

9.16 VILLAGE OF WAVERLY

This section presents the jurisdictional annex for the Village of Waverly.

A.) HAZARD MITIGATION PLAN POINT OF CONTACT

Primary Point of Contact	Alternate Point of Contact
<u>Name:</u> Kyle J. McDuffee, Mayor <u>Address:</u> <u>Phone Number:</u> 607-565-8106 <u>Email address:</u> mayor@waverlybarton.com	<u>Name:</u> Grady Updyke, Chief of Police <u>Address:</u> <u>Phone Number:</u> 607-565-2836 <u>Email address:</u> gupdyke@waverlybarton.com

B.) PROFILE

Population

4,444 (estimated 2010 U.S. Census)

Location

The Village of Waverly is the largest village in Tioga County, New York. According to the U.S. Census Bureau, the village has a total area of 2.3 square miles (6.1 km²), of which, 2.3 square miles (5.9 km²) of it is land and 0.1 square miles (0.1 km²) of it is water. The Chemung River runs the western edge of the village, and joins the Susquehanna River about 6 miles (9.7 km) south of the village. The Cayuta Creek, also known locally as Shepard's Creek, flows through the eastern part of the village before joining the Susquehanna.

Downtown Waverly spans along an area adjacent to and immediately North of Interstate 86, which is an upgrade of the existing New York State Route 17 that was formerly known as the Southern Tier Expressway. Access to Interstate 86 is available at both eastern and western points of the village. New York State Route 17C and New York State Route 34 also intersect in the eastern end of this village. In addition, the northern terminus for U.S. Route 220 is at NY 17C (Chemung Street) in the west end of the village.

Brief History

The village name is attributed to Joseph "Uncle Joe" Hallett, founder of its first Fire Department and pillar of the community, who conceived the name by dropping the second "e" from the name of his favorite author's novel, *Waverley* by Sir Walter Scott.

John Shepard was the most important early settler of the area. He arrived in the area after having worked as a clerk at Sheshequin, PA. He built the first and only mill within 50 miles of this location, in the early 18th century, and it soon became known as Milltown. The town was established near Cayuta Creek, also known as Shepard's Creek, which provided water power for the flour mills and sawmills in the area.

Governing Body Format

The village is governed by the village mayor and board of trustees.

Growth/Development Trends

No major residential/commercial development and major infrastructure development has been identified for the next five (5) years in the municipality.

C.) NATURAL HAZARD EVENT HISTORY SPECIFIC TO THE MUNICIPALITY

Type of Event	FEMA Disaster # (if applicable)	Date	Preliminary Damage Assessment
Flash Flood	N/A	February 22, 1994	An ice jam along the Chemung River caused water to back up in the Village of Waverly. The County had approximately \$50 K in property damage.
Flash Flood (Remnants of Tropical Storm Beryl)	N/A	August 18, 1994	Tropical Storm Beryl caused severe damage to the Villages of Waverly and Newark Valley. In Waverly, the village hall was flooded, along with several businesses on Broad Street. In the Village of Newark Valley, water from a small stream flooded Main Street and several homes. Flooding caused approximately \$500K in property damage to Tioga County. There was one reported fatality in the County.
Flash Flood	N/A	June 10, 2005	Slow moving TSTMs brought heavy rain to the County, which caused flash flooding. Roads were flooded and closed in the Towns of Barton, Nichols and Waverly. The County had approximately \$20K in property damage.
Flood	N/A	October 25, 2005	The Town of Waverly had \$20 K in property damages from a flooding event.
Flood	N/A	November 30 – December 1, 2005	The Town of Waverly had \$25 K in property damages from a flooding event.
Tropical Storm Ernesto	DR-1650	June 26-30, 2006	Tropical moisture entered into south-central New York State, bringing heavy rain and TSTMs to many areas in upstate New York. Total rainfall for this three-day event was up to six inches in Tioga County. Almost every stream and creek overflowed its banks. Flash flooding occurred in the Town of Owego and the Village of Waverly. The County had over \$105M in property damage.
Severe Storms	N/A	September 27, 1998	Severe thunderstorms that produced wind damage in Tioga County. There were isolated reports of wind damage in the Village of Waverly and in the Town of Nichols. Most of the damage was downed trees and power lines. The County had approximately \$35 K in property damage.

C.) NATURAL HAZARD EVENT HISTORY SINCE 2000

Tioga County has a history of natural hazard events as detailed in Volume I, Section 5 of this plan. A summary of historical events is provided in each of the hazard profiles and includes a chronology of events affecting the County and its municipalities. Below is presented a summary of events dating from the year 2000 to indicate the range and impact of natural hazard events in this community. Specific damages have been indicated if available from reference or local sources. For details of events prior to 2000, refer to Volume I, Section 5 of this plan.

Type of Event	FEMA Disaster # (if applicable)	County Designated?	Date	Approximate Damage Assessment
Severe Storms / Flash Flood	DR-1335	Yes	May 3 – August 12, 2000	\$1.25 M in property damages County-wide.
Wind	N/A	N/A	December 12, 2000	Over \$64 K in property damage County-wide.
Drought	N/A	N/A	November 2001 – January 2002	Three month duration with the lowest PDSI of -3.28 in December.
Tornado F1	N/A	N/A	May 31, 2002	There were seven injuries and \$600 K in property damage County-wide.
Snowstorm	EM-3173	Yes	December 25, 2002	Snowfall totals in Tioga County ranged from 8.3 to 10.3.
Snowstorm	EM-3173	Yes	January 2-4, 2003	\$475 K in property damage County-wide.
Snowstorm	EM-3184	No	February 16-17, 2003	Snowfall totals in Tioga County ranged from 9.5 to 15 inches. The County had over \$152 K in property damage.
Severe Storm	N/A	N/A	July 21, 2003	Approximately \$50 K in property damage County-wide.
Wind	N/A	N/A	September 19, 2003	Approximately \$50 K in property damage County-wide.
Wind	N/A	N/A	October 15, 2003	Over \$58 K in property damage County-wide.
Wind	N/A	N/A	November 13, 2003	Over \$52 K in property damage County-wide.
Flood	N/A	N/A	March 1, 2004	\$40 K in property damages County-wide.
Flash Flood	N/A	N/A	July 7, 2004	The Town of Spencer had \$150 K in property damages.
Remnants of Hurricane Ivan	DR-1565	Yes	September 16-18, 2004	Approximately \$1M in property damage County-wide.
Flash Flood	N/A	N/A	March 28, 2005	Approximately \$70K in property damage County-wide.
Severe Storms and Flooding	DR-1589	Yes	April 2-4, 2005	Approximately \$500K in property damage County-wide.
Drought	N/A	N/A	Summer 2005	Not available.
Severe Storm	N/A	N/A	June 6, 2005	Approximately \$50 K in property

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Type of Event	FEMA Disaster # (if applicable)	County Designated?	Date	Approximate Damage Assessment
				damage County-wide.
Flash Flood	N/A	N/A	June 10, 2005	Roads were flooded and closed in the Towns of Barton, Nichols and Waverly. The County had approximately \$20K in property damage.
Flood	N/A	N/A	October 25, 2005	The Town of Waverly had \$20 K in property damages from the flooding event.
Flood	N/A	N/A	November 30 – December 1, 2005	The Town of Waverly had \$25 K in property damages from the flooding event.
Flood	N/A	N/A	January 18, 2006	Heavy rainfall caused minor flooding in Tioga County. The Town of Barton had \$10 K in property damages from the flooding event.
Severe Storm and Flooding	DR-1650	Yes	June 26-30, 2006	Total rainfall for this three-day event was up to six inches in Tioga County. Almost every stream and creek overflowed its banks. Flash flooding occurred in the Town of Owego and the Village of Waverly. The County had over \$105M in property damage.
Flash Flood	DR-1670	Yes	November 16-17, 2006	Approximately \$35 K in property damages County-wide.
Severe Winter Storm	N/A	N/A	February 13-14, 2007	Snowfall totals in Tioga County ranged from 12 to 18 inches.
Riverine Flood	N/A	N/A	March 15-16, 2007	The Town of Barton had approximately \$5 K in property damage.
Riverine Flood	N/A	N/A	March 25-30, 2007	Not available.
Drought	N/A	N/A	October – November 2007	Not available.
Winter Weather	N/A	N/A	November 17, 2007	Not available.
Heavy Snow	N/A	N/A	December 13, 2007	Not available.
Tornado	N/A	N/A	May 16, 2009	Approximately \$10 K in property damage County-wide.
Flash Flooding	N/A	N/A	September 30 – October 1, 2010	Approximately \$75 K in property damage County-wide.
Heavy Snow	N/A	N/A	March 6-7, 2011	In Tioga County, snowfall totals ranged from 13 to 18 inches.
Severe Storm, Flooding, Straight-Line Winds	DR-1993	Yes	April 27-28, 2011	Approximately \$3 M in property damages County-wide.
Severe Storms	N/A	N/A	May 26, 2011	Approximately \$45 K in property damage County-wide.



Type of Event	FEMA Disaster # (if applicable)	County Designated?	Date	Approximate Damage Assessment
Heat Wave	N/A	N/A	July 21-23, 2011	A record high of 100°F occurred.
Remnants of Tropical Storm Lee	DR-4031	Yes	September 7-12, 2011	Over \$477 M in property damage County-wide.

Note: N/A = Not applicable

D.) NATURAL HAZARD RISK/VULNERABILITY RISK RANKING

Rank #	Hazard type	Estimate of Potential Dollar Losses to Structures Vulnerable to the Hazard ^a	Probability of Occurrence	Risk Ranking Score (Probability x Impact)	Hazard Ranking ^b
1	Flood	1% Annual Chance: \$191,757,000 0.2% Annual Chance: \$228,938,000	Frequent	45	High
2	Severe Winter Storm	1% of GBS: \$3,192,660 5% of GBS: \$15,963,300	Frequent	39	High
3	Severe Storm	100-Year MRP: \$0 500-Year MRP: \$2,490 Annualized Loss: \$679	Frequent	30	Medium
4	Earthquake	500-Year MRP: \$312,370 2,500-Year MRP: \$3,227,384 Annualized Loss: \$4,157	Occasional	20	Low
5	Drought	Not available	Frequent	18	Low

- ^a. Building damage ratio estimates based on FEMA 386-2 (August 2001)
- ^b. High = Total hazard priority risk ranking score of 38 and above
Medium = Total hazard priority risk ranking of 21-37
Low = Total hazard risk ranking 20 or below
- ^c. The valuation of general building stock and loss estimates was based on the default general building stock database provided in HAZUS-MH 2.0 (RSMMeans 2006).
- ^d. Loss estimates are structural values only; does not include the value of contents.
- ^e. Loss estimates represent both structure and contents.
- ^f. The HAZUS-MH earthquake model results are reported by Census Tract.

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.

The Village indicates that it has moderate limited capability, moderate planning and regulatory capability, and limited administrative and technical capability with a somewhat willing political capability to enact policies or programs to reduce hazard vulnerabilities in the community.

E.1) Legal and Regulatory Capability

Regulatory Tools (Codes, Ordinances., Plans)	Do you have this?	Enforcement Authority	Code Citation (Section, Paragraph, Page Number, Date of adoption)
1) Building Code		Local	
2) Zoning Ordinance		Local	
3) Subdivision Ordinance		Local	
4) NFIP Flood Damage Prevention Ordinance	Y	Local	Under Development
4a) Cumulative Substantial Damages		Local	
4b) Freeboard		Local	
5) Growth Management		Local	
6) Floodplain Management / Basin Plan	Y	Local or Watershed	Under Development
7) Stormwater Management Plan/Ordinance		Local	
8) Comprehensive Plan / Master Plan/ General Plan		Local	
9) Capital Improvements Plan		Local or County	
10) Site Plan Review Requirements		Local	
11) Open Space Plan		Local or County	
12) Stream Corridor Management Plan		Local or Watershed	
13) Watershed Management or Protection Plan		Local or Watershed	
14) Economic Development Plan		County	
15) Comprehensive Emergency Management Plan		Local or County	
16) Emergency Response Plan	Y	Local or County	9/26/06
17) Post Disaster Recovery Plan	Y	Local	1999
18) Post Disaster Recovery Ordinance		Local	
19) Real Estate Disclosure Requirement		State	
20) Other [Special Purpose Ordinances (i.e., critical or sensitive areas)]		Local or County	

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	
2) Engineer(s) or Professional(s) trained in construction practices related to buildings and/or infrastructure	Y	
3) Planners or engineers with an understanding of natural hazards	Y	
4) NFIP Floodplain Administrator	Y	Michael LeRose, Code Enforcement Officer
5) Surveyor(s)	N	
6) Personnel skilled or trained in "GIS" applications	N	
7) Scientist familiar with natural hazards	Y	
8) Emergency Manager	Y	
9) Grant Writer(s)	N	
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)	Yes
2) Capital Improvements Project Funding	No
3) Authority to Levy Taxes for specific purposes	No
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	No
7) Incur debt through special tax bonds	No
8) Incur debt through private activity bonds	Don't know
9) Withhold public expenditures in hazard-prone areas	Don't know
10) State mitigation grant programs (e.g. NYSDEC, NYCDEP)	No
11) Other	Don't know

E.4) Community Classifications

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

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

The classifications listed above relate to the community’s effectiveness in providing services that may impact it’s 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.) MITIGATION STRATEGY

F.1) Past Mitigation Actions/Status

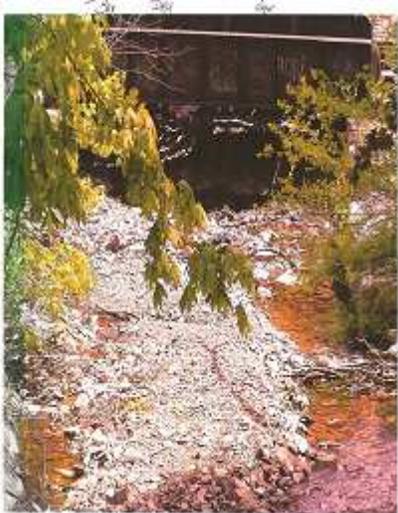
2006 Mitigation Project	Status	Action
<p>Dry Brook Creek – overall concern with gravel deposits that cause problems with culverts that cause flooding of roadways. Some concern with eroding stream banks.</p> <ul style="list-style-type: none"> • Bank erosion has resulted in increased sedimentation to impoundments used as emergency water supply for the Village. • Railroad Bridge has culvert that is plugged by silt and gravel. • Culvert on Broad Street between Johnson and Loder Street is always blocked with debris. <p>Broad Street culverts to small, restricted during flooding events that result in flooding.</p>	<p>Site Investigation complete; follow up with Village with DEC MOU Recommendation: Have areas evaluated by SWCD for suggestions on proper maintenance. Problems may be eliminated by MOU with NYSDEC which allows DPWs to maintain 50 feet upstream and downstream of bridges and culverts. District Staff made site visits to locations and determined</p>	<p>Included in 2012 Mitigation Strategy below.</p>

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2006 Mitigation Project	Status	Action
	culvert issues would be addressed by gravel and debris removal; an annual maintenance issue. District will discuss with the village the DEC MOU process which would allow them to do regular maintenance.	
Cayuta Creek – Streambank erosion and gravel deposition are primary concerns. <ul style="list-style-type: none"> • PWS well #2 almost flooded; well should be elevated. Water Main near Route 17C has been exposed due to streambank erosion. Site needs to be stabilized.	Recommendation: Village of Waverly should apply FEMA Hazard Mitigation Monies to address elevation of PWS well #2 and address water main exposure near Route 17C.	Included in 2012 Mitigation Strategy below.
Lincoln Street Runoff – Overland flow from nearby hill results in continuous street flooding.	Complete. Funding secured.	Hazard Mitigation grant has been secured by the village to construct and detention basin which will hold the overland flow. Village working with Private Engineer on project.
Cayuta Creek needs to be reestablished to original streambed and stabilized via Rosgen Method	Incomplete.	Included in 2012 Mitigation Strategy below.
Dry Brook Creek restore dam to pre 1973 capacity to lessen flooding. Replace undersize culvert under Broad Street.	Incomplete. Consequences of NYS DEC new dam regulations.	Included in 2012 Mitigation Strategy below.

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Below are photos of vulnerable areas that are addressed in the mitigation strategy (Table F).



F.2) Hazard Vulnerabilities Identified

It is estimated that in the Village of Waverly, 212 residents live within the 1% annual chance flood area (NFIP Special Flood Hazard Area). Of the municipality's total land area, 14.1% is located within the 1% annual chance flood area. \$19,1757,000 (35%) of the municipality's general building stock replacement cost value (structure and contents) is located within the 1% annual chance flood area.

There are 39 NFIP policies in the community and there are 31 policies located within the 1% annual chance flood area. FEMA has identified 0 Repetitive Loss (RL) including 0 Severe Repetitive Loss (SRL) properties in the municipality.

NFIP Summary

Municipality	# Policies (1)	# Claims (Losses) (1)	Total Loss Payments (2)	# Rep. Loss Prop. (1)	# Severe Rep. Loss Prop. (1)	# Policies in 100-year Boundary (3)	# Policies in 500-Boundary (3)	# Policies Outside the 500-year Flood Hazard (3)
Waverly (V)	39	22	\$94,744	0	0	31	32	7

Source:

- (1) Policies, claims, repetitive loss and severe repetitive loss statistics provided by FEMA Region 2, in April 2012 using the "Comm_Name". These statistics are current as of January 31, 2012. Please note the total number of repetitive loss properties includes the severe repetitive loss properties.
- (2) Total building and content losses from the claims file provided by FEMA Region 2 (current as of January 31, 2012).
- (3) The policy locations used are based on the latitude and longitude provided by FEMA Region 2.

HAZUS-MH estimates that for a 1% annual chance flood, \$6427000 (1.2%) of the municipality's general building stock replacement cost value (structure and contents) will be damaged, 209 people may be displaced, 101 people may seek short-term sheltering, and an estimated 550 tons of debris could be generated. HAZUS-MH estimates no damage and loss of use to critical facilities in the community as a result of a 1% annual chance flood event.

Please refer to the Hazard Profiles for additional vulnerability information relevant to this jurisdiction.

F.3) PROPOSED HAZARD MITIGATION INITIATIVES

Note some of the identified mitigation initiatives in Table F are dependent upon available funding (grants and local match availability) and may be modified or omitted at any time based on the occurrence of new hazard events and changes in municipal priorities.

Initiative	Mitigation Initiative	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Goals and Objectives Met	Lead and Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Type
1	Dry Brook Creek Streambank stabilization Project – Moore Street; Delores Sampson Property- District received funding through the FEMA PA program to stabilize eroding streambank to protect house. Rip Rap will be installed along with a constructed plunge pool for approximately 100 feet.	NA	Flood	1-1, 4-1	SWCD with support from Village. Of Waverly, Town of Barton	High	\$100,000	FEMA PA	Short	High	NR
2	Repair flood wall along Cayuta Creek	Existing	Flood	1-1, 6-2	Village Engineer	High	High	FEMA HMA	Short	High	SP
	Stream Bank Stabilization to repair and prevent further erosion to Cayuta Creek bank.	NA	Flood	1-1, 1-4	Village Engineer/DPW	Medium	Medium	Local Budget	Short	High	SP
3	Remove stone throughout Cayuta Creek	NA	Flood	1-1, 4-1	Village Engineer	High	High	FEMA HMA	Short	High	NR
4	Retrofit structures located in hazard-prone areas to protect structures from future damage, with repetitive loss and severe repetitive loss properties as priority.	Existing	Flood, Severe Storm, Earthquake	1-1, 1-2, 1-9	Municipality (via Municipal Engineer/NFIP Floodplain Administrator) with support from NYSOEM,	High	High	FEMA Mitigation Grant Programs and local budget (or	Long-term DOF	Medium-High*	PP

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Initiative	Mitigation Initiative	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Goals and Objectives Met	Lead and Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Type
	<p>Phase 1: Identify appropriate candidates for retrofitting based on cost-effectiveness versus relocation.</p> <p>Phase 2: Where retrofitting is determined to be a viable option, work with property owners toward implementation of that action based on available funding from FEMA and local match availability.</p>				FEMA			property owner) for cost share			
5	<p>Purchase, or relocate structures located in hazard-prone areas to protect structures from future damage, with repetitive loss and severe repetitive loss properties as priority.</p> <p>Phase 1: Identify appropriate candidates for relocation based on cost-effectiveness versus retrofitting.</p> <p>Phase 2: Where relocation is determined to be a viable option, work with property owners toward implementation of that action based on</p>	Existing	Flood, Severe Storm	1-2, 1-9, 3-2	Municipality (via Municipal Engineer/NFIP Floodplain Administrator) with support from NYSOEM, FEMA	High	High	FEMA Mitigation Grant Programs and local budget (or property owner) for cost share	Long-term DOF	Medium-High*	PP



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Initiative	Mitigation Initiative	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Goals and Objectives Met	Lead and Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Type
	available funding from FEMA and local match availability.										
6	<p>Maintain compliance with and good-standing in the NFIP including adoption and enforcement of floodplain management requirements (e.g. regulating all new and substantially improved construction in Special Hazard Flood Areas), floodplain identification and mapping, and flood insurance outreach to the community.</p> <p>Further, continue to meet and/or exceed the minimum NFIP standards and criteria through the following NFIP-related continued compliance actions identified as Initiatives 7 – X (below).</p>	New & Existing	Flood, Severe Storms	1-1, 1-2, 1-3, 1-6, 1-7, 1-9	Municipality (via Municipal Engineer/NFIP Floodplain Administrator) with support from NYSOEM, ISO FEMA	High	Low - Medium	Local Budget	Ongoing	High	PP
7	Begin the process to adopt higher regulatory standards to manage flood risk (i.e. increased freeboard, cumulative substantial damage/improvements).	New & Existing	Flood, Severe Storms	1-1, 1-7	Municipality (via Municipal Engineer/NFIP Floodplain Administrator) with support from NYSOEM, FEMA	Low	Low	Municipal Budget	Short	High	PP



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Initiative	Mitigation Initiative	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Goals and Objectives Met	Lead and Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Type
8	Conduct and facilitate community and public education and outreach for residents and businesses to include, but not be limited to, the following to promote and effect natural hazard risk reduction: <ul style="list-style-type: none"> • Provide and maintain links to the HMP website, and regularly post notices on the County/municipal homepage(s) referencing the HMP webpages. • Prepare and distribute informational letters to flood vulnerable property owners and neighborhood associations, explaining the availability of mitigation grant funding to mitigate their properties, and instructing them on how they can learn more and implement mitigation. • Use email notification systems and newsletters to better educate the public on flood insurance, the availability of mitigation grant funding, and personal natural hazard risk reduction measures. • Work with neighborhood associations, civic and business groups to disseminate information on flood insurance and the availability of mitigation grant funding. 										
	See above.	NA	All Hazards	1-5, 1-7, 2-1, 2-2, 3-3, 3-4	Municipality with support from Planning Partners, NYSOEM, FEMA	Low - Medium	Low - Medium	Municipal Budget; HMA programs with local or county match	Short	High	PE
9	Have designated NFIP Floodplain Administrator (FPA) become a Certified Floodplain Manager through the ASFPM, and pursue relevant continuing education training such as FEMA Benefit-Cost Analysis.	N/A	Flood, Severe Storms	1-6, 1-8	NFIP Floodplain Administrator	Medium	Low	Municipal Budget	Short (DOF)	High	PP
10	Archive elevation certificates	NA	Flood, Severe Storm	1=3, 1-5, 1-6, 1-8, 2-3	NFIP Floodplain Administrator	Low	Low	Local Budget	On-going	High	PP
11	Continue to support the implementation, monitoring, maintenance, and updating of this Plan, as defined in Section 7.0	New & Existing	All Hazards	All	Municipality (via mitigation planning point of contacts) with support from Planning Partners (through their Points of	High	Low – High (for 5-year update)	Local Budget, possibly FEMA Mitigation Grant Funding for 5-year update	Ongoing	High	PP



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					Contact), NYSOEM						
12	Complete the ongoing updates of the Comprehensive Emergency Management Plans	New & Existing	All Hazards	1-1, 1-7, 3-1, 5-1, 6-2, 6-3, 6-4	Municipality with support from NYSOEM	Low	Low	Local Budget	Ongoing	High	PP
13	Create/enhance/maintain mutual aid agreements with neighboring communities for continuity of operations.	New & Existing	All Hazards	5-3, 5-6	Municipality with support from Surrounding municipalities and County	Low	Low	Local Budget	Ongoing	High	PP
14	Identify and develop agreements with entities that can provide support with FEMA/SOEM paperwork after disasters; qualified damage assessment personnel – Improve post-disaster capabilities – damage assessment; FEMA/SOEM paperwork compilation, submissions, record-keeping	NA	All Hazards	5-1, 5-2, 5-3	Municipality with support from County, NYSOEM, FEMA	Medium	Medium	Local budget	Short	Medium	PP
15	Work with regional agencies (i.e. County and SOEM) to help develop damage assessment capabilities at the local level through such things as training programs, certification of qualified individuals (e.g. code officials, floodplain	NA	All Hazards	5-1, 5-2, 5-3	Municipality with support from County, NYSOEM	Medium	Medium	Local budget, FEMA HMA and HLS grant programs	Short – Long-term DOF	Medium	PP



Initiative	Mitigation Initiative	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Goals and Objectives Met	Lead and Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Type
	managers, engineers).										
16	Participate in local, county and/or state level projects and programs to develop improved structure and facility inventories and hazard datasets to support enhanced risk assessment efforts. Such programs may include developing a detailed inventory of critical facilities based upon FEMA's Comprehensive Data Management System (CDMS) which could be used for various planning and emergency management purposes including: <ul style="list-style-type: none"> • Support the performance of enhanced risk and vulnerability assessments for hazards of concern. • Support state, county and local planning efforts including mitigation (including updates to the State HMP), comprehensive emergency management, debris management, and land use. Improved structural and facility inventories could incorporate flood, wind and seismic-specific parameters (e.g. first floor elevations, roof types, structure types based on FEMA-154 "Rapid Visual Screening of Buildings for Potential Seismic Hazards" methodologies). It is recognized that these programs will need to be initiated and supported at the County and/or State level, and will require training, tools and funding provided at the county, state and/or federal level.										
	See above.	Existing	All Hazards	1-3, 1-6, 1-7, 2-3, 2-5	HMP Coordinator	Medium-High	Medium-High	Mitigation grant programs (PDM or HMGP) with local match	Long term DOF	Medium	PP

Notes:

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

Costs:

Where actual project costs have been reasonably estimated:

Low = < \$10,000

Medium = \$10,000 to \$100,000

High = > \$100,000

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

Low = Possible to fund under existing budget. Project is part of, or can be part of an existing on-going program.

Medium = Could budget for under existing work-plan, but would require a reapportionment of the budget or a budget amendment, or the cost of the project would have to be spread over multiple years.

High = Would require an increase in revenue via an alternative source (i.e., bonds, grants, fee increases) to implement. Existing funding levels are not adequate to cover the costs of the proposed project.

Benefits:

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

Low = < \$10,000

Medium = \$10,000 to \$100,000

High = > \$100,000



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

Low = Long term benefits of the project are difficult to quantify in the short term.

Medium = Project will have a long-term impact on the reduction of risk exposure to life and property, or project will provide an immediate reduction in the risk exposure to property.

High = Project will have an immediate impact on the reduction of risk exposure to life and property.

Potential Funding Sources:

ACOE = US Army Corps of Engineers

CBDG = Community Development Block Grants

DEC = NY Department of Environmental Conservation

DHSES=Department of Homeland Security Emergency Services

EMPG = Emergency Management Planning Grant

EWP = Emergency Watershed Protection Grants (NRCS)

FMA = Flood Mitigation Assistance Grant Program (FEMA)

HLS = Homeland Security Programs

HMGP= Hazard Mitigation Grant Program (FEMA)

HMA = Hazard Mitigation Assistance (FEMA)

NOAA= National Oceanic and Atmospheric Association

PDM = Pre-Disaster Mitigation Grant Program (FEMA)

RFC = Repetitive Flood Claims Grant Program

SHSP = State Homeland Security Program Grant

SRL = Severe Repetitive Loss Grant Program (FEMA)

WQIP = Water Quality Improvement Project Program (NYSDEC)

Timeline:

Short = 1 to 5 years. Long Term= 5 years or greater. OG = On-going program.

DOF = Depending on funding.

Notes (for Mitigation Type):

1. PP=Prevention and Property Protection: 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 or actions that involve (1) modification of existing buildings or structures to protect them from a hazard or (2) removal of the structures from the hazard area. Examples include planning and zoning, floodplain local laws, capital improvement programs, open space preservation, and storm water management regulations and acquisition, elevation, relocation, structural retrofits, storm shutters, and shatter-resistant glass.
2. PE=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.
3. NR=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.
4. SP=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.
5. ES=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.

G.) 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)
1	2	H	H	Y	Y	Y	H
2	2	H	H	Y	Y	Y	H
3	2	M	M	Y	N	Y	H
4	3	H	H	Y	Y	Y	M-H
5	3	H	H	Y	Y	Y	M-H
6	6	H	L-M	Y	N	Y	H
7	2	L	L	Y	N	Y	H
8	6	L-M	L-M	Y	Y	Y	H
9	2	M	L	Y	Y	Y	H
10	5	L	L	Y	N	Y	H
11	All	H	L-M	Y	Y	Y	H
12	7	L	L	Y	N	Y	H
13	2	L	L	Y	N	Y	M
14	3	M	M	Y	Y	Y	M
15	3	M	M	Y	Y	Y	M
16	5	M-H	M-H	Y	Y	Y	M

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

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: Yes

Prioritization of initiatives was based on parameters other than stated above: Not applicable.

H.) FUTURE NEEDS TO BETTER UNDERSTAND RISK/VULNERABILITY

None at this time.

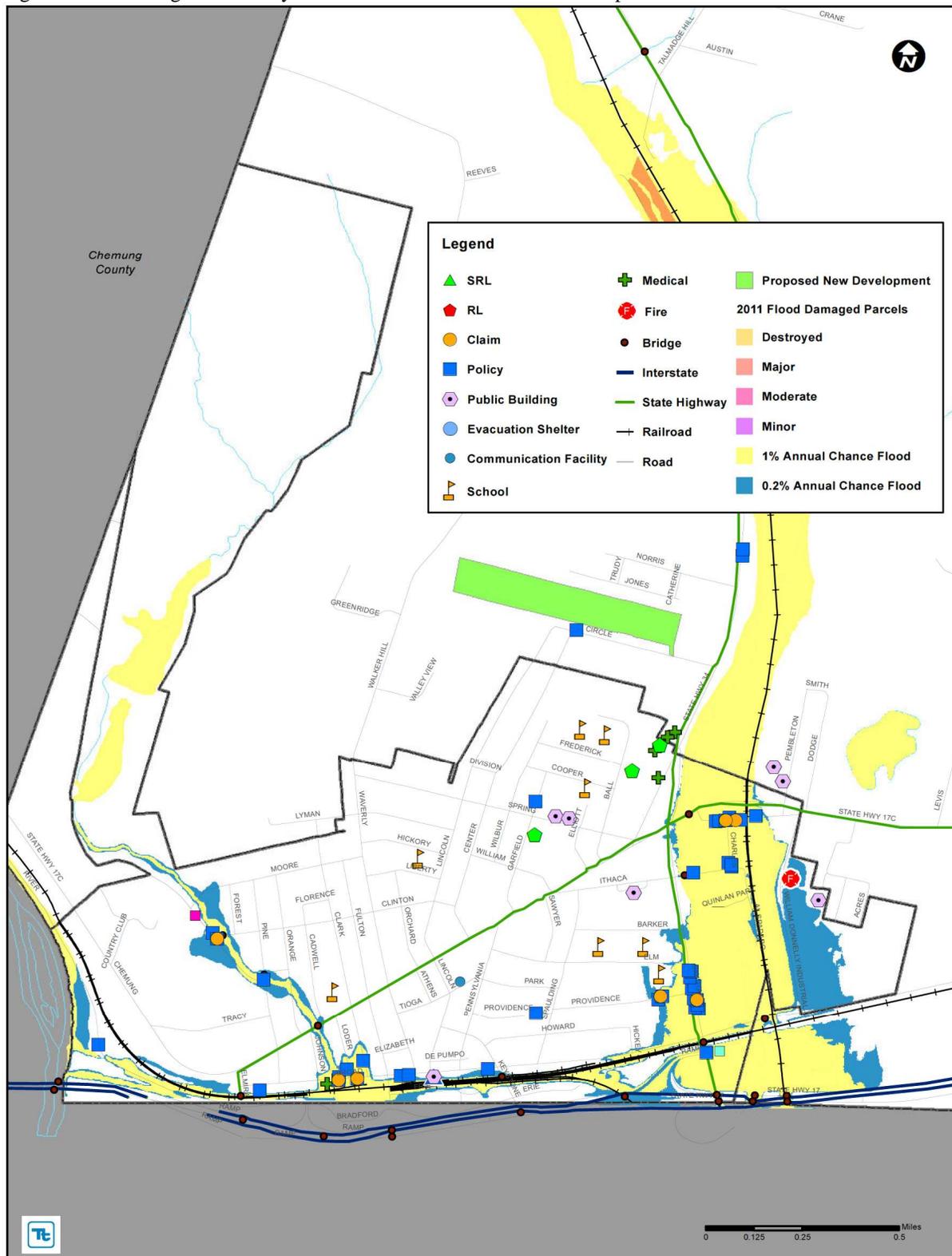
I.) HAZARD AREA EXTENT AND LOCATION

A hazard area extent and location map has been generated for the Village of Waverly to illustrate the probable areas impacted within the Village of Waverly and is provided on the next page. 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 Village of Waverly has significant exposure. The Planning Area maps are provided in the hazard profiles within Section 5.4, Volume I of this Plan.

J.) ADDITIONAL COMMENTS

No additional comments at this time.

Figure 9.16-1. Village of Waverly Hazard Area Extent and Location Map



Sources: FEMA, 2011

Notes: NFIP = National Flood Insurance Program. RL = Repetitive Loss. SRL = Severe Repetitive Loss. The entire municipality is vulnerable to the following hazards: drought, earthquake, severe storm, severe winter storm and wildfire.