

JURISDICTIONAL ANNEX 1.2.21: TOWN OF SHANDAKEN

Please fill in the contact details for the person filling in this page:

Name:	Robert A. Stanley
Title:	Supervisor
Representing:	Shandaken, Town of
Email:	shandakensupervisor@yahoo.com
Phone:	845-688-7165

Local Jurisdiction Role/Position	Name	Email	Phone	Date Notified About Mitigation Plan Development Process	Agreed to participate? (Yes/No)
Land Use/ Community Planner	Town of Shandaken Planning Board	shandakenbldg@gmail.com	845-688-5008	09/04/13	yes
Emergency Manager/Civil Defense Coordinator	Robert A. Stanley/ Gary Carr, Jr.	shandakensupervisor@yahoo.com; phoeniciacar45@aol.com	845-688-7165/ 845-399- 2120	08/21/13	yes
Floodplain Manager/ Floodplain Administrator	Al Frisenda	shandakenbldg@gmail.com	845-688-5008	09/04/13	yes
Public Works Director / City Engineer	Eric Hofmeister	shandakenhwydept@hvc.ny.com	845-688-5008	08/23/13	yes
Building Code Official	Al Frisenda	shandakenbldg@gmail.com	845-688-5008	09/04/13	yes
Fiscal/Budget Officer	Robert A. Stanley	shandakensupervisor@yahoo.com	845-688-7165	08/21/13	yes
Manager/Administrator	"	"	"	08/21/13	yes
Elected Officials	Town Board/ Town Clerk	diane@shandaken.us; townclerk@shandaken.us	845-688-7169/ 845-688- 5004	08/26/13	yes
Other 1: Phoenicia Fire Chief	Gary Carr, Jr.	phoeniciacar45@aol.com	845-399-2120	08/21/13	yes
Other 2: Big Indian/ Oliveria Fire Chief	Jody Rossitz	jrossitz@aol.com	845-254-5670	11/14/13	yes
Other 3: Fire Chief	Orville Smith		845-594-5276	11/14/13	yes
Other 4: Police Chief	James McGrath	belleayreskishop@verizon.net	845-688-7388	08/26/13	yes
Other 5: Ambulance Chief	Richard Muellerleile	car78@shandakenambulance.org	845-594-5276	08/26/13	yes



Name: Clark Kimble

Title: Floodplain Manager/Floodplain Administrator/NFIP Coordinator_

Representing: Town of Shandaken, NY

Email and Phone: shandakenbldg@gmail.com // (845) 688 - 5008

Ulster County Multi-Jurisdictional Hazard Mitigation Plan Update - **Worksheet #2**

Note: This form should be filled out by your floodplain administrator. All communities participating in the National Flood Insurance Program (NFIP) provided FEMA with a floodplain management ordinance and a designated floodplain administrator as a prerequisite to enter the program. All communities are listed in FEMA's Community Status Book of participating communities (08/15/13).

Adoption Date of your Current Floodplain Management Ordinance	Date of Entry into NFIP ¹	Position or Title of Your Jurisdiction's Designated Floodplain Manager/Administrator (may also be called NFIP Coordinator)	Is this person a Certified Floodplain Manager?	Is floodplain management an auxiliary function?	Is your community in good standing with the NFIP?
4/14/93	5/31/74	Municipal Code Enforcement Officer/ Floodplain Administrator	[x] Yes [] No	[x] Yes [] No	[x] Yes [] No
Provide an explanation of NFIP administration services (i.e., permit review, GIS, education or outreach, inspections, engineering capability, etc.):					
Permit review, education and outreach, disaster recovery assistance. Continuing education and Certification and Re-certification program participation required.					
Describe barriers to running an effective NFIP program in the community (if applicable):					
Paper records for most homes and minimal elevation certificates on file.					
When was most recent FEMA Community Assistance Visit (CAV) or Community Assistance Contact (CAC)?*	Is a CAV or CAC scheduled or needed?	Does the current floodplain management ordinance exceed FEMA or State minimum requirements? If so, describe how.	Is training of staff regarding NFIP issues planned?	Does your community intend to continue to enforce the floodplain management requirements including regulating new construction in Special Flood Hazard Areas (SFHAs)?	Does your community participate in the CRS? If so, state your Class.
2012	[x] Yes [] No	[] Yes [x] No	[x] Yes [] No	[x] Yes [] No	[] Yes [x] No
* Describe any outstanding compliance issues (i.e., current violations):					

¹ Your date of entry into the NFIP can be found at: <http://www.fema.gov/cis/NY.html> (column "Reg-Emer Date").



Name: Clark Kimble

Title: Floodplain Manager/Floodplain Administrator/NFIP Coordinator_

Representing: Town of Shandaken, NY

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Provide an explanation of your local floodplain permitting process:									
Applicant files specific Floodplain Development Permit application for review with Municipal Code Officer. Most Floodplain Development Permits require Site Plan Review and are referred to local Planning Board. Planning Board Chair is CFM and familiar with regulations. Generally requires an engineering analysis, elevation certificate and any other regulatory documents to assist Board in their review. Public hearing is held on all Site Plan Reviews. Permit is issued if meets all requirements (federal/state/local). Periodic inspections during course of construction.									
Does your community intend to continue floodplain identification and mapping services including any local requests for map updates?	Does your community intend to initiate/continue the buyouts of repetitive loss properties?	Does your community intend to commit staff or resources to improve local mapping or code administration in the future?	Does your community intend to provide local outreach to promote the sale of flood insurance?	Does your community intend to participate in RiskMAP meetings and planning initiatives?	Does your community intend to continue to implement structural improvements to mitigate against flooding - culverts, drainage basins, etc.?	Does your community intend to continue to implement home improvement programs designed to minimize basement flooding?	Does your community intend to continue to implement roadway improvements to reduce damage from future flooding events?	Does your community intend to implement plans and programs in coordination with a local or regional drainage/sewer authority?	
[x] Yes No	[x] Yes No	[x] Yes No	[x] Yes No	[x] Yes No	[x] Yes No	[x] Yes No	[x] Yes No	[x] Yes No	
Does your community intend to adopt the new FEMA Advisory Base Flood Elevations?	As Floodplain Manager, did you (or your predecessor at the time) actively participate in the development of the initial Hazard Mitigation Plan?								
[x] Yes No	[x] Yes No								
* If you answered "yes", that there have been changes to your local program since 2009, please describe:									
Provide a description of your community assistance and monitoring activities:									
We work closely with the NYC-DEP and NYS-DEC to continue to provide opportunities for education and outreach to the public. These include seminars, flyers and postings to all social media outlets currently available to the Town. The Town has also developed a Town specific Flood Hazard Mitigation and Emergency Response Plan (adopted 2013) to identify and rectify identified flood hazard areas.									
NFIP participating communities are required to update/revise their floodplain management ordinance to ensure that it complies with the latest FEMA regulations. Will your community continue to commit to this program requirement?					NFIP participating communities are also required to update/revise their floodplain management ordinance to be consistent with the latest FIRMs. Will your community continue to commit to this program requirement?				
[x] Yes No					[x] Yes No				

Note: NFIP policy statistics by community are maintained at: <http://bsa.nfipstat.fema.gov/reports/1011.htm#NJ1>

NFIP claims data by community is maintained at: <http://bsa.nfipstat.fema.gov/reports/1040.htm#34>

Information about structures at risk of flooding can be found in Section 3 of the Hazard Mitigation Plan.

All NFIP participating communities should encourage local residents to purchase and maintain flood insurance.

Ulster County Multi-Jurisdictional Hazard Mitigation Plan Update – *NFIP Worksheet (September 2013)*

NFIP-2



Ulster County Multi-Jurisdictional Hazard Mitigation Plan Update
Worksheet #3

Performing an assessment of Land Uses and Development Trends is one step of a FEMA-approved hazard mitigation plan update. This look into the future is important because development in hazard areas could put more assets at risk and, in turn, could work to increase potential disaster-related damages at a time when the mitigation plan's purpose is to reduce the potential for damages emanating from natural disasters. Land uses and development trends are based on the construction of new buildings, demolition of old buildings, or the planning, zoning or subdivision of new areas for development. A stagnant or decreasing population alone is not reason for stating that no development has occurred unless backed up by a lack of development.

An evaluation of land uses and development trends was undertaken by each participating jurisdiction as part of the development of the initial plan. Excerpts from the 2009 Plan's Land Uses and Development Trends section are included in the pages to follow, documenting your community's prior feedback. Please review your community's feedback shown in the table on the pages to follow, and identify any changes that have occurred since that time. Feedback should be returned to URS Project Manager Anna Foley at anna.foley@urs.com. If you have questions or need help, please email Anna or give her a call at 973-883-8562.

Please check box A or B below.

☐ **A) I certify that I have reviewed my community's feedback from the 2009 Land Uses and Development Trends assessment and that all information previously provided is still current. (If checking box A, then please return only this cover page.)**

☒ **B) I certify that I have reviewed my community's feedback from the 2009 Land Uses and Development Trends assessment and that any information that has changed since that time is clearly shown on the attached markup. Any supporting comments I would like to note are indicated in the lines below. (If checking box B, then please return this completed cover page and any pages with markups.)**

Additionally the Town of Shandaken has adopted (June 2013) a Town
specific Flood Hazard Mitigation Plan and are currently in process of
entering into the Community Rating
System.

Name:
Robert A. Stanley

Title:
Town Supervisor

Representing:
: Town of Shandaken

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Ulster County Multi-Jurisdictional Hazard Mitigation Plan Update

WORKSHEET 4

Performing a Capability Assessment is one step of a FEMA-approved hazard mitigation plan update. A mitigation planning Capability Assessment consists of taking an in-depth look at community mechanisms (such as plans, codes, ordinances, staffing, etc.) that can affect hazard mitigation activities. Performing the Capability Assessment helps communities identify the regulatory, administrative, technical, and fiscal capacities and capabilities of their jurisdiction and consider ways that these tools can be used to further hazard mitigation and disaster resiliency goals. Capability Assessments were undertaken by each participating jurisdiction as part of the development of the initial plan. Excerpts from the 2009 Plan's Capability Assessment section are included in the pages to follow, documenting your community's prior feedback.

First, review your community's feedback shown in the three tables attached, and clearly provide markups to identify any changes that have occurred since that time. Also, complete the highlighted columns which have been added since the plan was last prepared. Check box A or B. (Note: Municipalities whose rows are blank did not submit responses in 2009, and must do so now.)

X A) I certify that I have reviewed my community's feedback from the 2009 Capability Assessment and that all information previously provided is still current. *I have also completed new columns, as highlighted in yellow.*

X B) I certify that I have reviewed my community's feedback from the 2009 Capability Assessment and that I have updated any information that has changed since that time (as shown on the attached markup). Any supporting comments I would like to note are indicated in the lines below. *I have also completed new columns, as highlighted in yellow.*

Then, review and answer the supplemental questions on the last page, and check box C.

X C) I have completed responses to the supplemental questions on Page 6.

Completed worksheets should be returned to URS Project Manager Anna Foley at anna.foley@urs.com. If you have questions or need help, please email Anna or give her a call at 973-883-8562.

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Legal and Regulatory Capability

Table 4-1
Legal and Regulatory Capability Inventory

Jurisdiction	Building Code	Zoning Ordinance	Subdivision Ordinance	Special Purposes Ordinance	Growth Management Ordinance	Site Plan Review Requirements	Comprehensive Plan	Capital Improvements Plan	Economic Development Plan	Emergency Response Plan	Post-Disaster Recovery Plan	Post-Disaster Recovery Ordinance	Real Estate Disclosure Ordinance	Evacuation Plan
Ulster County							√	√	√	√				
Denning, Town of														
Ellenville, Village of														
Esopus, Town of														
Gardiner, Town of	√	√	√	√	√	√	√	√	√	√	√			
Hardenburgh, Town of														
Hurley, Town of	√	√	√	√		√	√			√	√			
Kingston, City of	√	√	√	√		√	√	√	√	√	√			
Kingston, Town of	√	√	√	√		√								
Lloyd, Town of	√	√	√	√	√	√	√			√				
Marbletown, Town of														
Marlborough, Town of	√	√	√	√	√	√	√	√	√	√	√	√		
New Paltz, Town of														
New Paltz, Village of	√	√	√			√	√			√				
Olive, Town of														
Plattekill, Town of														
Rochester, Town of														
Rosendale, Town of														
Saugerties, Town of														
Saugerties, Village of														
Shandaken, Town of	√	√	√	√		√	√			√	√			√
Shawangunk, Town of														
Ulster, Town of	√	√	√	√		√	√			√				
Wawarsing, Town of														
Woodstock, Town of														

Table 4-2 Administrative and Technical Capability Inventory														
Jurisdiction	Planner(s) with knowledge of land development and management practices	Engineer(s) with knowledge of land development and management practices	Engineer(s) or professional(s) trained in construction practices related to buildings and/or infrastructure	Planner(s) or Engineer(s) with an understanding of natural and/or human caused hazards	Floodplain manager	Surveyors	Staff with education or expertise to assess the community's vulnerability to hazards	Personnel skilled in GIS and/or HAZUS	Scientists familiar with the hazards of the community	Emergency Manager	Grant writers	Code Enforcement Official	Public Works or Highway Superintendent	Emergency Management Coordinator
Saugerties, Village of														
Shandaken, Town of	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓
Shawangunk, Town of														
Ulster, Town of			✓	✓	✓	✓				✓	✓			
Wawarsing, Town of														
Woodstock, Town of														

Fiscal Capability

**Table 4-3
Fiscal Capability Inventory**

Jurisdiction	Community Development Block Grants (CDBG)	Capital Improvements Project Funding	Authority to Levy Taxes for Specific Purposes	Fees for Water, Sewer, Gas, or Electric Service	Impact Fees for Homebuyers or Developers for New Developments/Homes	Incur Debt through General Obligation Funds	Incur Debt through Special Tax and Revenue Bonds	Incur Debt through Private Activity Bonds	Withhold Spending in Hazard-Prone Areas	Other (i.e., coastal, sustainability, or climate change initiatives; or Brownfield funds)
Ulster County	√	√				√	√			
Denning, Town of										
Ellenville, Village of										
Esopus, Town of										
Gardiner, Town of		√	√	√		√			√	
Hardenburgh, Town of										
Hurley, Town of			√			√	√	√		
Kingston, City of	√	√	√	√	√	√				
Kingston, Town of	√	√	√	√		√	√			
Lloyd, Town of			√	√	√	√	√		√	
Marbletown, Town of										
Marlborough, Town of	√	√	√	√	√	√	√			
New Paltz, Town of										
New Paltz, Village of		√	√	√	√	√				
Olive, Town of										
Plattekill, Town of										
Rochester, Town of										
Rosendale, Town of										
Saugerties, Town of										
Saugerties, Village of										
Shandaken, Town of	√	√	√	√	√	√	√	√	√	√
Shawangunk, Town of										
Ulster, Town of	√	√	√	√		√	√			
Wawarsing, Town of										
Woodstock, Town of										

Municipality__Town of Shandaken

Would you classify your community's <u>legal and regulatory</u> capability to implement hazard mitigation strategies as high, moderate, or low?	Would you classify your community's overall <u>technical</u> capability to implement hazard mitigation strategies as high, moderate, or low?	Would you classify your community's overall <u>fiscal</u> capability to implement hazard mitigation strategies as high, moderate, or low?	Would you classify your community's overall <u>administrative</u> capability to implement hazard mitigation strategies as high, moderate, or low?	Would you classify your political leadership's willingness to enact policies and programs that reduce hazard vulnerabilities in your community as high, moderate, or low - even if met with opposition? (i.e., guiding development away from identified hazard areas)?
HIGH	MODERATE	MODERATE	MODERATE	HIGH
Discuss ways of bridging identified gaps in your local capabilities to ensure that they are in-line with your mitigation actions and goals.				
<p>The Town of Shandaken lies wholly within the Catskill State Forest Preserve and the New York City Watershed. This provides us opportunities from funding sources that may not be available to jurisdictions outside of these environmentally sensitive areas including but not limited to sizable "Good Neighbor Funds" provided through NYC-DEP and USDA monies for Emergency Watershed Protection funding. We also reside in a low-moderate income community and economically depressed region of the County, this affords us grant opportunities for projects that we generally could not afford from our current tax base. We have fostered strong partnerships with many of the agencies operating throughout the Town and are keenly aware of our environment and pride ourselves on being its local stewards as it affects our quality of life and economy.</p>				

WORKSHEET 5 - STATUS OF PAST PROJECTS

Jurisdiction	Mitigation Action	Previous Priority	Hazard(s) Addressed	Responsible Party/Parties to Implement	Status - Check One				Status Details	Relevance - Check One		Relevance Details
					Completed	Initiated but Not Completed	Ongoing Type of Activity	Not Initiated		Still Relevant - Carry Forward to Updated Mitigation Strategy	No Longer Relevant - Omit from Updated Mitigation Strategy	
Shandaken, Town of									If not completed, identify barriers to implementation (i.e., lack of political support, funding, staff availability, etc.) or explain why the action is an ongoing one (i.e., acquisition of hazard prone land for open space can be completed for a given parcel or group of parcels, but there may be many more opportunities in the community and so the activity may be carried forward)			If you checked the box that the project is being carried forward to the updated mitigation strategy, describe if and how it has changed from the 2009 Plan. If you checked the box that the project is being omitted from the updated mitigation strategy, provide a brief explanation.
Provide a General Overview of How Local Priorities May Have Changed Since the Last Version of the Plan: The Town of Shandaken has been hit severely hard from flooding and storm events that have hit since 2010. We have focused much of our attention on Flood Resiliency efforts by creating the Shandaken Area Flood Assessment and Remediation Initiative (SAFARI) to better identify, map and promote strategies to address these hazards using best available practices and have implemented a number of projects related to flooding and resiliency of our infrastructure and residences. We try to incorporate naturally occurring stream formations to assist us in these efforts in coordination with many of the environmental partners operating locally.												
Shandaken, Town of	Relocation of town garage and town hall, or elevate above floodplain	Medium	Flood	Town		X			Project not feasible under current fiscal climate and other projects concerning infrastructure and residential protection have taken priority. It is currently under consideration through the NY Rising Program.	X		Needs to be addressed as entire Town complex (Town Hall and Highway Department) are located within the Floodplain and Floodway.
Shandaken, Town of	Repair retaining wall on Woodland Valley, 3 places	High	Flood	Highway	X						X	Completed
Shandaken, Town of	Repair retaining wall on Miller Road	Medium	Flood	Highway	X						X	Completed
Shandaken, Town of	Flood control wall on Brown Road	High	Flood	Highway			X		Project was pursued through multiple funding sources. Town came to conclusion that project would not be as effective as originally determined. Project/area re-examined.	X		A wall would not be effective as originally proposed, but other natural stream treatments could be more effective. Efforts are ongoing to be coordinated with other agencies whose infrastructure is being threatened.
Shandaken, Town of	Flood control for the Hamlet of Phoenicia	High	Flood	Highway		X			Multiple successful projects have been completed along the Stony Clove Creek to diminish flood threat Phoenicia. Stream stabilization, channel modifications and debris removal all incorporating naturally occurring stream features.	X		Town is currently in process of in-depth study to further protect the Hamlet of Phoenicia. We are performing a Local Flood Analysis to better find Cost-Effective stream treatments to ensure the resiliency of the community.



Ulster County Multi-Jurisdictional Hazard Mitigation Plan Update

Worksheet #6

For a community to succeed in reducing risk in the long term, the information and recommendations of the hazard mitigation plan must be integrated into day-to-day local government operations. Throughout the planning process, partnerships are formed between departments and agencies, and sustained actions between these partners will increase the community's resilience to disasters. "Plan integration" can be thought of as the process whereby each local government will incorporate the mitigation plan findings and projects into other planning mechanisms (governance structures that are used to manage local land use development and community decision making).

For this Plan Update, FEMA requires:

- a summary of each jurisdiction's past progress in plan integration over the last planning cycle; and
- a description of plan integration activities that each jurisdiction expects to undertake over the course of the next planning cycle.

This worksheet has been set up, therefore, into two components with each portion focusing on one of the bullets above.

- Demonstration of Progress over the Last Planning Cycle – In the first component of this worksheet (shaded in blue), we have reiterated the targeted plan integration activities that were included in the last version of the plan (Section 9, beginning on Page 9-4) in a tabular form, and are asking each community to describe their respective accomplishments since the plan was adopted five years ago.
- Targeted Plan Integration Activities for the Next Planning Cycle – Similarly, in the second component of this worksheet (shaded in yellow), we have outlined a series of plan integration activities for the next five-year planning cycle. Please document to FEMA the manner in which your community will commit to integrate the hazard mitigation plan into your local government operations from this point forward.

Where integration activities are carried out by another jurisdiction through an intergovernmental agreement or by another layer of government (such as the county), please include a note on the bottom of this form and reference the section number on this form that the note is referring too.

Feedback should be returned to URS Project Manager Anna Foley at anna.foley@urs.com. If you have questions or need help, please email Anna or give her a call at 973-883-8562.

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DEMONSTRATION OF PAST PROGRESS OVER THE LAST PLANNING CYCLE

Please check all activities that your municipality has undertaken over the last five years.

1. Check here if you (or your predecessor on the CPG) issued a letter to each of your community's department heads to solicit their support and explore opportunities for integrating hazard mitigation planning objectives into their daily activities?	X
2. A. Check here if you (or your predecessor on the CPG) worked with your planning department to educate them on the Hazard Mitigation Plan and encourage that on the next update of your master plan, general or comprehensive plan, hazard mitigation for natural hazards is addressed. Please describe your coordination efforts in the space below.	X
B. Check here if your municipality does not have a master, general, or comprehensive plan.	
C. Check here if your master, general or comprehensive was updated since 2009.	
D. If you checked box 2C, please check here if natural hazard risk/mitigation was incorporated into the updated document, and describe how in the space below.	
E. If you checked box 2C, please check here if a specific hazard mitigation element was added to the document, and describe in the space below.	
3. Check here if you (or your predecessor on the CPG) coordinated with your building department to ensure that they have adopted and are enforcing the minimum standards established in the current State-adopted IBC. Please describe your coordination efforts in the space below. - Regular meetings with Code Officer to ensure up-to-date codes are being enforced	X
4. A. If your community participates in the NFIP and was only enforcing minimum requirements at the time of the first plan's adoption, check here if you (or your predecessor on the CPG) coordinated with your Floodplain Administrator to determine if enforcement beyond FEMA minimum requirements would be prudent for your community. Please describe your coordination efforts in the space below. - Regular meetings with Local Flood Group (SAFARI) to discuss and determine more stringent amendments to Floodplain Development Ordinance. Town Supervisor, Town Highway Superintendent, Town Planning Chair all CFM's. Nemly hired Municipal Code Officer due to take CFM Exam in April 2015.	X

	B. Check here if your community was already enforcing regulations beyond FEMA minimum requirements.	
	C. Briefly explain here what is currently being enforced beyond FEMA minimum requirements.	
	D. Check here if your community has maintained its participation in the NFIP's Community Rating System (CRS).	
	E. Check here if your community has joined the CRS since 2009.	
	F. Check here if your community has dropped out of the CRS since 2009.	
5.	A. Check here if your community has a local zoning ordinance. B. Check here if you (or your predecessor on the CPG) worked with your local zoning board to educate them on the Hazard Mitigation Plan and encourage consideration of low occupancy, low-density zoning in hazard areas, when practicable. Please describe your coordination efforts in the space below.	X
6.	A. Check here if any job descriptions were revised to include mitigation-related duties to further institutionalize mitigation. B. If so, describe. Our Code Enforcement Officer is now required to be a Nationally Certified Floodplain Manager and attend all local flood group meetings.	X
7.	A. Check here if capital or operating budgets were revised to include a line item for mitigation project funding. B. Check here if capital or operating budgets already included this when the plan was first adopted.	
8.	A. Check here if your Department of Public Works has adopted more rigorous procedures for inspecting and cleaning debris from streams and ditches (i.e., more frequently). B. If so, describe.	
9.	A. Check here if your Planning Department has added hazard vulnerability to subdivision and site plan review criteria. B. If so, describe.	
10.	(NOTE: A response to #10 is only required for UCECEM; all municipalities, please leave blank) Check here if	

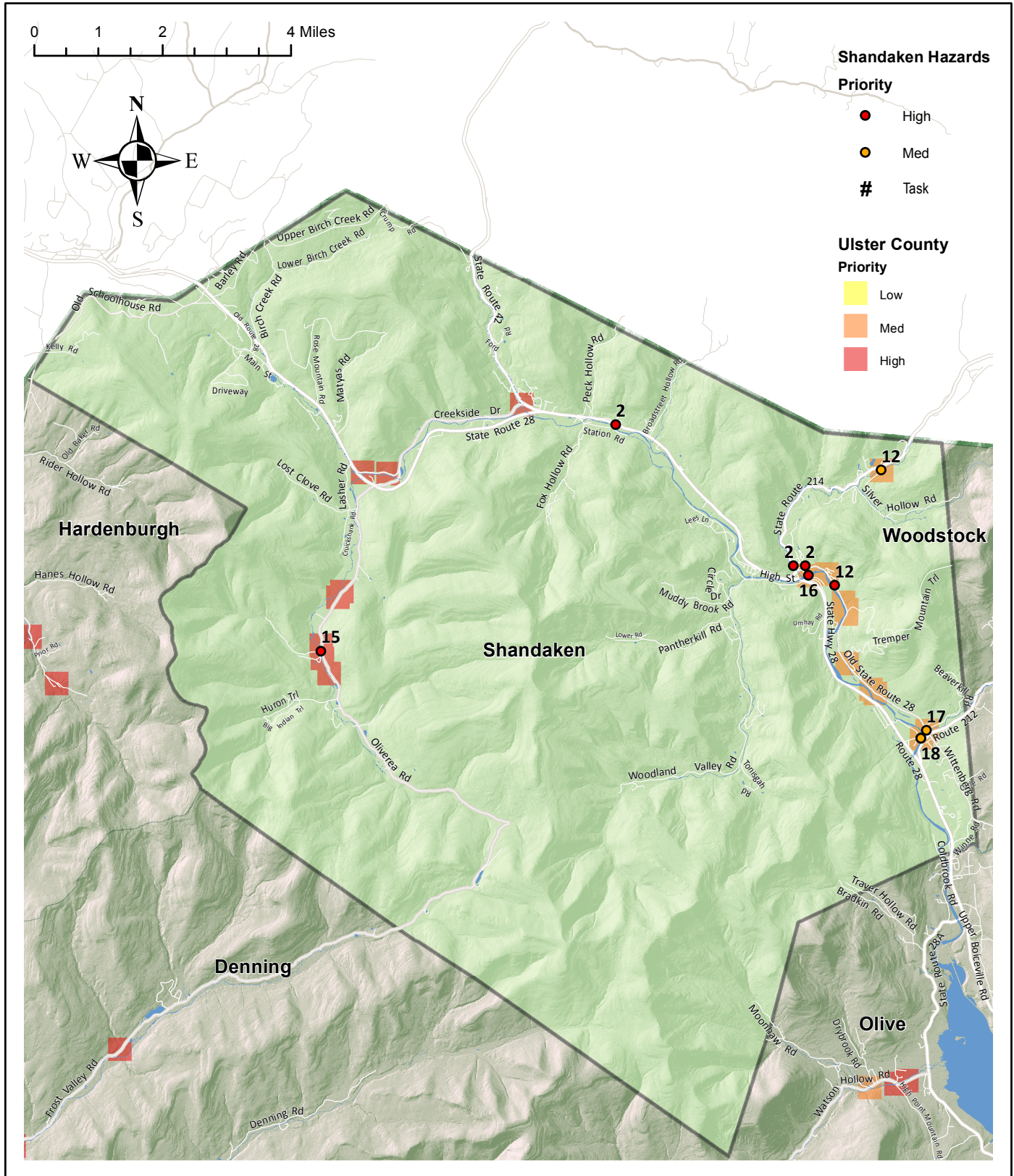
UCECEM sought to identify a community conservation society or other interested voluntary organization to perform inventories of historic sites in hazard areas that might require special treatment to protect them from specific hazards. B. If so, describe.	
11. Check here if your community has reached out to partner groups in the community (i.e., nonprofit organizations, businesses, etc.) to identify those who may be willing to donate goods or services and create a database of contact information and indicated goods/services. B. If so, describe. Community has devised own list of volunteers and available assisting organizations. Coordination efforts ongoing through Ulster Corps, American Red Cross and numerous County and State agencies.	X
12. Check here if your community has actively sought citizen volunteers to help implement mitigation programs and activities. B. If so, please describe. Flood Group maintains public meetings and has several residents and business owners as members. Volunteer members have assisted in outreach efforts and promotion of events concerning mitigation efforts	X
13. A. (NOTE: A response to #13A is only required for UCECEM; all municipalities, please leave blank) Check here if a list was compiled of state agencies that can lend their time, expertise and funds to the implementation of hazard mitigation projects. B. (NOTE: A response to #13A is only required for UCECEM; all municipalities, please leave blank) Check here if assistance was provided to participating jurisdictions in reaching out to state agencies for support. C. If A or B was checked, please describe.	
14. A. Check here if your community has reached out to colleges and universities for technical assistance with hazard mitigation activities. B. If so, please describe. Cornell University through Cooperative Extension with Ulster County	X
15. A. Check here if your community has met at least once with your local library staff members to discuss the mitigation plan so they are well-versed in its purpose and understand where to direct interested parties for more information, to provide feedback, or to become involved. B. If so, please describe. We consistently use our libraries for public outreach. Each has been provided copies and links to all data as produced.	X

TARGETED PLAN INTEGRATION ACTIVITIES FOR THE NEXT PLANNING CYCLE

Please check all activities that your municipality is committing to undertake over the next five years.

1. CPG member will issue a letter to each department head to solicit their support and explore opportunities for further integration of hazard mitigation into the daily activities of the community as a whole.	X
2. A. Incorporate hazard mitigation for natural hazards in the next update of your master, general or comprehensive plan.	X
B. Add a specific hazard mitigation element to the next update of your master, general or comprehensive plan.	X
3. Adopt and enforce the minimum building standards established in the current State-adopted IBC (NY edition).	X
4. A. Maintain community participation in FEMA's National Flood Insurance Program.	X
B. Enforce codes and standards beyond FEMA minimum requirements.	X
C. Join (or continue to maintain participation in) the NFIP's Community Rating System.	X
5. Steer growth and development away from high risk locations by using the risk assessment from the hazard mitigation plan as a tool to monitor future updates of community land use plans, zoning and subdivision codes and the development review process.	X
6. Modify work plans, policies or procedures to include hazard mitigation concepts/activities.	X
7. Revise job descriptions to include mitigation-related duties to further institutionalize mitigation.	X
8. Revise capital or operating budgets to include a line item for mitigation project funding.	
9. Issue directives to require departments/agencies in the community to carry out certain hazard mitigation activities.	X
10. Require the Department of Public Works to inspect and clean debris from streams and ditches more frequently.	
11. Add hazard vulnerability to subdivision and site plan review criteria.	X
12. Perform inventories of historic sites in hazard areas in your community to identify where special treatment may be needed to protect them from specific natural hazards.	X
13. Reach out to state agencies for assistance with natural hazard mitigation activities.	X
14. Reach out to colleges and universities for technical assistance with natural hazard mitigation activities.	X
15. Adopt (or continue to enforce) a local stormwater management plan/ordinance.	X
16. Protect life and property in high hazard areas by limiting densities of new development.	
17. Increase resilience by limiting the extension of public infrastructure in high hazard areas.	
18. Reduce the vulnerability of future development in high hazard areas by reviewing development regulations, and modifying where needed.	X
19. Use the risk assessment to inform future updates of the community emergency operations plan, evacuation plan, and/or post disaster recovery plan.	X
20. Implement hazard mitigation activities through existing plans and policies.	X
21. Sponsor training on best practices for hazard mitigation for local government staff. (Note: this may be accomplished with other local governments.)	X

Shandaken Hazard Mitigation Actions



Action Worksheet	
Your plan name	<i>Ulster County Multi-jurisdictional Hazard Mitigation Plan</i>
Your community name	<i>Town of Shandaken</i>
Community action number	<i>Shandaken #1 - Backup Power Generator - Fixed Installation For Town Hall</i>
Assessing the Risk	
Hazard(s) addressed	<i>All hazard</i>
Risk finding	<i>loss of electricity during storms at critical community facilities</i>
Describing the Action	
Action category	<i>Structural</i>
Action type	<i>emergency preparedness</i>
Action description	<i>Install back-up propane generators for Shandaken Town Hall (or at new municipal complex). The generator, which is already in stock with the town, will need associated electrical work in order to connect the resource to two town buildings: the Town Hall and the Town Highway Garage. Location is Longitude: -74.369984, Latitude: 42.116143. Equipment will be protected to at least the 500 year flood level.</i>
Existing, future &/or NA	<i>n/a</i>
Evaluating the Action	
Losses avoided (i.e., benefits)	<i>Emergency services and town government would be available during floods and other events;</i>
Cost estimate	<i>\$50,000</i>
Cost effectiveness (i.e., benefit/cost)	<i>Benefits are difficult to quantify, however the low project cost will clearly result in a positive BCR over the project useful life.</i>
Technical	<i>Technically feasible.</i>
Political	<i>Public, town, and fire department are supportive. Project was listed in NY Rising projects.</i>
Legal	<i>none</i>
Environmental	<i>none</i>
Social	<i>none</i>
Administrative capability	<i>Town has jurisdiction and resources to install.</i>
Local champion	<i>Town</i>
Other community objectives	<i>Yes; identified as a need in town-wide flood mitigation plan</i>
Implementing the Action	
Priority	<i>High</i>
Local planning mechanism	<i>Town and state building codes; NY Rising Plan</i>
Responsible party	<i>Town Board</i>
Potential funding sources	<i>NY Rising</i>
Time line	<i>one month</i>

Reporting on Progress	
Action progress status	<i>New action</i>

Action Worksheet	
Your plan name	<i>Ulster County Multi-jurisdictional Hazard Mitigation Plan</i>
Your community name	<i>Town of Shandaken</i>
Community action number	<i>Shandaken #2 - Improved Data Collection And Storage System To Include Elevation Monuments</i>
Assessing the Risk	
Hazard(s) addressed	<i>flooding</i>
Risk finding	<i>data acquisition to better determine actual risk (from flooding)</i>
Describing the Action	
Action category	<i>Structural, planning</i>
Action type	<i>emergency preparedness</i>
Action description	<i>Install elevation monuments/markers in public locations in each hamlet to lower costs associated in getting elevation certificates for structures and provide a more detailed elevation in relation to the flood elevations. Location is at key locations throughout the Town.</i>
Existing, future &/or NA	<i>action will better protect existing as well as future development in Town</i>
Evaluating the Action	
Losses avoided (i.e., benefits)	<i>Better data to better assess true flooding risk of structures, areas</i>
Cost estimate	<i>\$100,000</i>
Cost effectiveness (i.e., benefit/cost)	<i>Over time, benefits - such as those derived from a project such as this are difficult to quantify, but anticipated to be in excess of project cost.</i>
Technical	<i>Technically feasible.</i>
Political	<i>Public, town are supportive. Project was listed in NY Rising projects.</i>
Legal	<i>none</i>
Environmental	<i>none</i>
Social	<i>none</i>
Administrative capability	<i>Town has ability and resources to administer</i>
Local champion	<i>Town</i>
Other community objectives	<i>Yes; identified as a need in town-wide flood mitigation plan</i>
Implementing the Action	
Priority	<i>High</i>
Local planning mechanism	<i>Town codes; NY Rising Plan</i>
Responsible party	<i>Town Board</i>
Potential funding sources	<i>NY Rising Community Reconstruction Program; Flood Hazard Mitigation Implementation Program (FHMIP); Stream Management Implementation Grants (SMIP)</i>

Time line	<i>one year</i>
Reporting on Progress	
Action progress status	<i>New action</i>

Action Worksheet	
Your plan name	<i>Ulster County Multi-jurisdictional Hazard Mitigation Plan</i>
Your community name	<i>Town of Shandaken</i>
Community action number	<i>Shandaken #3 - Building Department Digital Upgrades</i>
Assessing the Risk	
Hazard(s) addressed	<i>multi-hazard</i>
Risk finding	<i>data acquisition to better determine actual risk pre&post storm events</i>
Describing the Action	
Action category	<i>planning</i>
Action type	<i>emergency preparedness</i>
Action description	<i>Plan and implement digital upgrade for the building department and provide GIS training for local officials to allow electronic post-storm building inspections and reports from the field and to increase the community CRS numbers. Building department is located in Town Hall at Longitude: -74.369984, Latitude: 42.116143</i>
Existing, future &/or NA	<i>action will better protect existing as well as future development in Town</i>
Evaluating the Action	
Losses avoided (i.e., benefits)	<i>Better data to adequately assess flooding and other risks for structures, areas, etc</i>
Cost estimate	<i>\$30,000</i>
Cost effectiveness (i.e., benefit/cost)	<i>Benefits are difficult to quantify, however the low project cost will clearly result in a positive BCR over the project useful life.</i>
Technical	<i>Technically feasible.</i>
Political	<i>Public, town are supportive. Project was listed in NY Rising projects.</i>
Legal	<i>none</i>
Environmental	<i>none</i>
Social	<i>none</i>
Administrative capability	<i>Town has ability and resources to administer</i>
Local champion	<i>Town</i>
Other community objectives	<i>Yes; identified as a need in town-wide flood mitigation plan</i>
Implementing the Action	
Priority	<i>High</i>
Local planning mechanism	<i>Town codes; NY Rising Plan</i>
Responsible party	<i>Town Board</i>
Potential funding sources	<i>NY Rising</i>
Time line	<i>over the course of two years</i>
Reporting on Progress	

Action progress status	<i>New action</i>
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Action Worksheet	
Your plan name	<i>Ulster County Multi-jurisdictional Hazard Mitigation Plan</i>
Your community name	<i>Town of Shandaken</i>
Community action number	<i>Shandaken #4 – Link Town Flood Hazard Mitigation Plan and Ulster County All-Hazard Mitigation Plan</i>
Assessing the Risk	
Hazard(s) addressed	<i>Floods</i>
Risk finding	<i>Ensure link between locally driven projects for flood resiliency, emergency response activities and recovery efforts post-flood</i>
Describing the Action	
Action category	<i>Plan Coordination and Integration</i>
Action type	<i>emergency preparedness</i>
Action description	<i>Establish a link between the Town of Shandaken Flood Hazard Mitigation Plan and the Ulster County All-Hazards Mitigation Plan. The TOS FHMP contains 86 Initiatives recommended in Section 6 – Mitigation Strategies. Upon adoption of the Ulster County All-Hazards Mitigation Plan all future updates to both plans will occur in the same planning cycle.</i>
Existing, future &/or NA	<i>Future Update and review will occur concurrent with Ulster County All Hazards Mitigation Plan updates</i>
Evaluating the Action	
Losses avoided (i.e., benefits)	<i>Building Resiliency within the community</i>
Cost estimate	<i>\$0</i>
Cost effectiveness (i.e., benefit/cost)	<i>No cost with multiple benefits</i>
Technical	<i>Technically feasible.</i>
Political	<i>SAFARI (Local Flood Committee), Public, Town, County are supportive.</i>
Legal	<i>none</i>
Environmental	<i>none</i>
Social	<i>none</i>
Administrative capability	<i>Town and County have ability and resources to administer</i>
Local champion	<i>Town, SAFARI Group</i>
Other community objectives	<i>Identified in Town of Shandaken Flood Hazard Mitigation Plan, Section 6- Mitigation Strategies, Initiative 13</i>
Implementing the Action	
Priority	<i>Medium</i>
Local planning mechanism	<i>Town emergency preparedness plan</i>
Responsible party	<i>Town Board, Ulster County</i>
Potential funding sources	<i>n/a</i>
Time line	<i>immediate</i>
Reporting on Progress	

Action progress status	<i>New action</i>
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Action Worksheet	
Your plan name	<i>Ulster County Multi-jurisdictional Hazard Mitigation Plan</i>
Your community name	<i>Town of Shandaken</i>
Community action number	<i>Shandaken #5 - Enhanced Flood Prediction And Notification System</i>
Assessing the Risk	
Hazard(s) addressed	<i>flooding</i>
Risk finding	<i>data acquisition to better determine actual risk of approaching storm events; data collection for better science/planning</i>
Describing the Action	
Action category	<i>communications; structural</i>
Action type	<i>emergency preparedness</i>
Action description	<i>Create an enhanced flood prediction and notification system that has real-time flood threat recognition capability and utilizes the best available data, science and technology. Create additional stream gauge locations and support of gauge automation at specific sites, installation of precipitation monitoring stations, new town-wide weather data collection stations, and create command center call-in capability to Birch Creek, Stony Clove, Woodland Valley, Allaben, and any newly established USGS gauges.</i>
Existing, future &/or NA	<i>action will better protect existing as well as future development</i>
Evaluating the Action	
Losses avoided (i.e., benefits)	<i>More reliable and realtime data that can guide decision-making leading up to and post storms events</i>
Cost estimate	<i>\$200,000</i>
Cost effectiveness (i.e., benefit/cost)	<i>Benefits are difficult to quantify for a project such as this, however over the project useful life the benefits will far outweigh costs.</i>
Technical	<i>Technically feasible.</i>
Political	<i>Public, town are supportive. Project was listed in NY Rising projects.</i>
Legal	<i>In the town's jurisdiction, but structure will be owner by USGS and/or State/City; Town supports the project and will cooperate and assist partners in the project.</i>
Environmental	<i>none</i>
Social	<i>none</i>
Administrative capability	<i>local stream program, USGS</i>
Local champion	<i>Town</i>
Other community objectives	<i>Yes; identified as a need in town-wide flood mitigation plan</i>
Implementing the Action	
Priority	<i>Medium</i>
Local planning mechanism	<i>Town emergency preparedness plan ; NY Rising Plan</i>
Responsible party	<i>Town Board</i>
Potential funding sources	<i>NY Rising; NYCDEP; NYSDEC</i>
Time line	<i>over the course of the next 5 years</i>

Reporting on Progress	
Action progress status	<i>New action</i>

Action Worksheet	
Your plan name	<i>Ulster County Multi-jurisdictional Hazard Mitigation Plan</i>
Your community name	<i>Town of Shandaken</i>
Community action number	<i>Shandaken #6 – Create an archive for Flood-related building permits</i>
Assessing the Risk	
Hazard(s) addressed	<i>Flooding</i>
Risk finding	<i>Improve access and accessibility to previous and currently issued elevation certificates and Floodplain Development Permits issued for specific parcels</i>
Describing the Action	
Action category	<i>Planning Mechanism, Structural, Emergency Response</i>
Action type	<i>Resiliency, Emergency preparedness and response</i>
Action description	<i>Create more efficient way to evaluate locations for specific properties pre- and post-flood events.</i>
Existing, future &/or NA	<i>Will ensure better resiliency for future and existing development projects located within Floodplain</i>
Evaluating the Action	
Losses avoided (i.e., benefits) Losses avoided (i.e., benefits)	<i>Project will assist in ensuring development projects can be built to appropriate resilient standards for Floodplain Development to avoid damages to structures and protection for residential and commercial residents.</i>
Cost estimate	<i>\$5,000.00</i>
Cost effectiveness (i.e., benefit/cost) Cost effectiveness (i.e., benefit/cost)	<i>With the low cost of implementation, the benefit to cost ratio will be positive in only a few years post implementation.</i>
Technical	<i>Technically Feasible</i>
Political	<i>Support from Governing, Planning and Zoning Boards and Town Building Department.</i>
Legal	<i>none</i>
Environmental	<i>none</i>
Social	<i>none</i>
Administrative capability	<i>Will require additional short-term personnel for Building Department and filing system</i>
Local champion	<i>Town of Shandaken</i>
Other community objectives	<i>Carried from 2013 Town of Shandaken Flood Mitigation Plan – Section 6 Mitigation Strategies – Initiative 21 and listed as a “Featured” project through the NYS NY Rising Program</i>
Implementing the Action	
Priority	<i>High</i>
Local planning mechanism	<i>Building Department Administration; NY Rising Plan</i>
Responsible party	<i>Town Board</i>
Potential funding sources	<i>annual budget</i>
Time line	<i>continuous</i>
Reporting on Progress	

Action progress status	<i>New Action</i>
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Action Worksheet	
Your plan name	<i>Ulster County Multi-jurisdictional Hazard Mitigation Plan</i>
Your community name	<i>Town of Shandaken</i>
Community action number	<i>Shandaken #7 – Improve Upper Esopus Creek Hydraulics and Hydrology Models</i>
Assessing the Risk	
Hazard(s) addressed	<i>Flooding</i>
Risk finding	<i>Improve information pertaining to floodplains throughout the Town of Shandaken</i>
Describing the Action	
Action category	<i>Planning Mechanism, Natural Resource Protection</i>
Action type	<i>Resiliency, Emergency preparedness and response</i>
Action description	<i>Create multiple models and data to better assess vulnerabilities and reduce floodplain encroachments. Location is from headwaters near Olivera down through Mt Tremper hamlet.</i>
Existing, future &/or NA	<i>Will ensure better resiliency for future and existing development projects located within or adjacent to Floodplains</i>
Evaluating the Action	
Losses avoided (i.e., benefits) Losses avoided (i.e., benefits)	<i>Project will assist in ensuring development projects can be built to appropriate resilient standards for Floodplain Development to avoid damages to structures and protection for residential and commercial residents.</i>
Cost estimate	<i>\$300,000.00</i>
Cost effectiveness (i.e., benefit/cost) Cost effectiveness (i.e., benefit/cost)	<i>Protection of existing structures (residences, commercial and infrastructure) from future damage. Protection to lives of people who reside or work in these structures while ensuring protection of Town's tax and economic base.</i>
Technical	<i>Technically Feasible</i>
Political	<i>Support from Governing, Planning and Zoning Boards and Town Building Department.</i>
Legal	<i>none</i>
Environmental	<i>none</i>
Social	<i>none</i>
Administrative capability	<i>Will require firm specializing in study and development of models through HAZUS-MH</i>
Local champion	<i>Town of Shandaken</i>
Other community objectives	<i>Carried from 2013 Town of Shandaken Flood Mitigation Plan – Section 6 Mitigation Strategies – Initiative 27</i>
Implementing the Action	
Priority	<i>Medium</i>
Local planning mechanism	<i>SAFARI (Shandaken Area Flood Assessment and Remediation Initiative) Group</i>
Responsible party	<i>Town Board</i>
Potential funding sources	<i>NY Rising Community Reconstruction Program; Flood Hazard Mitigation Implementation Program (FHMIP); Stream Management Implementation Grants (SMIP)</i>

Time line	<i>one year</i>
Reporting on Progress	
Action progress status	<i>New Action</i>

Action Worksheet	
Your plan name	<i>Ulster County Multi-jurisdictional Hazard Mitigation Plan</i>
Your community name	<i>Town of Shandaken</i>
Community action number	<i>Shandaken #8 – Improve Communications Networks throughout Town</i>
Assessing the Risk	
Hazard(s) addressed	<i>All-Hazards</i>
Risk finding	<i>The Town of Shandaken has difficulty with Town-wide communications due to mountainous geography and vast rural areas with patches of isolated residents between population centers.</i>
Describing the Action	
Action category	<i>Emergency Response, Communications</i>
Action type	<i>Improvement and redundancy of Communication Networks</i>
Action description	<i>Attract Cellular carriers, Improve signal strength, Place communication towers to ensure coverage in smaller dead-end hollows and high mountain terrain. Equipment installed at critical facility locations throughout town will be protected to at least the 500 year flood level.</i>
Existing, future &/or NA	<i>Upgrade equipment and identify areas of concern</i>
Evaluating the Action	
Losses avoided (i.e., benefits)	<i>Project will assist in ensuring continued communications for Emergency responders (Fire and Ambulance), Police protection and Highway Department Operations</i>
Cost estimate	<i>\$500,000.00</i>
Cost effectiveness (i.e., benefit/cost)	<i>Improve response to emergencies and during periods of disaster recovery and standard operations throughout the Town; Over time, benefits - such as those derived from a project such as this are difficult to quantify, but anticipated to be in excess of project cost.</i>
Technical	<i>Technically Feasible</i>
Political	<i>Support from Town Board and Highway, Police, Fire and Ambulance Departments and personnel utilizing these systems</i>
Legal	<i>none</i>
Environmental	<i>none</i>
Social	<i>none</i>
Administrative capability	<i>Will require study and installation of network mechanisms and equipment</i>
Local champion	<i>Town of Shandaken</i>
Other community objectives	<i>Carried from 2013 Town of Shandaken Flood Mitigation Plan – Section 6 Mitigation Strategies – Initiative 38 & 79 and listed as a “Featured” project through the NYS NY Rising Program</i>
Implementing the Action	
Priority	<i>High</i>
Local planning mechanism	<i>Highway, Fire, Police and Ambulance Departments, UC Office of Emergency Services</i>

Responsible party	<i>Highway Superintendent, Police, Fire and Ambulance Chiefs, Ulster County Office of Emergency Services</i>
Potential funding sources	<i>NY Rising Community Reconstruction Program; Flood Hazard Mitigation Implementation Program (FHMIP); Stream Management Implementation Grants (SMIP)</i>
Time line	<i>two years</i>
Reporting on Progress	
Action progress status	<i>New Project</i>

Action Worksheet	
Your plan name	<i>Ulster County Multi-jurisdictional Hazard Mitigation Plan</i>
Your community name	<i>Town of Shandaken</i>
Community action number	<i>Shandaken #9 – Flood-proof or Relocate Vulnerable Critical Town Facilities</i>
Assessing the Risk	
Hazard(s) addressed	<i>Floods</i>
Risk finding	<i>Multiple Critical Town Facilities are located in or adjacent to floodplain. (Town Hall, Ambulance Housing, Fire Stations)</i>
Describing the Action	
Action category	<i>Structural, Emergency Response, Natural Resource Protection</i>
Action type	<i>Improve resiliency, access and availability of Critical Town facilities especially during disaster response and recovery</i>
Action description	<i>Elevate and/or relocate facilities to allow full access and operation during and post-emergency response. These critical facilities are all located within the 1% Annual Risk floodplain. Flood mitigation projects at these locations will be protected to at least the 500 year flood level. Location of vulnerable structures are: Town Hall/Highway Garage = Longitude: -74.369984, Latitude: 42.116143; Ambulance Housing = Longitude: -74.312931, Latitude: 42.084242; Phoenicia Fire House = Longitude: -74.316549, Latitude: 42.084393</i>
Existing, future &/or NA	<i>Upgrades to facilities as deemed necessary by personnel responsible for each facilities operations</i>
Evaluating the Action	
Losses avoided (i.e., benefits)	<i>Project will ensure availability of facilities and operations during and post-disaster response. Maintaining availability to public to provide services during post-disaster response times.</i>
Cost estimate	<i>\$3,000,000.00</i>
Cost effectiveness (i.e., benefit/cost)	<i>Improve response to emergencies and during periods of disaster recovery and standard operations throughout the Town. Improve resiliency of Critical operations and accessibility for responders and public for multiple services necessary post-disaster.</i>
Technical	<i>Technically Feasible</i>
Political	<i>Support from Town Board and Highway, Police, Fire and Ambulance Departments and personnel utilizing these facilities.</i>
Legal	<i>none</i>
Environmental	<i>none</i>
Social	<i>Improve availability for vulnerable population including but not limited to: evacuation, shelter, information, distribution of necessary supplies for the public, etc.</i>
Administrative capability	<i>Engineers and Contractors will be necessary for all structural improvements</i>
Local champion	<i>Town Board, SAFARI, Emergency Services Chiefs, Highway Department Superintendent</i>
Other community objectives	<i>Carried from 2013 Town of Shandaken Flood Mitigation Plan – Section 6 Mitigation Strategies – Initiative 55 and listed as a “Proposed” project through the NYS NY Rising Program</i>
Implementing the Action	
Priority	<i>High</i>

Local planning mechanism	<i>Town Board, Town Highway, Fire, Police and Ambulance Departments, Ulster County Sheriff's Office; NY Rising Plan</i>
Responsible party	<i>Town Board, Highway Superintendent, Police, Fire and Ambulance Chiefs</i>
Potential funding sources	<i>NY Rising Community Reconstruction Program; Flood Hazard Mitigation Implementation Program (FHMIP); Stream Management Implementation Grants (SMIP)</i>
Time line	<i>five years</i>
Reporting on Progress	
Action progress status	<i>New Project</i>

Action Worksheet	
Your plan name	<i>Ulster County Multi-jurisdictional Hazard Mitigation Plan</i>
Your community name	<i>Town of Shandaken</i>
Community action number	<i>Shandaken #10 – Identify and Assist in Elevating Structures or Buyout Based on Risk</i>
Assessing the Risk	
Hazard(s) addressed	<i>Floods</i>
Risk finding	<i>Multiple residential and commercial structures are located within the 100-YR Floodplain</i>
Describing the Action	
Action category	<i>Planning Mechanism, Structural, Resiliency, Natural Resource Protection</i>
Action type	<i>Improve resiliency and protection for residents and businesses</i>
Action description	<i>Elevate and/or relocate homes and businesses (or floodproofing) that are in floodprone areas and/or are clasified ar SRL or RL prperties. The location is town-wide.</i>
Existing, future &/or NA	<i>Action will be taken following thorough technical evaluation of flood risks based on multiple factors including but not limited to: Digital Modeling, Flood Depth Grids, FEMA Repetitive loss reports, degree of previous damages and effectiveness in reducing flood risk and resiliency.</i>
Evaluating the Action	
Losses avoided (i.e., benefits)Losses avoided (i.e., benefits)	<i>Project will: Ensure sustainability of residential and commercial structures; Improve recovery from floods; Provide further protection of life for residents, visitors and commercial entities; Provide protection of Town's tax base and economic centers</i>
Cost estimate	<i>\$3,000,000.00</i>
Cost effectiveness (i.e., benefit/cost)	<i>Action will be evaluated based on multiple factors using technical data and mapping techniques to assess Cost-Benefit both on a case-by-case basis and cumulatively in higher density locations of high risk.</i>
Technical	<i>Technically Feasible</i>
Political	<i>Support from Town Board, SAFARI Group, Municipal Code Officer, UC Dept. of Environment, NYS DEC, FEMA</i>
Legal	<i>none</i>
Environmental	<i>none</i>
Social	<i>Provides further protection for vulnerable properties and security for residents during floods. Provides protection for Economic Centers.</i>
Administrative capability	<i>Engineers and Contractors will be necessary for all structural improvements</i>
Local champion	<i>Town Board, SAFARI, Emergency Services Chiefs and Floodplain administrator</i>
Other community objectives	<i>Carried from 2013 Town of Shandaken Flood Mitigation Plan – Section 6 Mitigation Strategies – Initiative 65 and listed as a “Featured” project through the NYS NY Rising Program</i>
Implementing the Action	
Priority	<i>Medium</i>
Local planning mechanism	<i>Town Board, Floodplain Administrator, Municipal Code Officer, SAFARI Group; Local flood buyout/relocation program</i>
Responsible party	<i>Town Board and private landowners</i>

Potential funding sources	<i>NY Rising Community Reconstruction Program; Flood Hazard Mitigation Implementation Program (FHMIP); Stream Management Implementation Grants (SMIP); FEMA Hazard Mitigation Assistance Grants; NYSDHSES</i>
Time line	<i>five years- ongoing when grants available</i>
Reporting on Progress	
Action progress status	<i>Town has started Local Flood Analysis project for Hamlets of Phoenicia, Mt. Tremper, Allaben, and Shandaken through program offered by NYC DEP with funding provided by the Ashokan Watershed Stream Management Program</i>

Action Worksheet	
Your plan name	<i>Ulster County Multi-jurisdictional Hazard Mitigation Plan</i>
Your community name	<i>Town of Shandaken</i>
Community action number	<i>Shandaken #11 – Improve Connectivity to Floodplain and Retention Areas</i>
Assessing the Risk	
Hazard(s) addressed	<i>Floods</i>
Risk finding	<i>Reduce Flood Risks Town-Wide</i>
Describing the Action	
Action category	<i>Planning Mechanism, Structural, Resiliency, Natural Resource Protection, Stream Management</i>
Action type	<i>Natural Feature Restoration, Flood Resiliency</i>
Action description	<i>Improve connectivity to Floodplains and Flood Retention areas while performing associated stream bank stabilization projects or stream work associated with infrastructure protection. Locations are primarily in (and immediately upstream of) population centers such as Phoenicia, Mount Tremper, Chichester, Oliverea, Pine Hill, Allaben, and Big Indian, and at additional locations, as yet to be determined.</i>
Existing, future &/or NA	<i>Town has implemented policy to maintain and promote activity</i>
Evaluating the Action	
Losses avoided (i.e., benefits)	<i>Project will: Re-establish Natural Resources, Improve Resiliency and Provide Protection to Infrastructure and Associated Properties</i>
Cost estimate	<i>Varying, dependent on location (\$30,000 - \$500,000)</i>
Cost effectiveness (i.e., benefit/cost)	<i>Action will take place coordinated with ongoing stream restoration projects throughout the Town. Will be incorporated into costs of Individual Restoration projects. Benefits are unquantifiable, but anticipated to be in excess of project costs, for a cost-effective project</i>
Technical	<i>Technically Feasible</i>
Political	<i>Support from Town Board, SAFARI Group, Town Highway Superintendent, Municipal Code Officer, UC Dept. of Environment, NYS DEC, FEMA, NYC-DEP, USDA-NRCS, Army Corps</i>
Legal	<i>While all work will be within the town's jurisdiction, the specific property(ies) will likely be private property or State/City owned, and as the Town supports the project, will dedicate resources to assist in the project(s).</i>
Environmental	<i>Project Improves water quality, re-establishes natural resources and improves natural stream processes. Projects will be reviewed on a case-by-case basis.</i>
Social	<i>none</i>
Administrative capability	<i>Engineers and Contractors will be necessary. Coordination with Stream Restoration specialists.</i>
Local champion	<i>Town Board, SAFARI, Floodplain Administrator, Municipal Code Officer, Highway Superintendent</i>
Other community objectives	<i>Carried from 2013 Town of Shandaken Flood Mitigation Plan – Section 6 Mitigation Strategies – Initiative 72 & 76</i>
Implementing the Action	
Priority	<i>Medium</i>

Local planning mechanism	<i>Town Board, Floodplain Administrator, Municipal Code Officer, SAFARI Group, Town Engineers</i>
Responsible party	<i>Town Board, AWSMP, UCSWCD, NYS-DEC, NYC-DEP, USDA-NRCS</i>
Potential funding sources	<i>NY Rising Community Reconstruction Program; Flood Hazard Mitigation Implementation Program (FHMIP); Stream Management Implementation Grants (SMIP)</i>
Time line	<i>5 years– Ongoing when grants available</i>
Reporting on Progress	
Action progress status	<i>Town has implemented this policy since 2010. Ongoing.</i>

Action Worksheet	
Your plan name	<i>Ulster County Multi-jurisdictional Hazard Mitigation Plan</i>
Your community name	<i>Town of Shandaken</i>
Community action number	<i>Shandaken #12 – Upgrades to Phoenicia Municipal Water System</i>
Assessing the Risk	
Hazard(s) addressed	<i>Multi-Hazard</i>
Risk finding	<i>Municipal Water Supply for Hamlet is inundated and incapacitated during moderate flood events</i>
Describing the Action	
Action category	<i>Planning Mechanism, Structural, Resiliency, Infrastructure Protection</i>
Action type	<i>Upgrades to Municipal Water Supply Operations and Delivery System</i>
Action description	<i>Add redundant back-up pump for Filtration plant, Relocate Secondary Water Supply Source, Upgrade Secondary Source Plant with Generator, Complete “High St. Loop.” This infrastructure was heavily damages in TS Irene, and additionally in smaller flood events in October and Decemebr 2010. Location is Longitude: -74.304031, Latitude: 42.079666 (and other apurtenances nearby). Infrastructure will be protected to the 500 year flood level if located in the floodplain.</i>
Existing, future &/or NA	<i>Plan established to address in the near future</i>
Evaluating the Action	
Losses avoided (i.e., benefits)	<i>Action will secure availability of water where the secondary water source has been diminished due to multiple flooding events. Redundant back-up will allow for proper maintenance of existing overworked pumps in main filtration plant. Relocation of Secondary Source (currently located adjacent to Esopus Creek and in floodplain), Generator hook-up and “Loop” and will secure availability to potable water in case of a failure of one or more of the mains servicing district. Currently only one main on vulnerable bridge crossing. Will also provide a source for the Hamlet 'Proper' in case of failure of main service line coming from Primary filtration plant.</i>
Cost estimate	<i>\$500,000.00</i>
Cost effectiveness (i.e., benefit/cost)	<i>Project will provide continued availability to potable water for residents, commercial establishments and emergency service departments (Fire & Ambulance) located in the Hamlet. Over time, benefits - such as those derived from a project such as this are difficult to quantify, but anticipated to be in excess of project cost.</i>
Technical	<i>Technically Feasible</i>
Political	<i>Support from Town Board, Water District Superintendent, Water District Committee and residents</i>
Legal	<i>none</i>
Environmental	<i>Project removes Secondary Water Source Facility from Streambank and Floodplain.</i>
Social	<i>none</i>
Administrative capability	<i>Engineers and Contractors will be necessary. Preliminary (surveys and assessment) work completed.</i>
Local champion	<i>Town Board, SAFARI, Floodplain Administrator, Municipal Code Officer, Water District Superintendent, UC DOH</i>
Other community objectives	<i>Supported by 2011 Phoenicia Water District Preliminary Engineer's Report and is listed as a “Featured” Project through the NYS NY Rising Program</i>

Implementing the Action	
Priority	<i>High</i>
Local planning mechanism	<i>Town Board, Floodplain Administrator, Municipal Code Officer, Phoenicia Water District Committee and Superintendent, Town Engineers</i>
Responsible party	<i>Town Board, Water District Personnel</i>
Potential funding sources	<i>FEMA; NYS DOH; HUD; Catskill Watershed Corp Flood Hazard Mitigation Implementation Program</i>
Time line	<i>three years</i>
Reporting on Progress	
Action progress status	<i>Town has initiated grant application process. Ongoing.</i>

Action Worksheet	
Your plan name	<i>Ulster County Multi-jurisdictional Hazard Mitigation Plan</i>
Your community name	<i>Town of Shandaken</i>
Community action number	<i>Shandaken #13 – Upgrades to Fire District and Ambulance Buildings</i>
Assessing the Risk	
Hazard(s) addressed	<i>Multi-Hazards</i>
Risk finding	<i>Fire District and Ambulance Buildings in need of upgrades to ensure resiliency and support Command Post and Emergency response activities</i>
Describing the Action	
Action category	<i>Emergency Response, Resiliency, EOC Operations</i>
Action type	<i>Structural, emergency preparedness</i>
Action description	<i>Upgrade existing buildings for three Fire Districts and Town Ambulance, where possible, to ensure accessibility and use of the buildings and equipment during emergency response activities and recovery efforts. Upgrades to include elevation of structures, hazard-proofing, expansion, improvements to existing out-dated equipment, improvements to facilities for the public, improve public and emergency responder sheltering capabilities.</i>
Existing, future &/or NA	<i>Each Department will identify specific needs.</i>
Evaluating the Action	
Losses avoided (i.e., benefits)	<i>Improved and More Resilient Emergency response facilities during hazard situations. Continuity of Emergency response activities</i>
Cost estimate	<i>\$500,000</i>
Cost effectiveness (i.e., benefit/cost)	<i>Upgrades to include elevation of structures, hazard-proofing, expansion, improvements to existing out-dated equipment, improvements to facilities for the public, improve public and emergency responder sheltering capabilities.</i>
Technical	<i>Technically feasible.</i>
Political	<i>SAFARI (Local Flood Committee), Public, Town, Ambulance Department, County, and Fire Districts are supportive.</i>
Legal	<i>none</i>
Environmental	<i>none</i>
Social	<i>none</i>
Administrative capability	<i>Town and Fire Districts have ability and resources to administer</i>
Local champion	<i>Town Board, Town Ambulance Chief and Fire District Chiefs</i>
Other community objectives	<i>Identified by Town as a “Proposed” Project through NYS NY Rising Program</i>
Implementing the Action	
Priority	<i>High</i>
Local planning mechanism	<i>Town Board, Fire District Commissioners ; NY Rising Plan</i>
Responsible party	<i>Town Board, Fire District Commissioners</i>
Potential funding sources	<i>NY Rising Community Reconstruction Program; Flood Hazard Mitigation Implementation Program (FHMIP).</i>

Time line	<i>three years</i>
Reporting on Progress	
Action progress status	<i>New action</i>

Action Worksheet	
Your plan name	<i>Ulster County Multi-jurisdictional Hazard Mitigation Plan</i>
Your community name	<i>Town of Shandaken</i>
Community action number	<i>Shandaken #14- Old Mt Tremper Bridge Removal</i>
Assessing the Risk	
Hazard(s) addressed	<i>flooding</i>
Risk finding	<i>This old County-owned bridge has been closed since the late 1970s because of its deteriorated condition and poses a downstream flood hazard if it collapses</i>
Describing the Action	
Action category	<i>Structural project</i>
Action type	<i>drainage improvement</i>
Action description	<i>This defunct bridge is closed to pedestrians and vehicles. It was deemed unsafe by NYS bridge inspectors in the late 1970s due to abutment and center pier scour. It is unlikely that any rehabilitation has occurred on this structure since. This concrete-decked bridge is 35' wide and approximately 260 feet in length. As it is a substantially sized structure, it is feared that in a future flood it will be lost, and damage/plug a critical bridge immediately downstream (only 1,400'). Project would be to remove this structure. (Location is Longitude: -74.278414, Latitude: 42.044875)</i>
Existing, future &/or NA	<i>existing and future</i>
Evaluating the Action	
Losses avoided (i.e., benefits)	<i>'Substantially reduce damage to downstream existing infrastructure (NYS Route 28 bridge over Esopus Creek) and to neighboring private property. Additionally, its removal shows a moderate (less than 0.5-foot) reduction in water surface elevations immediately upstream at the 1% annual risk flood.</i>
Cost estimate	<i>\$750,000</i>
Cost effectiveness (i.e., benefit/cost)	<i>Yes, money saved in long term to proactively address known problem; The start up costs and will be high, however over time this project will be cost effective because of long term reduction on flood inundation damages to nearby homes and infrastructure</i>
Technical	<i>Technically feasible.</i>
Political	<i>Town is supportive although the bridge is not under its jurisdiction. Town will support/assist Ulster County DPW as needed</i>
Legal	<i>In the town's jurisdiction, but structure is County responsibility, and Town supports the project.</i>
Environmental	<i>NYSDEC permit required</i>
Social	<i>none</i>
Administrative capability	<i>Ulster County</i>
Local champion	<i>county, town</i>

Other community objectives	<i>recreational access</i>
Implementing the Action	
Priority	<i>Medium</i>
Local planning mechanism	<i>NY Rising Plan; Mt Tremper Local Flood Analysis</i>
Responsible party	<i>Ulster County</i>
Potential funding sources	<i>Emergency Watershed Protection (EWP) program; NY Rising Community Reconstruction Program; Flood Hazard Mitigation Implementation Program (FHMIP); Stream Management Implementation Grants (SMIP)</i>
Time line	<i>one year</i>
Reporting on Progress	
Action progress status	<i>New action</i>

Action Worksheet	
Your plan name	<i>Ulster County Multi-jurisdictional Hazard Mitigation Plan</i>
Your community name	<i>Town of Shandaken</i>
Community action number	<i>Shandaken #15- McKenley Hollow Bridge & Area Mitigation Measures</i>
Assessing the Risk	
Hazard(s) addressed	<i>flooding</i>
Risk finding	<i>A section of Ulster County Route 47 downstream of McKenely Hollow, as well as the terminus of the road itself (intersection with Co Rte 47) and surrounding homes is very vulnerable to moderate storms and has been inundated by flooding on several occasions since the 1980s. This is a critical road for access to several businesses and a YMCA Camp</i>
Describing the Action	
Action category	<i>Structural project</i>
Action type	<i>drainage improvement; relocation;</i>
Action description	<i>This project would provide and help maintain accessibility to residents and the YMCA Camp that could and has been isolated during minor flooding events. It would further provide protection for residences in the immediate area around the intersection of McKeley Hollow and Ulster County Rte 47.</i>
Existing, future &/or NA	<i>existing and future</i>
Evaluating the Action	
Losses avoided (i.e., benefits)	<i>Project aims to provide uninterrupted ingress/egress to a hundred homes, businesses and the YMCA camp flood events (dead-end road); reduction in local water surface elevations</i>
Cost estimate	<i>\$3-5M (dependant upon types of solutions)</i>
Cost effectiveness (i.e., benefit/cost)	<i>Yes, money saved in long term to proactively address known problem; The start up costs and will be high, however over time this project will be cost effective.</i>
Technical	<i>Technically feasible.</i>
Political	<i>Town is supportive although not all infrastructure is under its jursidiction. Town will support/assist Ulster County DPW as needed</i>
Legal	<i>Town supports the project and will work with UC DPW.</i>
Environmental	<i>NYSDEC permit required</i>
Social	<i>none</i>
Administrative capability	<i>Ulster County; Town of Shandaken, NYCDEP</i>
Local champion	<i>Town of Shandaken</i>
Other community objectives	<i>recretional access; flood buyouts; floodplain reclamation (upstream and downstream)</i>
Implementing the Action	
Priority	<i>High</i>
Local planning mechanism	<i>Shandaken Town Flood Hazard Mitigation Plan; NY Rising Plan;</i>

Responsible party	<i>Ulster County; Town of Shandaken, NYCDEP</i>
Potential funding sources	<i>Emergency Watershed Protection (EWP) program; NY Rising Community Reconstruction Program; Flood Hazard Mitigation Implementation Program (FHMIP); Stream Management Implementation Grants (SMIP)</i>
Time line	<i>three to five years</i>
Reporting on Progress	
Action progress status	<i>New action</i>

Action Worksheet	
Your plan name	<i>Ulster County Multi-jurisdictional Hazard Mitigation Plan</i>
Your community name	<i>Town of Shandaken</i>
Community action number	<i>Shandaken #16- Replacement of Bridge Street Bridge</i>
Assessing the Risk	
Hazard(s) addressed	<i>flooding</i>
Risk finding	<i>This County-owned bridge provides crucial ingress and egress from the hamlet of Phoenicia. The structure has been damaged (and closed for several months) on two occasions since 2005.</i>
Describing the Action	
Action category	<i>Structural project</i>
Action type	<i>drainage improvement</i>
Action description	<i>This project would replace the Bridge Street bridge with a structure that would be able to convey the 100-year flood. Currently, the structure is not only under-sized (overtopped by both 50 and 100-year storms; a 25 year storm reaches the low cord - according to the flood profile in the recent FEMA Flood Insurance Study), but also has accumulated debris (gravel) in front of it, thus reducing capacity. A recent Local Flood Analysis was conducted and determined (using HEC-RAS modeling) that the bridge creates a backwater effect such that if the bridge were to be removed, local WSE would be reduced by 2'. After TS Irene, Ulster County rehabilitated the bridge to pre-storm conditions, however the engineering report indicating that in order to convey the 100-year storm, the bridge would need to be about 6' higher and 65' longer. Project would be to up-size this structure to appropriate size based upon H&H analysis. Location is Longitude: - 74.312054, Latitude: 42.081855</i>
Existing, future &/or NA	<i>existing and future</i>
Evaluating the Action	
Losses avoided (i.e., benefits)	<i>Project will provide allow for ingress/egress to more than three dozen homes during flood events (dead-end road); reduction in local water surface elevations</i>
Cost estimate	<i>\$5,000,000</i>
Cost effectiveness (i.e., benefit/cost)	<i>Over time, mitigation of repetitively inundated roadways (that sustain damage) and private driveways will be cost effective. Existing conditions require active and on-going maintenance by staff. Benefits are difficult to quantify, but anticipated to be in excess of project cost.</i>
Technical	<i>Technically feasible.</i>
Political	<i>Town is supportive although the bridge is not under its jurisdiction. Town will support/assist Ulster County DPW as needed</i>
Legal	<i>In the town's jurisdiction, but structure is County responsibility, and Town supports the project.</i>
Environmental	<i>NYSDEC permit required</i>
Social	<i>part of larger vision to have recreational trail along stream and to relocate several at-risk SRL and RL properties nearby</i>

Administrative capability	<i>Ulster County</i>
Local champion	<i>Town of Shandaken</i>
Other community objectives	<i>recreational access; flood buyouts; floodplain reclamation (upstream and downstream)</i>
Implementing the Action	
Priority	<i>High</i>
Local planning mechanism	<i>Shandaken Town Flood Hazard Mitigation Plan; NY Rising Plan; Phoenicia Local Flood Analysis</i>
Responsible party	<i>Ulster County</i>
Potential funding sources	<i>Emergency Watershed Protection (EWP) program; NY Rising Community Reconstruction Program; Flood Hazard Mitigation Implementation Program (FHMIP); Stream Management Implementation Grants (SMIP)</i>
Time line	<i>one year</i>
Reporting on Progress	
Action progress status	<i>New action</i>

Action Worksheet	
Your plan name	<i>Ulster County Multi-jurisdictional Hazard Mitigation Plan</i>
Your community name	<i>Town of Shandaken</i>
Community action number	<i>Shandaken #17- Plank Road Bridge Replacement</i>
Assessing the Risk	
Hazard(s) addressed	<i>flooding</i>
Risk finding	<i>This County-owned bridge has been shown through recent HEC-RAS modeling to cause a significant backwatering effect during 50-year storms that inundates Miller Road, a dead-end road with about 20 homes.</i>
Describing the Action	
Action category	<i>Structural project</i>
Action type	<i>drainage improvement</i>
Action description	<i>This under-sized bridge has been damaged several times in the last 25 years and flood profiles show it is overtopped by several feet during a 100-year storm. Recent HEC-RAS modeling has shown that if it were to be replaced (increasing its capacity), a 4.5' water surface elevation reduction (100' upstream of the structure) would result at the 100-yr event. A 0.6' WSE reduction would occur at a 10-year storm. Project would be to up-size this structure. Location is Longitude: -74.276692, Latitude: 42.046675</i>
Existing, future &/or NA	<i>existing and future</i>
Evaluating the Action	
Losses avoided (i.e., benefits)	<i>'Substantially reduce damage to existing infrastructure (Miller Rd) and to neighboring private properties that are in the inundation zone.</i>
Cost estimate	<i>\$1,000,000</i>
Cost effectiveness (i.e., benefit/cost)	<i>Over time, mitigation of repetitively inundated roadways (that sustain damage) and private driveways will be cost effective. Existing conditions require active and on-going maintenance by staff. Benefits are difficult to quantify, but anticipated to be in excess of project cost.</i>
Technical	<i>Technically feasible.</i>
Political	<i>Town is supportive although the bridge is not under its jurisdiction. Town will support/assist Ulster County DPW as needed</i>
Legal	<i>In the town's jurisdiction, but structure is County responsibility, and Town supports the project.</i>
Environmental	<i>NYSDEC permit required</i>
Social	<i>none</i>
Administrative capability	<i>Ulster County</i>
Local champion	<i>county, town</i>
Other community objectives	<i>none</i>
Implementing the Action	
Priority	<i>Medium</i>

Local planning mechanism	<i>NY Rising Plan; Mt Tremper Local Flood Analysis; Shandaken Town Flood Hazard Mitigation Plan</i>
Responsible party	<i>Ulster County</i>
Potential funding sources	<i>Emergency Watershed Protection (EWP) program; NY Rising Community Reconstruction Program; Flood Hazard Mitigation Implementation Program (FHMIP); Stream Management Implementation Grants (SMIP)</i>
Time line	<i>six months</i>
Reporting on Progress	
Action progress status	<i>New action</i>

Action Worksheet	
Your plan name	<i>Ulster County Multi-jurisdictional Hazard Mitigation Plan</i>
Your community name	<i>Town of Shandaken</i>
Community action number	<i>Shandaken #18- Creekside Drive Bridge Replacement</i>
Assessing the Risk	
Hazard(s) addressed	<i>flooding</i>
Risk finding	<i>This County-owned bridge causes a significant backwatering effect during a 100-year storm (3-4' rise in water surface elevation) based up on new flood profiles contained in the preliminary FEMA Flood Insurance Study for the Bushnellsville Creek.</i>
Describing the Action	
Action category	<i>Structural project</i>
Action type	<i>drainage improvement</i>
Action description	<i>This under-sized bridge in the preliminary FIS appears to be overtopped by several feet during a 100-year storm - resulting in backwatering that inundates NYS Rte 42 and could contribute to the inundation of a couple homes located behind a flood control structure. Project would be to up-size this structure. Location is Longitude: -74.398646, Latitude: 42.121084</i>
Existing, future &/or NA	<i>existing and future</i>
Evaluating the Action	
Losses avoided (i.e., benefits)	<i>'Substantially reduce damage to existing infrastructure (State Route 42, Creekside Drive, and downstream flood control structures) and to neighboring private properties that are in the inundation zone in the vicinity of the bridge</i>
Cost estimate	<i>\$750,000</i>
Cost effectiveness (i.e., benefit/cost)	<i>Over time, mitigation of repetitively inundated roadways (that sustain damage) and private driveways will be cost effective. Existing conditions require active and on-going maintenance by staff. Benefits are difficult to quantify, but anticipated to be in excess of project cost due to reduction in damages associated with inundation of structures.</i>
Technical	<i>Technically feasible.</i>
Political	<i>Town is supportive although the bridge is not under its jurisdiction. Town will support/assist Ulster County DPW as needed</i>
Legal	<i>In the town's jurisdiction, but structure is County responsibility, and Town supports the project.</i>
Environmental	<i>NYSDEC permit required</i>
Social	<i>none</i>
Administrative capability	<i>Ulster County</i>
Local champion	<i>county, town</i>
Other community objectives	<i>none</i>

Implementing the Action	
Priority	<i>Medium</i>
Local planning mechanism	<i>Shandaken Town Flood Hazard Mitigation Plan</i>
Responsible party	<i>Ulster County</i>
Potential funding sources	<i>Emergency Watershed Protection (EWP) program; NY Rising Community Reconstruction Program; Flood Hazard Mitigation Implementation Program (FHMIP); Stream Management Implementation Grants (SMIP)</i>
Time line	<i>six months</i>
Reporting on Progress	
Action progress status	<i>New action</i>

Action Worksheet	
Your plan name	<i>Ulster County Multi-jurisdictional Hazard Mitigation Plan</i>
Your community name	<i>Town of Shandaken</i>
Community action number	<i>Shandaken #19- Stony Clove Lane Bridge Replacement post Flood Buyout</i>
Assessing the Risk	
Hazard(s) addressed	<i>flooding</i>
Risk finding	<i>This County-owned bridge at the base of a dead end town road that provides access to nearly forty homes is significantly undersized and subject to repetitive erosion/depositional-related damages.</i>
Describing the Action	
Action category	<i>Structural project</i>
Action type	<i>drainage improvement</i>
Action description	<i>This bridge, in the preliminary FEMA FIS appears to be overtopped by several feet during a both the 50 and 100-year storm. On the south side of the bridge a Repetive Loss Property is currently being bought out, so there may be an opportunity to increase the conveyance capacity of the bridge so as to prevent it washing out in the future. Project would be to up-size this structure to appropriate sized based upon H&H analysis. Location is Longitude: -74.289716, Latitude: 42.105546</i>
Existing, future &/or NA	<i>existing and future</i>
Evaluating the Action	
Losses avoided (i.e., benefits)	<i>Project will provide allow for ingress/egress to more than three dozen homes during flood events (dead-end road); reduction in local water surface elevations</i>
Cost estimate	<i>\$750,000</i>
Cost effectiveness (i.e., benefit/cost)	<i>Over time, mitigation of repetitively inundated roadways (that sustain damage) and private driveways will be cost effective. Existing conditions require active and on-going maintenance by staff. Benefits are difficult to quantify, but anticipated to be in excess of project cost.</i>
Technical	<i>Technically feasible.</i>
Political	<i>Town is supportive although the bridge is not under its jurisdiction. Town will support/assist Ulster County DPW as needed</i>
Legal	<i>In the town's jurisdiction, but structure is County responsibility, and Town supports the project.</i>
Environmental	<i>NYSDEC permit required</i>
Social	<i>none</i>
Administrative capability	<i>Ulster County</i>
Local champion	<i>county, town</i>
Other community objectives	<i>none</i>

Implementing the Action	
Priority	<i>Medium</i>
Local planning mechanism	<i>Shandaken Town Flood Hazard Mitigation Plan</i>
Responsible party	<i>Ulster County</i>
Potential funding sources	<i>Emergency Watershed Protection (EWP) program; NY Rising Community Reconstruction Program; Flood Hazard Mitigation Implementation Program (FHMIP); Stream Management Implementation Grants (SMIP)</i>
Time line	<i>six months</i>
Reporting on Progress	
Action progress status	<i>New action</i>



Ulster County Multi-Jurisdictional Hazard Mitigation Plan Update

OUTREACH LOG:

Summary of Outreach Activities to the General Public and Other Stakeholders

PARTICIPATING JURISDICTION: Town of SHANDAKEN

DATE OF ACTIVITY	TYPE OF ACTIVITY	ACTIVITY DETAILS	LEAD DEPARTMENT AND/OR STAFF TITLE WHO UNDERTOOK ACTIVITY
September 2013	Public meeting	Town council resolution regarding the Town's participation in the multi-jurisdictional hazard mitigation plan update	Town Council
11/14/13	Website posting	Information posted on the Town's website regarding the hazard mitigation plan update. http://www.shandaken.us/disaster-prep-response/recovery-news/	
11/12/14	Shandaken Area Flood Assessment and Remediation Initiative (SAFARI)	Bennett reported to those present that that Ulster County is in the process of updating its multi-jurisdictional hazard mitigation plan and is having a workshop on 11/21 at the County Office Building for municipalities. Bennett asked those in attendance to submit potential projects/comments whether from Shandaken or other communities for inclusion in the Plan.	Aaron Bennett, UC Environmental Planner
2/4/15	Update Review	Met with County Personnel to review status of Town's submissions for Plan Update.	Aaron Bennett, UC Ofc of Environment Rob Stanley, Shandaken Supervisor Eric Hofmeister, Shandaken Highway Superintendent
2/5/15	Update Review	Completed portion of forms needed for update	Town Supervisor filled out several worksheets and forwarded to UC for review.
2/10/15	Forms/Filing	Worked on Worksheets for UC HMP	Town Supervisor filled out several worksheets for UC HMP
2/11/15	Forms/ Filing	Worked on ACTIVITY Worksheets for UC HMP	Town Supervisor filled out Action Worksheets and submitted to County for review.
2/25/15	Shandaken Area Flood Assessment and Remediation Initiative (SAFARI)	Bennett reported to those present that that Ulster County is still in the process of updating its multi-jurisdictional hazard mitigation plan. Final information is due by summer. Bennett reported that all communities in the NYC Watershed continue to remain active in the process and the County is still taking public input.	Aaron Bennett, UC Environmental Planner
4/6/15	Announcement	Announced to Public at Town Board meeting seeking public input for All Hazard Plan	Supervisor mentioned at Opening remarks of meeting.

5/4/15	Announcement	Announced to Public at Town Board meeting seeking public input for All Hazard Plan	Supervisor mentioned at Opening remarks of meeting.
7/1/15	Announcement	Announced to Public at Town Board meeting seeking public input for All Hazard Plan	Supervisor mentioned at Opening remarks of meeting.
7/10/15	Shandaken Area Flood Assessment and Remediation Initiative (SAFARI)	Bennett reported to those present that that Ulster County is nearing the end of the process of updating its multi-jurisdictional hazard mitigation plan. Final information is due by mid-August. Bennett reported that all communities in the NYC Watershed continue to remain active in the process and the County is still taking public input.	Aaron Bennett, UC Environmental Planner
8/3/15	Announcement	Announced to Public at Town Board meeting seeking public input for All Hazard Plan	Supervisor mentioned at Opening remarks of meeting.
8/7/15	Forms/ Filing	Worked on ACTIVITY Worksheets for UC HMP	Town Supervisor filled out Action Worksheets and submitted to County for review.
8/10/15	Announcement	Announced to Public at Phoenicia LFA meeting seeking public input for All Hazard Plan	Supervisor mentioned at Opening remarks of meeting.

***Please add additional pages as needed and return via email to Anna Foley at: anna.foley@urs.com.
For questions, please call 973-883-8500.***