Describe Status 1. Please describe what was accomplished and indicate % complete. 2. If there was no progress, indicate what obstacles/delays encountered? 3. If there was progress, how is/was the action being funded (e.g., FEMA HMGP grant, local budget)?	Next Step (Include in 2015 HMP? or Discontinue)	Describe Next Step 1. If including action in the 2015 HMP, revise/reword to be more specific (as appropriate). 2. If discontinue, explain why.
Action 20. Drought: Reduce water use for landscaping by imposing mandatory water-use restrictions during times of water shortage. Also, develop a demonstration garden to exhibit water conservation techniques.		Choose an item.	No progress. This is not mitigation, and may have legal issues that will not be addressed at this time.	Discontinue	
Action 21. Drought: Publish and distribute pamphlets on water conservation techniques and drought management strategies.		Choose an item.	In progress. While this is not considered a mitigation initiative, the County includes such information as part of their ongoing public education and outreach programs.	Discontinue	
Action 22. Drought: Develop and adopt an emergency water allocation strategy to be implemented during severe drought.		Choose an item.	No progress. This is not mitigation, and may have legal issues that will not be addressed at this time.	Discontinue	
Action 23. Drought: Implement water metering and leak detection programs followed by water main repair/replacement to reduce losses.		Choose an item.	Ongoing.	Discontinue	The County continues to monitor and repair, replace or upgrade public water supply as needed.
Action 24. Drought: Encourage beneficial reuse of treated wastewater effluent through cooperative projects with dischargers, agriculture and other major water users to distribute or provide this alternative source of water.		Choose an item.	No progress. Such activities may be considered in times of extreme need, but this is not considered worth pursuing at this time.	Discontinue	

2010 Mitigation Action	Responsible Party	Status (In progress, No progress, Complete)	Describe Status 1. Please describe what was accomplished and indicate % complete. 2. If there was no progress, indicate what obstacles/delays encountered? 3. If there was progress, how is/was the action being funded (e.g., FEMA HMGP grant, local budget)?	Next Step (Include in 2015 HMP? or Discontinue)	Describe Next Step 1. If including action in the 2015 HMP, revise/reword to be more specific (as appropriate). 2. If discontinue, explain why.
Action 25. Reduce the possibility of damage and losses due to flooding caused by floods, hurricanes, and nor casters (Floods, Hurricanes, Nor Easters): Join the National Flood Insurance Program (NFIP). As a participant, floodplains within the participating community will be identified and mapped. In return, the participating community will become eligible for flood insurance as long as the local governing body adopts and enforces a floodplain ordinance.		Complete	All municipalities participate in the NFIP.	Discontinue	
Action 26. Floods, Hurricanes, Nor Easters: Join the NFIP Community Rating System (CRS), under which communities implementing actions that go beyond the specified NFIP minimum arc eligible for discounted flood insurance premiums.		In Progress	County held an NFIP and CRS workshop in June for all plan participants, and will continue to promote participation in CRS.	Include in 2015 HMP	A modified version of this initiative will be included in the updated County strategy, focusing on education, outreach and capability building with respect to floodplain management.

2010 Mitigation Action	Responsible Party	Status (In progress, No progress, Complete)	Describe Status 1. Please describe what was accomplished and indicate % complete. 2. If there was no progress, indicate what obstacles/delays encountered? 3. If there was progress, how is/was the action being funded (e.g., FEMA HMGP grant, local budget)?	Next Step (Include in 2015 HMP? or Discontinue)	Describe Next Step 1. If including action in the 2015 HMP, revise/reword to be more specific (as appropriate). 2. If discontinue, explain why.
Action 27. Floods, Hurricanes, Nor Easters: Obtain specialist training and certification (e.g. Certified Floodplain Manager) for local staff tasked with enforcement of relevant codes and flood-related ordinances.		In Progress	County held an NFIP and CRS workshop in June for all plan participants, and will continue to promote training and certification to support enhanced local floodplain management.	Include in 2015 HMP	A modified version of this initiative will be included in the updated County strategy, focusing on education, outreach and capability building with respect to floodplain management.
Action 28. Floods, Hurricanes, Nor Easters: Limit uses in floodways to those tolerant of occasional flooding, including but not limited to agriculture, outdoor recreation, and natural resource areas.		No Progress	The county has limited or no authority to regulate land use in other than County-owned land.	Discontinue	
Action 29. Floods, Hurricanes, Nor Easters: Develop a Countywide gauging and warning system for flash and riverine flooding.		In Progress	The County has no funding for such programs, and in fact has petitioned the Federal government to continue or reinstate funding for existing gauging stations.	Discontinue	
Action 30. Floods, Hurricanes, Nor Easters: Continue to implement best management practices for floodplain areas.		In Progress		Discontinue	

2010 Mitigation Action	Responsible Party	Status (In progress, No progress, Complete)	Describe Status 1. Please describe what was accomplished and indicate % complete. 2. If there was no progress, indicate what obstacles/delays encountered? 3. If there was progress, how is/was the action being funded (e.g., FEMA HMGP grant, local budget)?	Next Step (Include in 2015 HMP? or Discontinue)	Describe Next Step 1. If including action in the 2015 HMP, revise/reword to be more specific (as appropriate). 2. If discontinue, explain why.
Action 31. Floods, Hurricanes, Nor Easters: Identify and document repetitively flooded properties. Explore mitigation opportunities for repetitively flooded properties, and if necessary, carry out acquisition, relocation, elevation, and flood-proofing measures to protect these properties.		In Progress	This is performed at the municipal level, and most communities have included a similar initiative. The County will support such efforts as appropriate, and within their legal authority.	Discontinue	
Action 32. Floods, Hurricanes, Nor Easters: Identify locations/structures suitable for construction of floodwalls and other barriers such as raised roads.		In Progress	Ongoing.	Discontinue	This generic initiative has been replaced with specific projects that address these objectives.
Action 33. Floods, Hurricanes, Nor Easters: Conduct a routine stream maintenance program (for currently non-participating communities) and seek financial assistance to clean out stream segments with heavy sediment deposits.		In Progress	Ongoing.	Discontinue	DC SWCD continues to support local stream maintenance and channel rehabilitation programs.

2010 Mitigation Action	Responsible Party	Status (In progress, No progress, Complete)	Describe Status 1. Please describe what was accomplished and indicate % complete. 2. If there was no progress, indicate what obstacles/delays encountered? 3. If there was progress, how is/was the action being funded (e.g., FEMA HMGP grant, local budget)?	Next Step (Include in 2015 HMP? or Discontinue)	Describe Next Step 1. If including action in the 2015 HMP, revise/reword to be more specific (as appropriate). 2. If discontinue, explain why.
Action 34. Floods, Hurricanes, Nor Easters: Develop specific mitigation solutions for flood-prone roadways and intersections. This can include, but is not limited to, actions such as culvert upgrades, drainage improvements, road raisings, etc.) Develop a work plan for when sites will be surveyed and what role can the local government play in selection and implementation of mitigation activities (e.g. any monetary or contextual support through the local capital improvement plan),		In Progress	Ongoing.	Discontinue	This generic initiative has been replaced with specific projects that address these objectives.
Action 35. Floods, Hurricanes, Nor Easters: Implement wetlands development regulations and restoration programs.		In Progress	The County continues to enforce related regulations within their authority, and encourage local enforcement of such regulations.	Discontinue	
Action 36. Floods, Hurricanes, Nor Easters: Implement identified stormwater recharge, rate or volume projects identified in Regional Stormwater Management Plans to decrease "flash" in streams during/after storm events.		In Progress	The County continues to incorporate stormwater Best Management Practices in relevant County projects.	Discontinue	

2010 Mitigation Action	Responsible Party	Status (In progress, No progress, Complete)	Describe Status 1. Please describe what was accomplished and indicate % complete. 2. If there was no progress, indicate what obstacles/delays encountered? 3. If there was progress, how is/was the action being funded (e.g., FEMA HMGP grant, local budget)?	Next Step (Include in 2015 HMP? or Discontinue)	Describe Next Step 1. If including action in the 2015 HMP, revise/reword to be more specific (as appropriate). 2. If discontinue, explain why.
Action 37. Floods, Hurricanes, Nor Easters: Implement and enforce open space preservation programs.		In Progress	The County continues support open space preservation programs and objectives as applicable, and when opportunities are available.	Discontinue	
Action 38. Floods, Hurricanes, Nor Easters: Implement specific actions to enhance/improve participation in/compliance with National Flood Insurance Program (NFIP).		In Progress	County held an NFIP and CRS workshop in June for all plan participants, and will continue to promote participation in CRS.	Include in 2015 HMP	A modified version of this initiative will be included in the updated County strategy, focusing on education, outreach and capability building with respect to floodplain management.
Action 39. Reduce the possibility of damage and losses due to earthquakes (Earthquakes): Retrofit/Reconstruct old critical facilities.		In Progress	The County continues to upgrade or replace sub-standard critical facilities, however seismic risk has not been one of the deciding criteria for retrofit or replacement.	Discontinue	A modified version of this initiative has been included as part of a GIS-based critical facility inventory and risk assessment program that will need outside funding to implement.
Action 40. Earthquakes: Acquire dilapidated vulnerable structures.		Complete		Discontinue	
Action 41. Earthquakes: Public awareness through video/brochures about simple steps homeowners can take to mitigate damage.		In Progress		Choose an item.	

2010 Mitigation Action	Responsible Party	Status (In progress, No progress, Complete)	Describe Status 1. Please describe what was accomplished and indicate % complete. 2. If there was no progress, indicate what obstacles/delays encountered? 3. If there was progress, how is/was the action being funded (e.g., FEMA HMGP grant, local budget)?	Next Step (Include in 2015 HMP? or Discontinue)	Describe Next Step 1. If including action in the 2015 HMP, revise/reword to be more specific (as appropriate). 2. If discontinue, explain why.
Action 42. Earthquakes: Examine provisions for earthquake resistant retrofits for existing structures and infrastructure, paying particular attention to unreinforced masonry structures built prior to the adoption of building codes requiring earthquake resistant design for new construction.		In Progress	The County has continued to enhance and expand their emergency management related public outreach and education programs, including leveraging social media.	Discontinue	This initiative shall be replaced with a specific County-level public education and outreach initiative(s) that address multiple hazards.
Action 43. Earthquakes: Implement hillside and steep slope development regulations.		Choose an item.		Choose an item.	
Action 44. Reduce the possibility of damage and losses due to lightning strikes (Lightning): Carry out inventory of compliance with existing local codes/standards, especially for critical facilities.		Choose an item.		Choose an item.	
Action 45. Lightning: Adopt building safety codes such as National Fire Protection Association (NFPA) -780 Standard for the Installation of Lightning Protection Systems (1997).		Choose an item.		Choose an item.	

2010 Mitigation Action	Responsible Party	Status (In progress, No progress, Complete)	Describe Status 1. Please describe what was accomplished and indicate % complete. 2. If there was no progress, indicate what obstacles/delays encountered? 3. If there was progress, how is/was the action being funded (e.g., FEMA HMGP grant, local budget)?	Next Step (Include in 2015 HMP? or Discontinue)	Describe Next Step 1. If including action in the 2015 HMP, revise/reword to be more specific (as appropriate). 2. If discontinue, explain why.
Action 46. Lightning: Public awareness/outreach regarding use of ground outlets and surge protectors in homes and businesses.		In Progress	The County has continued to enhance and expand their emergency management related public outreach and education programs, including leveraging social media.	Discontinue	This initiative shall be replaced with a specific County-level public education and outreach initiative(s) that address multiple hazards.
Action 47. Reduce the possibility of damage and losses due to ice jams (Ice Jams): Implement monitoring and early warning measures at key locations		Choose an item.		Choose an item.	
Action 48. Ice Jams: Investment in ice-clearing/breaking equipment and appropriate training for county personnel.		Choose an item.		Choose an item.	
Action 49. Ice Jams: Construction of ice control structures such as booms, tension weirs and sloped-block barriers.		Choose an item.		Choose an item.	
Action 50. Reduce the possibility of damage and losses due to dam failures (Dam Failure): Enforce participation in/compliance with National and NYSDEC / NYSEMO Dam Safety Programs.		Choose an item.		Choose an item.	

2010 Mitigation Action	Responsible Party	Status (In progress, No progress, Complete)	Describe Status 1. Please describe what was accomplished and indicate % complete. 2. If there was no progress, indicate what obstacles/delays encountered? 3. If there was progress, how is/was the action being funded (e.g., FEMA HMGP grant, local budget)?	Next Step (Include in 2015 HMP? or Discontinue)	Describe Next Step 1. If including action in the 2015 HMP, revise/reword to be more specific (as appropriate). 2. If discontinue, explain why.
Action 51. Dam Failure: Investigate sources of funding to assist private dam owners to complete required repairs/maintenance. Investigate low interest loans to owners and/or jurisdiction acting as guarantor of private owners' loans.		Choose an item.		Choose an item.	
Action 52. Dam Failure: Notify owners of property in dam break inundation areas of risks, implement restrictions for new development in these areas.		Choose an item.		Choose an item.	
		Choose an item.		Choose an item.	
Action 53. Reduce the possibility of damage and losses due to wildfires (Wildfire): Wildfire: In consultation with NYSDEC Forest Protection & Fire Management and local forest rangers, develop detailed mapping of wildland/urban interface areas.		Choose an item.		Choose an item.	

2010 Mitigation Action	Responsible Party	Status (In progress, No progress, Complete)	Describe Status 1. Please describe what was accomplished and indicate % complete. 2. If there was no progress, indicate what obstacles/delays encountered? 3. If there was progress, how is/was the action being funded (e.g., FEMA HMGP grant, local budget)?	Next Step (Include in 2015 HMP? or Discontinue)	Describe Next Step 1. If including action in the 2015 HMP, revise/reword to be more specific (as appropriate). 2. If discontinue, explain why.
Action 54. Wildfire: Develop inventory of addresses for route alerting during wildfire emergencies that require public warning and information.		Choose an item.		Choose an item.	
Action 55. Wildfire: In consultation with NYSDEC Forest Protection & Fire Management and local forest rangers, review local EOPs for possible wildfire components regarding Fire-Rescue, Alert Warning Communications, and Evacuation.		Choose an item.		Choose an item.	
Action 56. Wildfire: Implement and enforce open space preservation programs.		Choose an item.		Choose an item.	
Action 57. Wildfire: Prescribed burning for hazard reduction.		Choose an item.		Choose an item.	
Action 58. Wildfire: Initiate a public outreach program for homeowners.		In Progress	The County has continued to enhance and expand their emergency management related public outreach and education programs, including leveraging social media.	Discontinue	This initiative shall be replaced with a specific County-level public education and outreach initiative(s) that address multiple hazards.
Action 59. Wildfire: Retrofit buildings with fire resistant materials, especially roofing.		Choose an item.		Choose an item.	

2010 Mitigation Action	Responsible Party	Status (In progress, No progress, Complete)	Describe Status 1. Please describe what was accomplished and indicate % complete. 2. If there was no progress, indicate what obstacles/delays encountered? 3. If there was progress, how is/was the action being funded (e.g., FEMA HMGP grant, local budget)?	Next Step (Include in 2015 HMP? or Discontinue)	Describe Next Step 1. If including action in the 2015 HMP, revise/reword to be more specific (as appropriate). 2. If discontinue, explain why.
Action 60. Wildfire: Relocate structures (in particular critical facilities) out of hazard areas		Choose an item.		Choose an item.	
Action 610. Wildfire: Community brush and debris removal and hazard fuels reduction.		Choose an item.		Choose an item.	
Action 62. Wildfire: Firewise landscaping in higher risk areas.		Choose an item.		Choose an item.	
Action 63. Wildfire: Mitigation for streets, highways, and roads that provide key fire access and fuel breaks.		Choose an item.		Choose an item.	
Action 64. Wildfire: Implement hillside and steep slope development regulations.		Choose an item.		Choose an item.	
Action 65. Reduce the possibility of damage and losses due to winter storms (Winter Storm): Promote (or purchase, for critical facilities) NOAA weather radios.		Choose an item.		Choose an item.	
Action 66. Winter Storm: Educate residents about driving in winter storms and handling winter-related health effects		In Progress	The County has continued to enhance and expand their emergency management related public outreach and education programs, including leveraging social media.	Discontinue	This initiative shall be replaced with a specific County-level public education and outreach initiative(s) that address multiple hazards.

2010 Mitigation Action	Responsible Party	Status (In progress, No progress, Complete)	Describe Status 1. Please describe what was accomplished and indicate % complete. 2. If there was no progress, indicate what obstacles/delays encountered? 3. If there was progress, how is/was the action being funded (e.g., FEMA HMGP grant, local budget)?	Next Step (Include in 2015 HMP? or Discontinue)	Describe Next Step 1. If including action in the 2015 HMP, revise/reword to be more specific (as appropriate). 2. If discontinue, explain why.
Action 67. Winter Storm: Planting ice and windstorm-resistant trees and implementing landscaping practices to reduce tree-related hazards, public education to encourage these practices		Choose an item.		Choose an item.	
Action 68. Winter Storm: Bury or otherwise protect utility lines to avoid power outage due to winter storms (if risk is very high then only this action might be cost-effective)		Choose an item.		Choose an item.	
Action 69. Reduce the possibility of damage and losses due to extreme temperatures (Extreme Temperatures): Develop and distribute outreach tools for homeowners and building permit applicants on protection of structures against cold weather damage and proper maintenance of heating/cooling systems.		Choose an item.		Choose an item.	

2010 Mitigation Action	Responsible Party	Status (In progress, No progress, Complete)	Describe Status 1. Please describe what was accomplished and indicate % complete. 2. If there was no progress, indicate what obstacles/delays encountered? 3. If there was progress, how is/was the action being funded (e.g., FEMA HMGP grant, local budget)?	Next Step (Include in 2015 HMP? or Discontinue)	Describe Next Step 1. If including action in the 2015 HMP, revise/reword to be more specific (as appropriate). 2. If discontinue, explain why.
Action 70. Extreme Temperatures: Review existing emergency response plans for enhancement opportunities; work with social support agencies, homeowners associations and general public to develop and implement monitoring and warning systems focused on vulnerable populations and provision of adequate shelter facilities.		Choose an item.		Choose an item.	
Action 71. Reduce the possibility of damage and losses due to tornadoes and high winds caused by windstorms, hurricanes and nor'easters (Tornadoes, High Winds): Adopt an ordinance to require safe rooms in mobile home parks		Choose an item.		Choose an item.	
Action 72. Tornadoes, High Winds: Provide low interest loans (or other form of financial assistance) for building safe rooms.		Choose an item.		Choose an item.	
Action 73. Tornadoes, High Winds: Provide technical assistance for building safe rooms.		Choose an item.		Choose an item.	

2010 Mitigation Action	Responsible Party	Status (In progress, No progress, Complete)	Describe Status 1. Please describe what was accomplished and indicate % complete. 2. If there was no progress, indicate what obstacles/delays encountered? 3. If there was progress, how is/was the action being funded (e.g., FEMA HMGP grant, local budget)?	Next Step (Include in 2015 HMP? or Discontinue)	Describe Next Step 1. If including action in the 2015 HMP, revise/reword to be more specific (as appropriate). 2. If discontinue, explain why.
Action 74. Tornadoes, High Winds: Adopt an ordinance to require hurricane clips on new construction.		Choose an item.		Choose an item.	
Action 75. Tornadoes, High Winds: Install hurricane clips and wind shutters on existing development-particularly emergency facilities and shelters built before existing codes were adopted to offer some degree of wind protection.		Choose an item.		Choose an item.	
Action 76. Reduce the possibility of damages to emergency facilities from flooding, wind damage and wildfire damage: Conduct a study to determine the year-built and level of protection (flood, wind) for each emergency facility. On completion of the study, seek funding for mitigation projects for emergency facilities not currently designed for protection from flooding, high wind, or wildfire damage.		Choose an item.		Choose an item.	
		Choose an item.		Choose an item.	

Completed Mitigation Initiatives not Identified in the Previous Mitigation Strategy

The County has identified the following mitigation projects/activities that have also been completed but were not identified in the previous mitigation strategy in the 2010 Plan:

•

Proposed Hazard Mitigation Initiatives for the Plan Update

The County participated in a mitigation action workshop in May 2015 and was provided the following FEMA publications to use as a resource as part of their comprehensive review of all possible activities and mitigation measures to address their hazards: FEMA 551 'Selecting Appropriate Mitigation Measures for Floodprone Structures' (March 2007) and FEMA 'Mitigation Ideas – A Resource for Reducing Risk to Natural Hazards' (January 2013).

Table 9.1-11 summarizes the comprehensive-range of specific mitigation initiatives the County would like to pursue in the future to reduce the effects of hazards. Some of these initiatives may be previous actions carried forward for this plan update. These initiatives are dependent upon available funding (grants and local match availability) and may be modified or omitted at any time based on the occurrence of new hazard events and changes in municipal priorities. Both the four FEMA mitigation action categories and the six CRS mitigation action categories are listed in the table below to further demonstrate the wide-range of activities and mitigation measures selected.

As discussed in Section 6, 14 evaluation/prioritization criteria are used to complete the prioritization of mitigation initiatives. For each new mitigation action, a numeric rank is assigned (-1, 0, or 1) for each of the 14 evaluation criteria to assist with prioritizing your actions as 'High', 'Medium', or 'Low.' The table below summarizes the evaluation of each mitigation initiative, listed by Action Number.

Table 9.1-12 provides a summary of the prioritization of all proposed mitigation initiatives for the Plan update.

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Table 9.1-7. Proposed Hazard Mitigation Initiatives

Initiative	Mitigation Initiative	Applies to New and/or Existing Structures *	Hazard(s) Mitigated	Goals and Objectives Met	Lead and Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category	CRS Category
	Fallkill Dam safety assessment and repair project:											
	See above.	Existing	Flood, Severe Storm		DCDPW				County is about to award a consultant contract for assessment			
	CR 41 (Crum Elbow Road) Flooding mitigation – this section of county highway in Hyde Park is the main east/west artery in the Town of Hyde Park and is adjacent to the town's new public safety facility. Approx1500' of the road needs to be reconstructed and elevated out of the floodway. Flooding cuts this road off to the Public Safety building many times each year.											
	See above.	Existing	Flood, Severe Storm		DCDPW				Project is already designed and will be constructed in 2016.			
	Back-Up Power for County Critical Facilities: Critical county buildings along Market Street campus in the City of Poughkeepsie do not have emergency back-up power generators. This should be addressed to maintain continuity of operations/government in case of widespread and prolonged power disruption.											
	See above.	Existing	All Hazards resulting in loss of electricity		DCDPW							
	County-wide stream debris removal and channel improvement projects: Address repeated flooding problems at up to 12 locations throughout Dutchess County. County to identify project sites, and may identify specific projects for short-term implementation.											
	See above.	N/A	Flood, Severe Storm		DCDPW							
	Scour-Critical Bridge Improvements: Improve up to 8 bridges identified by NYSDOT as being scour-critical. This effort would involve installing scour countermeasures to reduce likelihood of bridge failure during extreme storm events.											

Table 9.1-7. Proposed Hazard Mitigation Initiatives

Initiative	Mitigation Initiative	Applies to New and/or Existing Structures *	Hazard(s) Mitigated	Goals and Objectives Met	Lead and Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category	CRS Category
	See above.	Existing	Flood, Severe Storm		DCDPW							
	Debris management plan - Develop a workable plan to handle large volumes of debris from a natural or man-made disaster, Staging areas, debris transportation, debris disposal, worker health protection, logistical needs for debris management.											
	See above.	N/A	Flood, Severe Storm, Severe Winter Storm; Non-natural hazards		DCDPW							
	Work with all municipalities to develop Memorandums of Understanding (MOU) or Memorandums of Agreement (MOA) for code enforcement personnel to be utilized County-wide (e.g. outside of their jurisdiction) post-disaster, to address such issues such as damage assessment, issuance of emergency building permits, inspections, and substantial damage determinations. This initiative is supported by ###, designed to promote risk management and post-disaster recovery capabilities throughout the County.											
	See above.	N/A	All hazards									
	Build Local Floodplain Management and Disaster Recovery Capabilities: Facilitate Workshops and Seminars to build County and local capabilities in floodplain management, mitigation and disaster recovery: • NFIP, NFIP Reform and NFIP Community Rating System (CRS) – a workshop was held for all plan participants in July 2015 • Benefit-Cost Analysis (BCA) • Substantial Damage Estimating (SDE) – this will support County initiative ### • NFIP Elevation Certificates (EC) • Certified Floodplain Manager (CFM) Training and Certification											
	See above.	Both	All hazards including climate change		DCDER, as supported by NYS DHSES, FEMA and	High – Improved county and local floodplain	Medium	County and local Budgets (generally	Short		EAP	

Table 9.1-7. Proposed Hazard Mitigation Initiatives

Initiative	Mitigation Initiative	Applies to New and/or Existing Structures *	Hazard(s) Mitigated	Goals and Objectives Met	Lead and Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category	CRS Category
					ISO; with participation of all municipalities and other County department and agencies	management, mitigation and recovery capabilities		limited to staff time)				
	County-Wide Housing Location/Relocation Planning Initiative for Disaster Displaced Residents and Structures: A County-wide effort to identify potential sites for placement of temporary housing for residents displaced by disasters, as well as the identification of sites suitable for the relocation of houses out of the floodplain (acquisition, relocation). DCDER in conjunction with other DC Departments will lead a countywide effort, including all municipalities, to identify potential sites for the placement of temporary housing units to house residents displaced by disaster; sites within the community suitable for relocation houses out of the floodplain, or building new houses once properties in the floodplain are razed. To build on ongoing County and local efforts in this regard, all communities will be surveyed to identify potential sites, including any pre-disaster actions that may be required to make them viable for these purposes. In the case of municipalities that are fully built-out, or otherwise cannot identify suitable areas, that shall be noted and considerations shall be made regarding suitable areas in neighboring communities, or otherwise throughout the County. Planning for temporary housing sites will shorten schedules and reduce costs of both short and long term housing needs that are used in emergencies and are obtained in a slow and complicated process at premium prices.											
	See above.	N/A	Flood, Severe Storm, Severe Winter Storm, Earthquake, Climate Change		DCDER, with support of all municipalities	Medium – see above narrative	Medium	County and local Budgets	To be initiated in year 1, and completed prior to next HMP update	High	LPR, SIP	

Notes:
Not all acronyms and abbreviations defined below are included in the table.

*Does this mitigation initiative reduce the effects of hazards on new and/or existing buildings and/or infrastructure? Not applicable (N/A) is inserted if this does not apply.

Acronyms and Abbreviations:

CAV	Community Assistance Visit
CRS	Community Rating System
DPW	Department of Public Works
FEMA	Federal Emergency Management Agency
HMA	Hazard Mitigation Assistance
N/A	Not applicable
NFIP	National Flood Insurance Program
OEM	Office of Emergency Management

Costs:

Where actual project costs have been reasonably estimated:

Low	< $10,000
Medium	$10,000 to $100,000
High	> $100,000

Where actual project costs cannot reasonably be established at this time:

Low	Possible to fund under existing budget. Project is part of, or can be part of an existing on-going program.
Medium	Could budget for under existing work plan, but would require a reapportionment of the budget or a budget amendment, or the cost of the project would have to be spread over multiple years.
High	Would require an increase in revenue via an alternative source (i.e., bonds, grants, fee increases) to implement. Existing funding levels are not adequate to cover the costs of the proposed project.

Potential FEMA HMA Funding Sources:

FMA	Flood Mitigation Assistance Grant Program
HMGP	Hazard Mitigation Grant Program
PDM	Pre-Disaster Mitigation Grant Program

Timeline:

Short	1 to 5 years
Long Term	5 years or greater
OG	On-going program
DOF	Depending on funding

Benefits:

Where possible, an estimate of project benefits (per FEMA's benefit calculation methodology) has been evaluated against the project costs, and is presented as:

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

Where numerical project benefits cannot reasonably be established at this time:

Low	Long-term benefits of the project are difficult to quantify in the short term.
Medium	Project will have a long-term impact on the reduction of risk exposure to life and property, or project will provide an immediate reduction in the risk exposure to property.
High	Project will have an immediate impact on the reduction of risk exposure to life and property.

Mitigation Category:

- Local Plans and Regulations (LPR) – These actions include government authorities, policies or codes that influence the way land and buildings are being developed and built.
- Structure and Infrastructure Project (SIP)- 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 (NSP) – These are actions that minimize damage and losses, and also preserve or restore the functions of natural systems.
- Education and Awareness Programs (EAP) – 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 StormReady and Firewise Communities

CRS Category:

- Preventative Measures (PR) - Government, administrative or regulatory actions, or processes that influence the way land and buildings are developed and built. Examples include planning and zoning, floodplain local laws, capital improvement programs, open space preservation, and storm water management regulations.
- Property Protection (PP) - These actions include public activities to reduce hazard losses or actions that involve (1) modification of existing buildings or structures to protect them from a hazard or (2) removal of the structures from the hazard area. Examples include acquisition, elevation, relocation, structural retrofits, storm shutters, and shatter-resistant glass.
- Public Information (PI) - Actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. Such actions include outreach projects, real estate disclosure, hazard information centers, and educational programs for school-age children and adults.
- Natural Resource Protection (NR) - Actions that minimize hazard loss and also preserve or restore the functions of natural systems. These actions include sediment and erosion control, stream corridor restoration, watershed management, forest and vegetation management, and wetland restoration and preservation.

- *Structural Flood Control Projects (SP) - Actions that involve the construction of structures to reduce the impact of a hazard. Such structures include dams, setback levees, floodwalls, retaining walls, and safe rooms.*
- *Emergency Services (ES) - Actions that protect people and property during and immediately following a disaster or hazard event. Services include warning systems, emergency response services, and the protection of essential facilities*

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Table 9.8-12. Summary of Prioritization of Actions

Mitigation Action/Project Number	Mitigation Action/Initiative	Life Safety	Property Protection	Cost-Effectiveness	Technical	Political	Legal	Fiscal	Environmental	Social	Administrative	Multi-Hazard	Timeline	Agency Champion	Other Community	Total	High / Medium / Low

Note: Refer to Section 6 which contains the guidance on conducting the prioritization of mitigation actions.

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9.1.6 Future Needs To Better Understand Risk/Vulnerability

None at this time.

9.1.7 Hazard Area Extent and Location

Hazard area extent and location maps have been generated for Dutchess County that illustrate the probable areas impacted within the County. These maps are based on the best available data at the time of the preparation of this plan, and are considered to be adequate for planning purposes. Maps have only been generated for those hazards that can be clearly identified using mapping techniques and technologies, and for which Dutchess County has significant exposure. These maps are illustrated in the hazard profiles within Section 5.4, Volume I of this Plan.

9.1.8 Additional Comments

None at this time.

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Figure 9.1-1. Dutchess County Hazard Area Extent and Location Map 1

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Figure 9.1-2. Dutchess County Hazard Area Extent and Location Map 2

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