

9.20 TOWN OF WINDHAM

This section presents the jurisdictional annex for the Town of Windham.

A.) HAZARD MITIGATION PLAN POINT OF CONTACT

Primary Point of Contact	Alternate Point of Contact
T. Patrick Meehan Jr., Supervisor 371 State Route 296 Hensonville, NY 12436 518-734-4170	

B.) TOWN PROFILE

Population

1,897 (estimated 2007 U.S. Census)

Location

The Town of Windham is located in Greene County, New York. It is located in the west-central part of the County, on the northern boundary of the Catskill Park. The Town has a total area of 45.4 square miles, of which 45.3 square miles is land and 0.1 square miles is water. The Town of Windham is located within the Catskill Mountains and partly within the Catskill State Park. Batavia Kill is a stream flowing past the hamlet of Windham.

Climate

Greene County, with all its municipalities, generally experiences seasonable weather patterns characteristic of the northeastern U.S. Warm summers are typically experienced, with occasional high temperatures and humidity. Midsummer temperatures typically range from about 68°F to 80°F (Fahrenheit). The winters of Greene County are long and cold. Winter high temperatures are usually in the middle to upper 20s°F, with minimum temperatures of 15°F expected. During the winter, temperatures are cooler than the temperatures in areas located near large bodies of water. Snow accumulates to an average depth of 68 inches each year.

Brief History

The Town of Windham was formed in March 1798, being located in Ulster County. On March 25, 1800, the Town became the western half of Greene County. The towns of Ashland, Halcott, Hunter, Jewett, Lexington, Prattsville and Windham were created from what some called “Old Windham”. In 1813, the towns of Lexington and Hunter were taken from the southern part of Windham. In 1833, the Town of Prattsville was created from the northwest corner of Windham. Ashland was formed from parts of Prattsville and Windham in 1848, Jewett from parts of Hunter and Lexington in 1849, and Halcott from part of Lexington in 1851.

Governing Body Format

Windham Town Board – Consisting of elected Town Supervisor and 4 elected Councilmen



Growth/Development Trends

County Route 12 aka South Street Corridor

C.) NATURAL HAZARD EVENT HISTORY SPECIFIC TO THE TOWN

Type of Event	FEMA Disaster # (if applicable)	Date	Preliminary Damage Assessment
Snowstorm	Not applicable	April, 1857	\$48,000
Flood	Not applicable	June, 1874	Not available
Flood	Not applicable	1893	One fatality
Extreme Cold	Not applicable	January, 1904	Not available
Flood (Tropical Storm)	Not applicable	September, 1938	Not available
Flood (Hurricane Diane)	DR-45	August, 1955	Not available
Flood (Hurricane Katie)	DR-52	October, 1955	Not available
Flood (Hurricane Donna)	Not applicable	September, 1960	\$750,000 (countywide)
Extreme Cold	Not applicable	January, 1971	Not available
Snowstorm	Not applicable	November, 1971	Not available
Snowstorm / Extreme Cold	Not applicable	February, 1972	Not available
Flood (Tropical Storm Agnes)	Not applicable	June, 1972	\$806,000 (countywide)
Snowstorm	Not applicable	March, 1977	Not available
Snowstorm	Not applicable	January, 1978	Not available
Snowstorm	Not applicable	December, 1978	Not available
Extreme Cold	Not applicable	February, 1980	Not available
Snowstorm	Not applicable	December, 1981	Not available
Snowstorm	Not applicable	April, 1983	Not available
Snowstorm / Extreme Cold	Not applicable	January, 1987	Not available
Flood	DR-792	April, 1987	\$2,000,000 (countywide)
Severe Winter Storm	DR-801	October, 1987	Not available
Ice Storm	Not applicable	December, 1991	\$385,000 (countywide)
Extreme Cold	Not applicable	February, 1993	Not available
Blizzard / Extreme Cold	EM-3107	March, 1993	Not available
Extreme Cold	Not applicable	January, 1994	Not available
Extreme Cold	Not applicable	February, 1995	Not available
Flood	Not applicable	October, 1995	\$3,000,000 (countywide)
Blizzard	DR-1083	January, 1996	\$160,000 (countywide)
Severe Storm and	DR-1095	January, 1996	\$10,000,000

Type of Event	FEMA Disaster # (if applicable)	Date	Preliminary Damage Assessment
Flooding			(countywide)
Flood	Not applicable	July, 1996	\$30,000
Flood	Not applicable	October, 1996	\$40,000
Snowstorm	Not applicable	March / April, 1997	\$709,000 (countywide)
Severe Storm/Flooding (Hurricane Floyd)	DR-1295	September, 1999	\$3,000,000 (countywide)
Extreme Cold	Not applicable	January, 2000	Not available
Severe Storms	DR-1335	May / September, 2000	\$115,000 (countywide)
Snowstorm	Not applicable	March, 2001	Not available
TSTM / Hail / Lightning	Not applicable	June, 2001	Between \$370,000 and \$400,000 (countywide)
TSTM	Not applicable	August, 2002	\$140,000
Snowstorm	EM-3173	December, 2002 / January, 2003	\$29,000 (countywide)
Snowstorm	EM-3184	February, 2003	Not available
Severe Storms, Tornado, and Flooding	DR-1486	July / August, 2003	Between \$75,000 and \$1,100,000 (countywide)
Snowstorm	Not applicable	December, 2003	Not available
Flood (Hurricane Ivan)	Not applicable	September, 2004	Not available
Snowstorm	Not applicable	January, 2005	Not available
Severe storms and Flooding	DR-1589	April, 2005	\$1,300,000 (countywide)
Severe storms and Flooding	DR-1650	June/July, 2006	Not available
Snowstorm (Valentine's Day Storm)	Not applicable	February, 2007	Not available
Snowstorm (St. Patrick's Day Storm)	Not applicable	March, 2007	Not available
Severe Storms and Inland and Coastal Flooding (Nor'Easter)	DR-1692	April, 2007	Between \$1,300,000 and \$111,000,000 (may be inaccurate) (countywide)
Severe Ice Storm	DR-1827	12-13 to 12-31-08	Approximately \$580,000 county-wide

Number of FEMA Identified Repetitive Flood Loss Properties: 0^a

Number of FEMA Identified Severe Repetitive Flood Loss Properties: 0^a

^a Source: FEMA Region II, 2008.



D.) NATURAL HAZARD RISK/VULNERABILITY RISK RANKING

Rank #	Hazard type	Estimate of Potential Dollar Losses to Structures Vulnerable to the Hazard ^{a, c}	Probability of Occurrence	Risk Ranking Score (Probability x Impact)	Hazard Ranking ^b
4	Earthquake	\$3,550,865 ^{e, f}	Low	10	Low
1	Flood	\$17,066,000	High	54	High
3	Ground Failure	Not available	Medium	26	Medium
1	Severe Storm	\$198,723	High	54	High
2	Severe Winter Storm	\$28,956,700	High	51	High

a. Building damage ratio estimates based on FEMA 386-2 (August 2001)

b. High = Total hazard priority risk ranking score of 40 and above
Medium = Total hazard priority risk ranking of 20-39
Low = Total hazard risk ranking below 20

c. The valuation of general building stock and loss estimates determined in Greene County were based on the default general building stock database provided in HAZUS-MH MR3 (R.S. Means 2006).

d. 500-year MRP structural value loss estimate only; does not include the value of contents. For severe winter storm, the loss estimate is 10% of total general building stock value.

e. Loss estimates for both structure and contents (500-year MRP for the flood hazard and 2,500-year MRP for the earthquake hazard).

f. Combined estimated losses for Ashland (T), Prattsville (T) and Windham (T).

g. Approximately 96% of the Town of Windham's general building stock is exposed or located within the identified landslide hazard area.

E.) CAPABILITY ASSESSMENT

This section identifies the following capabilities of the local jurisdiction:

- Legal and regulatory capability
- Administrative and technical capability
- Fiscal capability
- Community classification.

E.1) Legal and Regulatory Capability

Regulatory Tools (Codes, Ordinances., Plans)	Local Authority (Y or N)	Prohibitions (State or Federal) (Y or N)	Higher Jurisdictional Authority (Y or N)	State Mandated (Y or N)	Code Citation (Section, Paragraph, Page Number, date of adoption)
1) Building Code	Y	N	Y	Y	Local Law #1 of 2007
2) Zoning Ordinance	N	N	N	N	
3) Subdivision Law	Y	N	N	N	Local Law #2 of 2007
4) NFIP Flood Damage Prevention Law (if you are in the NFIP, you must have this.)	Y	Y	Y	Y	Effective Date: 2/28/2008 Local Law #2 of 2008
5) Growth Management	N	N	N	N	
6) Floodplain Management / Basin Plan	N	Y	Y	N	
7) Stormwater Management Plan/Ordinance	Y	N	Y	Y	
8) Comprehensive Plan / Master Plan/ General Plan	Y	N	N	N	2002
9) Capital Improvements Plan	N	N	N	N	
10) Site Plan Review Requirements	Y	Y	Y	N	Local Law #4 of 2006
11) Open Space Plan	N	N	N	N	
12) Economic Development Plan	N	N	N	N	
13) Emergency Response Plan	Y	N	Y	Y	
14) Post Disaster Recovery Plan	N	N	N	N	
15) Post Disaster Recovery Ordinance	N	N	N	N	
16) Real Estate Disclosure req.	N	N	N	N	
17) Other [Regional Stream Management Plan- Batavia Kill Stream Management Plan]	Y	Y	Y	N	Regional Stream Management Plan adopted 2007 and Memorandum of Understanding adopted with GCSWCD for implementation.

E.2) Administrative and Technical Capability

Staff/ Personnel Resources	Available (Y or N)	Department/ Agency/Position
1) Planner(s) or Engineer(s) with knowledge of land development and land management practices	Y	Town Board
2) Engineer(s) or Professional(s) trained in construction practices related to buildings and/or infrastructure	Y	Town Board
3) Planners or engineers with an understanding of natural hazards	N	
4) NFIP Floodplain Administrator (if you are in the NFIP, you must have one.)	Y	T Patrick Meehan Jr., Supervisor
5) Surveyor(s)	N	
6) Personnel skilled or trained in "GIS" applications	N	
7) Scientist familiar with natural hazards in the Town of Windham.	N	
8) Emergency Manager	Y	Nims officer
9) Grant Writer(s)	Y	When needed
10) Staff with expertise or training in benefit/cost analysis	N	

E.3) Fiscal Capability

Financial Resources	Accessible or Eligible to use (Yes/No/Don't know)
1) Community development Block Grants (CDBG)	No
2) Capital Improvements Project Funding	Yes (water system)
3) Authority to Levy Taxes for specific purposes	Yes
4) User fees for water, sewer, gas or electric service	Yes
5) Impact Fees for homebuyers or developers of new development/homes	No
6) Incur debt through general obligation bonds	Yes
7) Incur debt through special tax bonds	Yes
8) Incur debt through private activity bonds	No
9) Withhold public expenditures in hazard-prone areas	No
10) State mitigation grant programs (e.g. NYSDEC, NYCDEP)	No
11) Other	

E.4) Community Classifications

Program	Classification	Date Classified
Community Rating System (CRS)	N/A	
Building Code Effectiveness Grading Schedule (BCEGS)	N/A	
Public Protection	N/A	
Storm Ready	N/A	
Firewise	N/A	

- N/A = Not applicable. - = Unavailable.

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

Criteria for classification credits are outlined in the following documents:

- The Community Rating System Coordinators Manual
- The Building Code Effectiveness Grading Schedule
- The ISO Mitigation online ISO's Public Protection website at <http://www.isomitigation.com/ppc/0000/ppc0001.html>
- The National Weather Service Storm Ready website at <http://www.weather.gov/stormready/howto.htm>
- The National Firewise Communities website at <http://firewise.org/>

F.) PROPOSED HAZARD MITIGATION INITIATIVES

Initiative	Mitigation Initiative	Applies to new or existing assets	Hazard(s) Mitigated	Objectives Met	Lead Agency	Support agencies	Estimated Cost	Sources of Funding	Timeline
TW-1A	Where appropriate, support retrofitting of structures located in hazard-prone areas to protect structures from future damage, with repetitive loss and severe repetitive loss properties as priority. Identify facilities that are viable candidates for retrofitting based on cost-effectiveness versus relocation. Where retrofitting is determined to be a viable option, consider implementation of that action based on available funding.	Existing	Flood, Severe Storm	2, 4, 11	Municipality (likely through NFIP Floodplain Administrator)	SEMO, FEMA	High	FEMA Mitigation Grant Programs and local budget (or property owner) for cost share	Long-term DOF
TW-1B	Where appropriate, support purchase, or relocation of structures located in hazard-prone areas to protect structures from future damage, with repetitive loss and severe repetitive loss properties as priority. Identify facilities that are viable candidates for relocation based on cost-effectiveness versus retrofitting. Where relocation is determined to be a viable option, consider implementation of that action based on available funding.	Existing	Flood, Severe Storm	2, 4, 11	Municipality (likely through NFIP Floodplain Administrator)	SEMO, FEMA	High	FEMA Mitigation Grant Programs and local budget (or property owner) for cost share	Long-term DOF
TW-2	As appropriate support participation in incentive-	New & Existing	Flood	2, 3, 4, 5, 6, 8, 9, 10, 11	Municipality (likely through	SEMO, ISO, FEMA	Low - Medium	Local Budget	Short

Initiative	Mitigation Initiative	Applies to new or existing assets	Hazard(s) Mitigated	Objectives Met	Lead Agency	Support agencies	Estimated Cost	Sources of Funding	Timeline
	based programs such as CRS.				NFIP Floodplain Administrator)				
TW-3	Continue to support the implementation, monitoring, maintenance, and updating of this Plan, as defined in Section 7.0	New & Existing	All Hazards	All Objectives	Municipality (through mitigation planning point of contacts)	County (through Mitigation Planning Coordinator), SEMO	Low – High (for 5-year update)	Local Budget, possibly FEMA Mitigation Grant Funding for 5-year update	Ongoing
TW-4	Strive to maintain compliance with, and good-standing in the National Flood Insurance program.	New & Existing	Flood	2, 3, 4, 5, 6, 8, 9, 10, 11	Municipality (likely through NFIP Floodplain Administrator)	SEMO, ISO, FEMA	Low - Medium	Local Budget	Ongoing
TW-5	Continue to develop, enhance, and implement existing emergency plans.	New & Existing	All Hazards	1, 7, 8, 9	Municipal Emergency Manager with support from County OEM and SEMO	County Emergency Management, SEMO	Low - Medium	Local Budget	Ongoing
TW-6	Create/enhance/ maintain mutual aid agreements with neighboring communities.	New & Existing	All Hazards	1,7,8, 9	Local Emergency Management, DPW and Roads	Surrounding municipalities and County	Low - Medium	Local Budget	Ongoing
TW-7	Support County-wide initiatives identified in Section 9.1 of the County Annex.	New & Existing	All Hazards	All objectives	Local departments (as applicable for specific initiative)	County and Regional agencies (as appropriate for initiative)	Low - High	Existing programs and grant funding where applicable	Ongoing – Long-term depending on initiative
TW-8	Continue to support the study of Mad (Pratt) Brook stream bank restoration alternatives.	Existing	Floods , Severe Storm , Severe Winter Storm, Ground Failure	2, 3, 4, 6, 11	Town of Windham Highway Department	Catskill Watershed Corp	Medium	Catskill Watershed Corp, Town	Short-term

Initiative	Mitigation Initiative	Applies to new or existing assets	Hazard(s) Mitigated	Objectives Met	Lead Agency	Support agencies	Estimated Cost	Sources of Funding	Timeline
TW-9	Perform a town-wide survey of road drainage and condition.alternatives.	Existing	Floods, Severe Storm, Severe Winter Storm, Ground Failure	2, 3, 6, 7,11	Town of Windham Highway Department	GCSWCD, County	Low – High	Operating Budget	Ongoing
TW-10	Provide for emergency generators at Town of Windham emergency shelters. These shelters will be used in the event of evacuation of people within the inundation zone, associated with a flash flooding event resulting from a dam failure.	Existing	Flood	1, 7, 8, 11	Town of Windham Emergency Management	Greene County Emergency Management, Batavia Kill Watershed District	Medium	Capital Improvement Budget, HMA grant if project is part of a larger mitigation project.	Short

Notes: Short term = 1 to 5 years. Long Term= 5 years or greater. OG = On going program. DOF = Depending on funding. PDM = Pre-Disaster Mitigation Grant Program.

G.) ANALYSIS OF MITIGATION ACTIONS

This table summarizes the participant's mitigation actions by hazard of concern and the six mitigation types to illustrate that the Town has selected a comprehensive range of actions/projects.

Hazard of Concern	Mitigation Type					
	1. Prevention	2. Property Protection	3. Public Education and Awareness	4. Natural Resource Protection	5. Emergency Services	6. Structural Projects
Earthquake	TW-3, TW-7	TW-3, TW-7	TW-3, TW-7	TW-3, TW-7	TW-3, TW-5, TW-6, TW-7	TW-3, TW-7
Flooding (riverine, flash, coastal and urban flooding)	TW-2, TW-3, TW-4, TW-7, TW-8, TW-9	TW-1, TW-2, TW-3, TW-4, TW-7	TW-1, TW-2, TW-3, TW-4, TW-7	TW-3, TW-7, TW-8	TW-2, TW-3, TW-5, TW-6, TW-7, TW-10	TW-3, TW-7
Ground Failure	TW-3, TW-7	TW-3, TW-7	TW-3, TW-7	TW-3, TW-7	TW-3, TW-5, TW-6, TW-7	TW-3, TW-7
Severe Storms (windstorms, thunderstorms, hail, lightning and tornados)	TW-2, TW-3, TW-4, TW-7, TW-8, TW-9	TW-1, TW-2, TW-3, TW-4, TW-7	TW-1, TW-2, TW-3, TW-4, TW-7	TW-3, TW-7, TW-8	TW-2, TW-3, TW-5, TW-6, TW-7, TW-10	TW-3, TW-7
Severe Winter Storm (heavy snow, blizzards, ice storms)	TW-3, TW-7, TW-8, TW-9	TW-3, TW-7	TW-3, TW-7	TW-3, TW-7, TW-8	TW-3, TW-5, TW-6, TW-7, TW-10	TW-3, TW-7

Notes:

- 1. Prevention:** Government, administrative or regulatory actions or processes that influence the way land and buildings are developed and built. These actions also include public activities to reduce hazard losses. Examples include planning and zoning, floodplain local laws, capital improvement programs, open space preservation, and storm water management regulations.
- 2. Property Protection:** Actions that involve (1) modification of existing buildings or structures to protect them from a hazard or (2) removal of the structures from the hazard area. Examples include acquisition, elevation, relocation, structural retrofits, storm shutters, and shatter-resistant glass.
- 3. Public Education and Awareness:** Actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. Such actions include outreach projects, real estate disclosure, hazard information centers, and school-age and adult education programs.
- 4. Natural Resource Protection:** Actions that minimize hazard loss and also preserve or restore the functions of natural systems. These actions include sediment and erosion control, stream corridor restoration, watershed management, forest and vegetation management, and wetland restoration and preservation.
- 5. Emergency Services:** Actions that protect people and property, during and immediately following, a disaster or hazard event. Services include warning systems, emergency response services, and the protection of essential facilities.
- 6. Structural Projects:** Actions that involve the construction of structures to reduce the impact of a hazard. Such structures include dams, setback levees, floodwalls, retaining walls, and safe rooms.

H.) PRIORITIZATION OF MITIGATION INITIATIVES

Initiative #	# of Objectives met	Benefits	Costs	Do Benefits equal or exceed Costs? (Yes or No)	Is project Grant eligible? (Yes or No)	Can Project be funded under existing programs/budgets? (Yes or No)	Priority (High, Med., Low)
TW-1A	3	H	H	Y	Y	N	M-H*
TW-1B	3	H	H	Y	Y	N	M-H*
TW-2	9	M	L	Y	N	Y	H
TW-3	11	M	M	Y	N (Yes for 5 year update)	Y	H
TW-4	9	H	L	Y	N	Y	H
TW-5	4	M	L	Y	N	Y	H
TW-6	4	M	L	Y	N	Y	H
TW-7	11	M-H	L-M	Y	Dependant on specific initiative	Dependant on specific initiative	M-H (dependant)
TW-8	5	M	L	Y	N	Y	H
TW-9	5	M	M	Y	N	Y	H
TW-10	4	M	L	Y	N	Y	M

Notes: H = High. L = Low. M = Medium. N = No. N/A = Not applicable. Y = Yes.

* This initiative has a “Medium” priority based on the prioritization scheme used in this planning process (implementation dependent on grant funding), however it is recognized that addressing repetitive and severe repetitive loss properties is considered a high priority by FEMA and SEMO (as expressed in the State HMP), and thus shall be considered a “High” priority for all participants in this planning process.

Explanation of Priorities

- **High Priority** - A project that meets multiple objectives (i.e., multiple hazards), benefits exceeds cost, has funding secured or is an on-going project and project meets eligibility requirements for the Hazard Mitigation Grant Program (HMGP) or Pre-Disaster Mitigation Grant Program (PDM) programs. High priority projects can be completed in the short term (1 to 5 years).

- **Medium Priority** - A project that meets goals and objectives, benefits exceeds costs, funding has not been secured but project is grant eligible under, HMGP, PDM or other grant programs. Project can be completed in the short term, once funding is completed. Medium priority projects will become high priority projects once funding is secured.
- **Low Priority** - Any project that will mitigate the risk of a hazard, benefits do not exceed the costs or are difficult to quantify, funding has not been secured and project is not eligible for HMGP or PDM grant funding, and time line for completion is considered long term (1 to 10 years). Low priority projects may be eligible other sources of grant funding from other programs. A low priority project could become a high priority project once funding is secured as long as it could be completed in the short term.

Prioritization of initiatives was based on above definitions:

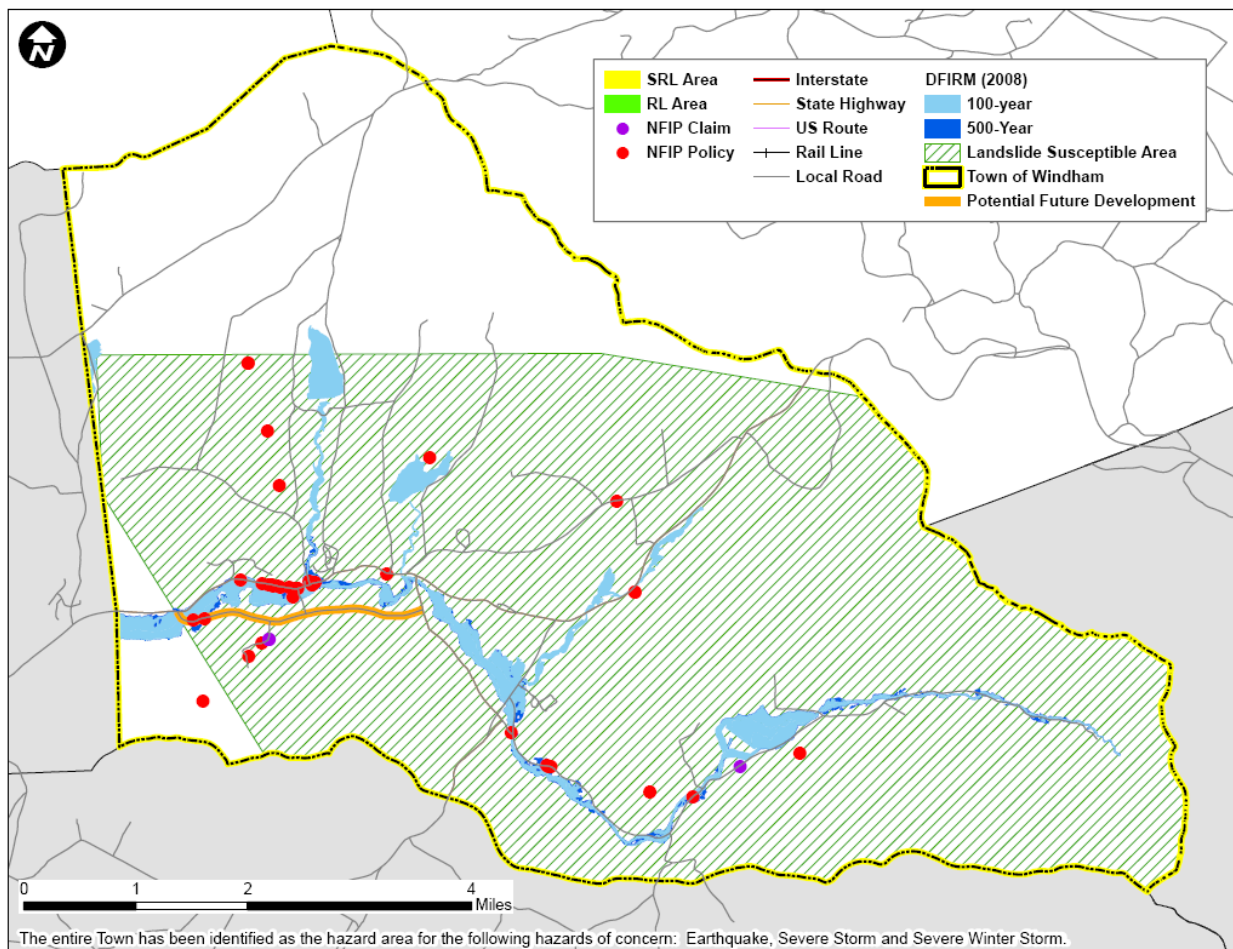
Prioritization of initiatives was based on parameters other than stated above:

I.) FUTURE NEEDS TO BETTER UNDERSTAND RISK/VULNERABILITY

None at this time.

J.) HAZARD AREA EXTENT AND LOCATION

A hazard area extent and location map has been generated and is provided below for the Town of Windham to illustrate the probable areas impacted within the Town. This map is based on the best available data at the time of the preparation of this Plan, and is considered to be adequate for planning purposes. Maps have only been generated for those hazards that can be clearly identified using mapping techniques and technologies, and for which the Town of Windham has significant exposure. The county maps are provided in the hazard profiles within Section 5.4, Volume I of this Plan.



Sources: FEMA DFIRM, 2008; FEMA Region II, 2008; Greene County Planning and Economic Development, 2008; NYSDPC, 2008

Notes: DFIRM = Digital Flood Insurance Rate Map. NFIP = National Flood Insurance Program; RL = Repetitive Loss; SRL = Severe Repetitive Loss

K.) ADDITIONAL COMMENTS

None at this time.