

### 10.2.37 Village of Warwick

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

#### 10.2.37.1 Contacts

Primary and secondary contacts regarding this plan are identified as follows:

- Michael Newhard – Mayor  
77 Main Street, P.O. Box 369  
Warwick, NY 10990  
(845) 986-2031      Cell: (845) 591-5400
- Barry J. Cheney – Deputy Mayor  
(845) 986-2031      Cell: (201) 317-6484
- Michael Moser – DPW Supervisor  
(845) 986-2031      Cell: (845) 591-5387

#### 10.2.37.2 Municipal Profile

##### *Population*

The 2010 U.S. Census reported a population of six thousand, seven hundred twenty-nine (6,729) persons with approximately 2,784.5 persons per square mile. The population had increased 5.6% since the 2000 census, when it was six thousand, three hundred thirty-four (6,374). The 2014 American Communities Survey from the U.S. Census Bureau indicates the Village population has grown to six thousand, seven hundred eighty-three (6,783).

##### *Location*

Village of Warwick is located in the southern portion of the County, approximately 2.5-miles northeast of the New York-New Jersey border. It is encompassed by the Town of Warwick, which also includes the Villages of Greenwood Lake and Florida.

##### *Brief History*

The Village namesake stems from a purchase of land by Benjamin Aske in 1719. The land was developed for agriculture and bore the name Warwick. Soon after, the Wawayanda Path opened the area to settlement and Warwick became a central location for the local farmers to gather. This was also an important thoroughfare during the Revolutionary War known as the Kings Highway. Growth steadily increased and coupled with the construction of the Warwick Valley Railroad paved the way for the Village to officially become incorporated in 1867.

By 1902, the Village had become a hub for the community. However, by mid-century, due to the automobile's increasing availability, rail activity declined in the area. With the loss of rail and the onset of regional shopping malls the Village lost some of its former vibrancy. In the 1960's a great revival took place and has continued to the present day. This momentum increased with the designation of the core of the Village as a State and federally recognized Historic District. The Village of Warwick is considered a model of downtown revitalization and a four (4) season destination in the Hudson Valley.

#### *Governing Body*

The Village is served by a Board of Trustees which consists of a Mayor and four (4) Trustees.

#### *Future Growth*

The Village population has seen consistent, though waning, growth throughout the past thirty (30) years. From 1980-1990, the population surged nearly 40%. The following ten (10) years saw an increase of just over 7%, and most recently 5.6% (2000-2010).

Several developments have been completed or are underway, including two (2) adult communities (Liberty Green and Warwick Grove both complete). Liberty Green consists of two hundred fifty-one (251) apartment units; Warwick Grove also contains two hundred fifteen (215) residential units.

Two other developments are also planned: Valley View Estates (thirty (30) single-family homes) and Warwick Commons (one hundred sixty-two (162) residential units).

Mitigation concerns have been addressed through site plan review and compliance with the Village's Comprehensive Plan, local hazard mitigation plans, and local laws, policies, and procedures. Redevelopment in hazard-prone areas will transition from industrial to residential/commercial uses over time and will also continue to follow local rules and regulations, NYS building code, DEC stormwater management, and DEC wetland protection regulations and permitting as well as NYSDOT permitting.

### 10.2.37.3 Hazard Vulnerabilities

#### *Overall Vulnerability*

Vulnerability was subjectively assigned below using the categories high, moderate, and low. The assessments were based on the Calculated Priority Risk Index (CPRI) values, probability, and severity.

CPRI is calculated by assigning varying degrees of risk to four (4) categories for each hazard, and then calculating an index value based on a weighting scheme. The table below explains these values.

<b>Table 10.2.37a: Calculated Priority Risk Index (CPRI) Categories and Risk Levels</b>			
<b>CPRI Category</b>	<b>Degree of Risk</b>		
	<b>Level ID</b>	<b>Description</b>	<b>Index Value</b>
Probability	Unlikely	<ul style="list-style-type: none"> <li>Extremely rare with no documented history of occurrences or events.</li> <li>Annual probability of less than 0.001.</li> </ul>	1
	Possible	<ul style="list-style-type: none"> <li>Rare occurrences with at least one documented or anecdotal historic event.</li> <li>Annual probability that is between 0.01 and 0.001.</li> </ul>	2
	Likely	<ul style="list-style-type: none"> <li>Occasional occurrences with at least two or more documented historic events.</li> <li>Annual probability that is between 0.1 and 0.01.</li> </ul>	3
	Highly Likely	<ul style="list-style-type: none"> <li>Frequent events with a well-documented history of occurrence.</li> <li>Annual probability that is greater than 0.1.</li> </ul>	4
Magnitude/ Severity	Negligible	<ul style="list-style-type: none"> <li>Negligible property damages (less than 5% of critical and non-critical facilities and infrastructure).</li> <li>Injuries or illnesses are treatable with first aid and there are no deaths.</li> <li>Negligible quality of life lost.</li> <li>Shut down of critical facilities for less than 24 hours.</li> </ul>	1
	Limited	<ul style="list-style-type: none"> <li>Slight property damages (greater than 5% and less than 25% of critical and non-critical facilities and infrastructure).</li> <li>Injuries or illnesses do not result in permanent disability and there are no deaths.</li> <li>Moderate quality of life lost.</li> <li>Shut down of critical facilities for more than 1 day and less than 1 week.</li> </ul>	2
	Critical	<ul style="list-style-type: none"> <li>Moderate property damages (greater than 25% and less than 50% of critical and non-critical facilities and infrastructure).</li> <li>Injuries or illnesses result in permanent disability and at least one death.</li> <li>Shut down of critical facilities for more than 1 week and less than 1 month.</li> </ul>	3
	Catastrophic	<ul style="list-style-type: none"> <li>Severe property damages (greater than 50% of critical and non-critical facilities and infrastructure).</li> <li>Injuries or illnesses result in permanent disability and multiple deaths.</li> <li>Shut down of critical facilities for more than 1 month.</li> </ul>	4
Warning Time	More than 24 Hours	Self-explanatory.	1
	12 to 24 Hours	Self-explanatory.	2
	6 to 12 Hours	Self-explanatory.	3
	Less than 6 Hours	Self-explanatory.	4
Duration	Less than 6 hours	Self-explanatory.	1
	Less than 24 hours	Self-explanatory.	2
	Less than one week	Self-explanatory.	3
	More than one week	Self-explanatory.	4

Table 10.2.37b denotes the identified hazard, vulnerability assessment, mitigation priority, and the CPRI score.

Table 10.2.37b: Hazard Vulnerability By Event			
Jurisdiction	Vulnerability	Mitigation Priority?	CPRI Score
Earthquake	Low	No	1.55
Wildfires	Moderate	No	2.30
Landslide	Low	No	2.30
Extreme Temperatures	Moderate	Yes	2.40
Drought	Moderate	No	2.50
Hurricane/Coastal Storm	Moderate to High	Yes	2.55
Winter Storms	Moderate	Yes	2.55
Severe Storm/Thunderstorm	Moderate	No	2.65
Flood	Moderate	Yes	2.75
Dam Failure	High	Yes	2.80

*Critical Facilities*

A list of community critical facilities was generated to aid in mitigation planning. The table below summarizes the number of these facilities within the Village of Warwick which may be impacted by any of the previously noted hazards. Critical facilities were identified by the Village as meeting this definition: “Any structure(s) and/or infrastructure within a community whose incapacity or destruction would:

- Have a debilitating impact on the defense or economic security of that community.
- Significantly hinder a community’s ability to recover following a disaster.”

Discretion was left up to the participating jurisdiction to select these facilities.

Table 10.2.37c: Critical Facility and Infrastructure Counts by Category and Jurisdiction												
Jurisdiction	Communications Infrastructure	Electrical Power Systems	Gas and Oil Facilities	Banking and Finance Institution	Transportation Network	Sewer / Water Supply Systems	Government Services	Emergency Services	Educational <sup>a</sup>	Shelter and Evacuation Facilities <sup>a</sup>	Business <sup>a</sup>	Nursing Home/Senior Care
Village of Warwick	4	-	4	7	1	27*	2	4	1	-	2	2
Notes: * Total consists of village pump stations and storage tanks and sewer facilities												

This information was used to identify potential improvements to existing critical facilities. Proposed mitigation actions are listed in the table below.

<b>Table 10.2.37d: Proposed Mitigation Projects for Critical Facility Infrastructure (CFI) in the Village of Warwick</b>	
<b>CFI</b>	<b>Mitigation Project</b>
Reservoirs 1, 2 & 3	Clear trees
Carroll Drive	Provide drainage system
Spring Street Culvert	Repair culvert and drainage
Reservoir #3	Increase water source capacity
DPW Building	Provide second access road
(11) Critical Facilities	Install emergency backup generators
Robin Brae Pump Station	Elevate building above base flood elevation
Orchard Street Pump Station	Construct flood protection berm

Addresses for select facilities are noted in the table below.

<b>Table 10.2.37e: Location of CFI in the Village of Warwick</b>	
<b>Facility Name</b>	<b>Address (Street, Town/Village/Hamlet)</b>
<b>Emergency Services</b>	
Warwick Fire District (2 locations)	Church Street and South Street Extension, Village of Warwick
Warwick Police Department	Kings Highway, Town of Warwick
St. Anthony Community Hospital	Maple Avenue, Village of Warwick
Warwick Community Ambulance Services	South Street Extension, Village of Warwick
<b>Educational</b>	
Park Avenue Elementary School	Park Avenue, Village of Warwick
<b>Nursing/Senior Care</b>	
Schervier Pavilion	Van Duzer Place, Village of Warwick
Mt. Alverno Center	Grand Street, Village of Warwick
<b>Government</b>	
Village Offices	Main Street, Village of Warwick
Village DPW Facility	Memorial Park Drive, Village of Warwick

Of these critical facilities, one (1) is located within the 500-year floodplain: Warwick Engine #3 Firehouse. The vulnerability of this facility is addressed by proposed mitigation actions WV-3 and WV-16.

While it is assumed that most municipal water systems facilities are not located within the floodplain, these jurisdictions will explore hardening/relocation opportunities for those that are located within the floodplain should such actions become necessary due to the incidence of flooding impacts.

By necessity, critical wastewater facilities are located within the 500-year floodplain due to discharge requirements and gravity-fed systems optimization. While relocation is neither desired nor feasible, participating municipalities will seek to harden these facilities where feasibly and fiscally possible.

The Village of Warwick has four (4) critical facilities within the 500-year floodplain or the high hazard Landslide Rating<sup>1</sup> area. One (3) of these facilities is located in both. Below is a table that identifies the structures and hazard issues.

<b>Critical Infrastructure</b>	<b>500-Yr Floodplain</b>	<b>Landslide Rating Area</b>	<b>Associated Mitigation Action</b>
Stanley Demming Park	Y	Y	N/A
Warwick Ambulance	N	Y	N/A
Warwick Department of Public Works	N	Y	WV-9, WV-16
Warwick Engine #3 Firehouse	Y	N	WV-3, WV-16

## **Priority Hazard Events**

The following sections detail the priority hazard events identified by the jurisdiction. Additional information about each hazard including frequency, history, and severity within Orange County is included within Section 5.0 of the main body of the Hazard Mitigation Plan (Volume I).

The probability of climate-related hazard events is generally expected to increase in the future within the Village of Warwick. This anticipated increase results from the expected increase in weather volatility associated with climate change. Upstream tributaries such as the Wallkill River will experience increased flooding occurrences.

Past occurrences of hazard events are indicated in their respective profiles below. Some hazards may not have locally available documentation of past occurrence, but are nonetheless profiled in this annex to instill future mitigation planning consideration.

### *Flood*

The Wawayanda Creek passes through the center of the Village of Warwick. Heavy rain events have created past flooding associated with this waterbody as well as reservoir failures and other flood control structure failures.

FEMA's Flood Insurance Mapping Program designates areas that are at risk for flooding; low flood risk are areas unlikely to flood, moderate risk are areas within the 500-year floodplain (0.2% likely to flood in any given year), and high risk are areas that frequently flood, up to the 100-year flood risk zone (1% likely to flood in any given year). A total of 15% of the land

<sup>1</sup> Areas with a landslide rating in of greater than 37 are considered hazardous. The data was derived from HAZUS software analysis.

acreage within the Village of Warwick is designated as within flood hazard areas, with 14% being designated as “High Risk” as listed in table 10.2.37g.

Table 10.2.37g: Summary of Land Areas in Flood Hazard Areas (Source: FEMA DFIRM Data 2011)						
Municipality	Total Land Area (Acres)	High Flood Risk (Acres)	Moderate Flood Risk (Acres)	Low Flood Risk (Acres)	Land in High Flood Risk %	Land in Moderate Flood Risk %
		A, AE, AH, AO	X500	X	A, AE, AH, AO	X500
Village of Warwick	1,482	211	20	1,251	14%	1%

Additionally, 6.2% of the Village’s improved value areas (defined as property that is either actively utilized or has been developed) are located within the high risk flood areas (93.2% is within low risk areas).

The National Flood Insurance Program (NFIP) tracks properties that have had several claims. Details of these properties in the Village of Warwick, accounted for in the 2014 local jurisdiction plan, are noted below.

Table 10.2.37h: Community NFIP Repetitive Loss Properties								
Community	# of RL Properties	Type of Properties	Total Number of Paid Losses	Total Payments	Average Individual Payment	Located in Mapped Floodplains		
						A (1 % Annual Chance)	X500 (.2% Annual Chance)	X (Low Risk)
Village of Warwick	4	Residential	9	\$78,783	\$8,754	3	0	1

Table 8.2c also indicates that none of the five (5) repetitive loss properties within the Village of Warwick qualify as a severe repetitive flood loss property.

Below is a table that illustrates the value of property in the Village of Warwick that is located within the 500-year floodplain and is categorized by land use type. This table was derived from FEMA floodplain mapping and parcel data from the Orange County Property Assessor.

Type of Structure	# Structures in Hazard Area	Value of Structures (in millions)
Residential	120	\$22.0
Commercial	28	\$26.0
Industrial	0	\$0
Agricultural	0	\$0
Religious/Non-profit	0	\$0
Government	3	\$1.0
Education	0	\$0
Utilities	0	\$0
Dams	0	\$0
Parks	1	Unknown
<b>Total</b>	<b>152</b>	<b>\$49.0</b>

#### Historical Occurrence:

Several historic major flooding (excluding Hurricanes Lee, Irene, and Sandy) events have affected the Village since 1980.

- March 1980 – five (5) to eight (8) inches of rain caused the gravel berm of the Warwick Village reservoir to wash away: \$1,500 damage.
- April 1984 – Heavy rain caused Wawayanda Creek to flood and landslide at Upper Reservoir. \$2.6 million infrastructure damage, \$5.1 million residential damage.
- April 2005 – Heavy rain cause Wawayanda Creek to flood. \$418,569 infrastructure damage.

#### *Extreme Temperatures*

For a description of this hazard, please see Section 5.1.

#### Historical Occurrence:

In the past ten (10) years there is no record of any extreme temperatures that have explicitly impacted the Village of Warwick. However, there have been a number of recorded occurrences within Orange County. The information can be found in the main body of the document.

#### *Severe Storm/Thunderstorm*

The National Weather Service (NWS) defines a severe storm as one with a tornado and/or surface hail  $\frac{3}{4}$ " or greater and/or wind gusts fifty (50) knots (58 mph) or greater. Such storms can cause damage from wind, hail, heavy rainfall, and/or lightning strikes.



### Historical Occurrence:

In the past ten (10) years, four (4) severe storms have been recorded by NOAA Storm Events Database for the Village of Warwick.

- June 6, 2010 – Trees were downed onto wires in Warwick; onto wires on Dekay Road.
- August 19, 2011 – A passing mid-level disturbance triggered severe thunderstorms that produced large hail and damaging winds across the Lower Hudson Valley, New York City, and Nassau County. Multiple trees were reported down throughout Warwick.
- September 14, 2011 – Tree limbs were reported down on top of wires on Oakland Avenue in Warwick.
- June 23, 2015 – Numerous trees and wires were reported down across town.

### *Hurricane*

Due to the inland location of the Village of Warwick, the majority of hurricanes that reach the area are classified as tropical storms and risk of true hurricanes is relatively low. However, due to the severe nature of these storms, numerous costly damages can occur due to high winds, rainfall, and lightning.

### Historical Occurrence:

Descriptions of significant hurricane events that have occurred within the Village of Warwick over the last twenty (20) years are summarized below:

- July 1996 – Hurricane Bertha made landfall and dumped 4.5 inches of rain on Greenwood Lake.
- August/September 2011 – Hurricane Irene/Tropical Storm Lee caused flooding that damaged as well as collapsed roads, embankments, culverts and a bridge throughout the Town of Warwick and the Village of Warwick areas.

Estimated damage to the Town of Warwick as a whole (including all municipalities) was \$1,451,451.

### *Drought*

For a description of this hazard, please see Section 5.5.

### Historical Occurrence:

In the past ten (10) years there is no record of any droughts that have explicitly impacted the Village of Warwick. However, there have been a number of recorded occurrences within Orange County. The information can be found in the main body of the document.

### *Landslide*

Landslides occur when a slope fails and moves downward due to gravity; this can be caused by anything that disrupts ground stability, from storms to acts of man. The New York State Geological Survey denotes areas with steep slopes and glacial lake clay soils as landslide vulnerable. There are areas within the Village of Warwick that meet these criteria. The Village has areas with steep slopes and ridgelines, some of which are generally wooded, increasing the probability for a potential landslide in the future. Analysis of critical facilities that fall into these high landslide rating areas can be found in Table 10.2.4f and in Attachment I.

Below is a table that illustrates the value of property in the Village of Warwick that is located within the landslide rating area and is categorized by land use type. This table was derived from GIS mapping and parcel data from the Orange County Property Assessor.

<b>Type of Structure</b>	<b># Structures in Hazard Area</b>	<b>Value of Structures (in millions)</b>
Residential	220	\$39.9
Commercial	17	\$15.8
Industrial	0	\$0
Agricultural	0	\$0
Religious/Non-profit	0	\$0
Government	4	\$2.0
Education	0	\$0
Utilities	0	\$0
Dams	2	Unknown
Parks	1	Unknown
<b>Total</b>	<b>244</b>	<b>\$57.7</b>

### Historical Occurrences:

In the past ten (10) years there is no record of any landslides that have explicitly impacted the Village of Warwick. However, there have been a number of recorded occurrences within Orange County. The information can be found in the main body of the document.

### *Earthquake*

For a description of this hazard, please see Section 5.7.

### Historical Occurrence:

In the past ten (10) years there is no record of any Earthquakes that have explicitly impacted the Village of Warwick, however, there have been a number of recorded occurrences within Orange County. The information can be found in the main body of the document.

### *Winter Storms*

Winter storms present a frequent hazard to the area. The Town of Warwick, Village of Warwick, Village of Florida, and Village of Greenwood Lake, “storm data information provided by the Town and Villages on the past fifty-seven (57) winter storm incidents that occurred within the jurisdictions indicates that damage estimates totaled approximately \$199,851.”

These storms cause damage due to high winds and multiple issues due to snow accumulation including dangerous travel due to slick roads and poor visibility.

### Historical Occurrence:

- March 1997 – An intense low pressure system developed off the Delmarva Coast and moved northeast, passing south of Long Island. During the afternoon hours, rain developed into heavy wet snow accumulating at least six (6) inches of snow. Power lines and trees fell due from forty (40) mph winds and snow that resulted in the closing of many roads. A State of Emergency was declared by Towns. Snowfall amounts for Warwick and Cornwall were recorded at seventeen (17) inches.
- March 1999 – Low pressure system, with cold air in place developed over the Gulf Coast States on March 13. As it moved northeast toward the Mid – Atlantic Coast, precipitation was spread across the region. In the afternoon of March 14 the light rain transformed in wet snow then becoming heavy as the low pressure system hit the Mid – Atlantic States. Heavy snow caused power line damage along with tree limbs across the area. Nine (9) inches of snowfall was measured at Chester and Warwick.
- December 2000 – Gusty winds and subfreezing temperatures lingered behind a low pressure storm system accompanied by thunder and lightning. Snowfalls totals were recorded to be twenty-one (21) inches at Warwick and Rock Tavern.
- January 2009 – A combination of deepening low pressure over the Great Lakes and a weak high retreating over the northeast produced a significant accumulation of ice across the northern portions of the Lower Hudson Valley. Power lines and trees were down, with the amount of ice averaging around 0.5 inch. Orange County ice accumulation ranged from Warwick having 0.3 inches to 0.8 inches in Monroe and Middletown.
- March 2010 – A winter storm caused culvert and road collapse in the Town of Warwick on Ryerson Road.

### *Wildfire*

For a description of this hazard, please see Section 5.9.

Historical Occurrences:

In the past ten (10) years there is no record of any wildfires that have explicitly impacted the Village of Warwick. However, there have been a number of recorded occurrences within Orange County. The information can be found in the main body of the document.

*Dam Failure*

Dam failures can be attributed to natural or man-made hazards. The impoundment of large volumes of water poses a threat; the failure of a dam can lead to catastrophic flooding.

The NYSDEC maintains a database to classify dams based on the event of a failure. Explanations of dam classifications are noted in the table below.

<b>Table 10.3.37k: Dam Hazard Potential Classification</b>	
<b>NYSDEC Classification</b>	<b>Description</b>
Class "A" or "Low Hazard"	A dam failure is unlikely to result in damage to anything more than isolated or unoccupied buildings, undeveloped lands, minor roads such as town or country roads; is unlikely to result in the interruption of important utilities, including water supply, sewage treatment, fuel, power, cable or telephone infrastructure; and/or is otherwise unlikely to pose the threat of personal injuring, substantial economic loss or substantial environmental damage.
Class "B" or "Moderate Hazard"	A dam failure may result in damage to isolated homes, main highways, and minor railroads; may result in the interruption of important utilities, including water supply, sewage treatment, fuel, power, cable or telephone infrastructure; and/or is otherwise likely to pose the threat of personal injury and/or substantial economic loss or substantial environmental damage. Loss of human life is not expected.
Class "C" or "High Hazard"	A dam failure may result in widespread or serious damage to home (s); damage to main highways, industrial or commercial buildings, railroads, and/or important utilities, including water supply, sewage treatment, fuel, power, cable or telephone infrastructure; or substantial environmental damage; such as the loss of human life or widespread substantial economic loss is likely.
Class "D" or "Negligible or No Hazard"	A dam that has been breached or removed, or has failed or otherwise no longer materially impounds waters, or a dam that was planned but never constructed. Class "D" dams are considered to be defunct dams posing negligible or no hazard. The department may retain pertinent records regarding such dams.

Two (2) Class "C" dams are located near the Village; the Lower Warwick Dam (capacity of forty-eight (48) acre-feet) and the Glenmere Lake Dam (Town of Chester- three thousand, three hundred and twenty-seven (3,327) acre-feet). The Village would be severely inundated should either dam breach.

### 10.2.37.4 Capability Assessment

#### *Planning and Regulatory Capability*

Table 10.2.37l: Planning and Regulatory Capabilities for Village of Warwick		
Regulatory Tools for Hazard Mitigation	Description	Responsible Department/Agency
Codes	<b>Village of Warwick Local Law</b> , includes Floodplain Management, Subdivision/Zoning and the regulatory requirement for all building in the floodplain needing Floodplain management approval via Site Plan from the Planning Board.	Code Enforcement/ Planning Board
	<b>Codes of New York State</b> , includes provisions for flood plain areas in both the Residential and Building Code of New York State.	Code Enforcement
Ordinances	<b>Zoning Ordinance</b> , a chapter of the Local Law which has provisions for Flood Plain Areas	Code Enforcement/ Planning Board/Zoning Board of Appeals
Plans, Manuals, and/or Guidelines	<b>Comprehensive/Master Plan (2004)</b> , a planning tool which guided the current Zoning Ordinance.	Village Board of Trustees
	<b>Emergency Action Plan (2015)</b>	Mayor/Emergency Manager
	<b>Dam Emergency Action Plan (2013)</b> , an EAP for the three reservoirs.	Mayor/Emergency Manager
Studies	<b>Flood Insurance Study</b>	FEMA
	<b>Dam Safety Study</b>	Tectonic/Mayor/DPW

#### *Administrative and Technical*

Table 10.2.37m: Summary of Administrative and Technical Staff Capabilities for Village of Warwick		
Staff/Personnel Resources	<input checked="" type="checkbox"/>	Department/Agency - Position
Planner(s) or engineer(s) with knowledge of land development and land management practices	<input checked="" type="checkbox"/>	Village of Warwick Engineer – appointed yearly by the Village Board
Engineer(s) or professional(s) trained in construction practices related to buildings and/or infrastructure	<input checked="" type="checkbox"/>	Village of Warwick Engineer – appointed yearly by the Village Board and Village of Warwick Code Enforcement Official (village employee)
Planner(s) or engineer(s) with and understanding of natural and/or human-caused hazards	<input checked="" type="checkbox"/>	Village of Warwick Engineer – appointed yearly by the Village Board
Floodplain Manager	<input checked="" type="checkbox"/>	Five member Planning Board serves one of its five members to be annually appointed.
Surveyors	<input checked="" type="checkbox"/>	Village of Warwick Engineer – appointed yearly by the Village Board
Staff with education or expertise to assess the community’s vulnerability to hazards	<input checked="" type="checkbox"/>	Local Emergency Manager, Village Board, Village of Warwick Engineer, and DPW Supervisor
Personnel skilled in GIS and/or HAZUS; AutoCad-Civil 3D; ArcViewGIS	<input checked="" type="checkbox"/>	Orange County GIS personnel, who is part of Orange County Department of Emergency Services, and

Table 10.2.37m: Summary of Administrative and Technical Staff Capabilities for Village of Warwick		
Staff/Personnel Resources	<input checked="" type="checkbox"/>	Department/Agency - Position
		Village of Warwick Engineer
Scientists familiar with the hazards of the community	<input checked="" type="checkbox"/>	Consultants, hired as needed
Emergency manager	<input checked="" type="checkbox"/>	Village employee that is appointed annually as the emergency manager/ currently Village of Warwick Supervisor of Department of Public Works. Town of Warwick Police Department also provides a local emergency manager for the Village.
Grant writer(s)	<input checked="" type="checkbox"/>	As needed basis, grant writers are chosen for individual grants by the Village Board of Trustees

### *Fiscal*

Table 10.2.37n: Fiscal Capabilities for Village of Warwick		
Financial Resources	Accessible or Eligible to Use (Yes, No, Don't Know)	Comments
Community Development Block Grants	Yes	Various projects, HUD projects for specific sidewalk and street projects
Capital Improvements Project funding	Yes	Various projects
Authority to levy taxes for specific purposes	Yes	Various projects
Fees for water, sewer, gas, or electric service	Yes	Water and Sewer Land Tax (For BAN debt)
Impact fees for homebuyers or new developments/homes	Yes	Sewer, water and parkland
Incur debt through general obligation bonds	Yes	Bond anticipation notes renewed up to 5 years used for specific projects
Incur debt through special tax bonds	Yes	Various projects

### *NFIP: Administrator, Vulnerability, Resources, Compliance*

The Village of Warwick has participated in NFIP (ID# 360637) since 3/29/1974. Administration is provided through the Village Planning Board. The Village has a total of sixty-two (62) policies for a value of \$16,558,500. More information on the Village's NFIP data can be found in Section 8.2.

The Village of Warwick has adopted means to follow NFIP as noted:

“All new constructions and additions must go before the Village of Warwick Planning Board for approvals. The Village of Warwick Planning Board is the Flood Plain Administrator for the Village of Warwick (Local Law Chapter 69 “Flood Damage Prevention”) The Code Enforcement Official is responsible for enforcing the Codes of New York State which include Flood Damage Prevention codes and regulations. The Village of Warwick utilizes the most current FEMA maps. The current map is dated August 3, 2009. The Village of Warwick has implemented a cumulative damage policy in our Local Law. This program will assist homeowners in the future with several growth programs which would not be available if this law was not in place. The highest priority at this time is to implement a Hazard Mitigation Plan and to identify and prioritize issues that we can correct and prepare for.”

The Village Floodplain Administrator has been provided an NFIP best practices guidance package and will be using it to improve local participation in NFIP standards going forward. This package of documents was provided by NYSDHSES and can be found in Appendix F - NFIP Floodplain Administrator Guidance Package.

#### *Hazard Mitigation: Existing and Planning Mechanisms*

##### Emergency Communications, Routes, and Shelters:

The Village of Warwick utilizes the Swift911 Portal, available for subscription on the Village’s municipal website, as a community notification system to ensure rapid delivery of alerts, warnings, and bulletins. This technology will allow the Village to reach our residents via telephone, e-mail, and/or fax. Additionally, Orange County uses the CodeRED emergency notification system.

The Village follows emergency route recommendations provided by Orange County. The Village has one (1) designated emergency shelter: Warwick Valley Middle School (225 West St., Warwick, NY 10990). More information on these sites can be found in Attachment III.

##### Comprehensive Plan:

The Village’s Comprehensive Plan was adopted in 2004. While flood mapping is included in the document, no discussion of mitigation or planning strategies in regards to hazards are noted.

##### Planning Mechanisms:

While this annex has provided a summary and description of existing plans, policies, and regulatory mechanisms that support hazard mitigation, the 2018 Orange County Hazard Mitigation Plan Update is intended to allow for the integration of its recommendations and data into local plans. Listed below are several planning and policy mechanisms that lend themselves to the integration of materials and objectives from this hazard mitigation plan. Columns to the right indicate whether the municipality has utilized hazard mitigation planning elements in the past (as in the aftermath of a previous local hazard mitigation plan) and whether they intend to be utilized in the future (which most, if not all, do).

<b>Table 10.2.37o: Incorporation of Hazard Mitigation Planning into Existing and Future Planning Mechanisms</b>		
<b>Planning Mechanism</b>	<b>Has been Utilized</b>	<b>May be Utilized</b>
<b>Capital Improvement Budget:</b> Hazard Mitigation Actions to be considered during the development of annual capital improvement plans. Compliance with Hazard Mitigation goals and objectives as well as the hazard vulnerability of site will be a consideration during the evaluation of infrastructure and facilities projects.	X	X
<b>Operating Budget:</b> Hazard Mitigation Actions to be considered within day-to-day operating budgets as funding permits.	X	X
<b>Building &amp; Zoning Ordinances:</b> Review of the hazard mitigation plan and hazard analyses are part of the evaluation of land use, zoning, and development review ordinances and permitted processes.	X	X
<b>Comprehensive Land Use Plan:</b> Elements such as hazard vulnerability and hazard area extents will be considered during the development of future land use maps and other elements of comprehensive planning.	X	X
<b>Human Resource Manual:</b> Employee job descriptions may contain elements related to hazard mitigation planning and associated recommendations.		X
<b>Grant Applications:</b> Support for funding requests in the form of data, maps, and priority recommendations will be drawn from the hazard mitigation plan.	X	X
<b>Fire Plan:</b> Fire Plans for the municipality and local fire departments can utilize data and mapping in the hazard mitigation plan.	X	X
<b>Local School Service Projects:</b> Municipal officials and staff can explore the possibility of collaboration with local school districts to provide avenues for student community service projects as well as educational opportunities.		X
<b>Economic Development:</b> Local chambers of commerce and other economic development agencies can utilize the hazard mitigation plan to better inform new/expanding businesses in finding a location.		X



### 10.2.37.5 Mitigation Strategy and Prioritization

#### *Past, Completed, and Ongoing Initiatives*

Many of the actions below were also issued as proposed actions in the most recent local hazard mitigation plan in 2014. Only those proposed mitigation actions that were incomplete were included in this plan as re-issued proposed mitigation actions in Table 10.2.37q. All other actions have been completed since the 2014 plan was adopted and are listed in Table 10.2.37p.

Table 10.2.37p: Completed Mitigation Actions/Projects Identified by Village of Warwick						
Action ID	Action	Hazard(s) Mitigated	Description	Estimated Cost	Primary Agency	Funding Source(s)
WV-A	Pond Hill Drainage	Flood	Provide drainage system to prevent floods from road – completed	\$250,000	Village	Grant
WV-B	Woodside Drainage	Flood	Provide drainage system to prevent floods from road – completed	\$100,000	Village	General Fund

#### *Proposed Initiatives*

Table 10.2.37q: Mitigation Actions/Projects Identified by Village of Warwick						
Action ID	Action	Hazard(s) Mitigated	Description	Estimated Cost	Primary Agency	Funding Source(s)
WV-1	Pioneer Farm Area Drainage	Flood	Restore drainage system washed out in 80's	\$500,000	Village/Town/County	General Fund, HMGP, HMA, NYSDEC, Legislative Members' Initiatives
WV-2	Reservoirs 1,2 &3	Flood	Clear trees which could block spillways, watershed and settlement ponds	\$500,000	Village	General Fund, HMGP, HMA, NYSDEC, Legislative Members' Initiatives

Table 10.2.37q: Mitigation Actions/Projects Identified by Village of Warwick						
Action ID	Action	Hazard(s) Mitigated	Description	Estimated Cost	Primary Agency	Funding Source(s)
WV-3	Carroll Drive Drainage	Flood	Provide drainage system to prevent floods from road to mitigate flooding vulnerabilities for properties including the Warwick Engine #3 Firehouse	\$30,000	Village	General Fund, HMGP, HMA, NYSDEC, Legislative Members' Initiatives
WV-4	7 West St Sewer	Sewage Pollution	Prevent sewer overflow	\$50,000	Village	General Fund
WV-5	Forest Management Plan	Deforestation/ sedimentation	Manage reservoir woodlands per Management Plan	\$100,000	Village	General Fund, HMGP, HMA, NYSDEC, Legislative Members' Initiatives
WV-6	Spring Street tunnel	Flood/erosion	Repair tunnel and drainage area	\$200,000	Village	General Fund
WV-7	Dredge Reservoir #3	Dam Failure/Flood	Increase Reservoir capacity to prevent overtopping	\$500,000	Village	General Fund, HMGP, HMA, NYSDEC, Legislative Members' Initiatives
WV-8	Reservoir#3 Overtopping Protection	Dam Failure/Flood	Design and construct improvements to reconfigure headworks and reinforce dam face that mitigate dam overtopping and protect against failure.	\$750,000	Village	General Fund, HMGP, HMA, NYSDEC, Legislative Members' Initiatives
WV-9	DPW second access road	Emergency response	Provide second access/exit road for DPW	\$210,000	Village	General Fund, HMGP, HMA, NYSDEC, Legislative Members' Initiatives

**Table 10.2.37q: Mitigation Actions/Projects Identified by Village of Warwick**

Action ID	Action	Hazard(s) Mitigated	Description	Estimated Cost	Primary Agency	Funding Source(s)
WV-10	Hydraulic Study of 3 Sequential Reservoirs	Dam Failure/Flood/ Hurricane	Study the relationship of impacts of cascading dam failures on 3 sequential dams and recommend cost-effective approach to reinforce the reservoir system to comply with current State Dam Safety Standards	\$40,000	Village	General Fund
WV-11	Public Education, Awareness and Outreach	All Hazards	Coordinate public education opportunities through websites, social media, village board meetings and news outlets to establish events such as "Hazard Awareness Week" and classes on evacuating homes.	Contributions from local business/ non - profits and Village	Village	General Fund, HMGP, HMA, NYSDEC, Legislative Members' Initiatives
WV-12	Prioritized Electrical Distribution De-energization during Storm Cleanup	Extreme Wind, Winter Storm, Hurricane	Coordinate with Orange and Rockland Utilities to identify primary/critical access routes for post-storm tree trimming and clearing operations. Future storm response would involve coordinated electrical De-energization, tree removal, and electrical restoration between ORU and community DPWs	Municipal Employee Time	DPW	General Fund
WV-13	Vegetation Management Plan around Above-ground Utility Distribution	Extreme Wind, Winter Storm, Hurricane	Assist Orange and Rockland utilities with community outreach during distribution line tree trimming and clearing operations.	Municipal Employee Time	DPW	General Fund
WV-14	Reservoir #3 Dam Spillway Capacity Improvement	Dam Failure	Replacement of principal spillway and dam top improvements to provide capacity to safely pass the design storm event for a High Hazard dam	\$1,100,000	DPW	General Fund, HMGP, HMA, NYSDEC, Legislative Members' Initiatives
WV-15	Land Acquisitions	Flooding	Acquire land and perform demolition at repetitive loss structures on Orchard St and Galloway Rd	\$1,020,000	Village Board	General Fund, HMGP, HMA, NYSDEC, Legislative Members' Initiatives

**Table 10.2.37q: Mitigation Actions/Projects Identified by Village of Warwick**

Action ID	Action	Hazard(s) Mitigated	Description	Estimated Cost	Primary Agency	Funding Source(s)
WV-16	Backup Generators	Flood, Fire, Winter Storm, Hurricane	Install backup generators at nine (9) separate locations throughout the Jurisdiction to serve 11 critical facilities including the Warwick Engine #3 Firehouse.	\$1,241,000	DPW	General Fund, HMGP, HMA, NYSDEC, Legislative Members' Initiatives
WV-17	Protect Sanitary Pump Stations	Flood, Hurricane, Winter Storm	Reconstruct Robin Brae Pump Station above base flood elevation to enable performance during high water conditions. Includes sound attenuating enclosure for generator. Construct flood protection berm around Orchard Street Pump Station above base flood elevation.	\$250,000	DPW	General Fund, HMGP, HMA, NYSDEC, Legislative Members' Initiatives
WV-18	Elevate Sanitary Manholes along Wawayanda	Flood, Hurricane, Winter Storm	Raise manholes along a 2.5 mile stretch of sewer trunk in flood plain to eliminate inflow during high water events.	\$150,000	DPW	General Fund, HMGP, HMA, NYSDEC, Legislative Members' Initiatives
WV-19	Culvert Replacement	Flood, Hurricane, Winter Storm	Improve the waterway opening to current design standards to mitigate overtopping and backwater impacts. Replace culverts at Wheeler Street.	\$350,000	DPW	General Fund, HMGP, HMA, NYSDEC, Legislative Members' Initiatives
WV-20	Spring Street Storm Sewer Replacement	Flood, Winter Storm, Hurricane	Replace 1100 linear feet of undersized storm sewer to mitigate street flooding which limits access and emergency response.	\$1.5 Million	DPW	General Fund, HMGP, HMA, NYSDEC, Legislative Members' Initiatives
WV-21	Municipal Water Storage Towers	Lightning, Extreme Temp.	Install lightning arrestors and cathodic protection on Municipal water towers.	\$75,000	DPW	General Fund

Table 10.2.37q: Mitigation Actions/Projects Identified by Village of Warwick						
Action ID	Action	Hazard(s) Mitigated	Description	Estimated Cost	Primary Agency	Funding Source(s)
WV-22	Stormwater Infrastructure Access Rights	Flood, Winter Storm, Hurricane	Establish legal rights to enter lands along existing stormwater piping where easements do not currently exist to perform maintenance and repair activities.	\$100,000	DPW	General Fund
WV-23	Wastewater Treatment Plant Access Road	Flood, Winter Storm, Hurricane	Obtain easement for access road in lieu of using load-restricted bridge to permit 40 ton vehicles to access WWTP. Mitigation action will improve access to Wastewater plant during emergencies.	\$50,000	Village Board	General Fund
WV-24	Stream Cleaning (Desilt/Desnag)	Flood, Hurricane , Winter Storm	Periodic vegetation management, sediment removal, and debris removal downstream of Cascade road to alleviate flooding upstream from Reservoir #3.	\$40,000	DPW	General fund
WV-25	High Maneuverability Snow Removal Equipment	Winter Storm	Purchase smaller snow removal equipment to improve response capability in high-density/narrow/congested sections of the municipality	\$150,000	Village Board	General Fund
WV-26	Wawayanda Study	Flood, Hurricane, Winter Storm	Study a SFHA with floodway designation to determine mitigation opportunities to reduce impacts to community and infrastructure during flood events	\$200,000	Village Board	General Fund, HMGP, HMA, NYSDEC, Legislative Members' Initiatives
WV-27	Northwest Village Flood Study	Flood, Winter Storm, Hurricane	Study the northwest village quadrant tributary to Schervier Pond, Spring Street, and West Street to further develop mitigation strategies to address chronic flooding during storm events.	\$50,000	Village Board	General Fund
WV-28	Acquisition of repetitive loss properties	Flood, Severe storm	Acquisition of repetitive loss and severe repetitive loss properties within municipal limits	\$50,000-\$500,000	Village Board	General Fund, HMGP, HMA, NYSDEC, Legislative Members' Initiatives

STAPLEE forms were completed for each of these actions. A table with these evaluations can be found in Attachment II of this jurisdictional annex.

“STAPLEE” refers to the following lenses of evaluation: social, technological, administrative, political, legal, economic, and environmental.

*Future Needs*

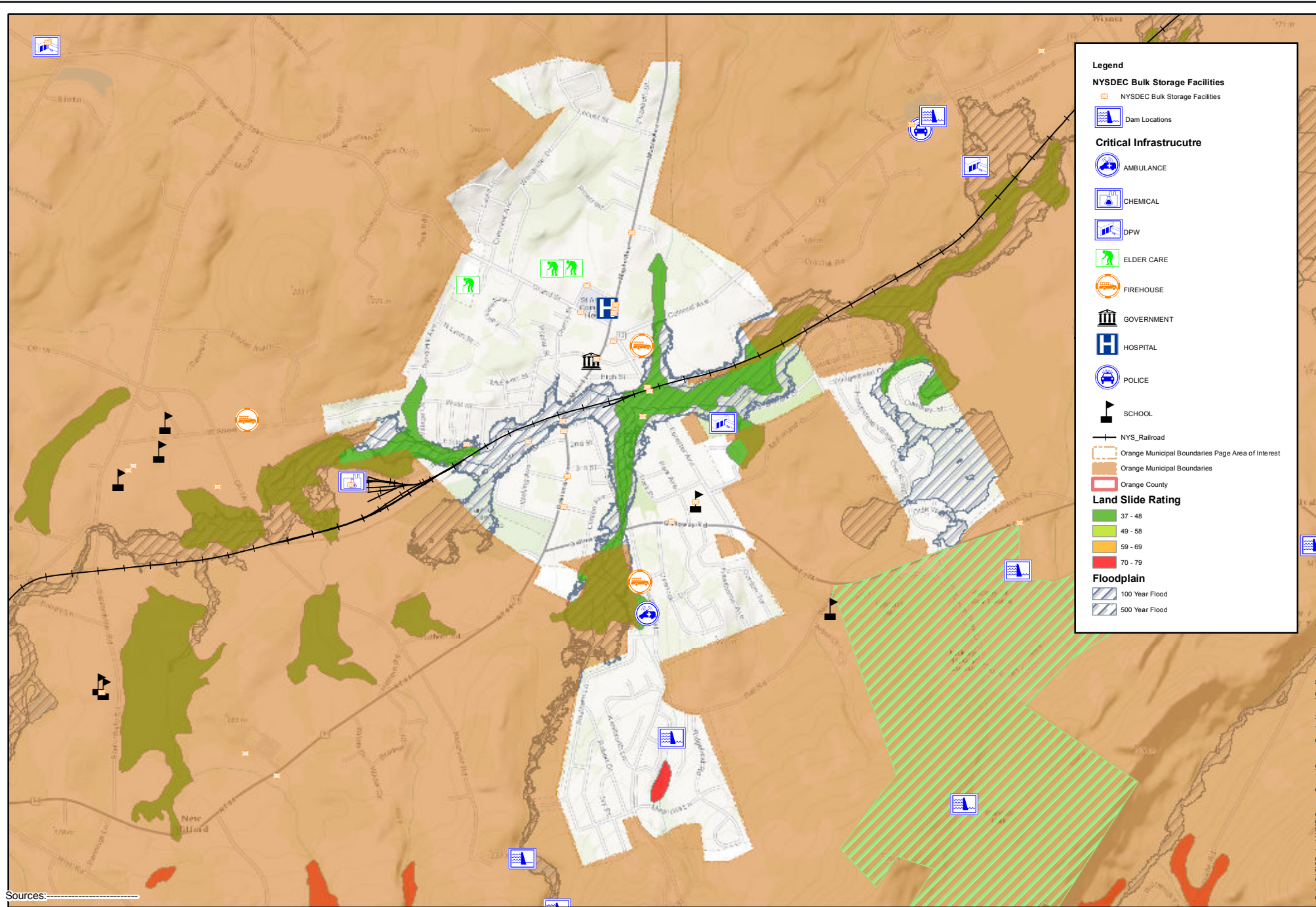
The Village has not identified any future needs.

**10.2.37.6 Hazard Area Extent and Location**

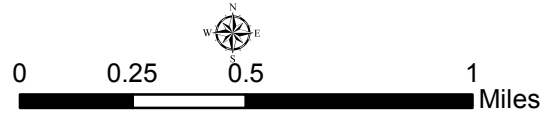
A map demonstrating the location of certain hazard areas is attached as Attachment I.

**Attachment I**

**Hazard Area Extent and Location Map -  
Village of Warwick**



Sources: \_\_\_\_\_



Path: C:\e\h\p\orange\orange-county\orange-county-hazard-mitigation-plan.mxd



## **Attachment II**

# **STAPLEE Mitigation Action Cost/Benefit Analysis - Village of Warwick**

**STAPLEE Criteria Consideration Tables**  
**Mitigation Action Prioritization and Comparison**

Jurisdiction: Village of Warwick

Action ID	Action	S	T	A	P	L	E	E	Can action be easily implemented?	Does action achieve multiple plan objectives?	Can action be quickly implemented?	Level of action benefits	Level of action overall costs	Priority ranking
		+ = benefit (favorable), - = cost (unfavorable), 0 = neutral or N/A											Levels = high, medium, or low	
WV-1	Pioneer Farm Area Drainage: Restore drainage system washed out in 80's	+	+	-	+	+	-	0	-	0	-	High	High (\$500,000)	High
WV-2	Reservoirs 1, 2, & 3: Clear trees which could block spillways, watershed and settlement pond	+	+	+	0	+	0	0	0	0	-	Medium	High (\$500,000)	High
WV-3	Carroll Drive Drainage: Provide drainage system to prevent floods from road	+	+	+	+	+	+	0	+	0	0	Medium	Low (\$30,000)	High
WV-4	7 West St Sewer: Prevent sewer overflow	+	+	+	+	+	+	0	+	+	0	Medium	Low (\$50,000)	High
WV-5	Forest Management Plan: Manage reservoir woodland per Management Plan	+	+	+	+	+	+	0	0	+	+	Medium	Medium (\$100,000)	Medium
WV-6	Spring Street Tunnel: Repair tunnel and drainage area to improve stormwater drainage system capacity	+	+	0	+	+	0	0	-	+	-	Medium	Medium (\$200,000)	Medium
WV-7	Dredge Reservoir #3: Increase reservoir capacity to prevent overtopping	+	+	+	+	+	+	0	-	+	-	Medium	High (\$500,000)	Medium
WV-8	Reservoir #3 Overtopping Protection: Design and construct improvements to reconfigure headworks and reinforce dam face that mitigate dam overtopping and protect against failure	+	+	+	+	+	+	0	-	+	-	Medium	High (\$750,000)	Low
WV-9	DPW Second Access Road: Provide second access / exit road for Department of Public Works	0	+	+	0	0	+	-	0	+	-	Medium	Medium (\$210,000)	Low
WV-10	Hydraulic Study of 3 Sequential Reservoirs: Study the relationship of impacts of cascading dam failures on three (3) sequential dams and recommend a cost-effective approach to reinforce the reservoir system to comply with current State Dam Safety Standard	+	+	+	0	0	+	-	0	+	+	Medium	Low (\$40,000)	Low

**STAPLEE Criteria Consideration Tables**  
**Mitigation Action Prioritization and Comparison**

Jurisdiction: Village of Warwick

Action ID	Action	S	T	A	P	L	E	E	Can action be easily implemented?	Does action achieve multiple plan objectives?	Can action be quickly implemented?	Level of action benefits	Level of action overall costs	Priority ranking
		+ = benefit (favorable), - = cost (unfavorable), 0 = neutral or N/A											Levels = high, medium, or low	
WV-11	Public Education, Awareness and Outreach: Educate and council the public on potential hazards in their community and steps they can take to reduce their risk to them including response actions such as evacuating homes. Coordinate through websites, social media, village board meetings, news outlets to establish educational opportunities such as "Hazard Awareness Week".	+	+	+	+	+	+	0	0	+	0	Medium	Medium (\$40,000)	Low
WV-12	Prioritized Electrical Distribution De-energization during Storm Cleanup: Coordinate with Orange and Rockland Utilities to identify primary/critical access routes for post-storm tree trimming and clearing operations. Future storm response would involve coordinated electrical deenergization, tree removal, and electrical restoration between ORU and community DPW's	+	+	+	+	+	+	0	+	+	+	Medium	Low (Staff Time)	Low
WV-13	Tree Trimming Plan around Above-ground Utility Distribution: Assist Orange and Rockland utilities with community outreach during distribution line tree trimming and clearing operations	+	+	+	0	0	+	0	+	+	+	Medium	Low (Staff Time)	Low
WV-14	Reservoir #3 Dam Spillway Capacity Improvement: Replacement of principal spillway and dam top improvements to provide capacity to safely pass the design storm event for a High Hazard dam	+	+	+	+	+	+	0	-	+	-	High	High (\$1.1 mill.)	Low
WV-15	Land Acquisitions: Acquire land and perform demolition at repetitive loss structures along Orchard St and Galloway Rd	+	+	+	+	+	+	0	0	0	-	Medium	High (\$1,020,000)	Low
WV-16	Backup Generators: Install backup generators at nine (9) separate locations throughout the Jurisdiction to serve 11 critical facilities.	+	+	+	+	+	+	0	-	+	-	Medium	High (\$1,241,000)	Low

**STAPLEE Criteria Consideration Tables**  
**Mitigation Action Prioritization and Comparison**

Jurisdiction: Village of Warwick

Action ID	Action	S	T	A	P	L	E	E	Can action be easily implemented?	Does action achieve multiple plan objectives?	Can action be quickly implemented?	Level of action benefits	Level of action overall costs	Priority ranking
		+ = benefit (favorable), - = cost (unfavorable), 0 = neutral or N/A											Levels = high, medium, or low	
WV-17	Protect Sanitary Pump Stations: Reconstruct Robin Brae Pump Station above base flood elevation to enable performance during high water conditions. Includes sound attenuating enclosure for generator. Construct flood Protection berm around Orchard Street Pump Station above base flood elevation.	+	+	+	+	+	+	0	-	+	-	Medium	Medium (\$250,000)	Low
WV-18	Elevate Sanitary Manholes along Wawayanda Creek: Reconstruct Robin Brae Pump Station above base flood elevation to enable performance during High water conditions. Includes sound attenuating enclosure for generator. Additionally, construct flood protection berm around Orchard Street Pump Station above base flood elevation.	+	+	+	+	+	+	0	0	+	0	Medium	Medium (\$150,000)	Low
WV-19	Culvert Replacement: Improve the waterway opening to current design standards to mitigate overtopping and backwater impacts. Replace culverts at Wheeler Street.	+	+	+	+	+	+	0	-	+	-	Medium	Medium (\$350,000)	Low
WV-20	Spring Street Storm Sewer Replacement: Replace 1100 linear feet of undersized storm sewer to mitigate street flooding which limits access and emergency response.	+	+	+	+	+	+	0	-	0	-	Medium	High (\$1.5 mill.)	Low
WV-21	Municipal Water Storage Tower Protection: Install lightning arrestors and cathodic protection on municipal water towers.	+	+	+	+	+	+	0	+	+	0	Low	Low (\$75,000)	Low
WV-22	Stormwater Infrastructure Access Rights: Establish legal rights to enter lands along existing stormwater piping where easements do not currently exist to perform maintenance and repair activities.	+	+	+	+	+	+	0	0	+	-	Low	Medium (\$100,000)	Low

**STAPLEE Criteria Consideration Tables**  
**Mitigation Action Prioritization and Comparison**

Jurisdiction: Village of Warwick

Action ID	Action	S	T	A	P	L	E	E	Can action be easily implemented?	Does action achieve multiple plan objectives?	Can action be quickly implemented?	Level of action benefits	Level of action overall costs	Priority ranking
		+ = benefit (favorable), - = cost (unfavorable), 0 = neutral or N/A											Levels = high, medium, or low	
WV-23	Wastewater Treatment Plant Access Road: Obtain easement for access road in lieu of using load-restricted bridge to permit 40 ton vehicles to access WWTP. Mitigation action will improve access to wastewater plant during emergencies.	+	+	+	+	+	+	0	0	+	-	Low	Low (\$50,000)	Low
WV-24	Stream Cleaning (Desilt/Desnag): Periodic vegetation management, sediment removal, and debris removal downstream of Cascade Road to alleviate flooding upstream from Reservoir #3.	+	+	+	+	+	+	0	+	+	0	Low	Low (\$40,000)	Low
WV-25	High Maneuverability Snow Removal Equipment: Purchase smaller snow removal equipment to improve response capability in high-density / narrow / congested sections of the municipality.	+	+	+	+	+	+	0	+	0	0	Low	Medium (\$150,000)	Low
WV-26	Wawayanda Creek Study: Study a SFHA with floodway designation to determine mitigation opportunities to reduce impacts to community and infrastructure during flood events.	+	+	+	+	+	+	0	0	+	+	Low	Medium (\$200,000)	Low
WV-27	Northwest Village Flood Study: Study the Northwest Village quadrant tributary to Shervier Pond, Spring Street, and West Street to further develop mitigation strategies to address chronic flooding during storm events.	+	+	+	+	+	+	0	0	+	+	Low	Low (\$50,000)	Low
WV-28	Acquisition of repetitive loss and severe repetitive loss properties within municipal limits	0	+	0	0	+	0	+	0	+	0	High	Medium	High

**Attachment III**

**Hazard Mitigation Worksheets -  
Village of Warwick**

## Mitigation Actions and Strategy Detail Worksheet

<b>Action Worksheet</b>	
Name of Jurisdiction	Village of Warwick
Name of Hazard Mitigation Plan	Orange County Multi-Jurisdictional Hazard Mitigation Plan
<b>Potential Actions/Projects (not being implemented at this time)</b>	
Action/Project Number	WV – 16
Name of Action/Project	Backup Generators
Summary of Evaluation: Benefits (losses avoided), estimated costs, and other factors considered	Install backup generators at nine (9) separate locations throughout the Jurisdiction to serve eleven (11) critical facilities. \$1,241,000.
<b>Plan for Implementation</b>	
Responsible Organization	Village Board, Village DPW (lead), Warwick Joint Fire District Board of Fire Commissioners
Action/Project Priority	High
Potential Funding Sources	General Fund, HMGP, HMA, NYSDEC, NYS Legislative Members' Initiatives
Other assisting organizations, entities, etc.	N/A
Local planning mechanisms to be used in project/action implementation, if any	None.
<b>Progress Report</b>	
Date of status report	
Report of progress	
Evaluation of effectiveness	

## Mitigation Actions and Strategy Detail Worksheet

<b>Action Worksheet</b>	
Name of Jurisdiction	Village of Warwick
Name of Hazard Mitigation Plan	Orange County Multi-Jurisdictional Hazard Mitigation Plan
<b>Potential Actions/Projects (not being implemented at this time)</b>	
Action/Project Number	WV – 20
Name of Action/Project	Spring Street Storm Sewer Replacement
Summary of Evaluation: Benefits (losses avoided), estimated costs, and other factors considered	Replace 1100 linear feet of undersized storm sewer to mitigate street flooding which limits access & emergency response. \$1.5 million
<b>Plan for Implementation</b>	
Responsible Organization	DPW
Action/Project Priority	High
Potential Funding Sources	General Fund, HMGP, HMA, NYSDEC, NYS Legislative Members' Initiatives
Other assisting organizations, entities, etc.	N/A
Local planning mechanisms to be used in project/action implementation, if any	None.
<b>Progress Report</b>	
Date of status report	
Report of progress	
Evaluation of effectiveness	



Orange County  
Multi-Jurisdictional All Natural Hazard Mitigation Plan  
Emergency Shelter Questionnaire

Name of Your Municipality:	<u>Village of Warwick</u>
Common Name of Your Emergency Shelter:	<u>Warwick Valley Middle School</u>
Street Address of Your Emergency Shelter:	<u>225 West St</u> <u>Warwick, NY 10990</u>
Name of the Owner of Your Emergency Shelter:	<u>Warwick Valley</u> <u>Central School District</u>
Name of the Regular Occupant of Your Emergency Shelter:	<u>Warwick Valley Middle School</u>

Name of Jurisdiction: \_\_\_\_\_

**RESOLUTION  
TO AUTHORIZE THE ACCEPTANCE AND ADOPTION OF THE  
MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN UPDATE FOR  
ORANGE COUNTY, NEW YORK**

**WHEREAS**, the Orange County Department of Emergency Services, with the assistance from Barton & Loguidice, D.P.C., has gathered information and prepared the Multi-Jurisdictional Hazard Mitigation Plan Update for Orange County, New York; and

**WHEREAS**, the Multi-Jurisdictional Hazard Mitigation Plan Update for Orange County, New York has been prepared in accordance with the Disaster Mitigation Act of 2000 and Title 44 Code of Federal Regulations (CFR), Part 201; and

**WHEREAS**, Title 44 CFR, Chapter 1, Part 201.6(c)(5) requires each local government participating in the preparation of a Multi-Jurisdictional Mitigation Plan or Plan Update to accept and adopt such plan; and

**WHEREAS**, the Village of Warwick, has reviewed the 2016 Multi-Jurisdictional Hazard Mitigation Plan Update for Orange County, has found the document to be acceptable, and as a local unit of government, has afforded its citizens an opportunity to comment and provide input regarding the Plan Update and the actions included in the Plan;

**WHEREAS**, the Village of Warwick, will consider the Multi-Jurisdictional Hazard Mitigation Plan Update for Orange County during the implementation and updating of local planning mechanisms, and will incorporate the hazard assessment data, hazard vulnerabilities, and mitigation actions in these mechanisms, where applicable;

**NOW THEREFORE, BE IT RESOLVED**, that the Village of Warwick, as a participating jurisdiction, adopts the Multi-Jurisdictional Hazard Mitigation Plan Update for Orange County, New York, dated May 2016.

This resolution was thereupon declared duly adopted on \_\_\_\_\_.

\_\_\_\_\_  
(Mayor)

\_\_\_\_\_  
(Clerk)