



9.9 Town of Putnam Valley

This section presents the jurisdictional annex for the Town of Putnam Valley.

9.9.1 Hazard Mitigation Plan Point of Contact

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

Primary Point of Contact	Alternate Point of Contact
Robert Tendy, Supervisor 265 Oscawana Lake Road, Putnam Valley 845-526-2121 btendy@putnamvalley.com	Joseph Hertelendy, General Foreman, Highway Department 265 Oscawana Lake Road, Putnam Valley 845-526-3333 jhertelendy@putnamvalley.com

9.9.2 Municipal Profile

This section provides a summary of the community.

Population

According to the 2010 U.S. Census, the population of the Town of Putnam Valley was 11,809.

Location

Putnam Valley has a land area of approximately 27,300 acres. The Town is situated in the southwest portion of Putnam County and is bordered by the Town of Philipstown to the west and northwest; the Town of Kent to the northeast; and the Town of Carmel to the southeast. To the south of Putnam Valley are the Towns of Yorktown, Cortlandt, and the City of Peekskill, all in Westchester County. The Town has a total area of 43 square miles, of which 41.4 square miles is land and 1.6 square miles is water.

Brief History

The Town of Putnam Valley was incorporated in 1839 as the Town of Quincy, when it was separated from the Town of Philipstown, and it took the name "Putnam Valley" in 1840 as a result of inhabitants being unfavorably impressed with John Quincy Adams. In 1861, a small part of the town of Carmel was added to Putnam Valley.

Governing Body Format

Town government is run by the Town Board as the executive, administrative, and legislative body of the town. The Town Board represents the will and voice of the people.

Growth/Development Trends

The following table summarizes major development that occurred in the municipality over the past five years, as well as known or anticipated future development in the next five (5) years. Refer to the map in section 9.9.8 of this annex which illustrates the hazard areas along with the location of potential new development.

Table 9.9-1. Growth and Development

Property Name	Type (Residential or Commercial)	Number of Structures	Address / Parcel ID(s)	Known Hazard Zone*	Description / Status
HYH Subdivision	Residential	15 lot residential subdivision	Pudding St. 41.-2-13 & 41.15- 1-3	Wildfire: Intermix	Pending Approval, Under Review



Property Name	Type (Residential or Commercial)	Number of Structures	Address / Parcel ID(s)	Known Hazard Zone*	Description / Status
Rose Hill Cemetery	Non-Residential	Develop 4.84 ac. of 59.7 ac. parcel to create 1,888 grave sites, access driveway, modify existing drainage, construct a stormwater management pond and create a meditation area	NYS Rt. 9 84.-2-35	Wildfire: Intermix	Pending Approval, Under Review

* Only location-specific hazard zones or vulnerabilities identified.

Source: June 2014 "Large Development Projects Report", Putnam County Department of Planning, Development and Transportation; as amended by municipality

9.9.3 Natural Hazard Event History Specific to the Municipality

Putnam County has a history of natural hazard events as detailed in Volume I, Section 5.0 of this plan. A summary of historical events is provided in each of the hazard profiles and includes a chronology of events that have affected the County and its municipalities. The table below presents a summary of natural events that have occurred to indicate the range and impact of natural hazard events in the community. Information regarding specific damages is included if available based on reference material or local sources. For details of events prior to 2008, refer to Volume I, Section 5.0 of this plan.

Table 9.9-2. Hazard Event History

Dates of Event	Event Type	FEMA Declaration # (If Applicable)	County Designated?	Summary of Damages/Losses
August 1990	Flooding	N/A	N/A	Putnam and Westchester Counties had \$5 M in property damage
July 9, 1997	Thunderstorm / Wind	N/A	N/A	\$30K in property damage in Lake Carmel
September 16-18, 1999	Hurricane Floyd Major Disaster Declarations	DR-1296	Yes	\$1.9 M in property damage Countywide. Town experienced severe road damage throughout the Town.
November 2001 – January 2002	Drought	N/A	N/A	NYC's combined storage in water system reservoir systems was at a low 41% capacity
April - October 2002	Drought	N/A	N/A	Groundwater and water storage facilities were below normal. NYC reservoir system reached a low of 64.5%.
July 9, 2002	Lightning	N/A	N/A	Lightning strike caused several fires in Mahopac Falls; approximately \$500 K in property damage.
April 14-18, 2007	Severe Storms & Inland & Coastal Flooding	DR-1692	Yes	Putnam Valley applied for Public Assistance (PA) totaling \$235K for damage to roads and bridge
August 11, 2008	Lightning	N/A	N/A	Lightning struck and destroyed a barn in Milltown; approximately \$75 K in property damage.
September 30, 2010	Strong Wind	N/A	N/A	Strong winds downed power lines and trees; power outages; approximately \$50 K in property damage
August 26 – September 5, 2011	Hurricane Irene	DR-4020	Yes	Town experienced severe road damage throughout the Town.
October 27 –	Hurricane Sandy	DR-4085	Yes	Town experienced road damage throughout the



Dates of Event	Event Type	FEMA Declaration # (If Applicable)	County Designated?	Summary of Damages/Losses
October 8, 2012				Town.

Notes:

EM Emergency Declaration (FEMA)

FEMA Federal Emergency Management Agency

DR Major Disaster Declaration (FEMA)

IA Individual Assistance

N/A Not applicable

PA Public Assistance

9.9.4 Hazard Vulnerabilities and Ranking

The hazard profiles in Section 5.0 of this plan have detailed information regarding each plan participant's vulnerability to the identified hazards. The following summarizes the hazard vulnerabilities and their ranking in the Town of Putnam Valley. For additional vulnerability information relevant to this jurisdiction, refer to Section 5.0.

Hazard Risk/Vulnerability Risk Ranking

The table below summarizes the hazard risk/vulnerability rankings of potential hazards for Town of Putnam Valley.

Table 9.9-3. Hazard Risk/Vulnerability Risk Ranking

Hazard type	Estimate of Potential Dollar Losses to Structures Vulnerable to the Hazard ^{a, b, e}	Probability of Occurrence ^c	Risk Ranking Score (Probability x Impact)	Hazard Ranking
Earthquake	100-Year GBS: \$0 500-Year GBS: \$690,845 2,500-Year GBS: \$13,724,018	Occasional	12	Low
Extreme Temperature	Damage estimate not available	Frequent	21	Medium
Flood	1% Annual Chance: \$50,180,733	Frequent	18	Medium
Landslide	RCV Exposed: \$2,820,792,281	Frequent	54	High
Severe Storm	100-Year MRP: \$1,423,418 500-year MRP: \$9,093,192 Annualized: \$128,960	Frequent	48	High
Severe Winter Storm	1% GBS: \$13,525,096 5% GBS: \$67,625,482	Frequent	51	High
Wildfire	Estimated Value in the WUI: \$2,029,345,102	Frequent	42	High

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

b. The valuation of general building stock and loss estimates was based on the custom inventory developed for Putnam County and probabilistic modeling results and exposure analysis as discussed in Section 5.

c. The earthquake and hurricane wind hazards were evaluated by Census tract. The Census tracts do not exactly align with municipal boundaries; therefore, a total is reported for each Town inclusive of the Villages within the Town boundary.

d. Frequent = Hazard event is likely to occur within 25 years.

Occasional = Hazard event is likely to occur within 100 years

Rare = Hazard event is not likely to occur within 100 years

e. The estimated potential losses for Severe Storm are from the HAZUS-MH probabilistic hurricane wind model results. See footnote c.

GBS = General building stock

MRP = Mean return period

RCV = Replacement cost value

National Flood Insurance Program (NFIP) Summary

The following table summarizes the NFIP statistics for the municipality.





Table 9.9-4. 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)
Town of Putnam Valley	80	62	\$1,424,804.40	5	2	15		

Source: FEMA, 2014

Note (1) Policies, claims, repetitive loss and severe repetitive loss statistics provided by FEMA and are current as of February 28, 2014 and are summarized by Community Name. Please note the total number of repetitive loss properties excludes the severe repetitive loss properties. The number of claims represents claims closed by 2/28/2014.

Note (2) Total building and content losses from the claims file provided by FEMA Region 2.

Note (3) The policies inside and outside of the flood zones is based on the latitude and longitude provided by FEMA Region 2 in the policy file.

Critical Facilities

The table below presents HAZUS-MH estimates of the damage and loss of use to critical facilities in the community as a result of a 1- and 0.2-percent annual chance flood events.

Table 9.9-5. Potential Flood Losses to Critical Facilities

Name	Type	Exposure		Potential Loss from 1% Flood Event		
		1% Event	0.2% Event	Percent Structure Damage	Percent Content Damage	Days to 100-Percent ⁽²⁾
GOVERNMENT	Government	X	X	0	0	
HOLLOW BROOK DAM	Dam	X	X			
LOWER (SOUTH) WICCOPEE DAM	Dam	X	X			

Source: HAZUS-MH 2.1

Note: Please note it is assumed the wells and pump stations have electrical equipment and openings are three-feet above grade. If depth of water is less than 3 feet, no estimated damages are calculated.

NP Not provided by HAZUS

x Facility located within the DFIRM boundary.

- No loss calculated by HAZUS

NA Not calculated in HAZUS

NF HAZUS estimate the facility will not be functional

(1) HAZUS-MH 2.1 provides a general indication of the maximum restoration time for 100% operations. Clearly, a great deal of effort is needed to quickly restore essential facilities to full functionality; therefore this will be an indication of the maximum downtime (HAZUS-MH 2.1 User Manual).

(2) In some cases, a facility may be located in the DFIRM flood hazard boundary; however HAZUS did not calculate potential loss. This may be because the depth of flooding does not amount to any damages to the structure according to the depth damage function used in HAZUS for that facility type.

(3) Dams located in the floodplain are not listed in the table above. HAZUS does not calculate potential losses to a dam as a result of a flood event.

Other Vulnerabilities Identified by Municipality

The 2013 FEMA Flood Insurance Study (FIS) for Putnam County did not identify any floodprone areas in the Town of Putnam Valley (FEMA FIS 2013).

In addition to those identified above, the municipality has identified the following vulnerabilities:



- The Town experiences significant flooding and associated road damage throughout the Town during major events such as Tropical Storm Floyd (1999), April 2007 storm, Irene (2011), and Sandy (2012), at a particularly in the following locations:
 - Twin Pines/Rochdale Road
 - Shamrock Drive
 - Boswell Road
 - Camp Collins Road
 - Trail of Hemlocks
 - Chapman Rod
 - Sunken Mine Road
 - Cimarron Road
 - Horton Hollow Road
 - Conopus Hollow Road
 - North Shore Road
 - Tinker Hill Road
 - Wiccopee Road
 - Porters Road
 - Woods End Road
 - Mueller Mountain Road
 - South Highlands Road
 - New Hill Road
 - Seifert Lane
 - Sylvan Road
 - Brookdale Gardens
 - Dunderberg Road
 - Coleman's Landing Road
 - Noswal Road (private)
- The following critical or essential facilities in the Town lack back-up power:
 - Putnam Valley Central School (171 Oscawana Lake Road)
 - Putnam Valley Central School – High School (Peekskill Hollow Road) – existing generator is limited
 - Glenmar Gardens – 25 homes on their own potable water system
- Corner of Peekskill Hollow Road and Church Street – private property flooding during Irene and Sandy (Horan (RL) and a neighbor) – believe to their engineer to be caused by stream silt build up – the stream is backing up in this area – reviewed with NYSDEC and advised the Town not to touch the area
- Bridge at center of town near intersection of Peekskill Hollow Road and Oscawana Lake Road – a problem is developing with silt build ups (islands). This goes underneath the bridge that has sewer pipes located on it...the water level is getting increasingly closer to the underside of bridge and is considered an impending problem.
- Dunderberg Road and Coleman's Landing Road (also Noswal Road – private) – flooding during Irene and Sandy, water coming up from Lake Oscawana which is silting in - flooding road and residences in the area.
- Flooding in the area downstream of Wiccopee Reservoir.
- Wiccopee Road – two drainage pipes that get washed out all of the time. Pipes get frequently clogged, and are rotting out. This is City of Peekskill's drinking water, and several historic sites are in the area (Tompkin's Corner).
- Dunderberg Road and Oscawana Lake Road – Smaller, old dam. Lack of being able to control level results in local properties and septic systems getting flooded.
- North end of Lake Oscawana – silt islands becoming land masses, cutting another channel through the woods which will result in further erosion.
- John Allen Pond Dam – Dam in Fahnestock State Park (NYSDEC), had a hole in dam wall. Eventually the whole dam blew out.
- Wawayanda – dam rehab in progress, going into 5 years, almost completed
- Canopus Hollow Road, stream along this area has severe stream bank erosion



9.9.5 Capability Assessment

This section identifies the following capabilities of the local jurisdiction:

- Planning and regulatory capability
- Administrative and technical capability
- Fiscal capability
- Community classification
- National Flood Insurance Program
- Integration of Mitigation Planning into Existing and Future Planning Mechanisms

Planning and Regulatory Capability

The table below summarizes the regulatory tools that are available to the municipality.

Table 9.9-6. Planning and Regulatory Tools

Tool / Program (code, ordinance, plan)	Do you have this? (Y/N)	Authority (local, county, state, federal)	Dept. /Agency Responsible	Code Citation and Comments (Code Chapter, date of adoption, name of plan, explanation of authority, etc.)
Building Code	Y			Ch. 132
Zoning Ordinance	Y			Ch. 165
Subdivision Ordinance	Y			Ch. 158
Site Plan Review Requirements	Y		Zoning Board of Adjustments	Zoning Board of Adjustments
National Flood Insurance Program (NFIP) Flood Damage Protection Ordinance	Y	Federal, State, Local		Ch. 136
NFIP - Freeboard	Y	State, Local	See above	Ch. 136 State mandated BFE+2 for single and two-family residential construction, BFE+1 for all other construction types.
NFIP - Cumulative Substantial Damages	N	Local		
Comprehensive Plan / Master Plan	Y	State, Local		Adopted 2007 (online)
Capital Improvements Plan	Y	Local		Ongoing, specifically noted is highway projects
Stormwater Management Plan/Ordinance	Y	Federal, State, Local		Ch. 102 – Stormwater Management Ch. 155 – Soil Erosion and Sediment Control
Floodplain Management / Basin Plan				
Open Space or Greenway Plan				
Emergency Management and/or Response Plan	Y			
Economic Development Plan				Master Plan
Post Disaster Recovery				



Tool / Program (code, ordinance, plan)	Do you have this? (Y/N)	Authority (local, county, state, federal)	Dept. /Agency Responsible	Code Citation and Comments (Code Chapter, date of adoption, name of plan, explanation of authority, etc.)
Plan and/or Ordinance				
Growth Management				
Real Estate Disclosure req.				
Habitat Conservation Plan				
Special Purpose Ordinances (e.g. wetlands, critical or sensitive areas)				

(1) NYS Subdivision laws provide a general framework, but allow room for local ordinances and interpretation.

Administrative and Technical Capability

The table below summarizes potential staff and personnel resources available to the Town of Putnam Valley.

Table 9.9-7. Administrative and Technical Capabilities

Staff/ Personnel Resources	Available (Y or N)	Department/ Agency/Position
Planner(s) or Engineer(s) with knowledge of land development and land management practices	Y	Town Planner, contracted with Kellard Sessions Town Engineer – Folchetti & Associates Stormwater Coordinator – Susan Manno
Engineer(s) or Professional(s) trained in construction practices related to buildings and/or infrastructure	Y	See above
Planners or engineers with an understanding of natural hazards	Y	See above
NFIP Floodplain Administrator	Y	Town Code Enforcement Officer (currently Rich Qualgietta)
Surveyor(s)	Y	Contracted
Personnel skilled or trained in “GIS” applications	Y	
Scientist familiar with natural hazards in the County.		
Emergency Manager		County operated EOC
Grant Writer(s)	Y	
Staff with expertise or training in benefit/cost analysis	Y	Planners and Engineers

Fiscal Capability

The table below summarizes financial resources available to the Town of Putnam Valley.

Table 9.9-8. Fiscal Capabilities

Financial Resources	Accessible or Eligible to Use (Yes/No/Don't Know)
Community Development Block Grants (CDBG)	Y
Capital Improvements Project Funding	Y
Authority to Levy Taxes for specific purposes	Y
User fees for water, sewer, gas or electric service	Y – Mill Pond gets water for Yorktown; Sewer District in PV, Glenmere Gardens
Impact Fees for homebuyers or developers of new development/homes	N
Incur debt through general obligation bonds	Y
Incur debt through special tax bonds	Y



Financial Resources	Accessible or Eligible to Use (Yes/No/Don't Know)
Incur debt through private activity bonds	N
Withhold public expenditures in hazard-prone areas	N, but would do this as appropriate
Mitigation grant programs	Y, both environmental grant opportunities and recent HMGP
Other	

Community Classifications

The table below summarizes classifications for community program available to the Town of Putnam Valley.

Table 9.9-9. Community Classifications

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

N/A = Not applicable. NP = Not participating. - = Unavailable. TBD = To be determined.

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

Criteria for classification credits are outlined in the following documents:

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

National Flood Insurance Program

The following section provides details on the National Flood Insurance Program (NFIP) as implemented within the municipality:

NFIP Floodplain Administrator: Currently Rich Quaglietta; formerly John Landi

Program and Compliance History

The Town of Putnam Valley joined the NFIP in 1987, and is currently an active member of the NFIP. The current effective Flood Insurance Rate Maps are dated March 4, 2013.



As of July 31, 2014 there are 77 policies in force, insuring \$22 million of property with total annual insurance premiums of \$33,328.

The community is currently in good standing in the NFIP and has no outstanding compliance issues. The current NFIP Floodplain Administrator (recently assigned) has no knowledge of when the last CAV was performed, however identifies no specific need for a CAV at this time.

Loss History and Mitigation

Since 1978, 62 claims have been paid totaling \$1.4 million. As of April, 2014 there are 5 Repetitive Loss and 2 Severe Repetitive Loss properties in the Town.

The current NFIP FPA is not aware of any properties that have been declared “Substantially Damaged” in recent flood or other natural hazard events, however he is qualified to make sure determinations. The Town is not aware of any property owners who are interested in mitigation, however intends to make outreach to RL/SRL property owners to identify possible interest in mitigation.

Planning and Regulatory Capabilities

The Town’s floodplain management regulations and ordinances meet the minimum requirements set forth by both FEMA and New York State. There are other ordinances within the Town supporting the implementation of the Flood Damage Prevention Ordinance.

Administrative and Technical Capabilities

Rich Quaglietta recently assumed the position of local NFIP FPA, for which floodplain administration is an auxiliary duty. He is supported by the Town’s Planning Board and Zoning Board (site plan review process), as well as an engineer, planner and MS4 consultant.

Duties and responsibilities of the NFIP Administrator are permit review, inspections, damage assessments as warranted, record keeping, and education and outreach including that associated with the Town’s MS4 program.

Mr. Quaglietta feels he is adequately supported and trained to fulfill his responsibilities as the municipal floodplain administrator, however would be interested in receiving continuing education and possibly certification to support his floodplain management functions.

Public Education and Outreach

While the Town does not currently have a formal education and outreach program in place for floodplain management, this is partially accomplished through the MS4 program.

Actions to Strengthen the Program

Mr. Quaglietta did not identify any barriers to running an effective floodplain management program in the Town. Pursuing additional training and education on matters regarding floodplain management would be of interest, in addition to getting further information on the Community Rating System (CRS) program.

Community Rating System

The Town does not participate in the Community Rating System (CRS) program.



Integration of Hazard Mitigation into Existing and Future Planning Mechanisms

For a community to succeed in reducing long-term risk, hazard mitigation must be integrated into the day-to-day local government operations. As part of this planning effort, each community was surveyed to obtain a better understanding of their community's progress in plan integration. A summary is provided below. In addition, the community identified specific integration activities that have been/will be incorporated into municipal procedures which may include former mitigation initiatives that have become continuous/on-going programs and may be considered mitigation 'capabilities'.

Floodplain Management/Education and Outreach: The Town is not aware of any property owners who are interested in mitigation, however intends to make outreach to RL/SRL property owners to identify possible interest in mitigation.

Floodplain Management: The current NFIP FPA would be interested in receiving continuing education and possibly certification to support his floodplain management functions, and would participate in training workshops/seminars if offered locally.

Building Local Mitigation Capabilities: The Town has included initiative PV-8, to support and participate in county led initiatives intended to build local and regional mitigation and risk-reduction capabilities, within the proposed mitigation strategy.

Public Education and Outreach: The Town has an active MS4 program that includes public education and outreach on stormwater management, which addresses both stormwater quality and quantity and thus supports localized flood reduction.

Capital Plans and Budgets: The Town has a Capital Planning process that includes providing funding for local mitigation projects, including those identified in the proposed mitigation strategy.



9.9.6 Mitigation Strategy and Prioritization

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

Past Mitigation Activity

The municipality identifies the following mitigation projects and/or initiatives have been completed in the past:

- Wawayanda Dam rehabilitation project (extensive 6-year project) was completed in 2014

Proposed Hazard Mitigation Initiatives for the Plan

The Town of Putnam Valley identified mitigation initiatives they would like to pursue in the future. Some of these initiatives may be previous actions carried forward for this Plan. These initiatives are dependent upon available funding (grants and local match availability) and may be modified or omitted at any time based on the occurrence of new hazard events and changes in municipal priorities. Table 9.9-11 identifies the municipality's updated local mitigation strategy.

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

Table 9.9-12 provides a summary of the prioritization of all proposed mitigation initiatives for the Plan.



Table 9.9-10. Proposed Hazard Mitigation Initiatives

Initiative	Mitigation Initiative	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Goals / Objectives Met	Lead and Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category
PV-1	Backup Power for Critical/Essential Facilities: Install back-up power at the following critical facilities: <ul style="list-style-type: none"> Putnam Valley Central School, 171 Oscawana Lake Road Putnam Valley Central School, Peekskill Hollow Road Glenmar Gardens Subdivision - potable water system See Action Worksheet										
	See above.	Existing	Severe Storm, Severe Winter Storm, Climate Change	G-1, G-2, G-5	Town of Putnam Valley, Supervisor Bob Tendy	We will be able to provide local emergency sheltering and warming, thus preventing dangerous relocation of citizens to another facility during a storm event.	>\$100,000	FEMA, Town budget or school budget for local match	6-8 months (after funds are approved)	High	SIP
PV-2	Adam's Corners Stream Rehabilitation: <ul style="list-style-type: none"> Location: Adam's Corner – Intersection of Church Road and Peekskill Hollow Road Problem: A large island has built up in the stream, and is beginning to choke off the stream. This has greatly increased the risk of flooding to private property and structures in the area. Private property flooding during Irene and Sandy (a Repetitive Loss property and a neighbor) – believe to their engineer to be caused by stream silt build up – the stream is backing up in this area – reviewed with NYSDEC who advised the Town not to touch the area. Mitigation Project/Initiative: Work with County and NYSDEC to address the build-up of silt and islands where they are causing backups and changing the direction of flow leading to further stream bank erosion. The Town does not have the equipment needed to do the clearing work. This area is off county roads, thus the County would need to be involved, even leading, in the effort. See Action Worksheet										
	See above.	N/A	Flood, Severe Storm, Severe Winter Storm (heavy snowmelt), Climate Change	G-2, G-3, G-4	Town Supervisor and DPW, working with PC SWCD, NYSDEC and NRCS	High – Restoration of natural stream function; potential damages to property and infrastructure	High	County budget, available grant funding (e.g. NRCS EWP), with local budget for local project support.	Short-term to work with County and agencies to initiative program; actual project implementation dependent on agreement, permitting and funding	High	LPR, NRP



Initiative	Mitigation Initiative	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Goals / Objectives Met	Lead and Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category
PV-3	Oregon Corners Stream Rehabilitation: <ul style="list-style-type: none"> Location: Oregon Corners - Bridge at center of town near intersection of Peekskill Hollow Road and Oscawana Lake Road Problem: A problem is developing with silt build ups (islands). This goes underneath the bridge that has sewer pipes located on it. The water level is getting increasingly closer to the underside of bridge and is considered an impending problem. Further, this has greatly increased the risk of flooding to private property and structures in the area. Mitigation Project/Initiative: Work with County and NYSDEC to address the build-up of silt and islands where they are causing backups and changing the direction of flow leading to further stream bank erosion. The Town does not have the equipment needed to do the clearing work. This area is off county roads, thus the County would need to be involved, even leading, in the effort. See Action Worksheet										
	See above.	N/A	Flood, Severe Storm, Severe Winter Storm (heavy snowmelt), Climate Change	G-2, G-3, G-4	Town Supervisor and DPW, working with PC SWCD, NYSDEC and NRCS	High – Restoration of natural stream function; potential damages to property and infrastructure	High	County budget, available grant funding (e.g. NRCS EWP), with local budget for local project support.	Short-term to work with County and agencies to initiative program; actual project implementation dependent on agreement, permitting and funding	High	LPR, NRP
PV-4	Oscawana Lake Dam Upgrades: <ul style="list-style-type: none"> Location: Dunderberg Road and Oscawana Lake Road Problem: Smaller, old dam at Abley Park. Lack of being able to control level results in local properties and septic systems getting flooded. This stream leads down to City of Peekskill drinking water supply. Mitigation Project/Initiative: Engineer and install a bigger (deeper) flow control to be able to lower the lake by maybe 4' to better regulate the lake. See Action Worksheet 										
	See above.	N/A	Flood, Severe Storm, Severe Winter Storm (heavy snowmelt), Climate Change	G-2, G-3, G-4	Town DPW, working with NYSDEC	High – Reduced damages to property and infrastructure	High	Local funding, as supported by available grant funding (e.g. NYS DEC)	Long Term depending on engineering, permitting and funding resources	High	SIP, NRP
PV-5	Wiccopee Road Culvert Upgrades <ul style="list-style-type: none"> Location: Wiccopee Road, area downstream of Wiccopee Reservoir Problem: Ponds downstream of Wiccopee Reservoir have become silted in, and no longer help to attenuate stormwater flows out of the reservoir. Particularly vulnerable is a section of Wiccopee Road where two drainage pipes get washed out all of the time. Pipes get frequently clogged, and are rotting out. This is City of Peekskill's drinking water, and several historic sites are in the area (Tompkin's Corner) are at risk from flooding. Mitigation Project/Initiative: Need to do a three section pre-cast concrete culvert replacement. This has been reviewed with FEMA after two prior flood events. Engineer has prepared a cost estimate for this. See Action Worksheet										



Initiative	Mitigation Initiative	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Goals / Objectives Met	Lead and Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category
	See Above.	Existing	Flood, Severe Storms, Severe Winter Storms (heavy snowmelt), Climate Change	G-2, G-3, G-4	Highway Department	Reduced vulnerability of public and private property, including historic properties and public drinking water supply	High	Town Budget; grant funding as available	Implementation is short term once funding is dedicated or secured	Medium	SIP
PV-6	Canopus Hollow Road Stream Rehabilitation <ul style="list-style-type: none"> Location: Canopus Hollow Road Problem: The stream along this area has severe stream bank erosion. Risk is compounded by severe rock ledges in the area. Mitigation Project/Initiative: Work with appropriate agencies to identify and engineer appropriate project(s), secure funding and implement approved mitigation solutions. 										
	See Above.	N/A	Flood, Severe Storm, Climate Change	G-2, G-3, G-4	Highway Dept.; working with SWCD, NYS DEC, NRCS	Reduced vulnerability of public and private property	Medium - High	Available grant funding (e.g. FEMA HMA, NRCS EWP); local budget	Long Term depending on securing funding, access and permitting issues	Medium	SIP, NRP
PV-7	Promote and support non-structural flood hazard mitigation alternatives for at risk properties within the floodplain, including those that have been identified as Repetitive Loss (5-RL) and Severe Repetitive Loss (2-SRL), such as acquisition/relocation or elevation depending on feasibility. The parameters for this initiative would be: funding, benefits versus cost and willing participation of property owners. Specifically identified properties in the following locations: <ul style="list-style-type: none"> Lovers Lane White Road Peekskill Hollow Road Church Road 										
	See above.	Exiting	Flooding, Severe Storm		Town NFIP FPA; support from NYSOEM and FEMA	High - Reduced or eliminated risk to property damage from flooding	High	FEMA or other mitigation grant funding, NFIP flood insurance and ICC; property owner for local match.	Long-term DOF	Medium	SIP, EAP
PV-8	Support and participate in county led initiatives intended to build local and regional mitigation and risk-reduction capabilities (see Section 9.1), specifically: <ul style="list-style-type: none"> Re-Establish Local Emergency Planning Committees (LEPCs) within the County, with an emphasis on stronger municipal level participation. (PCBES-1). Workshops and Seminars to build local capabilities in floodplain management and disaster recovery (PCBES-11), potentially to include: <ul style="list-style-type: none"> NFIP Community Rating System (CRS) Benefit-Cost Analysis (BCA) Substantial Damage Estimating (SDE) 										



Initiative	Mitigation Initiative	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Goals / Objectives Met	Lead and Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category
	<ul style="list-style-type: none"> ○ NFIP Elevation Certificates (EC) ○ Certified Floodplain Manager (CFM) Training and Certification • County-Wide Housing Location/Relocation Planning Initiative for Disaster Displaced Residents and Structures (PCBES-12) 										
	See above	New and Existing	All Hazards	All Objectives	Putnam County, as supported by relevant local department leads,	High (comprehensive improvements mitigation and risk-reduction capabilities)	Low-Medium (locally)	Local (staff resources)	Short	High	LPR, EAP
PV-9	Enhance Tree Management Capabilities: Enhance Town capabilities to manage trees (vegetation) that threatens utilities and public safety in Town right-of-ways. See Action Worksheet										
	See above	Existing	Severe Storm, Severe Winter Storm, Climate Change	G-1, G-2, G-5	Putnam Valley Highway Dept.	Improved local capabilities to manage vulnerability to power outages due to dangerous trees; potential life-safety issues	\$325,000	Grant funding as available, local budget	Dependent on identifying and securing funding	High	EM*

Notes:

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

EM* = other emergency management initiative, non-mitigation

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

Acronyms and Abbreviations:

CAV Community Assistance Visit
 CRS Community Rating System
 DPW Department of Public Works
 FEMA Federal Emergency Management Agency
 FPA Floodplain Administrator
 HMA Hazard Mitigation Assistance
 N/A Not applicable
 NFIP National Flood Insurance Program
 NYCDEP New York City Department of Environmental Protection
 NYSDEC New York State Department of Environmental Conservation

NYS DHSES New York State Department of Homeland Security and Emergency Services
 OEM Office of Emergency Management

Potential FEMA HMA Funding Sources:

FMA Flood Mitigation Assistance Grant Program
 HMGP Hazard Mitigation Grant Program
 PDM Pre-Disaster Mitigation Grant Program
 RFC Repetitive Flood Claims Grant Program
 SRL Severe Repetitive Loss Grant Program





Timeline:

Short 1 to 5 years
Long Term 5 years or greater

OG
DOF

On-going program
Depending on funding

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.

Mitigation Category:

- Local Plans and Regulations (LPR) – These actions include government authorities, policies or codes that influence the way land and buildings are being developed and built.
- Structure and Infrastructure Project (SIP)- These actions involve modifying existing structures and infrastructure to protect them from a hazard or remove them from a hazard area. This could apply to public or private structures as well as critical facilities and infrastructure. This type of action also involves projects to construct manmade structures to reduce the impact of hazards.
- Natural Systems Protection (NSP) – These are actions that minimize damage and losses, and also preserve or restore the functions of natural systems.
- Education and Awareness Programs (EAP) – These are actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. These actions may also include participation in national programs, such as StormReady and Firewise Communities
- 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



Table 9.9-11. Summary of Prioritization of Actions

Mitigation Action/Project Number	Mitigation Action/Initiative	Life Safety	Property Protection	Cost-Effectiveness	Technical	Political	Legal	Fiscal	Environmental	Social	Administrative	Multi-Hazard	Timeline	Agency Champion	Other Community Objectives	Total	High / Medium / Low
PV-1	Backup Power for Critical/Essential Facilities	1	0	1	1	1	0	-1	1	1	1	1	1	1	1	10	High
PV-2	Adam's Corners Stream Rehabilitation	1	1	1	1	0	1	0	1	1	1	1	1	1	0	11	High
PV-3	Oregon Corners Stream Rehabilitation	1	1	1	1	0	1	0	1	1	1	1	1	1	0	11	High
PV-4	Oscawana Lake Dam Upgrades	1	1	0	1	1	0	0	1	1	1	1	0	1	1	10	High
PV-5	Wicopee Road Culvert Upgrades	0	1	1	0	0	0	1	1	0	1	0	1	0	0	6	Medium
PV-6	Canopus Hollow Road Stream Rehabilitation	0	1	0	1	1	1	-1	1	0	1	1	0	1	1	8	Medium
PV-7	Promote and support non-structural flood hazard mitigation alternatives for at risk properties within the floodplain	0	1	1	1	1	1	0	1	1	0	1	0	1	0	9	Medium
PV-8	Support and participate in county led initiatives intended to build local and regional mitigation and risk-reduction capabilities	1	1	1	1	1	1	0 (will require municipality to support staff time)	1	1	0 (will require municipality to support staff time)	1	1	1	1	12	High
PV-9 (LOI #147)	Enhance Tree Management Capabilities	1	1	1	1	1	1	-1	1	1	0	1	0	1	1	10	High

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



9.9.7 Future Needs To Better Understand Risk/Vulnerability

None at this time.

9.9.8 Hazard Area Extent and Location

Hazard area extent and location maps have been generated for the Town of Putnam Valley that illustrate the probable areas impacted within the municipality. These maps are based on the best available data at the time of the preparation of this plan, and are considered to be adequate for planning purposes. Maps have only been generated for those hazards that can be clearly identified using mapping techniques and technologies, and for which the Town of Putnam Valley has significant exposure. These maps are illustrated below.

9.9.9 Additional Comments

None at this time.



Figure 9.9-1. Town of Putnam Valley Hazard Area Extent and Location Map

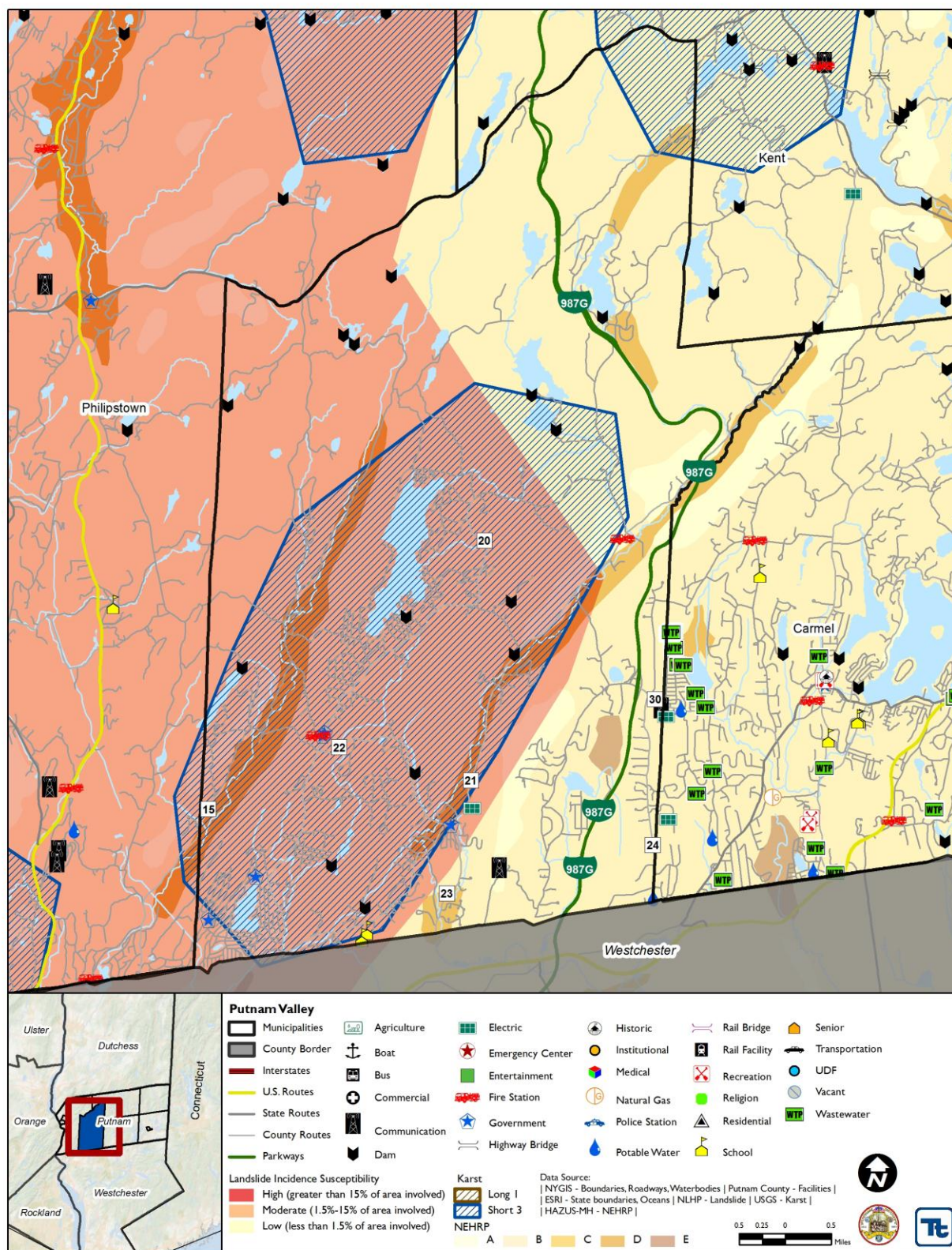




Figure 9.9-2. Town of Putnam Valley Hazard Area Extent and Location Map





Name of Jurisdiction:	Putnam Valley, Putnam County, NY
Number:	PV-1
Mitigation Action/Initiative:	Back-Up Generator for critical or essential facilities: Putnam Valley Central School, High School and water facility for 25-home subdivision.

Assessing the Risk	
Hazard(s) addressed:	Severe Storm, Severe Winter Storm, Climate Change
Specific problem being mitigated:	High wind events and winter storms have caused the widespread loss of electrical power, including power to local schools and home subdivision water treatment. The local schools, Putnam Valley Central School 2-locations (171 Oscawana Lake Road and Peekskill Hollow Road) is a critical facility in that it provides administrative services, Emergency Operations support and acts as a shelter and warming center to the local community during events. Loss of power forces the Town to transfer operations to other locations while operating at a greatly diminished capacity. Additional Putnam Valley has a 25- home subdivision, Glenmar Gardens, which has its own potable water system. Their power goes out during severe storms severely impacting their water supply.
Evaluation of Potential Actions/Projects	
Actions/Projects Considered (name of project and reason for not selecting):	1. Install power generator in each of the Putnam Valley Central Schools- Has not be done yet.
	2. Install power generator in the Glenmar Gardens water system facility- Has not be done yet.
	3.
Action/Project Intended for Implementation	
Description of Selected Action/Project	Add a permanent generator to be installed at each of the schools and the subdivision- 3 total. The generators will have sufficient capacity to allow the Town to quickly respond to a variety of disasters i.e. Hurricane, Nor'easter, Severe Storm, Severe Winter Storm, Earthquake and others by keeping the larger facilities open. This will prove useful as a shelter, emergency operations center, warming and gather places. It will also address community's needs while allowing the School(s) continuity during routine power or brown out situation. For the residents of the Glenmar Gardens subdivision, a generator will afford them uninterrupted and vitally necessary water service.
Mitigation Action/Project Type	Structure and Infrastructure Project
Objectives Met	G-1, G-2, G-5
Applies to existing structures/infrastructure, future, or not applicable	Existing
Benefits (losses avoided)	We will be able to provide local emergency sheltering and warming, thus preventing dangerous relocation of citizens to another facility during a storm event. Recent Damages: - \$\$\$
Estimated Cost	>\$100,000
Priority*	High



Plan for Implementation	
Responsible Organization	Town of Putnam Valley, Supervisor Bob Tandy
Local Planning Mechanism	Municipal Budget, and possible school budget-Funds can be requested during the next budget cycle for matching funds for a FEMA grant.
Potential Funding Sources	FEMA, Town budget or school budget for local match
Timeline for Completion	6-8 months (after funds are approved)
Reporting on Progress	
Date of Status Report/ Report of Progress	

* Refer to results of Prioritization (page 2)



Number:

PV-1

Mitigation Action/Initiative:

Back-Up Generators for Putnam Valley School, and Glemar Gardens
Subdivision

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Will allow this critical facility to remain operational during power outages.
Property Protection	0	This project will have little to no effect on reducing damage.
Cost-Effectiveness	1	This project is considered highly cost-effective
Technical	1	There are no technical issues associated with the project, and with routine maintenance will provide long term protection against power interruptions.
Political	1	This project is supported both publically and politically.
Legal	0	The municipality has may need to consult the school district this project.
Fiscal	-1	The town may not be able fund the local match if a grant were awarded.
Environmental	1	There are no environmental constraints associated with this project.
Social	1	This project benefits all sectors of the community equally.
Administrative	1	The Town has all administrative and technical resources necessary to implement this project
Multi-Hazard	1	This project provides protection against multiple hazards.
Timeline	1	The project can be implemented within one year once funding is secured.
Agency Champion	1	The Town Supervisor is the lead for this critical project.
Other Community Objectives	1	This project supports the Town's commitment to provide uninterrupted critical services to their residents, particularly in times of natural disasters and other emergencies.
Total	10	
Priority (High/Med/Low)	High	



Name of Jurisdiction: Town of Putnam Valley- Putnam County , NY
Number: PV-2
Mitigation Action/Initiative: Adam's Corners Stream Rehabilitation

Assessing the Risk	
Hazard(s) addressed:	Flood, Severe Storm, Severe Winter Storm (heavy snowmelt), Climate Change
Specific problem being mitigated:	Location: Adam's Corner – Intersection of Church Road and Peekskill Hollow Road A large island has built up in the stream, and is beginning to choke off the stream. This has greatly increased the risk of flooding to private property and structures in the area. Private property flooding during Irene and Sandy (a Repetitive Loss property and a neighbor) – believe to their engineer to be caused by stream silt build up – the stream is backing up in this area – reviewed with NYSDEC who advised the Town not to touch the area.
Evaluation of Potential Actions/Projects	
Actions/Projects Considered (name of project and reason for not selecting):	1. No action, existing problem continues. 2. Address the build-up of silt and islands where they are causing backups and changing the direction of flow leading to further stream bank erosion. - NYSDEC will not permit the town to dredge or touch soil 3. Dredge the Oscawana Lake to increase storage capacity and reduce potential for localized flooding.- Has not been attempted as of yet
Action/Project Intended for Implementation	
Description of Selected Action/Project	Work with County and NYSDEC to address the build-up of silt and islands where they are causing backups and changing the direction of flow leading to further stream bank erosion. The Town does not have the equipment needed to do the clearing work. This area is off county roads, thus the County would need to be involved, even leading, in the effort.
Mitigation Action/Project Type	Natural Systems Protection (NRP) – Address silt issues with NYDEC approval; LPR
Objectives Met	G-2, G-3, G-4
Applies to existing structures/infrastructure, future, or not applicable	Existing and Future
Benefits (losses avoided)	Restoration of natural stream function; damages to property and infrastructure - Historic damages include flooding to an RL property, and neighboring property
Estimated Cost	High
Priority	High
Plan for Implementation	
Responsible Organization	Town Supervisor and DPW, working with PC (DPW and SWCD), NYSDEC and NRCS
Local Planning Mechanism	Capital Plan, Emergency Management Plan, MS4 Plan
Potential Funding Sources	County budget, available grant funding (e.g. FEMA HMA, NRCS EWP), with local budget for local project support
Timeline for Completion	Short-term to work with County and agencies to initiative program; actual project implementation dependent on agreement, permitting and funding
Reporting on Progress	
Date of Status Report/ Report of Progress	Date: Progress on Action/Project:



Number:

PV-2

Mitigation Action/Initiative:

Adam's Corners Stream Rehabilitation

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Prevention of Road Flooding will help maintain safety.
Property Protection	1	This Project is expected to protect homes and septic systems from flooding.
Cost-Effectiveness	1	Long term effects are expected to be highly cost-effective.
Technical	1	Will address long terms problems
Political	0	No effect is expected from a Political aspect.
Legal	1	This Project will protect the Municipalities from Legal action.
Fiscal	0	There is no effect on Local Budgets since the Project could be funded entirely.
Environmental	1	Silt removal will allow for normal flow of water to return
Social	1	Nearby home-owners will be protected from tidal storm surges.
Administrative	1	The Town of Putnam Valley has all necessary Administrative abilities.
Multi-Hazard	1	This will protect homes and roads from flood damage. Will also keep roads open and passable in an emergency
Timeline	1	This Project could be finished within this year.
Agency Champion	1	The Town Supervisor is the responsible party.
Other Community Objectives	0	
Total	11	
Priority (High/Med/Low)	High	



Name of Jurisdiction: Town of Putnam Valley- Putnam County , NY

Number: PV-3

Mitigation Action/Initiative: Oregon Corners Stream Rehabilitation

Assessing the Risk	
Hazard(s) addressed:	Flood, Severe Storm, Severe Winter Storm (heavy snowmelt), Climate Change
Specific problem being mitigated:	Location: Oregon Corners - Bridge at center of town near intersection of Peekskill Hollow Road and Oscawana Lake Road A problem is developing with silt build ups (islands). This goes underneath the bridge that has sewer pipes located on it. The water level is getting increasingly closer to the underside of bridge and is considered an impending problem. Further, this has greatly increased the risk of flooding to private property and structures in the area.
Evaluation of Potential Actions/Projects	
Actions/Projects Considered (name of project and reason for not selecting):	No action, existing problem continues. Address the build-up of silt and islands where they are causing backups and changing the direction of flow leading to further stream bank erosion. - NYSDEC will not permit the town to dredge or touch soil Dredge the Oscawana Lake to increase storage capacity and reduce potential for localized flooding.- Has not been attempted as of yet
Action/Project Intended for Implementation	
Description of Selected Action/Project	Work with County and NYSDEC to address the build-up of silt and islands where they are causing backups and changing the direction of flow leading to further stream bank erosion. The Town does not have the equipment needed to do the clearing work. This area is off county roads, thus the County would need to be involved, even leading, in the effort.
Mitigation Action/Project Type	Natural Systems Protection (NRP) – Address silt issues with NYDEC approval; LPR
Objectives Met	G-2, G-3, G-4
Applies to existing structures/infrastructure, future, or not applicable	Existing and Future
Benefits (losses avoided)	Restoration of natural stream function; potential damages to property and infrastructure
Estimated Cost	High
Priority	High
Plan for Implementation	
Responsible Organization	Town Supervisor and DPW, working with PC (DPW and SWCD), NYSDEC and NRCS
Local Planning Mechanism	Capital Plan, Emergency Management Plan, MS4 Plan
Potential Funding Sources	County budget, available grant funding (e.g. FEMA HMA, NRCS EWP), with local budget for local project support
Timeline for Completion	Short-term to work with County and agencies to initiative program; actual project implementation dependent on agreement, permitting and funding
Reporting on Progress	
Date of Status Report/ Report of Progress	Date: Progress on Action/Project:



Number: PV-3
Mitigation Action/Initiative: Oregon Corners Stream Rehabilitation

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Prevention of Road Flooding will help maintain safety.
Property Protection	1	This Project is expected to protect homes and septic systems from flooding.
Cost-Effectiveness	1	Long term effects are expected to be highly cost-effective.
Technical	1	Will address long terms problems
Political	0	No effect is expected from a Political aspect.
Legal	1	This Project will protect the Municipalities from Legal action.
Fiscal	0	There is no effect on Local Budgets since the Project could be funded entirely.
Environmental	1	Silt removal will allow for normal low of water to return
Social	1	Nearby home-owners will be protected from tidal storm surges.
Administrative	1	The Town of Putnam Valley has all necessary Administrative abilities.
Multi-Hazard	1	This will protect homes and roads from flood damage. Will also keep roads open and passable in an emergency
Timeline	1	This Project could be finished within this year.
Agency Champion	1	The Town Supervisor is the responsible party.
Other Community Objectives	0	
Total	11	
Priority (High/Med/Low)	High	



Name of Jurisdiction: Town of Putnam Valley- Putnam County, NY

Number: PV-4

Mitigation Action/Initiative: Oscawana Lake Dam Upgrades

Assessing the Risk	
Hazard(s) addressed:	Flood, Severe Storm, Severe Winter Storm (heavy snowmelt), Climate Change
Specific problem being mitigated:	Location: Dunderberg Road and Oscawana Lake Road Problem: Smaller, old dam at Abley Park. Lack of being able to control level results in local properties and septic systems getting flooded. This stream leads down to City of Peekskill drinking water supply.
Evaluation of Potential Actions/Projects	
Actions/Projects Considered (name of project and reason for not selecting):	1. Full Reconstruction of damming structure
	2. Dredging the Oscawana Lake to increase storage capacity and reduce localized flooding- hasn't been attempted
	3. No action – flooding issues and losses continue
Action/Project Intended for Implementation	
Description of Selected Action/Project	Engineer and install a bigger (deeper) flow control to be able to lower the lake by maybe 4' to better regulate the lake.
Mitigation Action/Project Type	Natural Systems Protection (NRP), Structure and Infrastructure Project (SIP)
Objectives Met	G-2, G-3, G-4
Applies to existing structures/infra structure, future, or not applicable	Existing Infrastructure
Benefits (losses avoided)	Reduced damages to property and infrastructure Recent Damages: \$200,000
Estimated Cost	High
Priority*	High
Plan for Implementation	
Responsible Organization	Town DPW, working with NYSDEC
Local Planning Mechanism	Capital Plan, Dam Emergency Action Plan, Comprehensive Emergency Management Plan
Potential Funding Sources	Local funding, as supported by available grant funding (e.g. NYS DEC)
Timeline for Completion	Long Term depending on engineering, permitting and funding resources
Reporting on Progress	
Date of Status Report/ Report of	



Progress	
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* Refer to results of Prioritization (page 2)



Number: PV-4

Mitigation Action/Initiative: Oscawana Lake Dam Upgrades

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Potential life-safety impacts
Property Protection	1	Would mitigate ongoing damage to structures and infrastructure
Cost-Effectiveness	0	Overall cost-effectiveness not yet determined
Technical	1	Within technical abilities of Town
Political	1	Supported politically
Legal	0	Possible DEC issues
Fiscal	0	Funding not yet established
Environmental	1	Project will improve Water Quality
Social	1	Benefits all residents equally
Administrative	1	Project will be implemented by PV-DPW
Multi-Hazard	1	
Timeline	0	Dependent on funding and permitting
Agency Champion	1	
Other Community Objectives	1	Public Safety, Environmental and MS4
Total	10	
Priority (High/Med/Low)	High	



Name of Jurisdiction: Town of Putnam Valley- Putnam County, NY
Number: PV-5
Mitigation Action/Initiative: Wicoppee Road Culvert Upgrades

Assessing the Risk	
Hazard(s) addressed:	Flood, Severe Storms, Severe Winter Storms (heavy snowmelt), Climate Change
Specific problem being mitigated:	<p>During severe rain events (such as Superstorm Sandy and Irene), the roadways and numerous private properties experienced localized flooding, and facilities and property damage due to inadequate drainage system. Furthermore, flooding overruns numerous residential septic systems causing increased health hazards. Additionally, the roadway becomes impassable, therefor compromising emergency rescue and evacuation efforts. This problem has become increasingly evident with the erosion of numerous stream banks as well as the inadequate capacity of lakes and size of dams.</p> <p>Average annual damage costs are estimated to be approximately \$ 200,000. The drainage improvements will reduce the roadway flooding and improve safety throughout the corridor. In addition, the project will eliminate the need to provide emergency rescue services, flood insurance, and federal disaster assistance in the future. No studies have been performed to date.</p>
Evaluation of Potential Actions/Projects	
Actions/Projects Considered (name of project and reason for not selecting):	<ol style="list-style-type: none">1. Full Reconstruction of damming structure2. Dredging the Oscawana Lake to increase storage capacity and reduce localized flooding- hasn't been attempted3. Need to install three box culverts spanning the roadway. Engineer has prepared a cost estimate for this.
Action/Project Intended for Implementation	
Description of Selected Action/Project	Install three pre-cast concrete box culverts spanning the roadway.
Mitigation Action/Project Type	Natural Systems Protection (NRP) or Structure and Infrastructure Project (SIP)
Objectives Met	G-2, G-3, G-4
Applies to existing structures/infrastructure, future, or not applicable	Existing
Benefits (losses avoided)	Reduced vulnerability of public and private property, including historic properties and public drinking water supply. Recent Damages: \$200,000
Estimated Cost	High
Priority*	High
Plan for Implementation	
Responsible Organization	Highway Department
Local Planning Mechanism	Capital Plan, MS4 Plan
Potential Funding Sources	Town Budget; grant funding as available
Timeline for Completion	Implementation is short term once funding is dedicated or secured



Reporting on Progress	
Date of Status Report/ Report of Progress	

* Refer to results of Prioritization (page 2)



Number: PV-5

Mitigation Action/Initiative: Wiccopee Road Culvert Upgrades

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	0	Project will have minimal impact on safety
Property Protection	1	No structures in project area
Cost-Effectiveness	1	Cost is medium
Technical	0	
Political	0	No impact
Legal	0	Possible DEC issues
Fiscal	1	Project is programmed for funding in current Capital Program
Environmental	1	Project will improve Water Quality
Social	0	
Administrative	1	Project will be implemented by PV-DPW
Multi-Hazard	0	This project will only reduce some minor roadway surface flooding
Timeline	1	Yes, if construction funding is appropriated
Agency Champion	0	None at this time
Other Community Objectives	0	
Total	6	
Priority (High/Med/Low)	Medium	



Name of Jurisdiction: Putnam Valley
Action Number: PV-9 (LOI #147)
Action Name: Enhance Tree Management Capabilities

Assessing the Risk	
Hazard(s) addressed:	Severe Storm, Severe Winter Storm, Climate Change
Specific problem being mitigated:	Removing trees along road right-of-ways. Putnam Valley was hit the hardest in putnam county for the damage.
Evaluation of Potential Actions/Projects	
Actions/Projects Considered (name of project and reason for not selecting):	1. No Action – Town continues to be impacted, particularly where public utilities do not have tree management programs.
	2.
	3.
Action/Project Intended for Implementation	
Description of Selected Action/Project	Our current bucket truck is a 1987 with only a 55 foot boom our chipper is a 1997 and only takes an 18 inch log to exceed our current capacity. A new buck truck would allow us to reach higher and be more dependable so we could remove more trees and limbs to prevent power outages and road closures.
Mitigation Action/Project Type	SIP
Goals/Objectives Met	G-1, G-2, G-05
Applies to existing structures/infrastructure, future, or not applicable	Existing
Benefits (losses avoided)	Improved local capabilities to manage vulnerability to power outages due to dangerous trees; potential life-safety issues Recent Damages: \$226,000
Estimated Cost	\$325,000
Priority*	High
Plan for Implementation	
Responsible Organization	Town of Putnam Valley Highway Dept, Larry Cobb, High way Superintendent
Local Planning Mechanism	Comprehensive Emergency Management Plan, Capital Plan
Potential Funding Sources	Grant funding as available, local budget
Timeline for Completion	Dependent on identifying and securing funding
Reporting on Progress	
Date of Status Report/ Report of Progress	Date: Progress on Action/Project:

* Refer to results of Prioritization (page 2)



Action Number:

PV-9 (LOI #147)

Action Name:

Enhance Tree Management Capabilities

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Impacts could include public safety (downed limbs and hot wires)
Property Protection	1	Public infrastructure
Cost-Effectiveness	1	Assumed highly cost-effective
Technical	1	No technical limitations
Political	1	Politically and publically supported
Legal	1	Town has authority in all public right-of-ways
Fiscal	-1	Funding needs to be identified and secured
Environmental	1	No limitations
Social	1	Benefits all population equally
Administrative	0	Seeking funding is an administrative effort
Multi-Hazard	1	
Timeline	0	Dependent on funding
Agency Champion	1	Highway Department
Other Community Objectives	1	Local planning objectives
Total	10	
Priority (High/Med/Low)	High	