

8.3 - Jurisdictional Annex, Town of Brunswick

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

8.3.1 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: Patrick Poletto Title: Deputy Supervisor Address: 336 Town Office Road, Troy, NY 12180 Phone Number: 518-279-3461 ext.105 E-mail Address: poletto@townofbrunswick.org			Name: Gordon Christian Title: Town Councilman Address: 336 Town Office Road, Troy, NY 12180 Phone Number: 518-366-2536 E-mail Address: GChris5064@gmail.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	N/A					
Emergency Manager	N/A					
Floodplain Manager/Administrator	William Bradley	wbradley@townofbrunswick.org	518 279-3461x 112	12/10/2018	Spoke to	Yes
Public Works Director / City Engineer	Brandon Hill	bhill@townofbrunswick.org	518 279-3461 x117	12/10/2018	Spoke to	Yes
Building Code Official	Charles Golden	cgolden@townofbrunswick.org	518 279-3461 x 111	12/10/2018	Spoke to	Yes
Fiscal/Budget Officer	Pat Poletto	poletto@townofbrunswick.org	518 279-3461 x 105	12/10/2018	Letter from County	Yes
Manager/Administrator	N/A					
Elected Officials	Philip Herrington	pherrington@townofbrunswick.org	518 279-3461 x 100	12/10/2018	Spoke to	Yes
Elected Officials	Gorden Christian	GChris5064@gmail.com	518 366-2536	12/10/2018	Spoke to	Yes
Major University	N/A					
Significant Business	N/A					
Neighboring County 1	N/A					
Neighboring County 2	N/A					
Neighboring County 3	N/A					
Neighboring County 4	N/A					
Tribal Group/Nation	N/A					

8.3.2 JURISDICTION PROFILE

8.3.2.1 Location and Land Area

The Town of Brunswick is located in northwest Rensselaer County, in the eastern part of New York State. It shares a border with Schaghticoke and Pittstown to the north; Poestenkill and North Greenbush to the south; Grafton to the east; and Troy 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 Brunswick has a total area of 44.6 square miles (116 km²), of which, 44.5 square miles (115 km²) of it is land and 0.1 square miles (0.26 km²) of it (0.25%) is water.

8.3.2.2 Population

According to the 2010 U.S. Census Bureau's American Community Survey 5-Year Estimates, the population of the Town of Brunswick is estimated to be 11,941 persons.

8.3.2.3 Demographics

Of a total area of 44.64 square miles (2010 Census data), the land area is 44.53 square miles and population per square mile is 261.9 persons.

Of the total population, there are 97.5 males per 100 females (all ages). Persons under 18 years comprise 20.0% of the population, and 15.7% 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 549, or 4.6%, of which 24.2% 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, 91.4% are high school graduates or higher, and 36.0% 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 4,992 total households and 2.39 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 total number in group quarters are 26 or 0.2% overall, with 0 (0.0%) institutionalized and 26 (0.2%) noninstitutionalized population. 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 \$86,115; the per capita income in past 12 months (2017) was \$46,122; and the percentage of persons in poverty was 3.4%. 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 13.5%, and percentage of people with a disability over age 65 years is 36.9%. The total percentage of persons (civilian, noninstitutionalized) without health insurance is 3.9%. 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.

8.3.2.4 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.

Town of Brunswick was originally settled in the early 18th century. During its history, it had been part of Albany County, Rensselaerswyck, and Troy, before its incorporation in 1807. The present territory of Brunswick was initially a part of the town of Troy. The growing importance of the prospective city, and its requirements led to a separation of Troy from its rural parts: today's Brunswick and Grafton.

8.3.2.5 Governing Body Format

The governing body of the municipality consists of a Town Supervisor, four Town Board members and other elected officials. 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.

8.3.2.6 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 of Brunswick reviewed and updated its prior feedback to reflect current conditions in the community as of early 2019.

The Town of Brunswick did not note major residential or commercial development taking place, or any major infrastructure development planned for the next five years in the municipality. From 2011 to 2018, higher density residential development has been approved in areas of the Town of Brunswick where public water and public sewer are available (i.e., NYS Route 7, NYS Route 142). Limited commercial development is occurring along the NYS Route 7 corridor (i.e., Capital Communications Federal Credit Union branch). Elsewhere in the Town of Brunswick, limited single-family residential development is occurring along existing roadways. Very few residential projects include construction of new roads. New development was characterized by more light commercial development along the Route 7 corridor (promoted by the Town’s new Comprehensive Plan).

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
N/A	N/A	N/A	N/A	N/A	N/A	N/A

The Town of Brunswick enforces NY State Regulations, 1988 Land Use Regulations (currently under review) to protect new development from the effects of natural hazards.

8.3.3 HAZARD IDENTIFICATION

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

Profiled Hazard in the Town of Brunswick													
Jurisdiction	Atmospheric Hazards						Hydrologic Hazards			Geologic Hazards		Other Hazards	
	Extreme Temperatures (Coldwave /Heat Wave)	Hurricane / Tropical Storm	Lightning	Tornado	Wind	Winter Storm	Drought	Flood			Earthquake	Landslide ⁴	Wildfire ⁵
								Flooding ²	Dam Failure ¹	Ice-Jam ³			
Brunswick, 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.

8.3.4 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
 Category B= FEMA's Public Assistance Program Category B (Emergency Protective Measures)

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

June 9, 2011 – Thunderstorm Wind

High winds from a severe thunderstorm downed trees and wires in Brunswick.

August 28, 2011 - Irene

The remnants of Hurricane Irene brought heavy to extreme rainfall throughout Rensselaer County.

October 29-30, 2012 – Sandy

Rainfall in Rensselaer County was not excessively heavy and did not cause notable 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.

September 9, 2013 – Thunderstorm Winds

A large tree was downed on Hoosick Road in Brunswick as a result of thunderstorm winds.

Winter 2014-2015 – Extreme Temperatures (Coldwave)

Rensselaer County Planning recalls that water transmission lines that had been built to code (four feet below grade) froze in the winter of 2014-2015 due to extreme cold temperatures over a long duration that put the frost line below four feet. As a result, some people lost public water because the water pipes were frozen. Areas particularly impacted were the City of Troy (Lansingburgh) and some places in the Town of Brunswick.

May 30, 2016 - Lightning

Lightning struck a home on Lindsey Drive in Brunswick. The lightning struck the chimney and traveled down through the walls to the basement where it started a fire. The home was reported to have significant damage (approximately \$50,000 in damage was reported in the NCEI database).

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. One lane of Route 7 was washed out in two places between the Hoosic River and Potter Hill. The shoulder was washed out in places as well. This resulted in a 20-mile road closure from Brunswick to the Vermont state line.

July 27, 2018 – Thunderstorm Winds

Numerous trees and limbs were downed in Brunswick due to strong to severe thunderstorm winds.

Date Unspecified (Late April 2019) - Landslide

A Core Planning Group Member from the Town of Brunswick identified the residence

located at 528 McChesney Avenue Extension as at risk from landslide. The Town communicated the problem to the Rensselaer County Bureau of Public Safety. The property is located on a cliff high above a bend in the Poesten Kill and over time, the water has eroded the base of the slope causing the land to slide toward the creek. In April 2019, another large portion of the ground eroded away and fell, leaving only feet before the property. Slope failure behind the residence due to erosion at the base of the slope from the Poesten Kill also poses a potential future risk to McChesney Avenue Extension, a County road. RCBPS coordinated with NRCS.

8.3.5 NATIONAL FLOOD INSURANCE PROGRAM SUMMARY

The Town of Brunswick has participated in FEMA's National Flood Insurance program (NFIP) since June 4, 1980.

• Total number of policies ¹ :	25
• Insurance in force ² :	\$4,135,500
• Total number of losses:	9
• Total claims paid:	\$112,703
• Repetitive Loss Properties:	1
• Severe Repetitive Loss Properties:	0

The Town of Brunswick 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.

Section 8.3 - Jurisdictional Annex, Town of Brunswick

Name: William Bradley Title: Floodplain Manager/Floodplain Administrator/NFIP Coordinator

Community: Town of Brunswick Email and Phone: poletto@townofbrunswick.org 518 279-3461 x105

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?
1/14/1993	06/04/1980	Building and Code Inspector	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Provide an explanation of NFIP administration services (i.e., permit review, GIS, education or outreach, inspections, engineering capability, etc.):

The Town provides assistance with identifying if potential buildings are located in a flood plain. All building permits are reviewed to determine if a flood hazard may exist. If construction is going to occur near a flood plain the Town requires a certified flood elevation be established. The Town provides support to property owners who request a LOMR. The Town reviews all new subdivision plans and subdivision to determine if the proposal is in compliance with the Chapter 83 of the Code of the Town of Brunswick.

Describe barriers to running an effective NFIP program in the community (if applicable):

Not Applicable

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?
2017	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes* <input checked="" type="checkbox"/> No* * Class _____	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> 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: William Bradley Title: Floodplain Manager/Floodplain Administrator/NFIP Coordinator

Representing: Town of Brunswick Email and Phone: wbradley@townofbrunswick.org 518 279-3461 x112

Provide an explanation of your local floodplain permitting process:

Certified base flood elevations are required in risk areas prior to building permit being issued

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?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Does your community intend to adopt the new FEMA Advisory Base Flood Elevation?	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?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes* <input checked="" type="checkbox"/> 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:

The Town of Brunswick provide assistance to home owners and developer to determine if the proposed project is located in a special risk zone in the Town of Brunswick. The Town provides information on their web site for individuals needing to located flood plain and flood elevation data. The Town also assist individuals who are interested and submitting a Letter of Map Amendment for their particular property for flood insurance purposes.

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?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Note: NFIP policy statistics by community are maintained at: <http://bca.nfipstat.fema.gov/reports/1011.htm#NJ>
 NFIP claims data by community is maintained at: <http://bca.nfipstat.fema.gov/reports/1040.htm#34>
 Information about structures at risk of flooding can be found in the current Hazard Mitigation Plan.
 All NFIP participating communities should encourage local residents to purchase and maintain flood insurance.

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

8.3.6 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 Brunswick.

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 Brunswick	\$2,342,127,000	4	0	1*	0	1	0	0	0	0	0	1	0	0	0	0	4	0	3
Rensselaer County	Population, Census 2010:		159,429																
Town of Brunswick	Population, Census 2010:		11,941																
Rensselaer County	Vulnerable Population, Census 2010 (under 5 years, and over 64 years)		30,429																
Town of Brunswick	Vulnerable Population, Census 2010 (under 5 years, and over 64 years)		2,457																

* The Mohawk Ambulance Station in Brunswick is operated privately and is under contract as backup to many of the surrounding communities.

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 six percent of the Town of Brunswick’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 (%)
Brunswick, Town of	28,284	1,765	6%

Improved Property. Approximately four percent of the Town of Brunswick’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 (%)
Brunswick, Town of	\$2,342,127,000	\$103,311,319	4%

Population. Approximately 2 percent of the Town of Brunswick’s population 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
Brunswick, Town of	11,941	272	2%

Critical Facilities. The following 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 Brunswick.

Critical Facilities in the Floodplain			
Municipality	Type of Facility	Name of Facility	Flood Zone ⁷
Brunswick, Town of	SCHOOL	TAMARAC ELEMENTARY SCHOOL	A/AE/AO
Brunswick, Town of	SCHOOL	TAMARAC MIDDLE SCHOOL HIGH SCHOOL	A/AE/AO

⁷ 100-year floodplain = A/AE/AO; 500-year floodplain = X500

Historic and Cultural Resources. The following historic and cultural resources are located in the floodplain in the Town of Brunswick.

Historic and Cultural Resources in the Floodplain			
Municipality	Historic Structure/Landmark/District	Location/Address	Flood Zone ⁸
Brunswick, Town of	Morison Farmstead	3842 NY 2	A/AE/AO

8.3.7 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 Brunswick, the hazard with the highest estimated average annual losses is flooding.

⁸ 100-year floodplain = A/AE/AO; 500-year floodplain = X500

Summary of Annual Loss Estimates – Town of Brunswick⁹

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
Town of Brunswick	\$2,342,127,000	\$98	\$582	\$6,068	\$754	\$33,295	\$8,433	\$2,364	\$0	\$65,170	\$6,596	\$0	\$6

⁹ * **It is important to note that this table reflects estimates of average annualized damages. For any hazard, individual event damages could be substantially higher.**

8.3.8 HAZARD RANKINGS AND KEY RISK FINDINGS

Hazard rankings for the Town of Brunswick 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.

Flooding is the highest priority hazard for the Town of Brunswick.

Hazard Rankings – Town of Brunswick					
Hazard	Future Probability	Potential Consequence	Relative Risk	Hazard Priority	Average Annualized Losses ¹⁰
Extreme Temperatures (Coldwave/ Heat Wave)	Low	Low	Low	Low	\$98
Hurricane/ Tropical Storm	Low	High	Moderate	Moderate	\$582 Wind; \$6,068 Wind + Flood
Lightning	High	Low	Low	Low	\$754
Tornado	Low	High	High	High	\$33,295
Wind	High	Low	High	High	\$8,433
Winter Storm (Ice Storm/Snow Storm)	High	Moderate	Moderate	Moderate	\$2,364
Drought	Low	High	Low	Low	\$0
Flood	High	High	High	High	\$65,170
Earthquake	Low	High	Moderate	Moderate	\$6,596
Landslide	High	Low	Moderate	Moderate	\$0
Wildfire	Low	Low	Low	Low	\$6

In response to flooding that occurred since the initial HMP was adopted in 2011, the Town of Brunswick has completed four major flood mitigation projects at key problem areas: culvert mitigation at Deepkill Road and NYS Route 7; culvert mitigation at White Church Lane; culvert mitigation at Pennyroyale Lane; and ditch and culvert mitigation on South Road.

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

- Structures in the town are affected by all hazards of concern: flood, wind, tornado, landslide and serve storms. Code enforcement officials need training on how to inspect structures keeping in mind the latest recommended guidelines from the International Code Council (ICC), which develops model codes that to safeguards for homes, commercial buildings, and other structures. Staff inspecting structures must be familiar

¹⁰ 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.

with best practices when they do their job during building inspection, and also be familiar with how property owners and developers can mitigate buildings during construction and post construction. At present, personnel are not fully equipped to identify how structures may be affected by hazards.

- The spillway at the Vanderheyden Dam needs to be reconstructed to meet the current New York State Dam Safety requirements. The spillway is undersized and is deteriorating. Failure could result in interruption of the Town’s water supply and structural damage of downstream homes.

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

8.3.9 OUTREACH TO THE PUBLIC AND OTHER STAKEHOLDERS

As part of this 2019 Plan Update, the Town of Brunswick 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 Brunswick included:

Outreach Activities			
Date of Activity	Type of Activity	Activity Details	Lead Department and/or Staff Title Who Undertook Activity
[12/10/18]	[Town Board Meeting]	[Spoke at Town Board meeting to inform the Board members and the general public about the process.]	[Supervisor’s Office, Board Member and Town Attorney]
[1/10/19]	[Town Board Meeting]	[Distributed flyer to Town Board and residents in attendance. The Rensselaer County Multi-Jurisdictional Hazard Mitigation Plan Update.]	[Supervisors’ Office]
[1/16/19]	[Town Message Board]	[Posted the Rensselaer County Multijurisdictional Hazard Mitigation Plan Update on town message board located outside of Town Hall]	[Supervisor’s Office]
[1/16/19]	[Town Website]	[Posted on the Town website the Rensselaer County Multijurisdictional Hazard Mitigation plan]	[Supervisor’s Office]
[3/14/19]	[Town Board Meeting]	[Gave update to the planning process and outlined what was on the older plan and projects looking at for the update]	[Supervisor’s office and Town Council]
[3/13/19]	[Highway Department]	[Met with highway department to review towns goals and objectives]	[Supervisor’s Office / Highway Department]
[4/11/19]	[Town Board Meeting]	[Updated Town Board and public about the Mitigation update process]	[Supervisor’s Office]
[6/13/19]	[Town Board Meeting]	[Handed out updated reports that were being submitted to the county for the updated plan.]	[Supervisor’s Office]

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

8.3.10 CAPABILITIES ASSESSMENT UPDATE

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.

8.3.10.1 Legal and Regulatory Capability

The table below summarizes the regulatory tools that are available to the Town of Brunswick. 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)	Enforcement Authority	Code Citation (Section, Paragraph, Page Number, Date of Adoption)
a. Building code	Y	Code Enforcement	Code of the Town of Brunswick Chapter 55 Adopted 4-18-1956 with amendments
b. Zoning ordinance	Y	Code Enforcement	Local Law No. 1 of 2017 Adopted Resolution 56 of 2017 6-22-17
c. Subdivision ordinance or regulations	Y	Code Enforcement	Local Law No. 1 of 2017 Adopted Resolution 56 of 2017 6-22-17
d. Special purpose ordinances (floodplain management, stormwater management, hillside or steep slope ordinances, wildfire ordinances, hazard setback requirements)	Y	Code Enforcement	Flood Hazard Certification Local Law1 of 2017 160-109 /SEQRA 160-109 SEQRA
e. Growth management ordinances (also called “smart growth” or anti-sprawl programs)	N	N/A	N/A
f. Site plan review requirements	Y	Code Enforcement/ Planning Board	Local Law No. 1 of 2017 Adopted Resolution 56 of 2017 6-22-17
g. General, comprehensive or master plan	Y	Town Board	Resolution Adopting Comprehensive Plan of The Town of Brunswick, Resolution 81 of 2013 Adopted 12-2013
h. A capital improvements plan	N		
i. An economic development plan	N		
j. An emergency response plan	Y	Town Supervisor	Comprehensive Emergency Management Plan Revised December 2012

Legal and Regulatory Capability			
Regulatory Tools (Codes, Ordinances, Plans)	Do you have this? (Y or N)	Enforcement Authority	Code Citation (Section, Paragraph, Page Number, Date of Adoption)
k. A post-disaster recovery plan	Y	Town Supervisor	Comprehensive Emergency Management Plan Revised December 2012
l. A post-disaster recovery ordinance	N		
m. Real estate disclosure requirements	N		
n. Other	N		

8.3.10.2 Administrative and Technical Capability

The table below summarizes potential staff and personnel resources available to the Town of Brunswick. 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 / Consultant
b. Engineer(s) or professional(s) trained in construction practices related to buildings and/or infrastructure	Y	Building Department / Building and Code Inspector
c. Planners or Engineer(s) with an understanding of natural and/or human-caused hazards	Y	Building Department and Water Department
d. Floodplain manager	Y*	Building and Code Inspector
e. Surveyors	N	
f. Staff with education or expertise to assess the community's vulnerability to hazards	Y	Building and Code Inspector
g. Personnel skilled in GIS and/or HAZUS	Y	Water Department
h. Scientists familiar with the hazards of the community	N	
i. Emergency manager	N	
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.		

8.3.10.3 Fiscal Capability

The table below summarizes financial resources available to the Town of Brunswick. 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)	Don't know.
b. Capital improvements project funding	Yes
c. Authority to levy taxes for specific purposes	Yes
d. Fees for water, sewer, gas, or electric service	Yes
e. Impact fees for homebuyers or developers for new developments/homes	Yes
f. Incur debt through general obligation bonds	Yes
g. Incur debt through special tax and revenue bonds	Yes
h. Incur debt through private activity bonds	Yes
i. Withhold spending in hazard-prone areas	Yes
j. State mitigation grant programs	Yes
k. Community Development Block Grants (CDBG)	Yes
j. Other	No

8.3.10.4 Overall Capabilities

The Town of Brunswick’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				
Overall legal and regulatory capability to implement hazard mitigation strategies	Overall technical capability to implement hazard mitigation strategies	Overall fiscal capability to implement hazard mitigation strategies	Overall administrative capability to implement hazard mitigation strategies	Community's willingness to enact policies and programs that reduce hazard vulnerabilities
Moderate	High	Low	Moderate	Moderate
How these capabilities can be expanded and/or improved to reduce risk:				
Programs and Policies need to be reviewed. Up to date information needs to be incorporated into any review considering current hazards and any potential climate change hazards. New flood hazard information is needed, past data is out of date. A public education campaign is needed to inform the citizenry of actions which the Town and Public need to take to mitigate hazards around them and to reduce the cost of hazards and reduce recovery time. There are limited funds available within the Town to reduce hazards and purchase properties which may be in hazard areas. Funds for Hazard mitigation should not be tied to the 2% tax cap threshold.				

8.3.10.5 Community Classifications

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

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 Brunswick’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/>

8.3.11 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 were evaluated as part of the 2019 HMP Update. Additional information can be found in Appendix C.

8.3.12 PLAN FOR EVACUATION NEEDS AND SHELTERING

The Town of Brunswick has an emergency response plan¹¹. It does not have a post-disaster recovery plan or a post-disaster recovery ordinance¹². 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 Brunswick has access to shelter data and will coordinate with

¹¹ Source: Local Capability Assessment

¹² Source: Local Capability Assessment

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.

8.3.13 FUTURE NEEDS - RISK/VULNERABILITY

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

8.3.14 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 Brunswick 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 Brunswick undertook the following plan integration mechanisms over the last planning cycle:

- Worked with the planning department to educate them on the Hazard Mitigation Plan and encouraged that on the next update of the master plan, general or comprehensive plan, hazard mitigation for natural hazards is addressed. The Town of Brunswick has updated the master, general or comprehensive plan since 2011.
- Coordinated with the building department to ensure that they have adopted and are enforcing the minimum standards established in the current State-adopted IBC. The Town of Brunswick Building Department maintains compliance with NYS IBC Code.
- Community currently has a local zoning ordinance.
- Worked with the Department of Public Works to adopt more rigorous procedures for inspecting and cleaning debris from streams and ditches (i.e., more frequently). Before major storm events the highway department checks culverts

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

- 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 the master, general or comprehensive plan.
- Add a specific hazard mitigation element to the next update of the 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.
- Enforce codes and standards beyond FEMA minimum requirements.
- 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.
- Add hazard vulnerability to subdivision and site plan review criteria.
- Require the Department of Public Works to inspect and clean debris from streams and ditches more frequently.
- 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.)

8.3.15 MITIGATION STRATEGY

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

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

8.3.15.1 Progress on 2011 HMP Initiatives

The following table was completed by the Town of Brunswick 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	
BR-1	Resolve safety issues with town dam for town reservoir	High	Flooding	Highway Department		x			Completed breaching the interior dam (roadway) with 30' of 4' Galvanized pipe. Manually operated gate valve to drain reservoir to do testing on interior wall. Final design plan still being developed.	x		Preparing final engineering plan prior to construction
BR-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			The town uses its web page to keep residents up to date, Facebook and local media.	x		County is carrying forward this County-led activity with no changes; our municipality will carry it forward as well.
BR-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			The town has implemented new building and zoning codes, continuing to update codes to meet current standards.	x		County is carrying forward this County-led activity with no changes; our municipality will carry it forward as well.
BR-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 not have a need to go to the county for support/training.	x		County is carrying forward this County-led activity with no changes; our municipality will carry it forward as well.
BR-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			The town has implemented new building and zoning codes, continuing to update codes to meet current standards. The Town has updated its master plan.	x		County is carrying forward this County-led activity with no changes; our municipality will carry it forward as well.
BR-CL-5	Hold periodic workshops for municipalities regarding zoning and planning ds 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.
BR-NFIP-1	Update/revise floodplain management ordinance to comply with latest FEMA regulations	High	Flooding	Building Dept.		x			Ordinance is dated 1993. The Town is reviewing the ordinance and working on update.	x		Ongoing type of activity; will be carried forward with no changes.

8.3.15.2 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 following table summarizes past mitigation accomplishments for the Town of Brunswick, from the time the 2011 HMP was approved through its first update in 2019.

Past Mitigation Accomplishments					
Project Number	Project Name	Hazard(s) Addressed	Brief Summary of the Original Problem and the Solution (Project)	Evaluation of Success	
2019-01	Deepkill Road & NYS Rt.7	Flooding	Culvert pipe is deteriorating causing water damage alongside of roadway. New culvert will secure flooding does not occur and harm Deepkill Road or NYS Rt.7	Cost	\$50,000.00
				Level of Protection	100 year storm levels
				Damages Avoided; Evidence of Success	This work will help minimize damage to NYS Route 7 at the intersection. NYS Rt. 7 is the major route to Vermont and New England.
2019-02	White Church Lane	Flooding	Pre-existing failing cement culvert causing erosion and flooding to residences downstream. Replacing the culvert and securing the sides to keep water in the creek.	Cost	\$25,000.00
				Level of Protection	100 year storm levels
				Damages Avoided; Evidence of Success	This work will help mitigate flooding of homes down street and control flooding.
2019-03	Pennyroyale Lane	Flooding	Pre-existing culvert failing causing flooding 6 residences. Replace failing culvert with new to keep water from flowing around culvert. Eliminating flooding properties and road	Cost	\$20,000.00
				Level of Protection	100 year storm levels
				Damages Avoided; Evidence of Success	This work will help mitigate flooding of homes down street and control flooding.
2019-04	South Road	Flooding	Flooding has occurred washing out the ditches and parts of the road. Project install new ditches and culverts and work on diverting some of the water to existing wetlands	Cost	\$200,000.00
				Level of Protection	100 year storm levels
				Damages Avoided; Evidence of Success	This work is necessary to control the water running down the ditches and washing the road away. Efforts have been made to better control the water, but more work needs to be done.

8.3.15.3 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 Brunswick 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 ¹³ ?	EHP ¹⁴ Issues?	Estimated Timeline	Project Lead (include relevant Department and Position Title)	Estimated Costs	Estimated Benefits	Potential Funding Sources ¹⁵	Priority ¹⁶	Action Worksheet Provided? ¹⁷
* NOTE: Projects related to Critical Facilities (CF) must protect the facility to the 500-year event or worst damage scenario, whichever is greater.														
1	Resolve safety issues with town dam for town reservoir (2011 BR-1)	1	Flooding	Relieve pressure on retaining wall and repair cracks in spillway	Increase slope of retaining wall, reconstruct spill way. Install new gate house and new valve to drain the reservoir	No	No	5 years	Supervisor	\$1,500,000	\$3,000,000	Bonding will be required	High	Yes
2	Public awareness program on Hazards, Prevention, and mitigation (2011 BR-CL-1)	4	All Hazards	Public unaware of hazard mitigation	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)	No	No	5 Years	County Lead	Low	Unquantifiable	Town funds to pay staff time	Medium	No
3	Code Update (2011 BR-CL-2)	3	All Hazards	Update Town codes to meet changing regulations	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	5 Years	County-led action item. CPG Member Town Supervisor	Low	Unquantifiable	Town funds to pay staff time	Medium	No
4	Code enforcement (2011 BR-CL-3)	1	All Hazards	Enforcement of NYS and Local Building Codes with Continual CEO training. (prevention)	Send Building codes and storm water staff to training	No	No	5 Years	County-led action item. CPG Member Town Supervisor	Low	Unquantifiable	BYS DOS Course Offerings, NYS DEC, and Town Operating Budget	Medium	Yes

¹³ CF – Critical Facility. Please respond “Y” (yes) if the project’s purpose is to protect a critical facility, or “N” (no) if not.

¹⁴ 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.

¹⁵ 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.avilabs.org/capabilities/administerfunding>. Jurisdictions should identify additional funding opportunities you may be aware of that are not on the state list.

¹⁶ Priority – See “Prioritization Methodology” on the next page.

¹⁷ 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 ¹³ ?	EHP ¹⁴ Issues?	Estimated Timeline	Project Lead (include relevant Department and Position Title)	Estimated Costs	Estimated Benefits	Potential Funding Sources ¹⁵	Priority ¹⁶	Action Worksheet Provided? ¹⁷
* NOTE: Projects related to Critical Facilities (CF) must protect the facility to the 500-year event or worst damage scenario, whichever is greater.														
5	Comprehensive Plan (2011 BR-CL-4)	3	All Hazards	Review Comprehensive Plan	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	5 years	County-led action item. CPG Member Town Supervisor	Medium	Unquantifiable	Town funds to pay staff time	Medium	No
6	Workshop Hazard Prevention (2011 BR-CL-5)	3	All Hazards	Potential Hazards may not be addressed in Planning and zoning	Hold periodic workshops for municipalities regarding Zoning and Planning issues that arise regarding natural hazards and hazard mitigation (prevention)	No	No	5 years	Town Supervisor	Low	Unquantifiable	Town funds to pay staff time	Low	No
7	Floodplain Ordinance (2011 BR-NFIP-1)	2	Flooding	Update/revise floodplain management ordinance to comply with the latest FEMA regulations	Ordinance is dated 1993. The Town is reviewing the ordinance and working on update.	No	No	5 years	Town Supervisor and Floodplain Manager	Low	Unquantifiable	Town funds to pay staff time	Medium	No
8	Deepkill & NYS Rt7 *NEW*	2	Flooding	Flooding around culvert on Deepkill Rd	New Culvert will ensure flooding does not occur and harm Deepkill Rd and NYS Rt. 7	No	No	5 Years	Highway Superintendent	Medium	Unquantifiable	Town	Medium	No
9	White Church Lane *NEW*	2	Flooding	Pre-existing failing culvert causing flooding and erosion to residents down stream	Replace failing culvert and secure sides of stream to prevent flooding	No	No	5 years	Highway Superintendent	Medium	Unquantifiable	Town	Medium	No
10	Pennyroyal Lane *NEW*	2	Flooding	Preexisting condition causing flooding to 6 residences	Replace culvert and stabilize creek banks to prevent flooding	No	No	5 Years	Highway Superintendent	Medium	Unquantifiable	Town	Medium	No
11	South Road *NEW*	2	Flooding	Flooding has occurred washing out the ditches and parts of the road.	Project is to install new ditches and culverts to slow the water down and divert some to nearby wetlands.	No	No	5 Years	Highway Superintendent	Medium	Unquantifiable	Town	Medium	No
12	Mitigation of RLPs *NEW*	1	Flooding	Brunswick has one NFIP Repetitive Loss Property	The Town will support property owners who wish to undertake flood mitigation on private property.	No	TBD	5 Years	Town Supervisor and Floodplain Manager	High	High	FEMA PDM or HMGP	Medium	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	Resolve safety issues with town dam for town reservoir (2011 BR-1)	Flooding	Yes	Yes	High	1500000	Equal	Yes	No	Yes	No	No	No	High
2	Public awareness program on Hazards, Prevention, and mitigation (2011 BR-CL-1)	All Hazards	No	No	High	Low	Equal	No	Yes	No	No	No	No	Medium
3	Code Update (2011 BR-CL-2)	All Hazards	No	No	High	Low	Equal	No	Yes	No	No	No	No	Medium
4	Code enforcement (2011 BR-CL-3)	All Hazards	No	No	High	Medium	Equal	No	Yes	No	No	No	No	Medium
5	Comprehensive Plan (2011 BR-CL-4)	All Hazards	No	No	Medium	Medium	Equal	No	Yes	No	No	No	No	Medium
6	Workshop Hazard Prevention (2011 BR-CL-5)	All Hazards	No	No	Medium	Low	Equal	No	Yes	No	No	No	No	Low
7	Floodplain Ordinance (2011 BR-NFIP-1)	Flooding	No	Yes	High	Low	Equal	No	Yes	Yes	No	No	No	Medium
8	Deepkill & NYS Rt7 *NEW*	Flooding	No	Yes	Medium	Medium	Equal	Yes	Yes	Yes	No	No	No	Medium
9	White Church Lane *NEW*	Flooding	No	Yes	Medium	Medium	Equal	Yes	Yes	Yes	No	No	No	Medium
10	Pennyroyal Lane *NEW*	Flooding	No	Yes	Medium	Medium	Equal	Yes	Yes	Yes	No	No	No	Medium
11	South Road *NEW*	Flooding	No	Yes	High	Medium	Equal	Yes	Yes	Yes	No	No	No	Medium
12	Mitigation of RLPs *NEW*	Flooding	No	Yes	High	High	Equal	No	Private/Grants	Yes	No	No	No	Medium

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 Brunswick are included on the following pages.

Section 8.3 - Jurisdictional Annex, Town of Brunswick

NYS DHSES Action Worksheet			
Project Name:	All Code Training		
Project Number:	4		
Risk / Vulnerability			
Hazard of Concern:	All Hazards		
Description of the Problem:	Structures in the town are affected by all hazards of concern: flood, wind, tornado, landslide and severe storms. Code enforcement officials need training on how to inspect structures keeping in mind the latest recommended guidelines from the International Code Council (ICC), which develops model codes that to safeguards for homes, commercial buildings, and other structures. Staff inspecting structures must be familiar with best practices when they do their job during building inspection, and also be familiar with how property owners and developers can mitigate buildings during construction and post construction. At present, personnel are not fully equipped to identify how structures may be affected by hazards.		
Action or Project Intended for Implementation			
Description of the Solution:	Sending Building Code and storm water staff to workshops and training. These educational events will better enable staff to identify potential problems early in the construction process. Training will also help staff better conduct post-disaster damage assessments, and to do so consider how to mitigate structures during the rebuilding process. Building Code and Storm water training courses are offered by the NYS Department of State, NYS Department of Environmental Conservation and Association of Towns. The Town would like to have staff take advantage of other, relatively low cost educational opportunities. In addition to the modest cost of training, the town will ensure that staff are given professional development time away from the office to take advantage of educational opportunities.		
Is this project related to a Critical Facility?	Yes * <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
* 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:	Not Applicable	Estimated Benefits (losses avoided):	Trained staff will ensure the safe erection and maintenance of structures being built, rebuilt or remodeled and storm water plans
Useful Life:	Ongoing		
Estimated Cost:	\$2,000		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	2019 - 2020
Estimated Time Required for Project Implementation:	ongoing	Potential Funding Sources:	BYS DOS course offerings, NYS DEC, and Town operating budget
Responsible Party: (Department/ Organization)	Building inspector with the support of the Code Enforcement Officer and Town Supervisor	Local Planning Mechanisms to be Used in Implementation, if any:	Code enforcement operations, stormwater operations and human resources – staff development
Three Alternatives Considered (including No Action)			
Alternatives:	Action	Estimated Cost	Evaluation
	No Action	\$0	Not viable; staff are left without proper training
	Sending Building Code and storm water staff to workshops and training	\$2,000	Best option; targeted training to key individuals with roles in storm water and code enforcement
	Send all town employees to trainings	High (in the tens of thousands of dollars)	Not viable; trains more people than are needed and is far too expensive
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 8.3 - Jurisdictional Annex, Town of Brunswick

NYS DHSES Action Worksheet			
Project Name:	Vanderheyden Reservoir Spillway Project		
Project Number:	1		
Risk / Vulnerability			
Hazard of Concern:	Spillway failure/Flooding		
Description of the Problem:	The spillway at the Vanderheyden Dam needs to be reconstructed to meet the current New York State Dam Safety requirements. The spillway is under sized and is deteriorating. Failure could result in interruption of the Towns water supply and structural damage of downstream homes.		
Action or Project Intended for Implementation			
Description of the Solution:	Reconstruction of the spillway to current design standards and installation of an emergency drain to reduce the reservoir volume should it be warranted.		
Is this project related to a Critical Facility?	Yes * <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
* 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:	500 year	Estimated Benefits (losses avoided):	\$3,000,000.00
Useful Life:	>50 years		
Estimated Cost:	\$900,000.00		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	2020
Estimated Time Required for Project Implementation:	6 months 1 year	Potential Funding Sources:	State Grant Town funded Bonds
Responsible Party: (Department/ Organization)	Supervisor and Town Board	Local Planning Mechanisms to be Used in Implementation, if any:	Town Board approved engineering review and design of improvements. Engineering phase has been completed 2019.
Three Alternatives Considered (including No Action)			
Alternatives:	Action	Estimated Cost	Evaluation
	No Action	\$0	Not viable; there is a court order to complete
	Fund Project	\$1,500,000	Spillway project constructed to the new design standards.
	Remove the entire dam and rebuild from scratch	Very high; in the millions of dollars	Not viable; would have an excessive cost and would require fixing components of the system that are in good working order
Progress Report (this section to be completed at next plan update-do not fill in now)			
Date of Status Report:	April 2019		
Report of Progress:	Engineering documents revised and submitted to NYSDEC for approval.		
Update Evaluation of the Problem and/or Solution:	Project is pending. Town is seeking additional funds sources and grants to defray cost to the tax base.		