

8.7 - Jurisdictional Annex, Town of Grafton

This section presents the jurisdictional annex for the Town of Grafton. The jurisdiction's governing body passed a formal resolution to participate in this multi-jurisdictional hazard mitigation plan update. A copy of their resolution is maintained at the local government offices and at the Rensselaer County Bureau of Public Safety.

8.7.1 Contact Information

The jurisdiction's resolution to participate identified a Primary Point of Contact and an Alternate for this hazard mitigation plan update. These individuals represented the jurisdiction on the county-wide Core Planning Group, and led a local team of Jurisdictional Assessment Team Members who undertook various local activities related to the plan update.

HAZARD MITIGATION PLAN POINTS OF CONTACT						
Primary Point of Contact			Alternate Point of Contact			
Name: Ingrid Gundrum Title: Town Supervisor Address: 2379 Route 2, Grafton, NY 12082 Phone Number: 518-279-3565 E-mail Address: supervisorgundrum@albany.twcbc.com			Name: Herb Hasbrouck Title: Superintendent of Highways Address: 2379 Route 2, Grafton, NY 12082 Phone Number: 518-279-3565 E-mail Address: c/o.graftonsecretary@albany.twcbc.com			
Jurisdictional Assessment Team Members						
Local Jurisdiction Role/Position	Name	Email	Phone	Date of Invitation	Method of Invitation	Agreed to participate?
Land Use/Community Planner	not applicable - do not have a person in that position / title	n/a	n/a	n/a	n/a	n/a
Emergency Manager	Falls to the Supervisor Ingrid Gundrum	Supervisorgundrum@albany.twcbc.com	Ingrid Gundrum	n/a-self	n/a-self	yes
Floodplain Manager/Administrator	Tom Withcusky	graftonsecretary@albany.twcbc.com	518-279-3565	3/11/2019	verbal	yes
Public Works Director / City Engineer	Herb Hasbrouck, Superintendent of Highways					
Building Code Official	Tom Withcusky	graftonsecretary@albany.twcbc.com	518-279-3565	3/11/2019	verbal	yes
Fiscal/Budget Officer	Ingrid Gundrum	Supervisorgundrum@albany.twcbc.com				
Manager/Administrator	Ingrid Gundrum	Supervisorgundrum@albany.twcbc.com	518-279-3565	n/a-self	n/a-self	yes
Elected Officials	Town Council: Eric Buckley, Jodie Deschaine, Lisa Dooley, Jeffrey Wagar	graftonsecretary@albany.twcbc.com	518-279-3565	March 2019 (various dates)	verbal	yes
Local Hospital	n/a	n/a	n/a	n/a	n/a	n/a
Major University	n/a	n/a	n/a	n/a	n/a	n/a
Significant Business	Rynard Gundrum Lumber	gundrumlumber@aol.com	518-522-7233	Mar-19	Verbal	yes
Neighboring County 1	n/a	n/a	n/a	n/a	n/a	n/a
Neighboring County 2	n/a	n/a	n/a	n/a	n/a	n/a
Neighboring County 3	n/a	n/a	n/a	n/a	n/a	n/a
Neighboring County 4	n/a	n/a	n/a	n/a	n/a	n/a
Other	Erika Douglas, Assitant to the Supervisor	graftonsecretary@albany.twcbc.com	518-279-3565 ext.11	3/11/2019	verbal	yes
Tribal Group/Nation	n/a	n/a	n/a	n/a	n/a	n/a

8.7.2 JURISDICTION PROFILE

8.7.2.1 Location and Land Area

The Town of Grafton is located in north central Rensselaer County, in the eastern part of New York State. It shares a border with Pittstown and Hoosick to the north; Poestenkill and Berlin to the south; Petersburg to the east; and Brunswick to the west.

According to the 2010 U.S. Census Bureau, Rensselaer County has a total area of 665 square miles (1,720 km²), of which 652 square miles (1,690 km²) is land and 13 square miles (34 km²) (1.9%) is water. Of that, the Town of Grafton has a total area of 45.96 square miles (119.04 km²), of which 44.72 square miles (115.83 km²) is land and 1.24 square miles (3.21 km²) is water.

8.7.2.2 Population

According to the 2010 U.S. Census Bureau's American Community Survey 5-Year Estimates, the population of the Town of Grafton is estimated to be 2,130 persons.

8.7.2.3 Demographics

Of a total area of 45.96 square miles (2010 Census data), the land area is 44.89 square miles and population per square mile is 44.3 persons.

Of the total population, there are 102.5 males per 100 females (all ages). Persons under 18 years represent about 22% of the population are, and 11.6% are persons 65 years and over (2010 Census). Young and old subsets of the population may have unique needs as far as care requirements and potential cognitive and/or mobility limitations before, during, and after a disaster.

The number of persons who speak a language other than English is 62, or 2.6%, of which 22.6% speak English less than "very well". Persons not speaking English well may have trouble understanding instructions regarding disaster preparation, response, and recovery.

Regarding education, of persons age 25 years and older, 85.2% are high school graduates or higher, and 18.6% have received their bachelor's degree or higher (2000 Census data). Higher education can help enhance skills associated with cognition and evaluation of risk. Higher education can, therefore, foster an overall improved perception of risk, particularly where individuals may not have prior direct experience preparing for, responding to, or recovering from a particular hazard in their daily lives.

Regarding families and living arrangements, from 2013 to 2017 there were 830 total households and 2.57 persons per household. Persons living alone sometimes have less of a direct social circle for support before, during, and after a disaster.

The Census Bureau classifies all people not living in housing units (house, apartment, mobile home, rented rooms) as living in group quarters. The two types of group quarters are Institutional (correctional facilities, nursing homes, mental hospitals) and Non-Institutional (college dormitories, military barracks, group homes, missions, shelters). The Census Bureau maintains no group quarters information for this municipality. The needs of persons living in group quarters are unique, and residents are likely to have access and functional needs and unique care requirements before, during, and after a disaster.

According to 2017 ACS, the median household income was \$65,465; the per capita income in the past 12 months (2017) was \$34,172; and the percentage of persons in poverty was 9.8%. Lower income persons have limited financial resources to draw from in both a pre- and post-disaster scenario and are likely to require support as they prepare for, and recover from, hazard events.

The total of noninstitutionalized civilians with a disability is 8.6%, and percentage of people with a disability over age 65 years is 22.3%. The total percentage of persons (civilian, noninstitutionalized) without health insurance is 5.7%. Persons with disabilities have access and functional needs such as cognitive or mobility limitations that may put them at greater risk before, during, and after a hazard event.

8.7.2.4 Brief History

The area that is now Rensselaer County was inhabited by the Algonquian-speaking Mohican Indian tribe at the time of European encounter. Kiliaen van Rensselaer, a Dutch jeweler and merchant, purchased the area in 1630, as part of the Dutch colony New Netherland. The land passed from English rule (1664) to Dutch control (1673), then back to English rule (1674), until American independence in 1776. Rensselaer County was created in 1790s from an area that was originally part of the very large Albany County. In 1807 the county reorganized.

The first settlements are not clear, however, the Town of Grafton was originally a part of the Manor of Rensselaerswyck. Grafton was the last in Rensselaer County to be settled, formed from Troy and Petersburg on March 20, 1807. Van Rensselaer built a grist mill in 1836 or 1837. These were for many years the principal business enterprises in Grafton.

8.7.2.5 Governing Body Format

The governing body of the municipality consists of a Town Supervisor, Deputy Supervisor, and Town Board members. This council serves as the county's municipal/local government, performing executive functions of different natures. Members of this governing body are elected by the people.

8.7.2.6 Growth/Development Trends

Performing an assessment of growth and development trends is one step of a hazard mitigation plan update. This look into the future is important because development in hazard areas could put more people and property in harm's way and, in turn, could work to increase potential disaster-related damages and losses at a time when the mitigation plan's purpose is to reduce the potential for damages emanating from natural disasters.

An evaluation of growth and development trends was undertaken by each participating jurisdiction as part of the development of the initial plan in 2011. As part of this plan update, the Town reviewed and updated its prior feedback to reflect current conditions in the community as of early 2019.

The Town of Grafton did not note any major residential or commercial development taking place, or any major infrastructure development planned for the next five years in the municipality. New development within the Town is generally characterized by residential subdivision development throughout the entire town (vacant woodland areas as well as waterfront). There have been approximately three to five minor subdivisions per year and one to two major subdivisions per year. Commercial site plans have been low as well, at about one to two per year.

New Development/Potential Development in the Municipality						
Property Name	Type (Residential or Commercial)	No. of Structures	Address	Block and Lot	Known Hazard Zone	Description /Status
Not reported	Not reported	Not reported	Not reported	Not reported	Not reported	Not reported

The Town of Grafton enforces SEQRA requirements and regulations, and Town Subdivision and Site Plan Codes, to protect new development from the effects of natural hazards. Special conditions are required by the Town depending upon the type and location of the proposed development.

8.7.3 HAZARD IDENTIFICATION

The following hazards represent those that were deemed to be significant hazards of concern for the Town of Grafton:

Profiled Hazards in the Town of Grafton													
Jurisdiction	Atmospheric Hazards						Hydrologic Hazards			Geologic Hazards		Other Hazards	
	Extreme Temperatures (Coldwave/Heat)	Hurricane/Tropical Storm	Lightning	Tornado	Wind	Winter Storm	Drought	Flood			Earthquake	Landslide ⁴	Wildfire ⁵
								Flooding ²	Dam Failure	Ice Jam ³			
Grafton, Town of	■	■	■	■	■	■	■	■	■		■		■

Notes: (1) Based on presence of a High hazard dam (NYSDEC classification) either in the municipality or close upstream on a watercourse flowing through that municipality and feedback from the County Planning Department. (2) Based on identification of improved property in mapped FEMA flood hazard zones. (3) Based on historical records, Flood Insurance Studies, and local information as well as feedback from the County Planning Department. (4) Based on identification of improved property in mapped high incidence or high susceptibility landslide risk zones, plus those municipalities in which details of individual landslide events are available. (5) Based on identification of improved property in mapped wildfire hazard zones.

8.7.4 NOTABLE HAZARD EVENT OCCURRENCES SINCE 2011

Rensselaer County has a long history of natural hazard events occurring, as detailed in Section 3 of this plan. A summary of historical events is provided in each of the hazard profiles of Section 3 and includes a chronology of events that have affected the County and its municipalities.

NOAAs NCDC records 1,141 hazard event occurrences from 1950 to 2018 causing 1 fatality, 116 injuries, \$27,679,000 in property damage, and \$305,800 in crop damage. The table below presents a summary of 415 events that are included in NOAA's NCDC records for Rensselaer County since the prior 2011 HMP was prepared to summarize the recent range and impact of natural hazard events potentially affecting the County and its municipalities. For details of events prior to 2011, refer to Section 3 of this plan.

Natural Hazard Event History (January 2011 through December 2018)					
Event Type	Count	Fatalities	Injuries	Property Damage	Crop Damage
Blizzard	2	0	0	\$0	\$0
Cold/Wind Chill	28	0	0	\$0	\$0
Excessive Heat	3	0	0	\$0	\$0
Extreme Cold/Wind Chill	8	0	0	\$0	\$0
Flash Flood	20	0	0	\$320,000	\$0
Flood	16	0	0	\$10,000	\$0
Frost/Freeze	6	0	0	\$0	\$0
Hail	29	0	0	\$0	\$0
Heat	17	0	0	\$0	\$0
Heavy Rain	1	0	0	\$0	\$0
Heavy Snow	13	0	0	\$0	\$0
High Wind	17	0	0	\$0	\$0
Lightning	1	0	0	\$50,000	\$0
Storm Surge/Tide	1	0	0	\$0	\$0
Strong Wind	22	0	0	\$48,000	\$4,000
Thunderstorm Wind	141	0	7	\$0	\$0
Tropical Storm	2	0	0	\$0	\$0
Winter Storm	28	0	0	\$0	\$0
Winter Weather	60	0	0	\$0	\$0
Total	415	0	7	\$428,000	\$4,000

Since 1954, Rensselaer County has been designated as eligible for at least one form of FEMA assistance in 16 Federally-declared major disasters and eight Federally-declared emergencies. Since the adoption of the 2011 HMP, Rensselaer County has been designated as eligible for at least one form of FEMA assistance in three of the state's 12 Federally-declared major disasters (2011 through 2018).

Rensselaer County Disaster Declarations, 2011-2018					
Declaration Year	Event Incident Period	Declaration Type	Disaster Type	Disaster Number	Rensselaer County Designation
2017	March 14-15, 2017	Major Disaster Declaration	Severe Winter Storm and Snowstorm	DR-4322	Declared for PA only
2011	September 7-11, 2011	Emergency Declaration	Tropical Storm Lee	EM-3341	Declared for PA Category B
2011	August 26, 2011 through September 5, 2011	Major Disaster Declaration	Hurricane Irene	DR-4020	Declared for PA and IA
2011	December 26-27, 2010	Major Disaster Declaration	Severe Winter Storm and Snowstorm	DR-1957	Declared for PA Category B

Source: FEMA, online at <https://www.fema.gov/disasters>, queried on July 11, 2019
PA= FEMA's Public Assistance Program
IA= FEMA's Individual Assistance Program

Rensselaer County Disaster Declarations, 2011-2018					
Declaration Year	Event Incident Period	Declaration Type	Disaster Type	Disaster Number	Rensselaer County Designation
Category B= FEMA's Public Assistance Program Category B (Emergency Protective Measures)					

Some more recent notable events in the Town of Grafton since 2011 include:

August 28, 2011 - Irene

The remnants of Hurricane Irene brought heavy to extreme rainfall and throughout Rensselaer County. In the Town of Grafton, Route 2 was closed across Rensselaer County due to numerous reports of flooding and some wash outs. The Poesten Kill and Quacken Kill run along and cross Route 2.

October 29-30, 2012 – Sandy

Rainfall in Rensselaer County was not excessively heavy and did not cause any flooding, thanks to dry antecedent conditions. Wind gusts of 40 to 60 mph were common from the afternoon of the 29th until the early morning hours of the 30th.

June 30, 2017 to July 1, 2017 - Severe Storms and Flooding

Numerous strong to severe thunderstorms occurred across Rensselaer County. Thunderstorm winds caused damages throughout the county, downing trees and power lines, and heavy rains caused flooding in many areas of the county.

8.7.5 NATIONAL FLOOD INSURANCE PROGRAM SUMMARY

The Town of Grafton has participated in FEMA's National Flood Insurance program since October 13, 1978.

- Total number of policies¹: 4
- Insurance in force²: \$664,000
- Total number of losses: 0
- Total claims paid: \$0
- Repetitive Loss Properties: 0
- Severe Repetitive Loss Properties: 0

The Town of Grafton provided the following NFIP Administrator Input in 2019, for inclusion in the 2019 HMP.

¹ Policies in Force from www.fema.gov on 02/21/19, data current as of 09/30/18.

² Insurance in Force from www.fema.gov on 02/21/19, data current as of 09/30/18.

Name: Tom Withcusky Title: Floodplain Manager/Floodplain Administrator/NFIP Coordinator

Community: Town of Grafton Email and Phone: graftonsecretary@albany.twcbc.com, 518-451-0767



Worksheet 2 - NFIP

Note: This form should be filled out by your floodplain administrator. Submittals should be returned via email to Jay Wilson at jwilson@renseco.com. Feel free to contact Anna Foley of AECOM if you have questions, at anna.foley@aecom.com. All communities participating in the National Flood Insurance Program (NFIP) provided FEMA with a floodplain management ordinance and a designated floodplain administrator as a prerequisite to enter the program. All participating communities must provide the information below. Please return a copy of your floodplain management ordinance to us with this submittal.

Adoption Date of your Current Floodplain Management Ordinance	Date of Entry into NFIP ¹	Position or Title of Your Jurisdiction's Designated Floodplain Manager/Administrator (may also be called NFIP Coordinator)	Is this person a Certified Floodplain Manager?	Is floodplain management an auxiliary function?	Is your community in good standing with the NFIP?		
1988	10/13/78	Code Enforcement and Building Inspector	[] Yes [x] No	[x] Yes [] No	[x] Yes [] No		
Provide an explanation of NFIP administration services (i.e., permit review, GIS, education or outreach, inspections, engineering capability, etc.):							
Floodplain in Grafton is very small. There are only four active policies in force. Building permits are reviewed for compliance with NFIP. Floodplain manager is available to answer questions from the public. Building inspector verifies that construction aligns with permitted activities.							
Describe barriers to running an effective NFIP program in the community (if applicable):							
None.							
When was most recent FEMA Community Assistance Visit (CAV) or Community Assistance Contact (CAC)?	Is a CAV or CAC scheduled or needed?	Does the current floodplain management ordinance exceed FEMA or State minimum requirements? If so, describe how.	Is training of staff regarding NFIP issues planned?	Does your community intend to continue to enforce the floodplain management requirements including regulating new construction in Special Flood Hazard Areas (SFHAs)?	Does your community participate in the CRS? If so, state your Class.	Does your community intend to continue its participation in the CRS program?	If your community is not currently participating in the CRS program, are you intending to initiate the process during the next planning cycle?
?2011?	[x] Yes [] No	[] Yes [x] No	[x] Yes [] No	[x] Yes [] No	[] Yes* [x] No* * Class _____	[] Yes [x] No	[] Yes [x] No
*Describe any outstanding compliance issues (i.e., current violations):							
None							

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

Rensselaer County Multi-Jurisdictional Hazard Mitigation Plan Update – NFIP Worksheet NFIP-1

Name: Tom Withcusky Title: Floodplain Manager/Floodplain Administrator/NFIP Coordinator

Community: Town of Grafton Email and Phone: graftonsecretary@albany.twcbc.com, 518-451-0767



Provide an explanation of your local floodplain permitting process:

Review of all development permit applications to determine that the requirements of the NFIP have been satisfied.

Does your community intend to continue floodplain identification and mapping services including any local requests for map updates?	Does your community intend to initiate/continue the buyouts of repetitive loss properties?	Does your community intend to commit staff or resources to improve local mapping or code administration in the future?	Does your community intend to provide local outreach to promote the sale of flood insurance?	Does your community intend to participate in RiskMAP meetings and planning initiatives?	Does your community intend to continue to implement structural improvements to mitigate against flooding - culverts, drainage basins, etc.?	Does your community intend to continue to implement home improvement programs designed to minimize basement flooding?	Does your community intend to continue to implement roadway improvements to reduce damage from future flooding events?	Does your community intend to implement plans and programs in coordination with a local or regional drainage/sewer authority?
[x] Yes [] No	[] Yes [x] No <i>Grafton has no repetitive loss properties</i>	[x] Yes [] No	[x] Yes [] No	[] Yes [] No	[x] Yes [] No	[x] Yes [] No	[x] Yes [] No	[] Yes [x] No
Does your community intend to adopt the new FEMA Advisory Base Flood Elevations?		As Floodplain Manager, did you (or your predecessor at the time) actively participate in the development of the initial Hazard Mitigation Plan?		As Floodplain Manager, are you actively participating in the development of this Hazard Mitigation Plan Update?		Have there been any changes to your community's local floodplain management program since the last version of the plan in 2011?		
[x] Yes [] No <i>At this time, current maps effective 10/13/78 all zones A, C, X, no elevations determined</i>		[x] Yes [] No		[x] Yes [] No		[] Yes* [x] No		
* If you answered "yes", that there have been changes to your local program since 2011, please describe:								
Provide a description of your community assistance and monitoring activities:								
Assistance: Assistance to residents as needed as far as answering questions about floodplains and permitted activities. Monitoring: We make periodic inspections at various times throughout the period of construction to monitor compliance with permit conditions.								
NFIP participating communities are required to update/revise their floodplain management ordinance to ensure that it complies with the latest FEMA regulations. Will your community continue to commit to this program requirement?					NFIP participating communities are also required to update/revise their floodplain management ordinance to be consistent with the latest FIRMs. Will your community continue to commit to this program requirement?			
[x] Yes [] No					[x] Yes [] No			

Note: NFIP policy statistics by community are maintained at: <http://bsa.nfipstat.fema.gov/reports/1011.htm#NJT>
 NFIP claims data by community is maintained at: <http://bsa.nfipstat.fema.gov/reports/1040.htm#34>
 Information about structures at risk of flooding can be found in the current Hazard Mitigation Plan.

Rensselaer County Multi-Jurisdictional Hazard Mitigation Plan Update – NFIP Worksheet NFIP-2

8.7.6 ASSET IDENTIFICATION AND CHARACTERIZATION

An inventory of geo-referenced assets in Rensselaer County has been created in order to identify and characterize property and persons potentially exposed to the identified hazards. Section 3b of the plan presents the asset identification and characterization process in great detail. The following table presents an overview of assets in Rensselaer County³ and the subset of those assets that fall within the Town of Grafton.

³ The County totals are included here for readers to understand the proportion of countywide assets that lie within this municipality.

Asset Inventory																			
Jurisdiction	Improved Property (RCV ⁴)	Emergency Facilities					Critical Infrastructure and Utilities										Other Key Facilities		Historic and Cultural Resources
		Fire Stations	Police Stations	EMS / Ambulance Stations	Hospitals	Shelters ⁵	Wastewater Facilities	Water Treatment Facilities	Airports	Railroads (Passenger/ Freight Station)	Electric Power Facilities	Communications Facilities	Oil Facilities	Hazardous Materials Sites	Natural Gas Facilities	Ports	Schools	Residential Senior Care Facilities ⁶	
Rensselaer County	\$33,333,947,000	44	9	19	2	33	8	1	0	13	1	6	5	60	1	12	64	3	84
Town of Grafton	\$458,781,000	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
Rensselaer County	Population, Census 2010:		159,429																
Town of Grafton	Population, Census 2010:		2,130																
Rensselaer County	Vulnerable Population, Census 2010 (under 5 years, and over 64 years)		30,429																
Town of Grafton	Vulnerable Population, Census 2010 (under 5 years, and over 64 years)		353																

⁴ Replacement Cost Value

⁵ Specific shelter data is protected information and is not released to the public unless and until necessary during a disaster.

⁶ * As per the County Department of Economic Development and Planning, these figures only encompass the senior centers which are not residential facilities.

Exposure – Assets in the Floodplain

Land. Approximately three percent of the Town of Grafton’s land area is located in the 100-year floodplain.

Land in the 100-year Floodplain			
Municipality	Land Area of Municipality (Acres)	Land in the 100-year Floodplain (Acres)	Percent of Land in the 100-Year Floodplain (%)
Grafton, Town of	29,711	967	3%

Improved Property. Approximately three percent of the Town of Grafton’s improved property is located in the 100-year floodplain.

Improved Property in the 100-year Floodplain			
Municipality	Replacement Cost Value (RCV) Structure and Contents (\$)	RCV in the 100-year Floodplain (\$)	Percent of RCV in the 100-Year Floodplain (%)
Grafton, Town of	\$458,781,000	\$13,484,223	3%

Population. Approximately two percent of the population of the Town of Grafton resides in the 100-year floodplain.

Population in the 100-Year Floodplain			
Municipality	Total Population (Census 2010)	Estimated Population in the 100 year Floodplain	Percent of Population in the 100 year Floodplain
Grafton, Town of	2,130	36	2%

Critical Facilities. No critical facilities (emergency facilities, critical infrastructure and utilities, and other key facilities, as presented in Section 3b) are located in the floodplain in the Town of Grafton.

Historic and Cultural Resources. No listed historic or cultural resources are located in the floodplain in the Town of Grafton.

8.7.7 POTENTIAL FUTURE DAMAGES

Estimated annual losses provided in this section are based on best available data, and the methodologies applied result in an approximation of risk. Loss estimates should be used to understand relative risk from hazards.

Uncertainties are inherent in any loss estimation methodology, arising in part from incomplete scientific knowledge concerning natural hazards and their effects on the built environment. Uncertainties also result from approximations and simplifications that are necessary for a comprehensive analysis (i.e., incomplete inventories, demographics or economic parameters

The following table provides estimated average annual losses from HAZUS-MH 4.0 runs, where available. For hazards for which HAZUS modules are not available, historic damages have been distributed across municipalities based on their proportion of improved property. It is important to note that this table reflects estimates of average annual damages. For any hazard, individual event damages could be substantially (orders of magnitude) higher.

For the Town of Grafton, the hazard with the highest estimated average annual losses is tornado.

Summary of Annual Loss Estimates – Town of Grafton ⁷													
Municipality	Replacement Cost Value of Improvements (\$)	Extreme Temperatures	Hurricane/ Tropical Storm - Wind	Hurricane/ Tropical Storm – Wind + Flood	Lightning	Tornado	Wind	Winter Storm (Ice Storm/ Snow Storm)	Drought	Flood	Earthquake	Landslide	Wildfire
		NOAA NCEI, 1996-2018	HAZUS	NOAA NCEI, 1996-2018	NOAA NCEI, 1996-2018	NOAA NCEI, 1996-2018	NOAA NCEI, 1996-2018	NOAA NCEI, 1996-2018	NOAA NCEI, 1996-2018	NOAA NCEI, 1996-2018	HAZUS	HAZUS	NOAA NCEI, 1996-2018
Grafton, Town of	\$458,781,000	\$19	\$251	\$1,189	\$148	\$6,522	\$1,652	\$463	\$0	\$3,420	\$1,270	\$0	\$1

⁷ * **It is important to note that this table reflects estimates of average annualized damages. For any hazard, individual event damages could be substantially higher.**

8.7.8 HAZARD RANKINGS AND KEY RISK FINDINGS

Hazard rankings for the Town of Grafton are provided in the table below. Hazard priorities are based on each hazard's likelihood of occurrence, potential consequences, relative risk and average annualized losses. Rows are shaded red for High Hazard Priority; yellow for Moderate Hazard Priority; and green for Low Hazard Priority.

Tornados and flooding are the Town of Grafton's two highest priority hazards.

Hazard Rankings – Town of Grafton					
Hazard	Future Probability	Potential Consequence	Relative Risk	Hazard Priority	Average Annualized Losses ⁸
Extreme Temperatures (Coldwave/ Heat Wave)	Low	Low	Low	Low	\$19
Hurricane/ Tropical Storm	Low	High	Moderate	Moderate	\$251 Wind; \$1,189 Flood + Wind
Lightning	High	Low	Low	Low	\$148
Tornado	Low	High	High	High	\$6,522
Wind	High	Low	High	High	\$1,652
Winter Storm (Ice Storm/Snow Storm)	High	Moderate	Moderate	Moderate	\$463
Drought	Low	High	Low	Low	\$0
Flood	High	High	High	High	\$3,420
Earthquake	Low	High	Moderate	Moderate	\$1,270
Landslide	High	Low	Moderate	Moderate	\$0
Wildfire	Low	Low	Low	Low	\$1

Key risk findings identified by the Town of Grafton JAT as representing the highest local priorities for mitigation are:

- Undersized culvert on Jay Hakes Road is unable to channel regular runoff. This floods the road and restricts lane passage. Overwash during heavy flows runs into the road and makes it impassable. Conditions are particularly hazardous in the winter months because of freezing.
- Undersized culvert on Cranberry Pond Road is unable to channel regular runoff. This floods the road and restricts lane passage. Overwash during heavy flows runs into the road and makes it impassable. Conditions are particularly hazardous in the winter months because of freezing.
- Inadequate drainage causes overwash and road closures along five miles of Jay Hakes Road and South Long Pond Road.

⁸ Source: NOAA NCEI, except as noted. \$0 in average annualized losses had no damages recorded for events between 1996 and 2018. Actual annual damages are unquantifiable but higher.

- Residents could benefit from additional information on hazards, risks, and hazard mitigation measures they can take on their own properties to reduce damages and improve resident safety before, during and after a hazard event.
- Our local comprehensive plan should incorporate natural disaster mitigation techniques so that the long term vision for the community takes into account natural hazards and hazard mitigation measures and foster resiliency.
- Grafton’s local law for floodplain management was last updated in 1988. Outdated ordinances can mean that a community may not be regulating to the latest codes and standards or hazard information, and that does not foster community resiliency.

Mitigation projects to address these key risks are included as part of the Town’s overall hazard mitigation strategy.

8.7.9 OUTREACH TO THE PUBLIC AND OTHER STAKEHOLDERS

As part of this 2019 Plan Update, the Town of Grafton undertook various activities to: (a) alert the public and other stakeholders to the fact that the HMP Planning Committee was working to develop the update; and (b) provide the public and other stakeholders with a forum to ask questions, and submit comments and suggestions on the process. Outreach activities undertaken by the Town of Grafton included:

Outreach Activities			
Date of Activity	Type of Activity	Activity Details	Lead Department and/or Staff Title Who Undertook Activity
03/11/19	Regular Town Board Meeting open to the public	Announcement of Town Participation in the RCM-JHM Plan	Supervisor Gundrum/Town Board
03/15/19	Press Coverage	Reporting of Grafton’s Participation in the RCM-JHM Plan in the town newspaper of record, The Eastwick Press	Supervisor Gundrum
August 2019	Fact Sheet hard copies	Posted on bulletin board in Town Hall and Library, also at the Seniors Center	Supervisor Gundrum
August 2019	Fact Sheet web site	Posted fact sheet on Town Web Site	Supervisor Gundrum

The Town of Grafton has received no comments to date as a result of its outreach activities.

8.7.10 CAPABILITY ASSESSMENT

This section describes the following capabilities of the local jurisdiction:

- Legal and regulatory capability;
- Administrative and technical capability;
- Fiscal capability;
- Community resiliency;
- Community political capability; and

- Community classification.

8.7.10.1 Legal and Regulatory Capability

The table below summarizes the regulatory tools that are available to the Town of Grafton. The Town reviewed its responses from the 2011 HMP and has updated its prior feedback to reflect present-day conditions.

Legal and Regulatory Capability			
Regulatory Tools (Codes, Ordinances, Plans)	Do you have this? (Y or N)	Municipal Entity with Enforcement Authority	Code Citation (Section, Paragraph, Page Number, Date of Adoption)
a. Building code	Y	State	
b. Zoning ordinance	n/a		
c. Subdivision ordinance or regulations	Y	SEAR	
d. Special purpose ordinances (floodplain management, stormwater management, hillside or steep slope ordinances, wildfire ordinances, hazard setback requirements)	Y		
e. Growth management ordinances (also called "smart growth" or anti-sprawl programs)	N		
f. Site plan review requirements	Y		
g. General, comprehensive or master plan	Y		
h. A capital improvements plan	N		
i. An economic development plan	N		
j. An emergency response plan	Y		
k. A post-disaster recovery plan	N		
l. A post-disaster recovery ordinance	N		
m. Real estate disclosure requirements	N		
n. Other			

8.7.10.2 Administrative and Technical Capability

The table below summarizes potential staff and personnel resources available to the Town of Grafton. The Town reviewed its responses from the 2011 HMP and has updated its prior feedback to reflect present-day conditions.

Administrative and Technical Capability		
Staff / Personnel Resources	Available (Y or N)	Department / Agency / Position
a. Planner(s) or engineer(s) with knowledge of land development and land management practices	Y	Planning Board

Administrative and Technical Capability		
Staff / Personnel Resources	Available (Y or N)	Department / Agency / Position
b. Engineer(s) or professional(s) trained in construction practices related to buildings and/or infrastructure	Y	Town Engineer
c. Planners or Engineer(s) with an understanding of natural and/or human-caused hazards	Y	Planning Board and Town Engineer
d. Floodplain manager	Y*	Building Inspector
e. Surveyors	N	
f. Staff with education or expertise to assess the community's vulnerability to hazards	Y	Town Supervisor, Hwy Superintendent, Fire Chief, Town CEO/Building Inspector
g. Personnel skilled in GIS and/or HAZUS	N	
h. Scientists familiar with the hazards of the community	N	
i. Emergency managers	Y	Fire Chief, Hwy Superintendent, Supervisor
j. Grant writers	N	
k. Staff with expertise or training in benefit/cost analysis	N	
*All communities participate in the National Flood Insurance Program; as such, they are required by the regulations to have an appointed floodplain manager.		

8.7.10.3 Fiscal Capability

The table below summarizes financial resources available to the Town of Grafton. The Town reviewed its responses from the 2011 HMP and has updated its prior feedback to reflect present-day conditions.

Fiscal Capability	
Financial Resources	Accessible or Eligible to use (Yes/No/Don't know)
a. Community Development Block Grants (CDBG)	Eligible – Y
b. Capital improvements project funding	Y
c. Authority to levy taxes for specific purposes	Y
d. Fees for water, sewer, gas, or electric service	N -n/a
e. Impact fees for homebuyers or developers for new developments/homes	N
f. Incur debt through general obligation bonds	Y
g. Incur debt through special tax and revenue bonds	Y
h. Incur debt through private activity bonds	N
i. Withhold spending in hazard-prone areas	N
j. State mitigation grant programs	Don't Know
k. Community Development Block Grants (CDBG)	See A.
j. Other	

8.7.10.4 Overall Capabilities

The Town of Grafton's 2019 assessment of its overall capabilities to implement hazard mitigation strategies in each of the above categories, in addition to their local assessment of how these capabilities could be expanded and/or improved to reduce risk, is presented in the table below.

Overall Capabilities				
Would you classify your community's overall legal and regulatory capability to implement hazard mitigation strategies as high, moderate, or low?	Would you classify your community's overall technical capability to implement hazard mitigation strategies as high, moderate, or low?	Would you classify your community's overall fiscal capability to implement hazard mitigation strategies as high, moderate, or low?	Would you classify your community's overall administrative capability to implement hazard mitigation strategies as high, moderate, or low?	Would you classify your community's willingness to enact policies and programs that reduce hazard vulnerabilities in your community as high, moderate, or low - even if met with opposition? (i.e., guiding development away from identified hazard areas)?
High	High	High	High	High
How these capabilities can be expanded and/or improved to reduce risk:				
N/A- All are deemed high				

8.7.10.5 Community Classifications

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

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

Notes:

- = Unavailable

N/A = Not applicable

NP = Not participating

* CRS Ranking as of April 2019

The classifications listed above relate to the Town of Grafton's ability to provide effective services to lessen its vulnerability to the natural hazards identified. These classifications can be viewed as a gauge of the community's capabilities in all phases of emergency management (preparedness, response, recovery and mitigation) and are used as an underwriting parameter for determining the costs of various forms of insurance. The CRS Class applies to flood insurance, while the BCEGS and Public Protection classifications apply to standard property insurance. CRS classifications range on a scale of 1 to 10 with Class 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 1,000 feet of a creditable fire hydrant and is within five 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/>

8.7.11 PLAN FOR DISPLACED RESIDENTS

New York State requires that intermediate and long-term housing options must be available for relocating displaced residents to maintain post-disaster social and economic stability. Intermediate and long-term housing options for displaced residents was evaluated as part of the 2019 HMP Update. Additional information can be found in Appendix C.

8.7.12 PLAN FOR EVACUATION NEEDS AND SHELTERING

The Town of Grafton has an emergency response plan⁹. It does not have a post-disaster recovery plan or a post-disaster recovery ordinance¹⁰. Rensselaer County has an existing Comprehensive Emergency Management Plan (CEMP) documenting the County's plan for evacuation and sheltering measures during hazard events. The Plan is posted online at: <http://www.rensco.com/wp-content/uploads/2019/07/Rensselaer-County-CEMP.pdf>. As part of this hazard mitigation plan update, the Rensselaer County reviewed their existing CEMP and determined that updates were necessary at this time. Updates to the CEMP are being completed at this time. Once finalized and approved, the County will post the updated CEMP at the same address and will follow procedures in its updated CEMP in all future disasters. The County BPS indicated that there are no designated evacuation routes.

Appendix B contains updated shelter data provided by the Red Cross in 2018. Shelter locations are not made public until facilities are actually opened for an event and therefore, pages of Appendix B that include shelter information are nonpublic. Since every possible shelter is not opened during every event, the data is not made public in order to ensure that individuals in need of shelter do not seek it at facilities which may remain closed during a particular event. The Town of Grafton has access to shelter data and will coordinate with the Red Cross as part of their standard operating procedures if and when a need is identified for local shelters to be opened in the community.

⁹ Source: Local Capability Assessment

¹⁰ Source: Local Capability Assessment

8.7.13 FUTURE NEEDS - RISK/VULNERABILITY

The Town of Grafton has identified no future needs to better understand risk/vulnerability in the community.

8.7.14 PLAN INTEGRATION

For a community to succeed in reducing risk in the long term, the information and recommendations of the hazard mitigation plan must be integrated into day-to-day local government operations. Throughout the planning process, partnerships are formed between departments and agencies, and sustained actions between these partners will increase the community's resilience to disasters. "Plan integration" can be thought of as the process whereby a local government incorporates the mitigation plan findings and projects into other planning mechanisms (governance structures that are used to manage local land use development and community decision making).

It is the intention of the Town of Grafton to incorporate mitigation planning as an integral component of daily municipal operations. The balance of this subsection describes local accomplishments over the last planning cycle (2011-2019), and targeted activities for the next planning cycle (2019-2024).

Demonstration of Progress over the Last Planning Cycle (2011-2019) – The Town of Grafton undertook the following plan integration mechanisms over the last planning cycle:

- Issued a letter to each department head to solicit their support and explore opportunities for integrating hazard mitigation planning objectives into their daily activities.
- Worked with your planning department to educate them on the Hazard Mitigation Plan and encourage that when a master plan, general or comprehensive plan is one day developed, hazard mitigation for natural hazards should be addressed.

Targeted Plan Integration Activities for the Next Planning Cycle (2019-2024) – The Town of Grafton plans to implement the following plan integration mechanisms into local government operations from this point forward through the next planning cycle:

- CPG member will issue a letter to each department head to solicit their support and explore opportunities for further integration of hazard mitigation into the daily activities of the community as a whole.
- Incorporate hazard mitigation for natural hazards in the next update of your master, general or comprehensive plan.
- Add a specific hazard mitigation element to the next update of your master, general or comprehensive plan.
- Adopt and enforce the minimum building standards established in the current State-adopted IBC (NY edition).
- Maintain community participation in FEMA's National Flood Insurance Program.
- Join (or continue to maintain participation in) the NFIP's Community Rating

System.

- Steer growth and development away from high risk locations by using the risk assessment from the hazard mitigation plan as a tool to monitor future updates of community land use plans, zoning and subdivision codes and the development review process.
- Modify work plans, policies or procedures to include hazard mitigation concepts/activities.
- Revise job descriptions to include mitigation-related duties to further institutionalize mitigation.
- Revise capital or operating budgets to include a line item for mitigation project funding.
- Issue directives to require departments/agencies in the community to carry out certain hazard mitigation activities.
- Require the Department of Public Works to inspect and clean debris from streams and ditches more frequently.
- Add hazard vulnerability to subdivision and site plan review criteria.
- Perform inventories of historic sites in hazard areas in your community to identify where special treatment may be needed to protect them from specific natural hazards.
- Reach out to state agencies for assistance with natural hazard mitigation activities.
- Reach out to colleges and universities for technical assistance with natural hazard mitigation activities.
- Adopt (or continue to enforce) a local stormwater management plan/ordinance.
- Protect life and property in high hazard areas by limiting densities of new development.
- Increase resilience by limiting the extension of public infrastructure in high hazard areas.
- Reduce the vulnerability of future development in high hazard areas by reviewing development regulations, and modifying where needed.
- Use the risk assessment to inform future updates of the community emergency operations plan, evacuation plan, and/or post disaster recovery plan.
- Implement hazard mitigation activities through existing plans and policies.
- Sponsor training on best practices for hazard mitigation for local government staff. (Note: this may be accomplished with other local governments.)

8.7.15 MITIGATION STRATEGY

This subsection sets forth the mitigation strategy for the Town of Grafton. It describes:

- Progress on 2011 HMP Initiatives
- Past Mitigation Accomplishments
- Proposed 2019 HMP Mitigation Initiatives
- Action Worksheets

8.7.15.1 Progress on 2011 HMP Initiatives

The following table was completed by the Town of Grafton HMP Committee Members. It summarizes the progress that was made on the local hazard mitigation initiatives that were set forth in the community's mitigation strategy from the initial HMP in 2011.

The Town has identified no major changes in local priorities regarding natural hazards since the last version of the HMP.

PROGRESS ON 2011 HAZARD MITIGATION PLAN INITIATIVES												
2011 HMP Initiative Number	Mitigation Initiative Description	2011 HMP Priority	Hazard(s) Mitigated	Lead and Support Agencies	Status				Status Details	Relevance		Relevance Details
					Completed	Initiated but Not Completed	Ongoing Type of Activity	Not Initiated		Still Relevant - Carry Forward to Updated Mitigation Strategy	No Longer Relevant - Omit from Updated Mitigation Strategy	
G-1	Repair and restoration of 5 miles of town roads including replacement of 3" of granular item 4 material, reshaping and reestablishing the roadway surface, crown in the road, reestablishing ditches each side of the roadway. Grading/reshaping of roadway, cutting and removal of fallen trees, placement of granular top course and compaction. Work to be done on Jay Hakes and South Long Pond Road, Grafton, NY.	High	Flooding	DPW			x		In addition to seasonal issues faced by a dirt road in a mountain community, there are issues with culverts and potential flooding and washout of the road. Issues with beaver dams.	x		May consider adding to project description a meeting with DEC to look into the possibility of relocating the beaver population at this site.
G-2	Replacement of collapsed 24" diameter x 36' length culvert. Remove collapsed metal pipe, placement of 10" of #2 washed stone bedding, placement of new HDPE culvert with backfill, placement of apron and reshaping existing ditches. Work to be done on Dunham Road, Grafton, NY12	Medium	Flooding	DPW	x				completed in 2018		x	completed
G-3	Repair of elliptical bolted steel plate bridge Johnson Rd., repair bridge structure, concrete abutments and replacement of failing gabion basket earth retaining structures on the upstream and downstream side of the bridge.	Medium	Flooding	DPW				x	limited funding directed toward higher priority projects	x		change to low priority as it is a 3 season road

PROGRESS ON 2011 HAZARD MITIGATION PLAN INITIATIVES												
2011 HMP Initiative Number	Mitigation Initiative Description	2011 HMP Priority	Hazard(s) Mitigated	Lead and Support Agencies	Status				Status Details	Relevance		Relevance Details
					Completed	Initiated but Not Completed	Ongoing Type of Activity	Not Initiated		Still Relevant - Carry Forward to Updated Mitigation Strategy	No Longer Relevant - Omit from Updated Mitigation Strategy	
G-CL-1	Public awareness program on Hazards, Prevention, and Mitigation: County will maintain a hazard mitigation and mitigation planning web presence (local municipal web sites to link up to this site, if they haven't already done so); all participating jurisdictions to support preparation of a joint annual hazard mitigation and mitigation planning fact sheet and its distribution; periodic discussion of hazard mitigation and the mitigation plan at other regular local meetings; use of annual flyers, newsletters, advertisements, or radio/tv announcements, etc. at the discretion of each jurisdiction (incorporating as much free information as possible from the FEMA Publications Warehouse and other appropriate sources). (public education)	High	All hazards	County-led action item. CPG Member, Town Supervisor			x		Notices to the public in local paper and social media regarding road closures. Open public board meetings include regular discussions of problem areas.	x		County is carrying forward this County-led activity with no changes; our municipality will carry it forward as well.
G-CL-2	Code update: Review existing local codes and ordinances against the identified hazards to determine whether there need to be any amendments to address identified hazards and, where a need is identified, modify/ amend the codes/ordinances as applicable. (prevention)	Medium	All hazards	County-led action item. CPG Member, Town Supervisor				x	Periodic review of town code book and ongoing assessment by the superintendent of highways and the building and code enforcement officer.	x		County is carrying forward this County-led activity with no changes; our municipality will carry it forward as well.
G-CL-3	Code enforcement: Enforcement of NYS and Local Building Codes with Continual CEO training. (prevention)	Medium	All hazards	County-led action item. CPG Member, Town Supervisor				x	Locally administered on an ongoing basis; our community did go to the county for support/training and does interact regularly with the County Engineer.	x		County is carrying forward this County-led activity with no changes; our municipality will carry it forward as well.
G-CL-4	Ensure that local comprehensive plans incorporate natural disaster mitigation techniques through a courtesy review of draft plans by the County Planning Department (prevention)	High	All hazards	County-led action item. CPG Member, Town Supervisor				x	Town does have a master plan. Last done in 2011 and prior supervisor did have natural hazards incorporated into it. Also in coordination with County Planning.	x		County is carrying forward this County-led activity with no changes; our municipality will carry it forward as well.
G-CL-5	Hold periodic workshops for municipalities regarding zoning and planning issues that arise regarding natural hazards and hazard mitigation. (prevention)	Low	All hazards	County-led action item. CPG Member, Town Supervisor				x	County- led activity. Municipality attends meetings/workshops as offered by the County whenever municipal staff members have schedule availability.	x		County is carrying forward this County-led activity with no changes; our municipality will carry it forward as well.
G-NFIP-1	Update/revise floodplain management ordinance to comply with latest FEMA regulations.	High	Flooding	Town Board, Code/Building Enforcement					Local law is dated 1988 and has not been updated	x		Ongoing type of activity; will be carried forward with no changes.

PROGRESS ON 2011 HAZARD MITIGATION PLAN INITIATIVES												
2011 HMP Initiative Number	Mitigation Initiative Description	2011 HMP Priority	Hazard(s) Mitigated	Lead and Support Agencies	Status				Status Details	Relevance		Relevance Details
					Completed	Initiated but Not Completed	Ongoing Type of Activity	Not Initiated		Still Relevant - Carry Forward to Updated Mitigation Strategy	No Longer Relevant - Omit from Updated Mitigation Strategy	
G-NFIP-4	Update/revise floodplain management ordinance to be consistent with potential future new FIRMs	Low	Flooding	Town Board, Code/Building Enforcement			x		FEMA has not issued new FIRMs since the last hazard mitigation plan was prepared.	x		Ongoing type of activity; will be carried forward with no changes.
G-NFIP-5	Require staff involved in floodplain management and ordinance enforcement to become Certified Floodplain Managers (CFMs)	Low	Flooding	Town Board, Code/Building Enforcement				x	Not agency required; municipality opted not to require CFM certification.		x	Not agency required; municipality opted not to require CFM certification.
G-NFIP-6	Join the Community Rating System (CRS)	Medium	Flooding	Town Board, Code/Building Enforcement				x	Municipality opted not to enter CRS.		x	Not carrying forward; not enough policyholder would benefit

8.7.15.2 Past Mitigation Accomplishments

NYS DHSES requires the documentation of local mitigation efforts and accomplishments since the previous hazard mitigation plan was prepared, regardless of funding source and regardless of whether the project was included in the prior plan. They note that the goal of this requirement is to provide a context for each jurisdiction's projects, act as a source of ideas for mitigation projects, and evaluate the accuracy of assumptions and engineering solutions to inform future projects, and to support future mitigation planning and its coordination with other planning, zoning, and environmental procedures within the jurisdiction.

The Town of Grafton reported no other mitigation accomplishments from the time the 2011 HMP was approved through its first update in 2019.

8.7.15.3 Proposed 2019 HMP Mitigation Initiatives

The process for selection and prioritization of mitigation actions is described in greater detail in Section 5 of the main text. The outcomes of that overall process are summarized here.

This plan proposes the actions determined to be the most appropriate for the resources and capabilities of the community based on the experience of local officials, with input from the public and other stakeholders. The relatively large number of flood mitigation actions reflects the fact that flooding is the hazard of greatest concern. Actions determined to be appropriate for the plan were reviewed during public and committee meetings and there was consensus that those intended to mitigate the effects of flooding should be the highest priorities for most communities. As with the 2011 Plan, this 2019 Plan Update includes a series of County-led initiatives with municipal participation to address a wider range of hazards. In addition, each local mitigation strategy proposes actions reflecting the commitment of the County and local jurisdictions to compliance with requirements of the NFIP. Potential actions were reviewed relative to potential financial as well as administrative and legal costs and the degree to which they would be endorsed by the public. Potential actions were reviewed during the meetings relative to their potential benefit of effectiveness in saving lives, protecting the natural environment, and reducing disruption and damage. Actions selected by each jurisdiction include activities to protect existing and future structures and infrastructure and enhance community resilience.

Part of enhancing community resilience involves adapting to a changing climate. In accordance with NYS Mitigation Planning Standard 9, plans developed with NYS DHSES-administered funds must include information on climate change as part of the hazard vulnerability analysis and contain strategies/projects to address increased vulnerability that may result from climate change. This requirement was established to encourage jurisdictions to plan for and accommodate climate change and sea level rise. By developing mitigating strategies and/or projects for hazards that are exacerbated by climate change, jurisdictions will better protect residents, avoid, or reduce damage to property and public infrastructure, and reduce personal hardship. In accordance with this State Standard, previous sections of this plan have presented information on how climate change may affect jurisdictional vulnerability or increased frequency of occurrence and/or severity in exposure to flooding, wildfire, drought, and extreme temperatures. Climate change is addressed by mitigating the various hazards that it exacerbates. Rensselaer County and its communities have proposed a range of hazard mitigation initiatives to address their highest hazards including those hazards that are exacerbated by a changing climate.

Proposed 2019 HMP Mitigation Initiatives for Town of Grafton are shown in the following table. These include both new initiatives and initiatives that were carried forward from the 2011 HMP.

PROPOSED 2019 HMP MITIGATION INITIATIVES														
Initiative Number	Initiative Name	HMP Goal(s)/ Objective(s) Being Met	Hazard(s) to be Mitigated	Description of the Problem	Description of the Solution	CF ¹¹ ?	EHP ¹² Issues?	Estimated Timeline	Project Lead (include relevant Department and Position Title)	Estimated Costs	Estimated Benefits	Potential Funding Sources ¹³	Priority ¹⁴	Action Worksheet Provided? ¹⁵
* NOTE: Projects related to Critical Facilities (CF) must protect the facility to the 500-year event or worst damage scenario, whichever is greater.														
1	Jay Hakes Road Culvert Replacement New	3,4	Flooding	Undersized Culvert- Unable to channel regular runoff. Floods the road and restricts lane passage. Overwash during heavy flows runs into the road and makes it impassable. Particularly hazardous in winter because of freezing.	T-Up Grade from 4' culvert to Box Culvert 8'	No	No	2019	Town Highway	120,000	Increased safety for those traveling on the road, eliminate wear and tear on residents' vehicles, no downtime for flooding when the road is closed, no need for resident detours when the road is closed, and improved access and response times for emergency services.	FEMA MIT, plus local budget for grant match	1	Yes
2	Cranberry Pond Road New	3,4	Flooding	Undersized Culvert- Unable to channel regular runoff. Floods the road and restricts lane passage. Overwash during heavy flows runs into the road and makes it impassable. Particularly hazardous in winter because of freezing.	Increase CAP to Prevent Flooding Issue	No	No	2020	Town Highway	100,000	Increased safety for those traveling on the road, eliminate wear and tear on residents' vehicles, no downtime for flooding when the road is closed, no need for resident detours when the road is closed, and improved access and response times for emergency services.	FEMA MIT, plus local budget for grant match	2	Yes

¹¹ CF – Critical Facility. Please respond “Y” (yes) if the project’s purpose is to protect a critical facility, or “N” (no) if not.

¹² EHP – Environmental or Historic Preservation. Please respond “Y” (yes) if the project is expected to have environmental and/or historic preservation issues, or “N” (no) if not.

¹³ Potential Funding Sources – A list of Federal and State sources of funding for hazard mitigation projects can be found in the latest NYS Hazard Mitigation Plan online at <https://mitigateny.availabs.org/capabilities/administerfunding>. Jurisdictions should identify additional funding opportunities you may be aware of that are not on the state list.

¹⁴ Priority – See “Prioritization Methodology” on the next page.

¹⁵ Action Worksheet Provided. Please respond “Y” (yes) if you have filled out a detailed Action Worksheet, or “N” (no) if not. NYS DHSES State Standard 7 recommends that further consideration be given to all proposed actions by completing a NYS DHSES Action Worksheet, the State requires completion of a minimum of two NYS DHSES Action Worksheets for the jurisdiction’s highest priority projects. For jurisdictions containing a Special Flood Hazard Area, at least one of these Action Worksheets must be for a project that addresses flooding. Action Worksheets have been prepared for a minimum of two proposed mitigation initiatives. Action Worksheets are included at the end of this section, following the prioritization methodology.

PROPOSED 2019 HMP MITIGATION INITIATIVES														
Initiative Number	Initiative Name	HMP Goal(s)/ Objective(s) Being Met	Hazard(s) to be Mitigated	Description of the Problem	Description of the Solution	CF ¹¹ ?	EHP ¹² Issues?	Estimated Timeline	Project Lead (include relevant Department and Position Title)	Estimated Costs	Estimated Benefits	Potential Funding Sources ¹³	Priority ¹⁴	Action Worksheet Provided? ¹⁵
* NOTE: Projects related to Critical Facilities (CF) must protect the facility to the 500-year event or worst damage scenario, whichever is greater.														
3	Roadway Improvements G-1	3,4	Flooding	Inadequate drainage causes overwash and road closures.	Repair and restoration of 5 miles of town roads including replacement of 3" of granular item 4 material, reshaping and reestablishing the roadway surface, crown in the road, reestablishing ditches each side of the roadway. Grading/reshaping of roadway, cutting and removal of fallen trees, placement of granular top course and compaction. Work to be done on Jay Hakes and South Long Pond Road, Grafton, NY.	No	No	2020	DPW	Estimated to be approximately \$100k to \$150k	Increased safety for those traveling on the road, eliminate wear and tear on residents' vehicles, no downtime for flooding when the road is closed, no need for resident detours when the road is closed, and improved access and response times for emergency services.	FEMA MIT, plus local budget for grant match	High	No
5	Johnson Road Bridge G-3	3,4	Flooding	Upgrades necessary to accommodate increased water flows (bridge needs to be higher and wider).	Repair of elliptical bolted steel plate bridge Johnson Rd., repair bridge structure, concrete abutments and replacement of failing gabion basket earth retaining structures on the upstream and downstream side of the bridge.	No	No	2021	DPW	Estimated to be approximately \$200k to \$275k	Increased safety for those traveling on the road, eliminate wear and tear on residents' vehicles, no downtime for flooding when the road is closed, no need for resident detours when the road is closed, and improved access and response times for emergency services.	FEMA MIT, plus local budget for grant match	Medium	NO

PROPOSED 2019 HMP MITIGATION INITIATIVES														
Initiative Number	Initiative Name	HMP Goal(s)/ Objective(s) Being Met	Hazard(s) to be Mitigated	Description of the Problem	Description of the Solution	CF ¹¹ ?	EHP ¹² Issues?	Estimated Timeline	Project Lead (include relevant Department and Position Title)	Estimated Costs	Estimated Benefits	Potential Funding Sources ¹³	Priority ¹⁴	Action Worksheet Provided? ¹⁵
* NOTE: Projects related to Critical Facilities (CF) must protect the facility to the 500-year event or worst damage scenario, whichever is greater.														
6	Participate in County-Led Hazard Mitigation Outreach (2011 G-CL-1)	1	All hazards	Residents could benefit from additional information on hazards, risks, and hazard mitigation measures they can take on their own properties to reduce damages and improve resident safety before, during and after a hazard event.	Public awareness program on Hazards, Prevention, and Mitigation: County will maintain a hazard mitigation and mitigation planning web presence (local municipal web sites to link up to this site, if they haven't already done so); all participating jurisdictions to support preparation of a joint annual hazard mitigation and mitigation planning fact sheet and its distribution; periodic discussion of hazard mitigation and the mitigation plan at other regular local meetings; use of annual flyers, newsletters, advertisements, or radio/to announcements, etc. at the discretion of each jurisdiction (incorporating as much free information as possible from the FEMA Publications Warehouse and other appropriate sources). (public education)	No	No	Regularly beginning 2019 and through next plan update	County-led action item. CPG Member, Town Supervisor	Est. \$500 for printing; other costs are staff time only	Educated public; Enhance readiness, response and recovery efforts	Town participation in County-led effort; staff time only funded through local budget	High	No
7	Request code/ordinance review by County as needed (2011 G-CL-2)	4	All hazards	Communities are safer and more resilient when new construction and substantial improvements take into account the latest information on hazard vulnerabilities and measures to reduce risk.	Code update: Review existing local codes and ordinances against the identified hazards to determine whether there need to be any amendments to address identified hazards and, where a need is identified, modify/ amend the codes/ordinances as applicable. (prevention)	No	No	As needed beginning 2019 through next plan update	County-led action item. CPG Member, Town Supervisor	N/A – staff time only	Enhance readiness, response and recovery	Town participation in County-led effort; staff time only funded through local budget	Medium	No
8	Send CEO to County-Led Training (2011 G-CL-3)	2	All hazards	There can be a loss of institutional knowledge with staff changes. Even when staff is the same, continual training improves local capabilities and allows officials to better regulate activities in hazard areas to protect lives and property.	Code enforcement: Enforcement of NYS and Local Building Codes with Continual CEO training. (prevention)	No	No	As offered by County through next plan update	County-led action item. CPG Member, Town Supervisor	N/A – staff time only max est. \$1000	Remain current on issue and solution; proper construction in the hazard areas fosters resiliency	Town participation in County-led effort; staff time only funded through local budget	Medium	No
9	Send Comprehensive Plan Update to County for Review by County Planning (2011 G-CL-4)	2,3,4	All hazards	A long term vision for the community that doesn't take into account hazard areas can put lives and property at risk. Taking into account natural hazards and hazard mitigation measures can make the community more resilient.	Ensure that local comprehensive plans incorporate natural disaster mitigation techniques through a courtesy review of draft plans by the County Planning Department (prevention)	No	No	As needed beginning 2019 through next plan update	County-led action item. CPG Member, Town Supervisor	N/A-staff time only	Reduce property flooding and related damages; smart plans for development in hazard areas enhances resiliency	Local budget	High	No
10	Attend County-Led Workshops on Natural Hazards and Hazard Mitigation (2011 G-CL-5)	2,4	All hazards	When municipal staff aren't armed with information on zoning and planning issues that sometimes arise regarding natural hazards and hazard mitigation, they may make decisions that don't foster community resiliency.	Hold periodic workshops for municipalities regarding zoning and planning issues that arise regarding natural hazards and hazard mitigation. (prevention)	No	No	As offered by County through next plan update	County-led action item. CPG Member, Town Supervisor	N/A-staff time only	Reduce property flooding and related damages	Local budget	Low	No

PROPOSED 2019 HMP MITIGATION INITIATIVES														
Initiative Number	Initiative Name	HMP Goal(s)/ Objective(s) Being Met	Hazard(s) to be Mitigated	Description of the Problem	Description of the Solution	CF ¹¹ ?	EHP ¹² Issues?	Estimated Timeline	Project Lead (include relevant Department and Position Title)	Estimated Costs	Estimated Benefits	Potential Funding Sources ¹³	Priority ¹⁴	Action Worksheet Provided? ¹⁵
* NOTE: Projects related to Critical Facilities (CF) must protect the facility to the 500-year event or worst damage scenario, whichever is greater.														
11	Update Floodplain Management Ordinance per New FEMA Regulations (as needed) (2011 G-NFIP-1)	3,4	Flooding	Outdated ordinances mean that a community is not regulating to the latest codes and standards or hazard information, and that does not foster community resiliency.	Update/revise floodplain management ordinance to comply with latest FEMA regulations.	No	No	ongoing	CPG Member, Town Board, Town Supervisor and Floodplain Manager	none	Compliance may led to additional funding to resolve issues	local	High	No
12	Update Floodplain Management Ordinance when New FIRMs are Issued (2011 G-NFIP-4)	3,4	Flooding	Outdated ordinances mean that a community is not regulating to the latest codes and standards or hazard information, and that does not foster community resiliency.	Update/revise floodplain management ordinance to be consistent with potential future new FIRMs	No	No	ongoing	CPG Member, Town Board, Town Supervisor and Floodplain Manager	none	Protection for the town and residents	local	Low	No

Prioritization Methodology for Proposed 2019 HMP Mitigation Initiatives

To prioritize its mitigation initiatives, the community established a methodology to take into account several key factors. Priorities were determined by a qualitative prioritization process established by the community. A higher priority was assigned to projects where: the life/safety risk of taking no action was deemed to be unacceptably high; the project addresses one of the community's highest hazards and/or key risks; benefits were projected to equal or exceed project costs; critical facilities or key local assets were being protected; funding and staff resources were deemed to be sufficient and/or accessible for project implementation; negative impacts were not anticipated on environmental and/or historic resources or any segment of the population; and/or where there was overall support for the project from the local community (government officials, public, and stakeholders).

PRIORITIZATION METHODOLOGY FOR PROPOSED 2019 HMP MITIGATION INITIATIVES														Priority
Initiative Number	Initiative Name	Hazard(s) Addressed	Is the life/safety risk of taking no action deemed to be unacceptably high?	Does the project address one of the community's highest hazards and/or key risks?	Benefits	Costs	Are the project's benefits estimated to equal or exceed its costs?	Are critical facilities or key local assets being protected by the project?	Are funding resources sufficient and/or accessible for project implementation?	Are staff resources sufficient or available for project implementation?	Are negative impacts anticipated on environmental resources?	Are negative impacts anticipated on historic resources?	Are negative impacts anticipated on any segment of the population?	
1	Jay Hakes Road Culvert Replacement New	Flooding	N	Y	H	H	Y	N	n	Y	N	N	N	1
2	Cranberry Pond Road New	Flooding	N	Y	H	H	Y	N	N	Y	N	N	N	2
3	Roadway Improvements G-1	Flooding	N	Y	H	H	Y	N	N	Y	N	N	N	High
5	Johnson Road Bridge G-3	Flooding	N	Y	H	H	Y	N	N	Y	N	N	N	Medium
6	Participate in County-Led Hazard Mitigation Outreach (2011 G-CL-1)	All hazards	N	Y	H	L	Y	N	Y	Y	N	N	N	High
7	Request code/ordinance review by County as needed (2011 G-CL-2)	All hazards	Y	Y	H	M	Y	Y	Y	Y	N	N	N	Medium
8	Send CEO to County-Led Training (2011 G-CL-3)	All hazards	N	Y	H	L	Y	Y	Y	Y	N	N	N	Medium
9	Send Comprehensive Plan Update to County for Review by County Planning (2011 G-CL-4)	All hazards	N	Y	M	L	Y	N	Y	Y	N	N	N	High
10	Attend County-Led Workshops on Natural Hazards and Hazard Mitigation (2011 G-CL-5)	All hazards	N	Y	M	L	Y	N	Y	Y	N	N	N	Low
11	Update Floodplain Management Ordinance per New FEMA Regulations (as needed) (2011 G-NFIP-1)	Flooding	Y	Y	M	M	Y	Y	Y	Y	N	N	N	High
12	Update Floodplain Management Ordinance when New FIRMs are Issued (2011 G-NFIP-4)	Flooding	N	Y	M	L	Y	Y	Y	Y	N	N	N	Low

Action Worksheets

NYS DHSES State Standard 7 recommends that further consideration be given to all proposed actions by completing a NYS DHSES Action Worksheet, the State requires completion of a minimum of two NYS DHSES Action Worksheets for the jurisdiction's highest priority projects. Furthermore, for jurisdictions containing a Special Flood Hazard Area, at least one of these Action Worksheets must be for a project that addresses flooding.

Action Worksheets prepared by the Town of Grafton are included on the following pages.

Section 8.7 - Jurisdictional Annex, Town of Grafton

NYS DHSES Action Worksheet			
Project Name:	Jay Hakes Road Culvert Replacement		
Project Number:	1		
Risk / Vulnerability			
Hazard of Concern:	Increase Cap to Prevent Flooding Problem		
Description of the Problem:	Undersized Culvert- Unable to channel regular runoff. Floods the road and restricts lane passage. Overwash during heavy flows runs into the road and makes it impassable. Particularly hazardous in winter because of freezing.		
Action or Project Intended for Implementation			
Description of the Solution:	T-Up Grade from 4' culvert to Box Culvert 8'		
Is this project related to a Critical Facility?	Yes *	No X	
* Projects related to critical facilities must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.			
Level of Protection:	100 yr.	Estimated Benefits (losses avoided):	Increased safety for those traveling on the road, eliminate wear and tear on residents' vehicles, no downtime for flooding when the road is closed, no need for resident detours when the road is closed, and improved access and response times for emergency services.
Useful Life:	30 yr.		
Estimated Cost:	120,000.00		
Plan for Implementation			
Prioritization:	Pro I	Desired Timeframe for Implementation:	2019
Estimated Time Required for Project Implementation:	8 weeks	Potential Funding Sources:	FEMA MIT, plus local budget for grant matching funds
Responsible Party: (Department/ Organization)	Town Highway	Local Planning Mechanisms to be Used in Implementation, if any:	Part of the day-to-day responsibilities of the community to keep the roads open and safe
Three Alternatives Considered (including No Action)			
Alternatives:	Action	Estimated Cost	Evaluation
	No Action	\$0	Excessive emergency response times when the road is closed. Safety issues still would exist when the road washes out/floods.
	Culvert Replacement	\$120,000	Best option because it fixes the problems at a lesser cost without the negative impacts that would be realized if the road was rerouted.
	Re-route road	\$200,000	Not viable because of impacts on bus runs, emergency vehicles, & homeowner access
Progress Report (this section to be completed at next plan update-do not fill in now)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

Section 8.7 - Jurisdictional Annex, Town of Grafton

NYS DHSES Action Worksheet			
Project Name:	Cranberry Pond Road		
Project Number:	2		
Risk / Vulnerability			
Hazard of Concern:	Increase CAP to Prevent Flooding Issue		
Description of the Problem:	Undersized Culvert- Unable to channel regular runoff. Floods the road and restricts lane passage. Overwash during heavy flows runs into the road and makes it impassable. Particularly hazardous in winter because of freezing.		
Action or Project Intended for Implementation			
Description of the Solution:	Increase CAP to Prevent Flooding Issue		
Is this project related to a Critical Facility?	Yes * <input type="checkbox"/>	No x	
* Projects related to critical facilities must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.			
Level of Protection:	100 yr.	Estimated Benefits (losses avoided):	Increased safety for those traveling on the road, eliminate wear and tear on residents' vehicles, no downtime for flooding when the road is closed, no need for resident detours when the road is closed, and improved access and response times for emergency services.
Useful Life:	30 yr.		
Estimated Cost:	\$100,000.00		
Plan for Implementation			
Prioritization:	Project II	Desired Timeframe for Implementation:	2020
Estimated Time Required for Project Implementation:	8 weeks	Potential Funding Sources:	FEMA MIT, plus local budget for grant's matching funds
Responsible Party: (Department/ Organization)	Highway Department	Local Planning Mechanisms to be Used in Implementation, if any:	Part of the day to day responsibilities of the community to keep the roads open and safe
Three Alternatives Considered (including No Action)			
Alternatives:	Action	Estimated Cost	Evaluation
	No Action	\$0	Excessive emergency response times when the road is closed. Safety issues still would exist when the road washes out/floods.
	Culvert Replacement	\$100,000	Best option because it fixes the problems at a lesser cost without the negative impacts that would be realized if the road was rerouted.
	Re-route to road	\$200,000	Not viable because of impacts on bus runs, emergency vehicles, & homeowner access
Progress Report (this section to be completed at next plan update-do not fill in now)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			