

JURISDICTIONAL ANNEX 1.2.6: TOWN OF HARDENBURGH

Jerry A Fairbairn
Deputy Highway Superintendent
Hardenburgh Town of
<jaf.hardenburghsup@gmail.com>
845 586 4108

WORKSHEET 1

Local Jurisdiction Role/Position	Name	Email	Phone	Date Notified About Mitigation Plan	Agreed to Participate
Land Use Community Planner	William Scholl	wwscholl@catskill.net	845 586 4056	11/15/2013	Yes
Floodplain Manager	Jerry Fairbairn	jaf.hardenburghsup@gmail.com	845 586 4108	11/15/2013	Yes
	Karl Von Hassel	hund65@gmail.com	845 254 4340	11/15/2013	Yes
City Engineer	NONE				
Building Code Officer	Karl VonHassel	hund65@gmail.com	845 254 4340	11/15/2013	Yes
Budget Officer	Jerry Fairbairn	jaf.hardenburghsup@gmail.com	845 586 4108	11/15/2013	Yes
Manger /Administrator	Jerry Fairbairn	jaf.hardenburghsup@gmail.com	845 586 4108	11/15/2013	Yes
Elected	Jerry Fairbairn	jaf.hardenburghsup@gmail.com	845 586 4108	11/15/2013	Yes
Officials	Charles Storms	hardenburgh highway@yahoo.com	845 586 2223	11/15/2013	Yes
OEM Deputy	Jerry Fairbairn	jaf.hardenburghsup@gmail.com	845 586 4108	11/15/2013	Yes
Others 2.,&3.	NONE				

Submitted by Jerry A. Fairbairn - Deputy Highway Superintendent/Supervisor Elect

Dated 12/2/13

Signed JAF



Name: Karl von Hassel Title: Floodplain Manager/Floodplain Administrator/NFIP Coordinator

Representing: Town of Hardenburgh Email and Phone: hund65@gmail.com 845-254 4340

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 is a Certified Floodplain Manager?	Is floodplain management an auxiliary function?	Is your community in good standing with the NFIP?		
9-28-1988	07/20/84	Code and Zoning Flood plain Administrator	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
Provide an explanation of NFIP administration services (i.e., permit review, GIS, education or outreach, inspections, engineering capability, etc.):							
Permit review and Inspections as per Local Law. If Hydrology study required then Municipality works with NYS DEC to review & provide recommendation on Application(Kelly Higgins NYS DEC 518 357 2045 Education & outreach East Branch Flood Commission Ulster County has GIS Website.							
Describe barriers to running an effective NFIP program in the community (if applicable):							
Outdated Flood law & flood maps New Flood law & FIRM adoption pending. Lack of understanding requirements of flood law in community.							
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 enforce the floodplain management requirements including regulating new construction in Special Flood Hazard Areas (SFHAs)?	Does your community intend to continue to participate in the CRS? If so, state your Class.	Does your community intend to continue its participation in the CRS program?	If your community is not currently participating in the CRS program, are you intending to initiate the process during the next planning cycle?
	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes* <input checked="" type="checkbox"/> No* Class	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
*Describe any outstanding compliance issues (i.e., current violations):							
No issues at this time *small Community							

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



Name: Karl von Hassel Title: Floodplain Manager/Floodplain Administrator/NFIP Coordinator

Representing: Town of Hardenburgh Email and Phone: hund65@gmail.com 845-254 4340

Provide an explanation of your local floodplain permitting process:								
Application/drawings and other required info provided to Floodplain Administrator for review (possible fee) If Hydrology study required then consult with NYS DEC-Approve or deny. If approved then perform inspection as required by Flood law.								
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?	Have there been any changes to your community's local floodplain management program since the last version of the plan in 2009?							
[x] Yes No	[x] Yes * x 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:								
Municipality will provide answers to all Floodplain Questions copies of FIRM maps other info Monitor culverts & bridge capacity (Floodwaters) during Flood event. Repair or replace with adequate size to handle Flood (100 year C.F.S.) during event in compliance with Floodplain.								
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

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.)**

The Town of Hardenburgh does not have any major construction going on at the present time. The building that is being done is scattered around the Town. The Town of Hardenburgh enforces current New York State building code regulations for development in the floodplain. Other hazards such as wind and landslides, the Town follows the New York State building code

Name: Karl von Hassel

Title: Code and Zoning/Floodplain administrator

Representing: Town of Hardenburgh

Email and Phone: hund65@gmail.com 845-254-4340



Local Land Uses and Development Trends -

For the initial Plan, Core Planning Group members were asked to provide responses to a Land Uses and Development Trends Questionnaire for the individual jurisdictions. This brief questionnaire consisted of the following two questions:

1. Please describe development trends occurring within your jurisdiction, such as the predominant types of development occurring, location, expected intensity, and pace by land use. While details are preferred, it is ok if your feedback is qualitative and quite general, such as *“high-occupancy, high-density residential development is occurring near the waterfront”*.
2. Does your jurisdiction enforce regulations/ordinances/codes to protect new development from the effects of natural hazards? (Some examples might be floodplain management ordinances enforcing FEMA’s NFIP for new development or substantial improvements in the floodplain; steep slope ordinances for community’s which may have landslide hazards; earthquake resistant design criteria and/or high wind design criteria; or buffer zones in wildfire hazard areas.) If so, please describe.

Responses to these two questions, as submitted by each jurisdiction, are presented in the following table (as copied directly from the 2009 Approved Plan).



Table 3d.6
Summary of Responses - Land Uses and Development Trends Worksheet – 2009 Approved Plan
(Source: Core Planning Group Members)

Community	1. Land Uses and Development Trends in Hazard Areas	2. Regulations/Codes/Ordinances To Protect New Development From Natural Hazards
Denning, Town of	<i>Response was not received in 2009.</i>	<i>Response was not received in 2009.</i>
Ellenville, Village of	<i>Response was not received in 2009.</i>	<i>Response was not received in 2009.</i>
Esopus, Town of	<i>Response was not received in 2009.</i>	<i>Response was not received in 2009.</i>
Gardiner, Town of	The predominant type of development occurring in the Town is single family residential units, mostly built on 2 acre lots. Over the past 5-8 years there has been some commercial and light industrial development. Several years ago, the town enacted a building moratorium (which expired in November 2007), after it revised its master plan. Currently, the Town is in the final stage of the process of adopting a revised zoning law, and therefore some development activity is "on hold" as land owners and developers await the completion of that process. In the environmentally fragile "Shawangunk Ridge" area, significant zoning restrictions have already been adopted by the town. The Town is also attempting, through the use of open space conservation development, to preserve as much open space as possible, while permitting developers to maintain the density required to make development economically feasible. Traditional development is permitted under both the existing and the proposed zoning law.	Flooding: Chapter 121 of the Town Code, "Flood Damage Protection" addresses the issues of development on the floodplain, and is based on the FEMA Flood Insurance Rate Map (Index No. 360856 0005-0050) dated 7/16/97, and a scientific and engineering report entitled "Flood Insurance Study, Town of Gardiner, NY, Ulster County" dated 7/16/97. The proposed zoning law incorporates these provisions in creating a Floodplain Overlay District, defined as the one-hundred-year floodplain, based on FEMA maps. Section 220-13 (C) of the proposed zoning law reads: "In addition to any restrictions, requirements, or permits imposed or required by Chapter 121, no new structure intended for residential use and no new septic tank, leach field, or other sanitary sewage system shall be located within the Floodplain Overlay District. This shall not prevent the replacement of existing facilities." Steep Slope Development: The current zoning law addresses this issue in Chapter 220, Article V, Section 13.1 (F) (4) (b). Wildfire Hazard Areas: The current zoning law addresses this issue in Chapter 220, Article V, Section 13.1 (E). (N.B. While not enacted specifically to address the wildfire issue, the restrictions on lot size, etc. in the SP sections of the zoning law have the effect of reducing that risk.) <i>Response was not received in 2009.</i>
Hardenburgh, Town of	<i>Response was not received in 2009.</i>	<i>Response was not received in 2009.</i>
Hurley, Town of	Hurley has very little open land (not forested) left for developing, and as such experiences single family home building on a moderate to low scale. Hurley has seen interest recently on developing a PRD, but this application was withdrawn. The Planning Board has approved a new subdivision recently which may result in a few new homes being built on Dug Hill Road.	At this time the town of Hurley enforces the regular regulations and building codes, with no ordinances concerning only the effects of natural hazards. That being said, the regular Codes have the function of protecting the *burden* and the surrounding area from chemical hazards. Recent *MS4* regulations are in place



WORKSHEET 4

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.)

- ☐ 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.
- ☐ 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.

- ☒ 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.

Name: Jerry A Fairbairn Jerry A Fairbairn
Title: Town Supervisor / CFO
Representing: Town of Hardenburgh
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Legal and Regulatory Capability -

Table 4-1
Legal and Regulatory Capability Inventory

Jurisdiction	Building Code	Zoning Ordinance	Subdivision Ordinance	Special Purpose 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							✓	✓	✓	✓				
Deming, 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														

Administrative and Technical Capacity

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 professionals 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 MARS	Scientists familiar with the hazards of the community	Emergency Manager	Grant writers	Code Enforcement Official	Public Works or Highway Superintendent	Emergency Management Coordinator
Ulster County			✓	✓		✓	✓	✓		✓	✓	✓	✓	
Deane, Town of														
Pillenville, Village of														
Esopus, Town of														
Cardiner, 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														
Panickill, Town of														
Rochester, Town of														
Rosendale, Town of														
Saugerties, 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 Home buyers 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 Brown field 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 Hardenburgh

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)?
Mod	Mod	Mod	Mod	Mod

Discuss ways of bridging identified gaps in your local capabilities to ensure that they are in-line with your mitigation actions and goals.

We are a small municipality. We have administrators that are life-long residents with extensive knowledge of our stream, infrastructure, soil volatility, and stream erosion patterns based on historic information. Our senior citizens have conveyed this information to Town administrators.



WORKSHEET 5 NOT APPLICABLE

(DID NOT PARTICIPATE IN 2009, SO
NO PAST PROJECTS TO TRACK)



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.

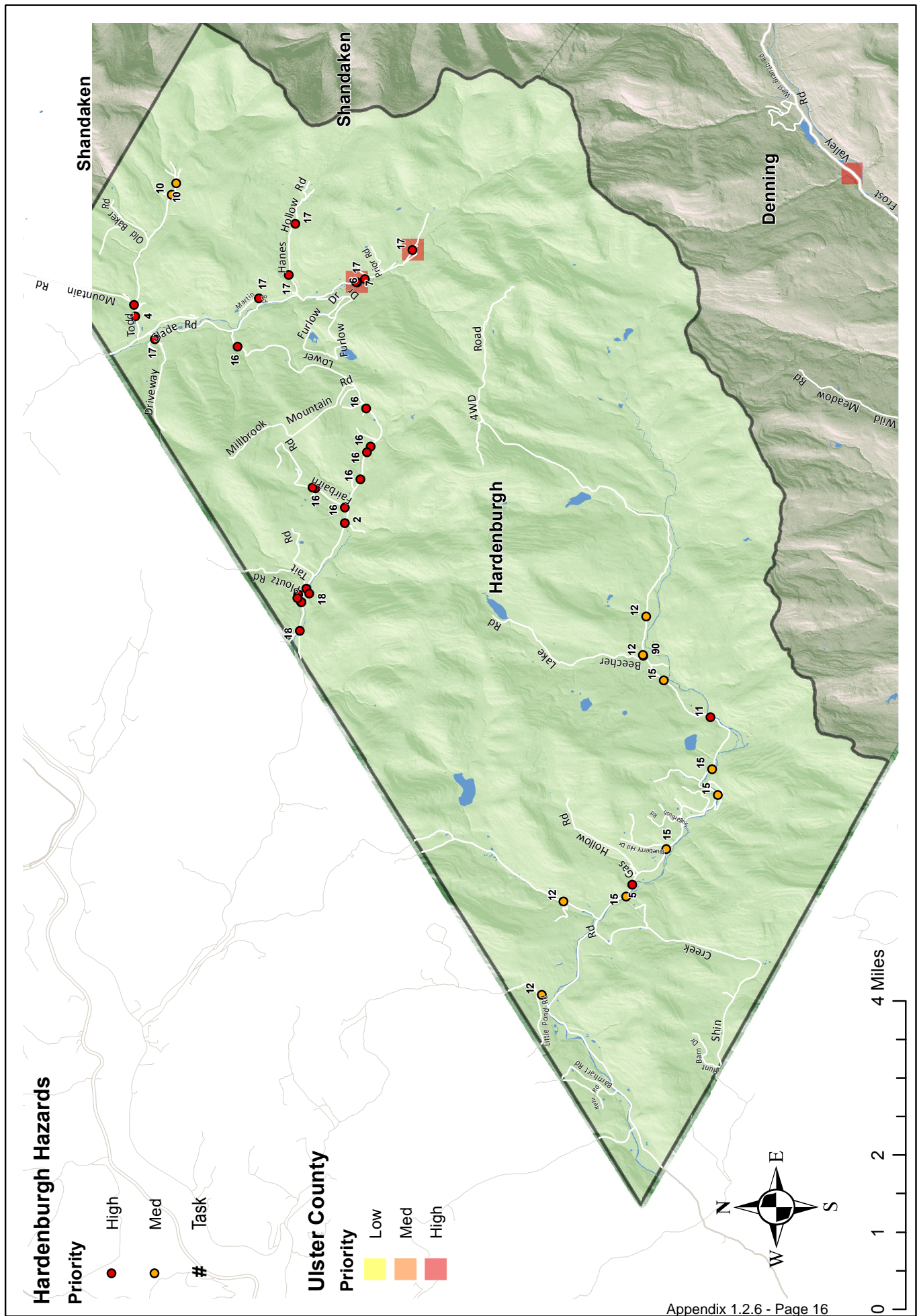
Name: Jerry A Fairbairn Jerry A Fairbairn
Title: Town Supervisor / CFO
Representing: Town of Hardenburgh
Email and Phone: ja.f.hardenburghsup@gmail.com
845 586 4108

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.	✓
2. A. Incorporate hazard mitigation for natural hazards in the next update of your master, general or comprehensive plan.	✓
B. Add a specific hazard mitigation element to the next update of your master, general or comprehensive plan.	✓
3. Adopt and enforce the minimum building standards established in the current State-adopted IBC (✓
4. A. Maintain community participation in FEMA's National Flood Insurance Program.	✓
B. Enforce codes and standards beyond FEMA minimum requirements.	✓
C. Join (or continue to maintain participation in) the NFIP's Community Rating System.	
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.	
6. Modify work plans, policies or procedures to include hazard mitigation concepts/activities.	✓
7. Revise job descriptions to include mitigation-related duties to further institutionalize mitigation.	✓
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.	✓
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.	✓
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.	✓
13. Reach out to state agencies for assistance with natural hazard mitigation activities.	✓
14. Reach out to colleges and universities for technical assistance with natural hazard mitigation activities.	
15. Adopt (or continue to enforce) a local stormwater management plan/ordinance.	✓
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.	✓
19. Use the risk assessment to inform future updates of the community emergency operations plan, evacuation plan, and/or post disaster recovery plan.	✓
20. Implement hazard mitigation activities through existing plans and policies.	✓
21. Sponsor training on best practices for hazard mitigation for local government staff. (Note: this may be accomplished with other local governments.)	

Hardenburgh Hazard Mitigation Actions



Action Worksheet	
Your plan name	<i>Ulster County Multi-jurisdictional Hazard Mitigation Plan</i>
Your community name	<i>Town of Hardenburgh</i>
Community action number	<i>Hardenburgh #1 - Ploutz Rd. and Millbrook Rd Bridge Construction</i>
Assessing the Risk	
Hazard(s) addressed	<i>flooding</i>
Risk finding	<i>Under-sized and deteriorating culverts along Millbrook Road are frequently inundated and overtopped with floodwaters. If they wash out, the detour for residents and emergency personnel if the bridge were to fail is 1 hour.</i>
Describing the Action	
Action category	<i>infrastructure protection</i>
Action type	<i>drainage improvement</i>
Action description	<i>This project would construct an improved stream crossing structure that will replace two existing culverts with a bridge meeting H&H requirements. The project will increase access and mobility, and improve stream function. Location is at Longitude: -74.625371, Latitude: 42.078908</i>
Existing, future &/or NA	<i>protects existing road and access to dozens of properties</i>
Evaluating the Action	
Losses avoided (i.e., benefits)	<i>Substantially reduce damage to existing infrastructure and reduce likelihood of inaccessible homes</i>
Cost estimate	<i>\$500,000</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.</i>
Technical	<i>Technically feasible.</i>
Political	<i>town is supportive, as are affected homes</i>
Legal	<i>private property ingress/egress</i>
Environmental	<i>NYSDEC permit required; project would reduce sediment erosion into stream</i>
Social	<i>none</i>
Administrative capability	<i>NY Community Rising CDBG-DR lead</i>
Local champion	<i>Yes; Town of Hardenburgh town board, residents</i>
Other community objectives	<i>capital improvement</i>
Implementing the Action	
Priority	<i>High</i>
Local planning mechanism	<i>NY Rising plan</i>
Responsible party	<i>Hardenburgh DPW</i>
Potential funding sources	<i>Emergency Watershed Protection (EWP) program; Flood Hazard Mitigation Implementation Program (FHMIP); Stream Management Implementation Grants (SMIP); capital budget</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 Hardenburgh</i>
Community action number	<i>Hardenburgh #2 - Millbrook Rd. Bridge Replacement (Belleayre Stream)</i>
Assessing the Risk	
Hazard(s) addressed	<i>flooding</i>
Risk finding	<i>An old and under-sized bridge on Millbrook Road in frequently inundated and overtopped with floodwaters. The detour for residents and emergency personnel if the bridge were to fail is 1 hour.</i>
Describing the Action	
Action category	<i>infrastructure protection</i>
Action type	<i>drainage improvement</i>
Action description	<i>This project will replace the existing bridge with a bridge that meets H&H requirements at the Millbrook Road stream crossing 100 feet east of the intersection of Millbrook and Hinckley Roads. The project will increase access and mobility, and improve stream function. Location is at Longitude: -74.608875, Latitude: 42.071663</i>
Existing, future &/or NA	<i>protects existing road and access to dozens of properties on that road</i>
Evaluating the Action	
Losses avoided (i.e., benefits)	<i>Substantially reduce damage to existing infrastructure and reduce likelihood of inaccessible homes</i>
Cost estimate	<i>\$500,000</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 since it will result in reduction on flood damages to infrastructure and nearby homes.</i>
Technical	<i>Technically feasible.</i>
Political	<i>town is supportive, as are affected homeowners</i>
Legal	<i>property owner ingress/egress</i>
Environmental	<i>NYSDEC permit required; project would reduce sediment erosion into stream</i>
Social	<i>none</i>
Administrative capability	<i>NY Community Rising CDBG-DR lead</i>
Local champion	<i>Yes; Town of Hardenburgh town board, residents</i>
Other community objectives	<i>capital improvement</i>
Implementing the Action	
Priority	<i>High</i>
Local planning mechanism	<i>NY Community Rising CDBG-DR</i>
Responsible party	<i>Town of Hardenburgh</i>

Potential funding sources	<i>Emergency Watershed Protection (EWP) program; Flood Hazard Mitigation Implementation Program (FHMIP); Stream Management Implementation Grants (SMIP); capital budget</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 Hardenburgh</i>
Community action number	<i>Hardenburgh #3 - Rider Hollow Rd/ Todd Mountain Rd. Bridge replacement</i>
Assessing the Risk	
Hazard(s) addressed	<i>flooding</i>
Risk finding	<i>An old and under-sized bridge on Rider Hollow Road in frequently inundated and overtopped with floodwaters. This cuts off access to the Town Hall, DPW garage, and dozens of homes along a dead end road.</i>
Describing the Action	
Action category	<i>infrastructure protection</i>
Action type	<i>drainage improvement; Hardenburgh administration ingress/egress and for residents</i>
Action description	<i>Replace an antiquated bridge with a stream crossing structure which meets H&H requirements. To help alleviate the existing roadway flooding condition. Location is at Longitude: -74.553514, Latitude: 42.111111</i>
Existing, future &/or NA	<i>protects existing road and access to dozens of properties and town buildings on dead end road</i>
Evaluating the Action	
Losses avoided (i.e., benefits)	<i>Substantially reduce damage to existing infrastructure and reduce likelihood of inaccessible homes and T of Hardenburgh administration along dead end road</i>
Cost estimate	<i>\$500,000</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.</i>
Technical	<i>Technically feasible.</i>
Political	<i>town is supportive, as are affected homes</i>
Legal	<i>property owner ingress/egress</i>
Environmental	<i>NYSDEC permit required; project would reduce sediment erosion into stream</i>
Social	<i>none</i>
Administrative capability	<i>NY Community Rising CDBG-DR lead</i>
Local champion	<i>Yes; Town of Hardenburgh town board, residents</i>
Other community objectives	<i>capital improvement</i>
Implementing the Action	
Priority	<i>High</i>
Local planning mechanism	<i>NY Community Rising CDBG-DR</i>
Responsible party	<i>Town of Hardenburgh</i>

Potential funding sources	<i>Emergency Watershed Protection (EWP) program; Flood Hazard Mitigation Implementation Program (FHMIP); Stream Management Implementation Grants (SMIP); capital budget</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 Hardenburgh</i>
Community action number	<i>Hardenburgh #4 - Old Baker Road and Rider Hollow Road intersection Bridge Replacement</i>
Assessing the Risk	
Hazard(s) addressed	<i>flooding</i>
Risk finding	<i>An old and under-sized bridge on Rider Hollow Road in frequently inundated and overtopped with floodwaters. This cuts off access to the dozens of homes along a dead end road.</i>
Describing the Action	
Action category	<i>infrastructure protection</i>
Action type	<i>drainage improvement</i>
Action description	<i>Replace the antiquated bridge on Rider Hollow Road with a new stream crossing structure that conforms to H&H requirements. This will alleviate the existing roadway flooding condition therefore having safety and mobility benefits. Location is at Longitude: -74.556390, Latitude: 42.11084.</i>
Existing, future &/or NA	<i>protects existing road and access to dozens of properties and town buildings on dead end road</i>
Evaluating the Action	
Losses avoided (i.e., benefits)	<i>Substantially reduce damage to existing infrastructure and reduce likelihood of inaccessible homes along dead end road</i>
Cost estimate	<i>\$500,000</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.</i>
Technical	<i>Technically feasible.</i>
Political	<i>town is supportive, as are affected homes</i>
Legal	<i>property owner ingress/egress</i>
Environmental	<i>NYSDEC permit required; project would reduce sediment erosion into stream</i>
Social	<i>none</i>
Administrative capability	<i>NY Community Rising CDBG-DR lead</i>
Local champion	<i>Yes; Town of Hardenburgh town board, residents</i>
Other community objectives	<i>capital improvement</i>
Implementing the Action	
Priority	<i>High</i>
Local planning mechanism	<i>NY Community Rising CDBG-DR</i>
Responsible party	<i>Town of Hardenburgh</i>
Potential funding sources	<i>NY Rising</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 Hardenburgh</i>
Community action number	<i>Hardenburgh #5 - Beaverkill Road Stream and Stream Bank Restoration</i>
Assessing the Risk	
Hazard(s) addressed	<i>flooding</i>
Risk finding	<i>Recent flooding events have continued to further erosion along this vulnerable location along a well-traveled road in the town. If this dead-end road were to wash out, access to more nearly 100 properties would be lost as there is no alternate route</i>
Describing the Action	
Action category	<i>infrastructure protection</i>
Action type	<i>Road/stream embankment rehabilitation and stabilization</i>
Action description	<i>Restore the Beaverkill Creek corridor and embankments back to its pre-Irene channel in the reach along Beaverkill Road, approximately 1000 ft. before Scudder Brook Bridge near Alder Creek Road. Location is at Longitude: -74.700400, Latitude: 42.017847</i>
Existing, future &/or NA	<i>protects existing road and access to 100 properties on dead end road</i>
Evaluating the Action	
Losses avoided (i.e., benefits)	<i>Substantially reduce damage to existing infrastructure and reduce likelihood of inaccessible homes along dead end road</i>
Cost estimate	<i>\$125,000</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.</i>
Technical	<i>Technically feasible.</i>
Political	<i>town is supportive, as are affected homes</i>
Legal	<i>stream club property ingress/egress</i>
Environmental	<i>NYSDEC permit required</i>
Social	<i>none</i>
Administrative capability	<i>Town Highway Dept would be lead</i>
Local champion	<i>Yes; Town of Hardenburgh town board, residents</i>
Other community objectives	<i>capital improvement</i>
Implementing the Action	
Priority	<i>High</i>
Local planning mechanism	<i>NY Community Rising CDBG-DR</i>
Responsible party	<i>Town of Hardenburgh</i>
Potential funding sources	<i>NY Rising;</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 Hardenburgh</i>
Community action number	<i>Hardenburgh #6 - Upper Drybrook Road Bank Stabilization and Stream Bed Management</i>
Assessing the Risk	
Hazard(s) addressed	<i>flooding</i>
Risk finding	<i>A rapidly-deteriorating road/stream embankment threatens Dry Brook Town Road, a dead end road which would cut-off access to residents and emergency personnel if it washes out</i>
Describing the Action	
Action category	<i>infrastructure protection</i>
Action type	<i>Road/stream embankment rehabilitation</i>
Action description	<i>Improvements to address road embankment failure 400 feet upstream from the intersection of Dry Brook Rd. and Erickson Rd. The project calls for earthen and heavy stacked rock embankment fortification and stream bed management for 125' (approximately). Location is at Longitude: -74.547348, Latitude: 42.067673</i>
Existing, future &/or NA	<i>protects existing road and access to more than a dozen properties on dead end road</i>
Evaluating the Action	
Losses avoided (i.e., benefits)	<i>Substantially reduce damage to existing infrastructure and reduce likelihood of inaccessible homes along dead end road</i>
Cost estimate	<i>\$50,000</i>
Cost effectiveness (i.e., benefit/cost)	<i>Yes, money saved in long term to proactively address known problem; With low costs, over time this project will be cost effective.</i>
Technical	<i>Technically feasible.</i>
Political	<i>town is supportive, as are affected homes</i>
Legal	<i>property owner ingress/egress</i>
Environmental	<i>NYSDEC permit required; project would reduce sediment erosion into stream</i>
Social	<i>none</i>
Administrative capability	<i>NY Community Rising CDBG-DR lead</i>
Local champion	<i>Yes; Town of Hardenburgh town board, residents</i>
Other community objectives	<i>capital improvement</i>
Implementing the Action	
Priority	<i>High</i>
Local planning mechanism	<i>NY Community Rising CDBG-DR</i>
Responsible party	<i>Town of Hardenburgh</i>

Potential funding sources	<i>Emergency Watershed Protection (EWP) program; Flood Hazard Mitigation Implementation Program (FHMIP); Stream Management Implementation Grants (SMIP); capital budget</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 Hardenburgh</i>
Community action number	<i>Hardenburgh #7 - Upper Dry Brook Road Stream Bed Management</i>
Assessing the Risk	
Hazard(s) addressed	<i>flooding</i>
Risk finding	<i>The Dry Brook stream has deposited a large gravel bar and threatens to encroach into Dry Brook Road (County Rte 49) cutting off ingress egress by the residents upstream. Location is on dead end road which would cut-off access to residents and emergency personnel if it fails.</i>
Describing the Action	
Action category	<i>infrastructure protection</i>
Action type	<i>Road/stream rehabilitation</i>
Action description	<i>This project will create increased access, improved stream function and increased safety by removing the gravel bar and re-positioning the stream after hydraulic study to improve infrastructure for continued vehicular travel for a length of 500'. Project location is 350' downstream of Dry Brook Road and Erickson Road. Location is Longitude: -74.548141, Latitude: 42.069141</i>
Existing, future &/or NA	<i>protects existing road and access to more than 20 properties on dead end road</i>
Evaluating the Action	
Losses avoided (i.e., benefits)	<i>Substantially reduce damage to existing infrastructure and reduce likelihood of inaccessible homes (more than 20) along dead end road</i>
Cost estimate	<i>\$200,000</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 as it will lead to reduction in damages to infrastructure</i>
Technical	<i>Technically feasible.</i>
Political	<i>town is supportive, as are affected homes</i>
Legal	<i>property owner ingress/egress</i>
Environmental	<i>NYSDEC permit required</i>
Social	<i>none</i>
Administrative capability	<i>Ulster County DPW would be lead</i>
Local champion	<i>Yes; Town of Hardenburgh town board, residents</i>
Other community objectives	<i>capital improvement</i>
Implementing the Action	
Priority	<i>High</i>
Local planning mechanism	<i>NY Community Rising CDBG-DR</i>
Responsible party	<i>Town of Hardenburgh</i>

Potential funding sources	<i>Emergency Watershed Protection (EWP) program; Flood Hazard Mitigation Implementation Program (FHMIP); Stream Management Implementation Grants (SMIP); capital budget</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 Hardenburgh</i>
Community action number	<i>Hardenburgh #8 - Millbrook Rd. Bridge Abutment Stabilization</i>
Assessing the Risk	
Hazard(s) addressed	<i>flooding</i>
Risk finding	<i>A critical bridge on Millbrook Road is continually threatened by high flow events in the Mill Brook. One of the abutments is failing, and if it washes out, the detour for residents and emergency personnel would be 1 hour.</i>
Describing the Action	
Action category	<i>infrastructure protection</i>
Action type	<i>drainage improvement</i>
Action description	<i>The project would correct under-abutment scour on the west abutment of the Millbrook Rd. Bridge to stabilize the existing structure, thus ensuring safe mobility and access before, during and after a flood. Location is Longitude: -74.628824, Latitude: 42.079922</i>
Existing, future &/or NA	<i>protects existing road and access to dozens of properties</i>
Evaluating the Action	
Losses avoided (i.e., benefits)	<i>Substantially reduce damage to existing infrastructure and reduce likelihood of inaccessible homes</i>
Cost estimate	<i>\$50,000</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.</i>
Technical	<i>Technically feasible.</i>
Political	<i>town is supportive, as are affected homes</i>
Legal	<i>property owners ingress/egress</i>
Environmental	<i>NYSDEC permit required;</i>
Social	<i>none</i>
Administrative capability	<i>NY Rising CDBG-DR lead</i>
Local champion	<i>Yes; Town of Hardenburgh town board, residents</i>
Other community objectives	<i>capital improvement</i>
Implementing the Action	
Priority	<i>High</i>
Local planning mechanism	<i>NY Rising CDBG-DR</i>
Responsible party	<i>Town of Hardenburgh</i>
Potential funding sources	<i>Emergency Watershed Protection (EWP) program; Flood Hazard Mitigation Implementation Program (FHMIP); Stream Management Implementation Grants (SMIP); capital budget</i>
Time line	<i>three 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 Hardenburgh</i>
Community action number	<i>Hardenburgh #9 - Mill Brook Stream Embankment Stabilization</i>
Assessing the Risk	
Hazard(s) addressed	<i>flooding</i>
Risk finding	<i>Several homes become inaccessible during higher flows due to streambank erosion causing rootwads and gravel debris to flow to the bridge below the site. Debris accumulation at bridge causes overflow and erosion and road closure.</i>
Describing the Action	
Action category	<i>infrastructure protection</i>
Action type	<i>drainage improvement and improved water quality</i>
Action description	<i>Stabilization of the streambank with heavy stonewall and rootwad implementation protecting stream from capturing sloughing mature trees and gravel debris. Implementation would run approximately 425' of embankment stabilization. Location is Longitude: -74.626776, Latitude: 42.080497</i>
Existing, future &/or NA	<i>protects existing road and access to dozens of properties</i>
Evaluating the Action	
Losses avoided (i.e., benefits)	<i>Substantially reduce damage to existing infrastructure and reduce likelihood of inaccessible homes and curb turbidity.</i>
Cost estimate	<i>\$250,000</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.</i>
Technical	<i>Technically feasible.</i>
Political	<i>town is supportive, as are affected homes</i>
Legal	<i>none</i>
Environmental	<i>NYSDEC permit required;</i>
Social	<i>none</i>
Administrative capability	<i>Hardenburgh DPW would be lead</i>
Local champion	<i>Yes; Town of Hardenburgh town board, residents</i>
Other community objectives	<i>capital improvement</i>
Implementing the Action	
Priority	<i>High</i>
Local planning mechanism	<i>NY Rising plan</i>
Responsible party	<i>Hardenburgh DPW</i>
Potential funding sources	<i>Emergency Watershed Protection (EWP) program; Flood Hazard Mitigation Implementation Program (FHMIP); Stream Management Implementation Grants (SMIP); capital budget</i>

Time line	<i>two 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 Hardenburgh</i>
Community action number	<i>Hardenburgh #10 - Rider Hollow Rd Preemptive Stormwater Mitigation</i>
Assessing the Risk	
Hazard(s) addressed	<i>flooding</i>
Risk finding	<i>Two old and very unders-sized box culverts in the Rider Hollow watershed continue to collect debris during storm events and divert water over roadways. Both affected roads are dead-end town-maintained roads.</i>
Describing the Action	
Action category	<i>infrastructure protection</i>
Action type	<i>drainage improvement</i>
Action description	<i>The project would replace two box culverts with larger infrastructure- the dimensions and type would be determined by H&H analyses. By increasing the conveyance capacity, large woody debris and sediment (gravel) would be less likely to accumulate at the inlets during high flows, thus reducing the potential closure/wash out of Rider Hollow and Warren Todd - both are dead-end roads. Locations are at Longitude: -74.5258, Latitude 42.1039; Longitude -74.5229, Latitude 42.10303, and additional locations as to be determined.</i>
Existing, future &/or NA	<i>protects existing road and access to dozens of properties and town buildings on dead end road</i>
Evaluating the Action	
Losses avoided (i.e., benefits)	<i>Substantially reduce damage to existing infrastructure and reduce likelihood of inaccessible homes along dead end road</i>
Cost estimate	<i>\$500,000</i>
Cost effectiveness (i.e., benefit/cost)	<i>Yes, money saved in long term to proactively address known problems that need routine attention by staff; 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, as are affected homeowners</i>
Legal	<i>property owner ingress/egress</i>
Environmental	<i>NYSDEC permit required</i>
Social	<i>none</i>
Administrative capability	<i>Hardenburgh Town Board</i>
Local champion	<i>Yes; Town of Hardenburgh town board, residents</i>
Other community objectives	<i>capital improvement</i>
Implementing the Action	
Priority	<i>medium</i>
Local planning mechanism	<i>DPW flagged as issues in the near future</i>

Responsible party	<i>Hardenburgh Town Board</i>
Potential funding sources	<i>Emergency Watershed Protection (EWP) program; Flood Hazard Mitigation Implementation Program (FHMIP); Stream Management Implementation Grants (SMIP); NY Rising Community Reconstruction Program</i>
Time line	<i>two 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 Hardenburgh</i>
Community action number	<i>Hardenburgh #11 - Beaverkill Rd. Embankment Stabilization</i>
Assessing the Risk	
Hazard(s) addressed	<i>flooding</i>
Risk finding	<i>Recent flooding events, particularly TS Irene, have caused the Beaverkill to migrate towards the main roadway that provides access to the entire western portion of the town. Without intervention and stream re-alignment, this vulnerable location will ultimately collapse into the stream.</i>
Describing the Action	
Action category	<i>infrastructure protection</i>
Action type	<i>Road/stream embankment rehabilitation</i>
Action description	<i>The proposed road embankment stabilization project addresses erosion protection and embankment repair, and would restore the road site to its pre-Irene conditions. Improvements would be made to the banks of Beaverkill Creek along Beaverkill Road, roughly 2000 feet before the Dungkar Gompa Society compound, and would increase access, improve stream function, and increase safety for vehicular travel through the area. Location is Longitude: -74.658212, Latitude: 42.003035</i>
Existing, future &/or NA	<i>future and existing</i>
Evaluating the Action	
Losses avoided (i.e., benefits)	<i>Substantially reduce damage to existing infrastructure</i>
Cost estimate	<i>\$400,000</i>
Cost effectiveness (i.e., benefit/cost)	<i>Difficult to determine cost/benefit fully at this time; Money will be saved in long term to proactively address on-going problem where routine maintenance and monitoring must occur. Over time this project will be cost effective.</i>
Technical	<i>Technically feasible.</i>
Political	<i>town and residents are supportive</i>
Legal	<i>property owner ingress/egress</i>
Environmental	<i>NYSDEC permit required; project would reduce sediment input to trout stream</i>
Social	<i>none</i>
Administrative capability	<i>NY Rising CDBG-DR / FEMA DR4020</i>
Local champion	<i>Yes; Town of Hardenburgh town board, residents</i>
Other community objectives	<i>capital improvement</i>
Implementing the Action	
Priority	<i>High</i>
Local planning mechanism	<i>NY Rising CDBG-DR</i>

Responsible party	<i>Town of Hardenburgh</i>
Potential funding sources	<i>Emergency Watershed Protection (EWP) program; NY Rising</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 Hardenburgh</i>
Community action number	<i>Hardenburgh #12 - Backup Power Generators - Fixed installation</i>
Assessing the Risk	
Hazard(s) addressed	<i>all hazard</i>
Risk finding	<i>Recent flooding and other storm events, have caused the loss of power for extended periods at a time when the need for assisting the public and responding to emergencies is at its peak. By providing backup power capabilities at loctions where the public congregate and where equipment are housed is essential.</i>
Describing the Action	
Action category	<i>structural</i>
Action type	<i>emergency preparedness</i>
Action description	<i>Install back-up propane generators for key community facilities to ensure the provision of essential services during a disaster. Facilities slated for the improvements include the Town Hall and Highway Garage located at 51 Rider Hollow Road, and the Highway Garage, located at 192 Alder Creek Rd. Locations are: Longitude: -74.689301, Latitude: 42.047312; Longitude: -74.549293, Latitude: 42.110435. All generators will be installed and protected above the 500 year flood level</i>
Existing, future &/or NA	<i>future and existing</i>
Evaluating the Action	
Losses avoided (i.e., benefits)	<i>reliable back up power generation during storms</i>
Cost estimate	<i>\$180,000</i>
Cost effectiveness (i.e., benefit/cost)	<i>Low costs of this project ensure a postive cost/benefit ratio over the long term life of the project.</i>
Technical	<i>Technically feasible.</i>
Political	<i>town is supportive</i>
Legal	<i>none</i>
Environmental	<i>local building codes</i>
Social	<i>none</i>
Administrative capability	<i>Town of Hardenburgh would be lead</i>
Local champion	<i>Yes; Town of Hardenburgh town board, residents</i>
Other community objectives	<i>capital improvement</i>
Implementing the Action	
Priority	<i>High</i>

Local planning mechanism	<i>NY Rising CDBG-DR</i>
Responsible party	<i>Town of Hardenburgh</i>
Potential funding sources	<i>NY Rising</i>
Time line	<i>When grant funding becomes available</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 Hardenburgh</i>
Community action number	<i>Hardenburgh #13 - Hardenburgh Communications Improvement</i>
Assessing the Risk	
Hazard(s) addressed	<i>all hazard</i>
Risk finding	<i>Without communications improvements throughout the town, and with only half of the town being served by Broadband, the other portion of Hardenburgh (the western half) is very susceptible to loss of communication by town, state, and federal officials during and after storms. A need for better and alternative means of communications exists in this portion of the town.</i>
Describing the Action	
Action category	<i>structural</i>
Action type	<i>emergency preparedness</i>
Action description	<i>Provide better communications service throughout the Beaverkill Valley, bringing broadband internet and improved communication services to the Beaverkill Valley on the south side of the mountain dividing the Town of Hardenburgh, currently an area unserved by broadband.</i>
Existing, future &/or NA	<i>future and existing</i>
Evaluating the Action	
Losses avoided (i.e., benefits)	<i>more reliable communication during storm events therefore improving emergency response and economical viability</i>
Cost estimate	<i>\$416,000</i>
Cost effectiveness (i.e., benefit/cost)	<i>public health and safety; cannot determine cost/benefit fully at this time, however money will be saved in long term</i>
Technical	<i>Technically feasible.</i>
Political	<i>town and residents are supportive</i>
Legal	<i>none</i>
Environmental	<i>local building codes</i>
Social	<i>yes, better community communications</i>
Administrative capability	<i>NY Rising CDBG-DR lead</i>
Local champion	<i>Yes; Town of Hardenburgh town board, residents</i>
Other community objectives	<i>capital improvement</i>
Implementing the Action	
Priority	<i>low</i>
Local planning mechanism	<i>NY Rising CDBG-DR</i>
Responsible party	<i>Town of Hardenburgh</i>
Potential funding sources	<i>NY Rising; New York State Broadband Office</i>
Time line	<i>two 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 Hardenburgh</i>
Community action number	<i>Hardenburgh #14 - Hardenburgh Landing Zones</i>
Assessing the Risk	
Hazard(s) addressed	<i>all hazard</i>
Risk finding	<i>All of the currently designated helicopter landing zones (for emergency situations) are located in floodplains. The majority of natural hazards that exist in the Town are floods, therefore a need exists to identify areas outside of these locations that are routinely inundated during emergencies.</i>
Describing the Action	
Action category	<i>Planning mechanism</i>
Action type	<i>emergency preparedness</i>
Action description	<i>Identify helicopter landing zones outside of delineated 500 year floodplains.</i>
Existing, future &/or NA	<i>future and existing</i>
Evaluating the Action	
Losses avoided (i.e., benefits)	<i>quicker and safer emergency response;</i>
Cost estimate	<i>Low; ingress/egress would be donated by various landowners</i>
Cost effectiveness (i.e., benefit/cost)	<i>public health and safety; benefits are unquantifiable since this is really a planning activity.</i>
Technical	<i>Technically feasible.</i>
Political	<i>town is supportive</i>
Legal	<i>property owner consent</i>
Environmental	<i>none</i>
Social	<i>none</i>
Administrative capability	<i>Town of Hardenburgh would be lead</i>
Local champion	<i>Yes; Town of Hardenburgh town board, residents</i>
Other community objectives	<i>n/a</i>
Implementing the Action	
Priority	<i>Medium</i>
Local planning mechanism	<i>Town Board</i>
Responsible party	<i>Town of Hardenburgh administration</i>
Potential funding sources	<i>none needed</i>
Time line	<i>three months</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 Hardenburgh</i>
Community action number	<i>Hardenburgh #15 - Beaverkill Rd. Preemptive Embankment Stabilization Projects</i>
Assessing the Risk	
Hazard(s) addressed	<i>flooding</i>
Risk finding	<i>Recent flooding events, particularly TS Irene, have caused the Beaverkill to migrate from the main roadway that provides access to the entire western portion of the town. Without intervention and stream re-alignment, this vulnerable location will ultimately collapse into the stream.</i>
Describing the Action	
Action category	<i>infrastructure protection</i>
Action type	<i>Road/stream embankment rehabilitation</i>
Action description	<i>The proposed road embankment stabilization projects can be addressed with one of the following: soil nailing, heavy-stacked drill and pinned wall, or sheet piling. Projects would need engineering. Improvements would be made to the banks of Beaverkill Creek along Beaverkill Road, at five locations. Locations are Longitudes/Latitudes: -74.7034, 42.01908; -74.6914, 42.01143; -74.6778, 42.00173; -74.6713, 42.00282; -74.6489, 42.01177, and additional locations as yet to be determined.</i>
Existing, future &/or NA	<i>future and existing</i>
Evaluating the Action	
Losses avoided (i.e., benefits)	<i>Substantially reduce damage to existing infrastructure</i>
Cost estimate	<i>Each of the aforementioned projects would likely be between \$750-\$995,000; Total cost between \$3.75-\$5 Million</i>
Cost effectiveness (i.e., benefit/cost)	<i>cannot determine cost/benefit fully at this time; Money will be saved in long term to proactively address on-going problem where routine maintenance and monitoring must occur. Over time this project will be cost effective.</i>
Technical	<i>Technically feasible.</i>
Political	<i>town is supportive</i>
Legal	<i>none</i>
Environmental	<i>none; NYSDEC permit required; project would reduce sediment input to trout stream</i>
Social	<i>none</i>
Administrative capability	<i>Town of Hardenburgh Highway Dept would be lead</i>
Local champion	<i>Yes; Town of Hardenburgh town board, residents</i>
Other community objectives	<i>capital improvement</i>
Implementing the Action	
Priority	<i>Medium</i>

Local planning mechanism	<i>DPW flagged as needed for future remediation</i>
Responsible party	<i>Hardenburgh DPW</i>
Potential funding sources	<i>Emergency Watershed Protection (EWP) program; NY Rising Community Reconstruction Program</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 Hardenburgh</i>
Community action number	<i>Hardenburgh #16 - Mill Brook Watershed Preemptive Stormwater Mitigation</i>
Assessing the Risk	
Hazard(s) addressed	<i>flooding</i>
Risk finding	<i>In the Mill Brook watershed there are several undersized culverts that routinely become plugged with gravel and woody debris during storm events. The debris accumulation often also causes the roadways and infrastructure to wash out or become over-topped with water during the flash-floods that often hit the steep mountainsides and narrow valleys in the Town. Because many of the town roads are dead-ends, residents and town offices, and emergency responders get cut-off.</i>
Describing the Action	
Action category	<i>infrastructure protection</i>
Action type	<i>drainage improvement</i>
Action description	<p><i>This project would upsize at least 8 culverts (and possibly additional locations as yet to be determined) and repair one abutment in the Mill Brook watershed in accordance with the results of the H&H analyses for each specific location. These crossings accumulate trees and gravel debris during even moderate storm events. Only one location (on Millbrook Rd) where abutment scour is the major issue that needs to be repaired (Location is Latitude: 42.07989, Longitude -74.62883). The other locations are as follows:</i></p> <ul style="list-style-type: none"> <i>• Millbrook Rd., Steel 4 foot culvert – Lat/Lon = 42.09166, -74.5642;</i> <i>• Millbrook Rd. NYS land #1 5 foot Steel Culvert w/laid up Stone wing walls - Lat/Lon = 42.06672, -74.5896;</i> <i>• Millbrook Rd. NYS land #2 5 foot Steel Culvert w/laid up Stone wing walls - Lat/Lon = 42.06739, -74.591;</i> <i>• Millbrook Rd. Concrete Sectional Box Culvert w/laid up stone wing walls - Lat/Lon = 42.06868, -74.5978;</i> <i>• Fairbairn Rd. 300' north of intersection of Millbrook Rd. five foot Steel Culvert w/laid up Stone wing walls - Lat/Lon = 42.071622, - 74.604920;</i> <i>• Fairbairn Rd. 3950' north of intersection of Millbrook Rd. four foot Steel Culvert w/laid up Stone wing walls - Lat/Lon = 42.077123, -74.600108;</i> <i>• Fairbairn Rd. 4200' north of intersection of Millbrook Rd. four foot Steel Culvert w/laid up Stone wing walls - Lat/Lon = 42.077712, -74.599840;</i> <i>• Beuth Rd. two foot Steel Culvert w/laid up Stone wing walls - Lat/Lon = 42.0675 -74.58 - and additional locations as yet to be determined.</i>
Existing, future &/or NA	<i>protects existing road and access to dozens of properties and NYS land</i>
Evaluating the Action	
Losses avoided (i.e., benefits)	<i>Substantially reduce damage to existing infrastructure and provide uninterrupted ingress/egress for state land and private properties</i>
Cost estimate	<i>\$1,000,000</i>

Cost effectiveness (i.e., benefit/cost)	<i>cannot determine cost/benefit fully at this time; Money will be saved in long term to proactively address on-going problem where routine maintenance and monitoring must occur. Over time this project will be cost effective.</i>
Technical	<i>Technically feasible.</i>
Political	<i>town is supportive, as are affected homeowners</i>
Legal	<i>private property ingress/egress</i>
Environmental	<i>NYSDEC permit required;</i>
Social	<i>none</i>
Administrative capability	<i>Hardenburgh DPW would be lead</i>
Local champion	<i>Town of Hardenburgh town board, residents</i>
Other community objectives	<i>capital improvement</i>
Implementing the Action	
Priority	<i>High</i>
Local planning mechanism	<i>DPW had identified as needed future remediation</i>
Responsible party	<i>Hardenburgh DPW</i>
Potential funding sources	<i>Emergency Watershed Protection (EWP) program; Flood Hazard Mitigation Implementation Program (FHMIP); Stream Management Implementation Grants (SMIP); NY Rising Community Reconstruction Program</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 Hardenburgh</i>
Community action number	<i>Hardenburgh #17 - Dry Brook Watershed Preemptive Stormwater Mitigation</i>
Assessing the Risk	
Hazard(s) addressed	<i>flooding</i>
Risk finding	<i>In the Dry Brook watershed there are several under-sized culverts that frequently become inundated or completely wash out during the flash-floods that often hit the steep mountainsides and narrow valleys in the Town. Because many of the town roads are dead-ends, residents and emergency responders get cut-off.</i>
Describing the Action	
Action category	<i>infrastructure protection</i>
Action type	<i>drainage improvement</i>
Action description	<p><i>This project would upsize 5 culverts and repair one abutment in the Dry Brook watershed in accordance with the results of the H&H analyses for each specific location. These crossings accumulate trees and gravel debris during even moderate storm events. Only one location (a County owned Covered Bridge at Eagle Rd on Dry Brook) where abutment scour is the major issue that needs to be repaired (Location is Lat/Lon = 42.587 -74.5401). The other locations are, but not limited to:</i></p> <ul style="list-style-type: none"> <i>• Haynes Hollow Concrete Sectional Box Culvert (under-sized) - Lat/Lon = 42.08192 - 74.5462;</i> <i>• Haynes Hollow Concrete Sectional Box Culvert #2 (under-sized) - Lat/Lon = 42.08069 - 74.5333;</i> <i>• Graham Rd. 6 foot Steel Culvert (under-sized) - Lat/Lon = 42.10722 -74.5623;</i> <i>• County owned, Drybrook Rd. 3 feet round culvert (very under-sized) - Lat/Lon = 42.06933 -74.548;</i> <i>• Martin Rd. laid up Stone Bridge w/laid up 12' high side rails (under-sized) - Lat/Lon = 42.08757 -74.552;</i>
Existing, future &/or NA	<i>protects existing road and access to dozens of properties and NYS land</i>
Evaluating the Action	
Losses avoided (i.e., benefits)	<i>Substantially reduce damage to existing infrastructure and provide uninterrupted ingress/egress for state land and private properties</i>
Cost estimate	<i>\$1,000,000</i>
Cost effectiveness (i.e., benefit/cost)	<i>cannot determine cost/benefit fully at this time; Money will be saved in long term to proactively address on-going problem where routine maintenance and monitoring must occur. Over time this project will be cost effective.</i>
Technical	<i>Technically feasible.</i>
Political	<i>town is supportive, as are affected homeowners</i>
Legal	<i>private property ingress/egress; at two locations, Town does not have jurisdiction, however would cooperate with Ulster County via Intermunicipal Agreement</i>

Environmental	<i>NYSDEC permit required;</i>
Social	<i>none</i>
Administrative capability	<i>Hardenburgh DPW would be lead on three; County DPW on two</i>
Local champion	<i>Town of Hardenburgh town board, residents</i>
Other community objectives	<i>capital improvement</i>
Implementing the Action	
Priority	<i>High</i>
Local planning mechanism	<i>DPW had identified as needed future remediation</i>
Responsible party	<i>Hardenburgh DPW; Ulster County DPW</i>
Potential funding sources	<i>Emergency Watershed Protection (EWP) program; Flood Hazard Mitigation Implementation Program (FHMIP); Stream Management Implementation Grants (SMIP); NY Rising Community Reconstruction Program</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 Hardenburgh</i>
Community action number	<i>Hardenburgh #18 - Mill Brook Watershed Preemptive Stream Stabilization and Flood Mitigation</i>
Assessing the Risk	
Hazard(s) addressed	<i>flooding</i>
Risk finding	<i>In the Mill Brook watershed there are several locations that frequently aggrade with gravel and large woody debris during storm events causing streams to shift course. Additionally, many exposed embankments are located along roads. Flash floods often hit the steep mountainsides and narrow valleys in the Town. Because many of the town roads are dead-ends, residents and town offices, and emergency responders get cut-off.</i>
Describing the Action	
Action category	<i>infrastructure protection</i>
Action type	<i>drainage improvement</i>
Action description	<i>This project would address several known locations where a future flood could very easily washout vulnerable sections causing isolation of residents. In these locations, embankments would be designed and repaired to address not only infrastructure protection (long-term solution rather than a quick "band-aid" fix), but also take into consideration water quality as this stream feeds a drink water reservoir. Geo-stabilization, along with other techniques will likely be used in the following locations: Millbrook Rd. Millbrook Stream between County Bridge 42.07992 -74.6288 and Town Bridge 42.07989 -74.62883 (Embankment failure loading stream with clay base gravel and whole tree and root ball debris causing flow blocking at Town Bridge with over bank and over bridge flooding.); Millbrook Rd. Millbrook Stream between Town Bridge 42.07989 -74.62883 and County Bridge - 42.08037 -74.6365 (Embankment failure loading stream with clay base gravel and whole tree and root ball debris causing flow blocking at County Bridge with over bank and over stream flooding.); Millbrook Rd. County Bridge 42.08037 -74.6365 (Gravel deposit and whole tree with root ball blockage.)</i>
Existing, future &/or NA	<i>protects existing road and access to dozens of properties and NYS land</i>
Evaluating the Action	
Losses avoided (i.e., benefits)	<i>Substantially reduce damage to existing infrastructure and provide uninterrupted ingress/egress for state land and private properties; water quality benefits</i>
Cost estimate	<i>\$2,500,000</i>
Cost effectiveness (i.e., benefit/cost)	<i>cannot determine cost/benefit fully at this time; Money will be saved in long term to proactively address on-going problem where routine maintenance and monitoring must occur. Over time this project will be cost effective.</i>
Technical	<i>Technically feasible.</i>
Political	<i>town is supportive, as are affected homeowners</i>

Legal	<i>private property ingress/egress</i>
Environmental	<i>NYSDEC permit required;</i>
Social	<i>none</i>
Administrative capability	<i>Hardenburgh DPW would be lead</i>
Local champion	<i>Town of Hardenburgh town board, residents</i>
Other community objectives	<i>capital improvement</i>
Implementing the Action	
Priority	<i>High</i>
Local planning mechanism	<i>DPW had identified as needed future remediation</i>
Responsible party	<i>Hardenburgh DPW</i>
Potential funding sources	<i>Emergency Watershed Protection (EWP) program; Flood Hazard Mitigation Implementation Program (FHMIP); Stream Management Implementation Grants (SMIP); NY Rising Community Reconstruction Program</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 Hardenburgh</i>
Community action number	<i>Hardenburgh #19 - Beaverkill Watershed Preemptive Stormwater Mitigation</i>
Assessing the Risk	
Hazard(s) addressed	<i>flooding</i>
Risk finding	<i>Recent flooding events, particularly TS Irene, have brought to light several culverts in the Beaverkill watershed that are either undersized, routinely collect gravel and woody debris (and plug), or are structurally compromised. If not addressed, each of these could result in residents being cut off from the rest of the Town and loss of ingress/egress during emergencies.</i>
Describing the Action	
Action category	<i>infrastructure protection</i>
Action type	<i>drainage improvement</i>
Action description	<i>The proposed project would replace and resize (as appropriate based upon H&H analysis) at least the four antiquated culverts indicated below, and at other locations yet to be determined. A 4' steel culvert with w/laid up stone wing walls on Beaverkill Rd is too small, Location is 42.01505, -74.6326; The elliptical Steel Culvert w/laid up Stone wing walls at Intersection of Big Pond Rd. and NYS Little Pond Entrance is under-sized - Location is 42.03504, -74.7282; The laid up wing walls of the concrete Sectional Box Culvert (location is Latitude 42.03084; Longitude -74.7047) on Millie Edwards Rd are failing and need to be replaced so as not to compromise the integrity of this critical culvert that provides access to residents; A culvert along Beaverkill Road adjacent to Zen Entrance (Beecher Rd) culvert that spans Beecher Brook is too small (5' culvert) and needs to be re-sized so as to pass flood flows - Location is Longitude: -74.642480, Latitude: 42.015680.</i>
Existing, future &/or NA	<i>future and existing</i>
Evaluating the Action	
Losses avoided (i.e., benefits)	<i>Substantially reduce damage to existing infrastructure; ingress/egress for emergency response</i>
Cost estimate	<i>Total cost between \$2.75-\$3.5 Million</i>
Cost effectiveness (i.e., benefit/cost)	<i>cannot determine cost/benefit fully at this time; Money will be saved in long term to proactively address on-going problem where routine maintenance and monitoring must occur. Over time this project will be cost effective.</i>
Technical	<i>Technically feasible.</i>
Political	<i>town is supportive</i>
Legal	<i>landowners ingress/egress</i>
Environmental	<i>none; NYSDEC permit required; project would reduce sediment input to trout stream</i>

Social	<i>none</i>
Administrative capability	<i>Town of Hardenburgh Highway Dept would be lead</i>
Local champion	<i>Yes; Town of Hardenburgh town board, residents</i>
Other community objectives	<i>capital improvement</i>
Implementing the Action	
Priority	<i>Medium</i>
Local planning mechanism	<i>DPW flagged as needed for future remediation</i>
Responsible party	<i>Hardenburgh DPW</i>
Potential funding sources	<i>Emergency Watershed Protection (EWP) program; Flood Hazard Mitigation Implementation Program (FHMIP); Stream Management Implementation Grants (SMIP); NY Rising Community Reconstruction Program</i>
Time line	<i>One to 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 Hardenburgh</i>
Community action number	<i>Hardenburgh #20 - Eagle Lodge Road Embankment Stabilization</i>
Assessing the Risk	
Hazard(s) addressed	<i>flooding</i>
Risk finding	<i>Several homes and NYS land access become inaccessible during higher flows due to streambank erosion.</i>
Describing the Action	
Action category	<i>infrastructure protection</i>
Action type	<i>drainage improvement and improved water quality</i>
Action description	<i>Stabilization of the streambank with soil nailing or sheet piling to protect stream from capturing sloughing mature trees and gravel debris. Implementation would run approximately 425' of embankment stabilization. Location is Longitude: -74.642480, Latitude: 42.015680</i>
Existing, future &/or NA	<i>protects existing road and access to numerous properties and state land access</i>
Evaluating the Action	
Losses avoided (i.e., benefits)	<i>Substantially reduce damage to existing infrastructure and reduce likelihood of inaccessible homes, state property, and curb turbidity.</i>
Cost estimate	<i>\$500,000</i>
Cost effectiveness (i.e., benefit/cost)	<i>cannot determine cost/benefit fully at this time; Money will be saved in long term to proactively address on-going problem where routine maintenance and monitoring must occur. Over time this project will be cost effective.</i>
Technical	<i>Technically feasible.</i>
Political	<i>town is supportive, as are affected homes</i>
Legal	<i>property owner ingress/egress</i>
Environmental	<i>none</i>
Social	<i>none</i>
Administrative capability	<i>Hardenburgh DPW would be lead</i>
Local champion	<i>Yes; Town of Hardenburgh town board, residents</i>
Other community objectives	<i>capital improvement</i>
Implementing the Action	
Priority	<i>medium</i>
Local planning mechanism	<i>DPW has flagged as future remediation needed</i>
Responsible party	<i>Hardenburgh DPW</i>
Potential funding sources	<i>Emergency Watershed Protection (EWP) program; Flood Hazard Mitigation Implementation Program (FHMIP); Stream Management Implementation Grants (SMIP); NY Rising Community Reconstruction Program</i>

Time line	<i>three 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 Hardenburgh

DATE OF ACTIVITY	TYPE OF ACTIVITY	ACTIVITY DETAILS	LEAD DEPARTMENT AND/OR STAFF TITLE WHO UNDERTOOK ACTIVITY
12/11/14	Town Board Meeting	Board & Gallery discussion	Town Board
11/6/14	Town Board Meeting	Special & Regular Board & Gallery discussion	Town Board
8/14/14	Town Board Meeting	Board & Gallery discussion	Town Board
4/10/14	Town Board Meeting	Board & Gallery discussion	Town Board

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.



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 Hardenburgh

DATE OF ACTIVITY	TYPE OF ACTIVITY	ACTIVITY DETAILS	LEAD DEPARTMENT AND/OR STAFF TITLE WHO UNDERTOOK ACTIVITY
8/13/15	Town Board Regular meeting	Board & Gallery discussion Post to website	Town Board
4/11/15	Town Board Regular Meeting	Board & Gallery discussion	Town Board
6/4/15 thru 6/10/15	Outreach to Various Community Residents	Explanation of need and purpose of uc HMP	Town Supervisor
3/12/15	Town Board Regular Meeting	Board & Gallery discussion	Town Board
7/8/15	Town Board Regular & Special Meeting	Board & Gallery discussion	Town Board

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