

City of Watervliet

This section presents the jurisdictional annex for the City of Watervliet for the 2024 Albany County Hazard Mitigation Plan (HMP). It includes information and guidance intended to assist public and private entities in reducing losses from future natural hazard events. This jurisdictional annex focuses on actions that can be implemented prior to a natural hazard event to reduce adverse impacts to people and property; it is not intended to serve as guidance for what to do when a natural hazard event occurs or how to recover following a natural hazard event. This jurisdictional annex provides an overview of the community and its critical facilities, evaluates the community's vulnerability to various natural hazards, assesses the community's existing capability to mitigate natural hazards, and identifies actions that could be implemented to mitigate natural hazard risks and, ultimately, reduce damages to people and property resulting from natural hazard events.

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1 CONTACT INFORMATION

The primary contacts for Albany County regarding this Jurisdictional Annex are identified as follows:

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2 COMMUNITY SNAPSHOT

2.1 Demographics

The 2020 Census estimated that 10,375 people live in the City of Watervliet. The City of Watervliet's population has increased by 1.2% since the 2010 Census (10,254). The median age in the City of Watervliet is 37.3 years and 16.6% of the population is over the age of 65. The median household income in the City of Watervliet is \$46,205.

2.2 Location & Land Characteristics

The City of Watervliet is located north of the City of Albany. The City of Watervliet is bordered on three sides by the Town of Colonie. The Town/Village of Green Island border the northeastern corner of the City of Watervliet. The City of Watervliet covers approximately 1.5 square miles. The properties within the City of Watervliet have a total assessed value of approximately \$ 712,382,517, which is distributed across a variety of property classes.

Major transportation corridors in the City of Watervliet include New York State Route 2 and New York State Route 32. The key water feature within the City of Watervliet is the Hudson River.

2.3 Governing Body

The city mayor and two council people govern the City of Watervliet.

2.4 Recent and Anticipated Future Development

According to a review of 239 Referrals since the last County HMP (2018), several new developments have been approved or proposed within the City. The proposals that the City received are summarized in Table 2-1 below. Some of the proposals for the City may be located in the 0.1% or 0.2% annual chance flood event area, but this was not specified in the proposal. Additionally, building permits that have been issued for the City between 2018 to 2022 are summarized in Table 2-2 below, based on data from the Capital District Regional Planning Commission (CDRPC). These developments may affect the City's vulnerability to the hazards identified in this HMP.

Table 2-1. Developments from 2018 to 2023

Project Name	Project Location	Consideration	Date
Watervliet Public Library Digital Monument Sign	1501 Broadway	Under authorization of Watervliet City Council Resolution No. 9425, exemption for the Watervliet Public Library from the requirements of Chapter 272 Zoning regarding the installation and placement of a digital monument sign on the Broadway side of the existing building.	2/15/2018
17 Ball Place Subdivision	17 Ball Place	Request to subdivide a residential lot equally into two parcels. The existing home will remain, and a new two-family home will be built on the vacant lot.	3/15/2018
17 Ball Place Area Variance	17 Ball Place	Area variance for two off-street parking spaces without a garage.	3/15/2018
Chris Colwell Site Plan Review	2400 3rd Avenue	Site plan review for an eight car parking lot for three residential units and one commercial unit (barber shop).	4/19/2018
Chris Colwell Use Variance	2400 3rd Avenue	Use variance to renovate building into one commercial space (barber shop) and three high-end apartments in the R-3 Multifamily Zoning District.	4/19/2018
17 Ball Place Area Variance	17 Ball Place	Area variance for two off-street parking spaces without a garage. Parking will be located in the rear with a 12' curbcut.	5/14/2018
17 Ball Place Subdivision	17 Ball Place	Subdivision of a parcel into two lots to build a new two-family home on the vacant lot, with parking in the rear of the new home. The existing home will remain.	5/14/2018
Konicek & Collett Funeral Home Addition Site Plan Review	1855 12th Ave.	Site plan review for a 12' x 24' addition to an existing funeral home for a new preparation area with handicap accessibility.	6/21/2018
Konicek & Collett Funeral Home Use Variance	1855 12th Ave.	Use variance for the expansion of a funeral home that is a pre-existing, nonconforming use.	6/21/2018
817 4th Ave. Subdivision	817 4th Ave.	Subdivision of a 0.18-acre residential lot into two 0.09-acre lots.	9/20/2018

Project Name	Project Location	Consideration	Date
Fiqh Mosque	817 23rd St & 819 23rd St	Special use permit to use the building and property as a religious institution and area variance for off street parking requirements.	8/20/2020
114 15th St Subdivision	114 15th Street	Two lot subdivision of the property that currently consist of existing three-family home.	3/18/2021
Jean Maloney Subdivision	317 21st Street	Subdivision review to subdivide two units from four units.	3/18/2021
1500 12th Avenue	1100 16th Street	Subdivision review to divide 16,018 square foot lot into three (3) lots to build three single family homes.	5/20/2021
Blackrock Holdengs	403 3rd Ave	Site plan review to strip angled parking lines along the South & Western side of building.	5/20/2021
City Restoration - Gas Station & Convenience Store	200 23rd Street	Area variance and special use permit to renovate old gas station/service station into a gas station/convenience store.	10/21/2021
LukOil Gas Station	1802 Second Ave	Site plan review to remove existing building gas pumps (4), pump islands and canopy. A new 1500 SF building with two (2) pump islands, smaller canopy, defined parking spaces and landscape are proposed.	3/17/2022
Luk Oil - Gas Station & Convenience Store	1802 2nd Avenue	Area variance to meet the setback requirements for the proposed new gas station with two (2) pump islands, smaller canopy, defined parking spaces and landscaping.	4/22/2022
Luk Oil	1802 2nd Avenue	Area variance to meet the setback requirements from the property line.	6/16/2022
Watervliet Colonie Elks	501 4th Avenue, Watervliet	Use variance to replace existing sign with digital sign.	7/21/2022
5 Unit Row Houses	422-424 5th Avenue	Site plan review and use variance to construct a five unit row house. The proposed lots are to be combined.	7/20/2023
Brian Beaury Jiu Jitsu Studio	1623 2nd Ave, 1617 Second Ave, 1613 Second Ave	Use variance to convert the existing building into a membership based jiu jitsu and martial arts academy.	9/21/2023

Project Name	Project Location	Consideration	Date
Brian Beaury - Lot Merger	1613, 1617 & 1623 2nd Avenue	Merging of three lots to provide parking and use the existing building as martial arts studio.	10/19/2023
Bulmer - Subdivision Review	609 25th Street & 2507 6th Avenue	Subdivision review to keep the garage with the applicant's primary residence on 609 25th Street.	11/16/2023

Table 2-2. Building Permit Issuance (2018 to 2022)

Year	Building Type	Units
2018	2	4
2021	1	2
2022	1	1
Total:		7

Data Source: Capital District Regional Planning Commission (<https://cdrpc.org/data/housing>)

3 CAPABILITIES ASSESSMENT

3.1 Planning Mechanisms and Capabilities

The City of Watervliet identified the following planning mechanisms and capabilities that can support the City in hazard mitigation efforts. These capabilities can be used to support the mitigation strategy in several ways. For example, administrative capabilities can assist in implementing the mitigation actions as identified in the mitigation strategy. Existing building codes and land use regulations provide a foundation for mitigation planning and provide guidelines for infrastructure repair, new developments, and other actions. Educational programs may be developed further in order to more fully incorporate hazard mitigation. Table 3-1 elaborates on existing building codes, land use and development ordinances/regulations, and many other capabilities which can support hazard mitigation.

Table 3-1. Planning Mechanisms & Capabilities

Planning Mechanism	In Place? (Yes/No)	Notes (Does the plan address hazards? Can the capability be used to implement mitigation actions? When was it last updated?)
Administration		
Maintenance Programs	Yes	Highway routinely is involved in tree trimming/clearing drainage
Mitigation Planning Committee	No	
Mutual Aid or Shared Services Agreements	Yes	With regards to the fire department
Planning Board	Yes	
Zoning Board	Yes	
Other		
Development Approvals		
Building Code	Yes	NYS Building Code 2020. Additionally, City has own building code (updated periodically)
Fire Department ISO Rating	Yes	
Site Plan Review Requirements	Yes	Zoning/Planning
Other		
Funding Resources		
Authority to Levy Taxes	Yes	
Capital Improvement Project Funds	Yes	

Planning Mechanism	In Place? (Yes/No)	Notes
		(Does the plan address hazards? Can the capability be used to implement mitigation actions? When was it last updated?)
Federal Funding Programs (i.e., USDA, FEMA, others)	Yes	Have received federal transportation funds in the past, nothing current
General Obligation Bonds and/or Special Tax Bonds		Have one bond for streetlights (may be general obligation)
Impact Fees for New Development	No	
State Funding Programs (i.e., NYSEFC, NYSOCR, NYSDEC, others)	Yes	CHIPS funding and DOT funding
Utility Fees (i.e., water, sewer, stormwater, gas, electric)	Yes	They charge a flat rate for water and sewer. No stormwater fees
Other		
Land Use Regulations		
Density Controls	Yes	
Flood Insurance Rate Maps	Yes	
NFIP Participant / Floodplain Ordinance	Yes	See "Floodplain Administrator" row below (under "Staff Positions")
Hillside Development Regulations	No	
Open Space Preservation	No	
Stormwater Management Regulations	Yes	Chapter 273: Stormwater Management and Erosion and Sediment Control Signatory on Intermunicipal Agreement for Storm Water Management
Streambank Setback Regulations	No	Streambank setbacks would be in Guiderland not Watervliet
Subdivision Regulations	Yes	Subdivision Ordinance
Zoning Ordinance	Yes	
Other	Yes	Chapter 160: Flood Damage Prevention
Natural Resources		
Forest/Vegetation Management	No	
Stream Corridor Management	No	
Stream Dumping Regulations	No	
Urban Forestry and Landscape Management	No	

		Notes
Planning Mechanism	In Place? (Yes/No)	(Does the plan address hazards? Can the capability be used to implement mitigation actions? When was it last updated?)
Watershed Management	No	
Wetland Regulations	No	
Other	Yes	Energy law (Chapter 146)
Plans		
Capital Improvement Plan	No	
Comprehensive Emergency Management Plan	No	
Comprehensive Plan	Yes	2022
Continuity of Operations Plan	No	
Economic Development Plan	Yes	
Other		
Programs/Organizations		
Climate Smart Community	Yes	Bronze
Local Emergency Preparedness/Disaster Response Organizations	No	
Local Environmental Protection Organizations	Yes	Albany County Stormwater Coalition (Watervliet participates)
National Weather Service StormReady Certification	No	Albany County is certified
Outreach Programs	No	
Partnerships with private entities addressing mitigation or disaster response	No	
School Programs or Adult Educational Programs	Yes	As part of the Albany Stormwater Coalition they have education programs as to stormwater
Other		Local Waterfront Revitalization Program
Staff Positions		
Civil Engineer	No	Engineering is performed by outside contractors
Code Enforcement Officer	Yes	Paul LaBoissiere Jr – Building Inspector Supervisor
Emergency Manager	Yes	City has adequate staffing and a mutual aid system

		Notes
Planning Mechanism	In Place? (Yes/No)	(Does the plan address hazards? Can the capability be used to implement mitigation actions? When was it last updated?)
Floodplain Administrator	Yes	Paul LaBoissiere Jr – Building Inspector Supervisor
Planner/GIS Coordinator	No/Yes	No community planner, Yes GIS coordinator (contract with Barton & Loguidice, some help from involvement with the Albany County Stormwater Coalition.
Other		
Technical Abilities		
Grant Writing	Yes	In-house
Hazard Information Centers	No	
Hazard Warning Systems	Yes	City has a Robo Call system in place, reverse 911 with County
Other		

The City's HMP update will be incorporated into and referenced by future updates of the plans, policies, ordinances, programs, studies, and reports listed in Table 3-1. In particular, the City should review Table 3-1 when completing updates to the Comprehensive Plan and amendments to the Zoning Code. As part of this review, the City may strategize opportunities for building the hazard mitigation mechanisms and capabilities currently marked "No" in the table (where feasible) by designating lead agencies in charge of closing such gaps, connecting with partners and technical support resources, establishing a timeline and next steps, estimating costs, and applying for grant funding when necessary. In an update to the Comprehensive Plan, this process may result in the development and inclusion of detailed proposed action items and implementation frameworks that address gaps in hazard mitigation mechanisms and capabilities. In an amendment to the Zoning Code, this process may result in the modification of existing laws or the drafting and adoption of new laws to address gaps in hazard mitigation mechanisms and capabilities.

Furthermore, the City would like to expand and improve the capabilities listed in Table 3-1 in the following ways:

- Possible involvement with FEMA IPAWS system to notify people of hazards on mobile devices
- Partner with Guiderland for flood prevention and drinking water protection. The City gets drinking water from reservoir in Guiderland, dam in Guiderland is a concern for flooding as well as drinking water (on Watervliet Reservoir).

Additional strategies to expand and improve hazard mitigation capabilities are detailed in Section 10 of the main body of the HMP.

3.2 Integration of Planning Efforts

The City of Watervliet understands the importance of considering an integrated approach when developing municipal plans, policies, programs, and regulations. The City intends to reference the 2024 Albany County HMP as part of the process for future updates to the plans, policies, programs, and regulations listed in Table 3-1, above, and for creating new regulations as applicable. This may include adding hazard mitigation as an agenda item at City Council meetings where local laws are being developed or updated, including hazard mitigation considerations in any templates used to make new laws, adopting an ordinance that all new local laws need to consider hazard mitigation if applicable, or simply making local officials aware of the need to consider hazard mitigation in any plan updates. Additionally, the City of Watervliet may use the local laws assessment (included in Section 4 of the main body of the HMP) to reference hazard mitigation related regulations that other jurisdictions in the County have adopted, and consider implementing similar regulations if desired. All of these actions will help expand and improve upon these existing capabilities so that they reduce risk and better support hazard mitigation.

4 HAZARD IDENTIFICATION AND RISK ASSESSMENT

4.1 Profiled Hazards

In this HMP Update, the County reviewed multiple natural hazards, and determined to profile five natural hazards: flooding, severe storm, drought, extreme temperatures, and landslide. Descriptions of each of these hazards are included in Section 6 of the main body of the HMP.

The City of Watervliet has chosen to profile the same hazards as the County. No hazards were omitted and there were no additional hazards identified as unique and specific to the City of Watervliet.

The hazard analysis criteria used to evaluate the City's vulnerability to each natural hazard are summarized in Table 4-1, and the results are presented in Table 4-2. All rankings were completed subjectively, with the guidelines detailed in Table 4-1.

Table 4-1. Hazard Analysis Criteria

Score	Impact (Damage to property, crops, people)	Frequency*	Extent	Level of Preparedness	Total Score	Overall Vulnerability
1	Minor	Rare	One or two problem areas within the jurisdiction	Well Prepared	4 to 5	Low
2	Moderate	Infrequent	A significant portion of the jurisdiction	Moderately Prepared	6 to 8	Moderate
3	Major	Regular	The entire jurisdiction	Not Prepared	9 to 12	High

*Frequency is defined roughly as follows:

- Rare – Every 15 years or less
- Infrequent: Less than once a year but greater than once every 15 years
- Regular: Approximately yearly or multiple times a year

Table 4-2. Hazard Vulnerability by Event

Hazard Event	Impact (Damage to property, crops, people, etc.)	Frequency of Occurrence	Extent of Impacts	Level of Preparedness	Overall Vulnerability	Jurisdiction Rank*	Notes (Anticipated Future Changes)
Flooding (Riverine, Coastal**, Urban, Flash, Ice Jam, Dam or Levee Break, Other)	2	3	1	2	8 – Moderate	1	City has noticed more brief but heavy precipitation events

Hazard Event	Impact (Damage to property, crops, people, etc.)	Frequency of Occurrence	Extent of Impacts	Level of Preparedness	Overall Vulnerability	Jurisdiction Rank*	Notes (Anticipated Future Changes)
Drought	3	1	3	2	9 – High	4	Impact from drought was ranked highly due to its potential to cause damage. This does not necessarily reflect its current level of damage.
Severe Storm (Hail, Ice Storms, Wind, Thunderstorms and Lightning, Winter Storms, Hurricane, Tropical Storms, Tornado, Power Outage)	2	3	3	2	10 – High	2	City has noticed more brief but heavy precipitation events
Extreme Temperatures (Cold Wave, Heat Wave, Air Pollution Effects)	2	3	3	2	10 – High	3	See below
Landslide	1	2	1	2	6 – Moderate	5	See below

**Note: The jurisdiction's ranking for the hazards identified above differ somewhat from the overall vulnerability identified using impact, frequency, extent, and preparedness level. For example, the City felt that flooding has had the most damage in the municipality. They also felt that severe storms pose the risks of property damage, injury, and loss of life on a seasonal basis. Therefore, these two hazards were ranked highly by the jurisdiction. The City felt that extreme temperatures pose the next greatest threat, followed by drought and landslide.*

*** Coastal Flooding includes impacts from sea level rise.*

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4.2 Hazard Event History

A complete history of natural hazard events within the County – based on NOAA's Severe Storm Database – is included in Section 6 of the main body of the HMP. The following is a subset of events that occurred specifically within the City. These records informed the development of mitigation actions by demonstrating which hazards have historically had the greatest impact on the City.

Table 4-3. Hazard Event Records, 2018-2023

Event Type	Date	Magnitude	Estimated Property Damage	Estimated Crop Damage
Hail	7/27/2018	1.75	0	0
Thunderstorm/Wind	7/27/2018	50	0	0
Flash Flood	8/3/2018	-	\$1,000	0
Hail	8/7/2019	1	0	0
Thunderstorm/Wind	8/18/2019	50	0	0
Thunderstorm/Wind	8/17/2022	50	0	0
Total			\$1,000	0

Note: The table above lists only the hazard events that were recorded as occurring specifically within the City. For records of County-wide hazard events, see the Albany County Annex. Units for magnitude are expressed as the following: Hail: inches, Thunderstorm/Wind: knots.

4.3 Floodplain Statistics

Key water features in the City are described in Section 2.2 of this annex. FEMA provides flood insurance rate maps for the municipality and GIS data on the spatial location of floodplains. The 1% annual chance (100-year) flood event area generally corresponds with areas that are at high risk of flooding, and the 0.2% annual chance (500-year) flood event area generally corresponds with areas that are at moderate risk of flooding. Out of the 1.5 square miles in the City, approximately 22.30% are located within the 1% annual chance flood event area and approximately 37.38% are located within 0.2% annual chance flood event area (inclusive of the 1% flood event area). The estimated number and structure value of parcels in the municipality that intersect mapped floodplains are summarized in Table 4-5. There are 358 parcels in the City located within the 1% annual chance flood event area, with an estimated total structure value of \$245,376,898. Inclusive of these parcels in the 1% annual chance flood event area, there are 847 parcels in the City located within the 0.2% annual chance flood event area, with an estimated total structure value of \$301,505,548.

Table 4-4. Summary of Areas in Floodplains*

Total Area (square miles)	Percent of Total Area in 1% Annual Chance Floodplain	Percent of Total Area in 0.2% Annual Chance Floodplain
1.5	22.30%	37.38%

* Calculated areas and percentages are informational estimates only and are not to be used for official purposes. The 0.2% annual chance floodplain in this table includes the area in the 1% annual chance floodplain.

Table 4-5. Estimated Number and Structure Value of Parcels within Mapped Floodplains

Property Class	Number of Parcels in 1% Annual Chance Floodplain	Approx. Structure Value* in 1% Annual Chance Floodplain	Number of Parcels in 0.2% Annual Chance Floodplain**	Approx. Structure Value* in 0.2% Annual Chance Floodplain**
Unclassified	1	\$0	1	\$0
Agricultural	0	\$0	0	\$0
Residential	244	\$21,607,100	608	\$55,882,650
Vacant	35	\$69,100	53	\$101,600
Commercial	59	\$37,558,300	157	\$58,151,400
Recreation and Entertainment	7	\$1,445,800	13	\$2,273,800
Community Services	8	\$183,601,600	9	\$183,719,200
Industrial	1	\$845,000	3	\$1,126,900
Public Services	3	\$249,998	3	\$249,998
Parks and Open Space	0	\$0	0	\$0
Total	358	\$245,376,898	847	\$301,505,548

*Structure Value for each parcel was estimated by subtracting Land Assessed Value from Total Assessed Value. If the entire parcel or a subset of the parcel was contained within the floodplain, the structure on that parcel was included regardless of the structure's location on the parcel.

** The 0.2% Annual Chance Floodplain in this table includes the area in the 1% Annual Chance Floodplain.

4.4 National Flood Insurance Program

Long-term mitigation of potential flood impacts can be best achieved through comprehensive floodplain management regulations and enforcement at a local level.

The National Flood Insurance Program (NFIP), regulated by FEMA, aims to reduce the impact of flooding on private and public structures by providing affordable insurance for property owners. The program encourages local jurisdictions to adopt and enforce floodplain management regulations in order to mitigate the potential effects of flooding on new and existing infrastructure (<https://www.fema.gov/flood-insurance>).

Communities that participate in the NFIP adopt floodplain ordinances. If an insured structure incurs damage costs that are over 50% of its market value, the owner must comply with the local floodplain regulations when repairing or rebuilding the structure. A structure could be rebuilt at a higher elevation, or it could be acquired and demolished by the municipality or relocated outside of the floodplain. Insured structures that are located within floodplains identified on FEMA's Flood Insurance Rate Maps (FIRMs) may receive payments for structure and content losses if impacted by a flood event.

The NFIP and other flood mitigation actions are important for the protection of public and private property and public safety. Flood mitigation is valuable to communities because it:

1. Creates safer environments by reducing loss of life and decreasing property damage;
2. Allows individuals to minimize post-flood disaster disruptions and to recover quicker (homes built to NFIP standards generally experience less damage from flood events, and when damage does occur, the flood insurance program protects the homeowner's investment); and
3. Lessens the financial impacts on individuals, communities, and other involved parties (<https://www.fema.gov/flood-insurance>).

The City of Watervliet currently participates in the NFIP (community ID 360016A), and its current FIRM(s) became effective on 03/16/15. FIRMs are available via FEMA's Flood Map Service Center (<https://msc.fema.gov/portal/home>). Digital FIRM data is also available for Albany County via FEMA's National Flood Hazard Layer Viewer, which was referenced during the development of this annex. Information from this digital FIRM data was incorporated into this Hazard Mitigation Plan where appropriate (for example, when identifying which critical facilities are located in the floodplain).

The City's local law governing floodplain development and NFIP compliance is located in Chapter 160: Flood Damage Prevention. The City will continue to comply with the NFIP by enforcing floodplain management requirements and regulating new development in special flood hazard areas, among other required duties. Staff capabilities to implement the NFIP and local floodplain regulations are listed in Table 3-1 of this annex.

According to NFIP claims data provided by FEMA, are no repetitive loss properties in the City of Watervliet. Repetitive loss properties are properties that have had at least two paid flood losses of more than \$1,000 each in any 10-year period since 1978.

4.5 Considerations for Future Hazards

No concerns about future changes in hazard impacts specific to the City were identified during the hazard mitigation planning process, other than that the City has noticed more brief but heavy precipitation events. The effects of climate change and other factors on future hazard events in Albany County are covered in more detail in Section 6 of the main body of the HMP.

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5 ASSETS AND VULNERABILITIES

5.1 Critical Facilities

FEMA defines a critical facility as one that provides services and functions essential to a community, especially during and after a disaster. Critical facilities should remain accessible and functional before, during and after disasters. Additionally, critical facilities include those that requires a special emergency response in the event of hazardous incidents, such as buildings that store hazardous materials. Examples of critical facilities include community lifelines, such as fire departments, EMS services, police stations, water and wastewater services, medical facilities, highway garages, and hazardous materials. They also include facilities such as Town halls, schools, and senior centers. In the hazard mitigation planning process, each jurisdiction ultimately decided which facilities they consider to be critical facilities for their community.

Table 5-1 denotes the name, type, and location of the critical facilities within the City of Watervliet, and any particular vulnerabilities of note. More information about hazard vulnerability, including the vulnerability of community assets to natural hazard events, is included in Section 8 of the main body of the HMP. Additional vulnerabilities by location are assessed in the HAZUS analysis, included in the appendices of the HMP

Table 5-1. Critical Facilities*

[Table redacted due to sensitive content]

Per 2022 NYS Hazard Mitigation Planning Standards, jurisdictions must identify all of their critical facilities, determine the facilities' exposure to a 1% and 0.2% annual chance flood event, and document if the facilities are protected to a 0.2% annual chance flood event or previous worst case flood event (whichever is greater). For facilities that do not meet this level of protection, the jurisdiction must either include an action to meet or exceed this criterion or explain why it is not feasible to do so.

As indicated in Table 5-1, it is unknown whether several of the City's critical facilities are protected to a 0.2% annual chance (500-year) flood event or previous worst case flood event (whichever is greater). The City has included an action in Section 7.2: New Mitigation Actions related to these critical facilities. Section 9 of the main body of the HMP provides additional detail on how the County and local municipalities may assess critical facilities' level of protection to the 1% and 0.2% annual chance flood event.

5.2 High Hazard Potential Dams

According to the NYSDEC Division of Water Bureau and Flood Protection and Dam Safety, there are four hazard classifications of dams in New York State. A High Hazard Potential Dam is a dam located in an area where dam failure may cause loss of human life; serious damage to homes, industrial, or commercial buildings; essential public utilities; main highways or railroads; and will cause extensive economic loss.

The City of Watervliet does not have any high hazard potential dams located within the municipal boundaries. However, the City is the owner of 3 high hazard potential dams:

- Watervliet Upper Dam (Federal ID NY01356), located in the Town of Colonie
- Watervliet Lower Dam (Federal ID NY01357), located in the Town of Colonie
- Normanskill (also known as Watervliet Reservoir Dam) (Federal ID NY00088), located in the Town of Guilderland

5.3 Additional Jurisdiction/Public Identified Vulnerabilities

In addition to critical facilities, it is important to take a holistic approach to identifying assets in the jurisdiction and how they may be vulnerable to the hazards identified in the HMP. Examples of other assets considered include:

- People (residents, workers, visiting populations, and socially vulnerable populations like seniors, individuals with disabilities, lower-income individuals, etc.)
- Other structures (community centers, historic places, planned capital improvement)
- Economic assets (major employers, primary economic sectors, key infrastructure like telecommunications networks)
- Natural, historic and cultural resources (areas of conservation, beaches, parks, critical habitats)
- Critical facilities and infrastructure (hospitals, law enforcement, water, power)
- Community activities (major local events such as festivals or economic events like farming or fishing)

Aside from critical facilities listed in Table 5-1, the City of Watervliet has identified the following additional assets for consideration in hazard mitigation planning and included the following notes:

Additional Assets

[Information redacted due to sensitive content]

6 SUMMARY OF HAZARD IMPACTS AND VULNERABILITIES

In addition to the impacts listed below, the City has indicated that there is an overall preparedness need for the City's immigrant populations, low-income residents, and senior populations.

6.1 Flood

The City of Watervliet has identified flooding as their top priority in terms of natural hazards, as indicated in Table 4-2, although the hazard ranking exercise resulted in an overall vulnerability ranking of moderate. According to City representatives, flood events occur regularly in the jurisdiction and affect one or two problem areas within the jurisdiction, causing moderate damage. The City feels they are moderately prepared for flood events.

Information on flood event records (Section 4.2 of this annex), high hazard potential dams (Section 5.2), floodplain statistics (Section 4.3), and participation in the NFIP (Section 4.4) are described above, illustrating the impact of flooding on critical facilities and other structures. The City is particularly concerned about the impacts of flooding on the eastern border of the City with the Hudson River. Since 2018, the City has lost some homes and businesses due to flooding. Additionally, there is a concern with riverine flooding and stormwater from the land upstream of the City.

Future vulnerability to flood events is determined by many factors, such as climate change, land use, and population changes, as well as the implementation of mitigation and adaptation strategies. Climate change is expected to increase the City's future vulnerability to flood events. These trends are further described in Section 4.1 of this annex and in Section 6 of the main body of the HMP.

6.2 Severe Storm

The City of Watervliet has ranked their overall vulnerability to severe storm events as high, as indicated in Table 4-2. According to City representatives, severe storms occur regularly in the jurisdiction and affect the entire jurisdiction, causing moderate damage. The City feels they are moderately prepared for severe storm events.

Records of severe storm events are described in Section 4.2 of this annex. Storms cause frequent power outages that affect schools, senior housing complexes, and vulnerable communities. Additional impacts to the City from severe storm events include fallen trees from severe winds, which can damage overhead utility lines, resulting in power outages. These events are likely to result in damage to private and public infrastructure and property. In addition, during severe winter storm events, roadway safety is a primary concern and impacts the safety of residents and operation of critical facilities. Damage to the City's critical infrastructure or primary transportation routes would be particularly impactful to residents.

Future vulnerability to severe storm events is determined by many factors, such as climate change, land use, and population changes, as well as the implementation of

mitigation and adaptation strategies. Climate change is expected to change the types of severe storm events that the City is vulnerable to, likely making the City more vulnerable to severe thunderstorm, windstorm, and hail events and less vulnerable to heavy snow, ice storms, winter storms and winter weather. These trends are further described in Section 4.1 of this annex and in Section 6 of the main body of the HMP.

6.3 Drought

The City of Watervliet has ranked their overall vulnerability to drought events as high, as indicated in Table 4-2. However, the City indicated that the ranking of “high” was more indicative of drought’s potential to cause damage in the future, rather than its current level of damage. According to City representatives, drought events occur rarely in the jurisdiction. If droughts did occur, they would affect the entire jurisdiction, causing major damage. The City feels they are moderately prepared for drought events.

The City of Watervliet is particularly concerned about drought impacting their drinking water supplies. The City is served by a public water supply. This water supply, and certain critical facilities that rely on a water source, could be susceptible to impacts during a drought due to low water yields, particularly if a back-up water supply has not been formally established. Additionally, any residents who rely on private wells would also be susceptible to the impacts from a drought due to low water yields.

Future vulnerability to drought events is determined by many factors, such as climate change, land use, and population changes, as well as the implementation of mitigation and adaptation strategies. Climate change is expected to increase the City's future vulnerability to drought events. These trends are further described in Section 4.1 of this annex and in Section 6 of the main body of the HMP.

6.4 Extreme Temperatures

The City of Watervliet has ranked their overall vulnerability to extreme temperature events as high, as indicated in Table 4-2. According to City representatives, extreme temperature events occur regularly in the jurisdiction and affect the entire jurisdiction, causing moderate damage. The City feels they are moderately prepared for extreme temperature events.

Extreme temperature events tend to have greater impacts on vulnerable populations, including older adults (over 65 years), young children (under 5 years), individuals with health complications, and individuals who cannot afford to sufficiently heat or cool their homes. Approximately 6.6% of the population in the City is under 5 years old, and 16.8% of the population is over 65 years old. Approximately 17.4% of the residents of the City have a disability (excluding any institutionalized residents and active-duty military members) some of whom have health problems that make them more vulnerable to extreme heat or cold. Approximately 20.2% of the City's population is below the poverty level. Many residents within these populations are at a higher risk of being impacted by extreme temperature events.

In particular, the City is concerned about the impacts of extreme temperature events on low-income residents, including seniors, without air conditioning. Additionally, when power outages occur during extreme heat, there is no way to cool people.

Furthermore, water main breaks have occurred in the winter due to extreme temperatures (e.g. unseasonably warm winters followed by extreme cold).

Future vulnerability to extreme temperature events is determined by many factors, such as climate change, land use, and population changes, as well as the implementation of mitigation and adaptation strategies. Climate change is expected to increase the City's future vulnerability to extreme heat events and decrease its vulnerability to extreme cold events. These trends are further described in Section 4.1 of this annex and in Section 6 of the main body of the HMP.

6.5 Landslide

The City of Watervliet has ranked their overall vulnerability to landslide events as moderate, as indicated in Table 4-2. According to City representatives, landslide events occur infrequently in the jurisdiction and affect one or two problem areas within the jurisdiction, causing minor damage. The City feels they are moderately prepared for landslide events.

Landslides can impact the structural integrity of buildings, roads, and other infrastructure in the City. They can also impact transportation flow and the provision of supplies, can degrade the natural environment, and have the potential to cause injury and death. The City is particularly concerned about landslides that would impact dams in the Town of Colonie, upstream of the City, causing flooding. Additionally, washouts by the streambed by St. Peter's Church by the high school area would cause flooding.

Future vulnerability to landslide events is determined by many factors, such as climate change, land use, and population changes, as well as the implementation of mitigation and adaptation strategies. For example, underlying conditions that impact landslides, such as bedrock stability and heavy rain events, are influenced by climate-related trends, such as temperature increases and extreme precipitation events. These trends are further described in Section 4.1 of this annex and in Section 6 of the main body of the HMP.

6.6 Jurisdictional Priorities

Taking into account the identified natural hazards, potential impacts, assets, and vulnerabilities identified above, key vulnerabilities and priorities to be addressed in this HMP were identified for the City.

Top concerns about hazard mitigation in the City included:

- Flooding
- Electrical grid – The City would like to have a better understanding of the multiple power supplies, including where the power comes from, backup sources of power available, and general functioning of these supplies. Power outages are common, especially during storms. When these power outages do occur, they have particular impacts on schools, senior housing complexes, and vulnerable communities. Power outages cause a concern especially in extreme heat when the City cannot cool people in the Housing Authority.
- Extreme temperatures – There is a concern for seniors without A/C, including low-income seniors.

The following populations were identified as being particularly vulnerable to hazards:

- Several hundred residents in low-income housing run by the Housing Authority in the north part of City. This includes senior citizens, with housing and functional needs.
- Immigrant population uptown – There are language barriers & communication issues, as well as opportunities for better preparedness.
- The City noted that the homeless population is small and there are strong partnerships to shelter them.

The plan was revised to reflect the following changes in community priorities since the 2018 HMP Update:

- Covid-19 has become more of a priority and affected all of the City's operations.
- The City would like to include items from the Albany County Climate Resiliency Plan, particularly addressing fluvial flooding from the river and in the land above city. The City has noticed more brief but heavy precipitation events.

Additional concerns that the City would like addressed in the plan include:

- Catch basins are gummed up due to fact that rainwater and stormwater runs into City from Town of Colonie. The City needs capacity to keep streets from flooding – being able to clean stormwater system (needs funding for more equipment – Vac truck).
- High Hazard Potential Dam west of the city (in Town of Colonie). In City of Watervliet there is a low-hazard dam. Section of Dry River (Stream between those dams) within City limits needs to be cleaned of debris.
- STAR program – senior tax relief

6.7 Additional Impacts

Additional impacts of the hazards are summarized in the problem descriptions in the City's past and new mitigation actions, as described in the following sections.

7 MITIGATION STRATEGY AND IMPLEMENTATION

7.1 Past, Completed, and Ongoing Initiatives

The City had proposed 2 mitigation actions in the 2018 Albany County HMP Update. The status of each action is summarized below, along with the City's decision about whether to include the action in the 2024 HMP Update. Any revisions to actions proposed in 2018 are indicated below.

Table 7-1. Status of 2018 Mitigation Actions

Name	Description	Hazard(s) Mitigated	Lead Agency	Status (Completed, In Progress, No Progress, Discontinued)	Carried into 2024 HMP Update? (Yes/No)	Notes
Debris Clean Up Dry River	The dry river system coupled with the Upper Dam allows for the drainage of Northern Colonie. The system should be cleared of debris on a yearly basis.	Flooding	City of Watervliet Water Supervisor	No progress	Yes	
Watervliet High School Emergency Shelter Generator Installation	Makes Watervliet High School a legitimate emergency center in case of emergency – estimated cost \$20,000	All hazards, shelter	City of Watervliet City Council School Board	In progress	Yes	As of March 2024, all of the infrastructure is in place for generator installation at the high school as well as elementary school. The school is just waiting for production and delivery of the generators.

7.2 New Mitigation Actions

In addition to the actions carried over from the 2018 HMP, the City of Watervliet identified new mitigation actions for inclusion in the 2024 HMP Update, in conjunction with the project team. First, a list of actions was brainstormed based on the capabilities, hazard identification, impacts, and vulnerabilities described above. This included consideration to the ways that the City could expand and improve the identified capabilities to achieve mitigation, as described in Section 3 of this annex. Then, a more comprehensive range of actions were evaluated as described in Section 9 of the main body of the HMP. Finally, actions that tied in most closely with the vulnerabilities identified by the City were selected for inclusion in the HMP. These actions are included in the table below. (Note that in the table, CF = Critical Facility, EHP = Environmental and Historic Preservation.) The actions also help address climate change in the City, since many of the hazards profiled in this HMP may be worsened by climate change. The effects of climate change on these hazards are described in Section 4.1 and Section 6 of this annex, as well as in Section 6 of the main body of the HMP.

Table 7-2. New Mitigation Actions*

Project #	Project Name	Goal/Objective being Met	Hazard to be Mitigated	Description of the Problem	Description of the Solution	Related to CF?	EHP Issues	Estimated Timeline	Lead Agency	Estimated Costs	Estimated Benefits	Potential Funding Sources	Priority
C Watervliet MH1	Watervliet Fire Station Relocation and Upgrades	G1, G2, G5, G6	Flood, Severe Storms, Extreme Temperatures	Among other issues, the fire department currently does not have storage capacity for disaster supplies, is vulnerable to flooding, does not have sufficient electrical wiring to accommodate all equipment, and is in an outdated and small building that is not sufficiently equipped for sheltering capabilities. This limits its ability to provide sheltering and other critical services during floods, severe storms, extreme temperatures, and other hazards.	Partner with the Watervliet Fire Department and the County to identify a suitable site for a new fire station / emergency response center, and secure funding to acquire and build this station. Use the recommendations and features listed in the Albany County Climate Resiliency Plan (page 196) as a starting point. According to the Climate Resiliency Plan, this site should be located in an area with a low risk of flooding and provide easy access to the Fire Department's service area. The new site should be able to accommodate an approximately 20,000-square foot structure. The City emphasizes that improvements should include upgrades to electrical wiring in order to accommodate the necessary devices and equipment.	Yes	Potentially	In Progress; 3-5 Years	Fire Department	High	This action would vastly increase the fire department's ability to provide critical services before, during, and after hazards such as storms, floods, and extreme temperatures. It will also reduce the flood risk that the fire station faces.	FEMA EOC Grant Program, US HMGP, US BRIC, NYS HM RLF, NYSDEC CSC, NYS Environmental Bond Act, US Flood Mitigation Assistance	High

Project #	Project Name	Goal/Objective being Met	Hazard to be Mitigated	Description of the Problem	Description of the Solution	Related to CF?	EHP Issues	Estimated Timeline	Lead Agency	Estimated Costs	Estimated Benefits	Potential Funding Sources	Priority
C Watervliet MH2	Equipment for Stormwater System Maintenance	G1, G2, G5, G6	Flood, Severe Storms	Catch basins in the City are clogged due to the large volume of water that the City's pipes receive (e.g. rainwater and stormwater runs into City from Town of Colonie). This causes flooding on City streets.	Obtain funding to purchase additional equipment, such as a vacuum truck, to unclog catch basins, clean the stormwater system, and do any other necessary maintenance to prevent the streets from flooding.	No	Potentially	1-3 years	Water and Sewer Department	High	This action would increase the City's ability to take action to prevent flooding in a timely manner.	US HMGP, US BRIC, NYS HM RLF, NYSDEC CSC, NYS Environmental Bond Act, US Flood Mitigation Assistance	Medium
C Watervliet MH3	Broadway Flood Mitigation Strategy	G1, G2, G3, G4, G5, G6	Flood, Severe Storms	According to the Albany County Climate Resiliency Plan (page 178), Broadway is an important corridor connecting the north and south parts of the Capital Region, including the site of a bus corridor (CDTA Blue Line) between the City of Albany, Village of Menands, and City of Watervliet. However, several locations along the Broadway corridor are prone to flooding.	Work with Albany County to pursue flood mitigation projects along Broadway, as outlined in Albany County's Climate Resiliency Plan (page 178). This may include, but is not limited to, evaluating and/or incorporating green infrastructure, bike infrastructure, dedicated bus rapid transit lanes, integration with ongoing projects, flood mitigation along Patroon Creek, and any other actions deemed necessary for mitigating flooding and other hazards.	No	Potentially	3-5 years	Planning and Community Revitalization, Highway, Water and Sewer	Medium	This action would reduce the risk of flooding along Broadway. The flood risk reductions would also make severe storms less impactful.	FEMA BRIC, FEMA HMGP, FEMA FMA, NYS HM RLF, EPA Smart Growth Support, EPA Greening America's Communities, CDBG Public Infrastructure and Community Planning, WQIP, EFC GIGP, DOS Smart Growth, NYS CSC, DASNY State and Municipal Facilities Program, NYSDOT CHIPS, NYSEFC CWSRF	Medium

Project #	Project Name	Goal/Objective being Met	Hazard to be Mitigated	Description of the Problem	Description of the Solution	Related to CF?	EHP Issues	Estimated Timeline	Lead Agency	Estimated Costs	Estimated Benefits	Potential Funding Sources	Priority
C Watervliet F1	Route 787 Partnership for Flood Mitigation	G1, G2, G5, G6	Flood	Route 787 currently acts as buffer to prevent/reduce flooding for the City of Watervliet. However, the NYS DOT is currently working on a project to modify Route 787, in conjunction with the City of Albany. The City of Watervliet is concerned about whether the modifications would increase flooding in Watervliet. The Ford Street tunnel, sewage, and drainage systems are of particular concern.	Partner with NYS DOT and City of Albany to ensure that Route 787 modifications do not adversely affect the risk of flooding in Watervliet. This could include adding City of Watervliet to the plan related to 787 modifications.	No	Potentially	3-5 years	Highway	Low	This action would help ensure that 787 modifications do not increase flooding in the City of Watervliet.	US CDBG-MIT, US HMGP, US Flood Mitigation Assistance, NYS HM RLF, US BRIC, DOT BIL Grants, DOT SS4A, DOT HSIP	High

Project #	Project Name	Goal/Objective being Met	Hazard to be Mitigated	Description of the Problem	Description of the Solution	Related to CF?	EHP Issues	Estimated Timeline	Lead Agency	Estimated Costs	Estimated Benefits	Potential Funding Sources	Priority
C Watervliet MH4	Electrical Grid Assessment and Improvements	G1, G2, G5, G6	Severe Storm, Extreme Temperatures	Power outages in the City of Watervliet are common, especially during severe storms. These outages have heightened impacts on schools, senior housing complexes, and vulnerable communities, as well as impacts on City infrastructure. There is an increased concern in extreme heat when power outages occur and the City cannot cool people in Housing Authority housing.	Assess the current state of the electrical grid and possible improvements that could be made to decrease the risk and duration of power outages. This assessment would increase the City's understanding of the electrical grid, including the quantity and nature of the power supplies, backup capacity, and general functioning. This may include meetings with National Grid, among other measures. Additionally, implement recommendations from the assessment as feasible in order to decrease the risk and duration of power outages.	Yes	Potentially	3-5 years	Planning and Community Revitalization	Medium	This action would reduce power outages in the City, helping to reduce the impact of severe storms, and helping to keep vulnerable populations safe during extreme temperature events.	US CDBG-MIT, US HMGP, NYS HM RLF, WQIP	Medium

Project #	Project Name	Goal/Objective being Met	Hazard to be Mitigated	Description of the Problem	Description of the Solution	Related to CF?	EHP Issues	Estimated Timeline	Lead Agency	Estimated Costs	Estimated Benefits	Potential Funding Sources	Priority
C Watervliet MH5	Purchase Generators	G1, G5, G6	Severe Storm, Extreme Temperatures	Power outages in the City of Watervliet are common during storms, causing numerous impacts as mentioned above. Several facilities lack generators or have generators that need upgrades, including City Hall, the senior center, the Civic Center, The Elks, and VFW Hall. These facilities are either critical facilities, provide important services, or have the potential to serve in as shelters, heating centers, or cooling centers during a storm or extreme temperature event.	Purchase generators for use at City Hall, the senior center, the Civic Center (for use as a cooling center), The Elks or VFW Hall, and additional facilities as needed to increase sheltering capacity and provide heating and cooling services.	Yes	Potentially	1-3 years	Building Department	Medium	This action would reduce the impact of power outages that occur with severe storms, and enhance the City's sheltering capabilities during severe storms and extreme temperature events.	US CDBG-MIT, US HMGP, NYS HM RLF, WQIP, DASNY State and Municipal Facilities Program, FEMA EOC Grant Program	High

Project #	Project Name	Goal/Objective being Met	Hazard to be Mitigated	Description of the Problem	Description of the Solution	Related to CF?	EHP Issues	Estimated Timeline	Lead Agency	Estimated Costs	Estimated Benefits	Potential Funding Sources	Priority
C Watervliet MH6	Power Outage Education Initiative	G1	Severe Storm, Extreme Temperatures	Power outages in the City of Watervliet are common during storms, causing numerous impacts as mentioned above. These outages can be particularly unsafe during extreme temperatures, as residents do not have ways to heat or cool themselves. Not all residents know how to stay safe during these power outages.	Conduct an educational initiative to improve residents' knowledge of how to stay safe and what actions to take during power outages. For example, provide education for residents about how long to leave food in the fridge until it spoils, how to operate a generator safely, how to acquire and operate battery backups, and other topics. Education may occur through events or workshops, mailings, flyers, social media posts, posts to the City website, and/or other methods.	No	No	1 year	Fire/EMS	Low	This action would increase residents' awareness of how to stay safe and what to do during power outages, which can coincide with severe storms and extreme temperatures. This would help reduce residents' vulnerability to these events.	US HMGP, US BRIC, US CDBG-MIT, NYS HM RLF, FEMA EMPG	High

Project #	Project Name	Goal/Objective being Met	Hazard to be Mitigated	Description of the Problem	Description of the Solution	Related to CF?	EHP Issues	Estimated Timeline	Lead Agency	Estimated Costs	Estimated Benefits	Potential Funding Sources	Priority
C Watervliet D1	Backup Water Supply	G1, G3, G5, G6	Drought	While drought in the City of Watervliet would be rare, there is a chance of it occurring. The City of Watervliet does not have a sufficient backup water supply to utilize during drought events. There are several water connections between the City of Watervliet and other municipalities or among other municipalities (e.g. Green Island, Cohoes, Troy and Menands), but not all these connections would have the capacity to supply Watervliet during a drought.	Create a Emergency Water Supply Plan for the Watervliet Reservoir to mitigate the impacts of drought, including identifying a backup water supply. Explore partnerships that would help accomplish this goal.	No	Potentially	1 year	Water and Sewer Department	Low	Having a backup water supply would make the City less vulnerable to drought.	US HMGP, US BRIC, CRF, EPA EJSG, US CDBG-MIT, NYS HM RLF, FEMA EMPG, WaterSMART Drought Response Program	Medium

Project #	Project Name	Goal/Objective being Met	Hazard to be Mitigated	Description of the Problem	Description of the Solution	Related to CF?	EHP Issues	Estimated Timeline	Lead Agency	Estimated Costs	Estimated Benefits	Potential Funding Sources	Priority
C Watervliet MH7	FEMA IPAWS Assessment	G1, G5, G6	All Hazards (Flood, Severe Storm, Extreme Temperatures, Landslides, Drought)	In order to warn City residents of hazards, the City currently has a Robo Call system in place and participates in the Reverse 911 system with Albany County. However, there is potential for improvement with the hazard warning systems in the City, in order to increase the safety of residents during floods, severe storms, extreme temperatures, droughts, landslides, and other hazards.	Assess the feasibility and potential for risk reduction from involvement with FEMA IPAWS system (Integrated Public Alert & Warning System) to notify people of hazards on mobile devices. Become part of the IPAWS system if feasible and if risk from hazards will be reduced.	No	No	1 year	Fire/EMS	Low	Becoming part of the IPAWS system may increase the City's ability to notify residents during hazards, increasing their safety during floods, severe storms, extreme temperatures, droughts, landslides, and other hazards.	FEMA EMPG, FEMA EOC Grant Program	High
C Watervliet MH8	Watervliet Dam Mitigation Plan	G1, G2, G5, G6	Landslide, Flood	A landslide at the Watervliet Dam has the potential to create heavy amounts of flooding in the City of Watervliet.	Partner with the owners of Watervliet Dam to create a plan to mitigate the risk of landslide in the dam, and to respond to a landslide if it does occur.	No	Potentially	1-3 years	Water and Sewer Department, Planning and Community Revitalization	High	This action could reduce the flood risk that dams pose to the City of Watervliet, by reducing the risk of landslides at the dam. It would also reduce landslide risk.	US HMGP, US BRIC, NYS HM RLF, Flood Mitigation Assistance Program, FEMA HHPD Grant Program	Medium

Project #	Project Name	Goal/Objective being Met	Hazard to be Mitigated	Description of the Problem	Description of the Solution	Related to CF?	EHP Issues	Estimated Timeline	Lead Agency	Estimated Costs	Estimated Benefits	Potential Funding Sources	Priority
C Watervliet MH9	Watervliet Reservoir Dam Engineering Study	G1, G2, G5, G6	Flood, Drought	The City of Watervliet obtains drinking water from the Watervliet Reservoir in Guilderland. The Watervliet Reservoir Dam in Guilderland is a concern for flooding as well as drinking water if the dam were to fail.	Conduct an engineering study to identify mitigation actions to reduce the risk that the dam would fail, then implement recommendations from the study as feasible.	No	Potentially	1-3 years	Water and Sewer Department	High	This action could reduce the flood risk that dams pose to the municipality, by making these dams safer and less likely to fail. It would also help ensure that the City continues to have a source of drinking water in the event of a drought, by reducing the risk of dam failure.	US HMGP, US BRIC, NYS HM RLF, Flood Mitigation Assistance Program, FEMA HHPD Grant Program	Medium
C Watervliet F2	Dry River Debris Removal for Dam Flood Mitigation	G1, G2, G3, G4, G5, G6	Flood	High Hazard Potential Dams in the Town of Colonie, west of the City of Watervliet, pose a significant flood risk for the City of Watervliet if they were to fail.	Remove debris from the section of the Dry River that runs between dams in the Town of Colonie and the City of Watervliet, in order to increase the conveyance of water and reduce the risk of flooding in the event of a dam failure.	No	Potentially	1-3 years	Water and Sewer Department	Medium	This action could reduce the flood risk that dams in the Town of Colonie pose to the City of Watervliet, by increasing the conveyance of water in the event of a dam failure.	US HMGP, US BRIC, NYS HM RLF, Flood Mitigation Assistance Program, FEMA HHPD Grant Program	High

Project #	Project Name	Goal/Objective being Met	Hazard to be Mitigated	Description of the Problem	Description of the Solution	Related to CF?	EHP Issues	Estimated Timeline	Lead Agency	Estimated Costs	Estimated Benefits	Potential Funding Sources	Priority
C Watervliet F3	Vulnerability Assessment and Flood Protection for Critical Facilities	G1, G2, G5, G6	Flood	Some of the City's critical facilities may not be protected against the 0.2% chance flood event or previous worst case flood event. This leaves these facilities vulnerable to becoming inoperable during flood events.	Conduct vulnerability assessments for the critical facilities identified in the City's annex to this HMP update, to determine their level of protection against a 0.2% chance flood event (or previous worst case flood, if greater than the 0.2% chance flood), where unknown. If/when funding is available, protect any unprotected facilities to an 0.2% chance flood event (or previous worst case flood event, if applicable), through engineering design, building retrofits, or other measures, as necessary and feasible. These facilities are identified in Table 5-1 of the jurisdictional annex.	Yes	Potentially	3-5 years	Building Department	High	This action would reduce the vulnerability of critical facilities to flood events.	DASNY State and Municipal Facilities Program, US HMGP, US BRIC, US Flood Mitigation Assistance, US HUD CDBG-MIT, NYS HM RLF, NYS CSC, FEMA EOC Grant Program	Medium

Project #	Project Name	Goal/Objective being Met	Hazard to be Mitigated	Description of the Problem	Description of the Solution	Related to CF?	EHP Issues	Estimated Timeline	Lead Agency	Estimated Costs	Estimated Benefits	Potential Funding Sources	Priority
C Watervliet MH10	Increase Resilience at Municipal Facilities and Key Assets	G1, G2, G5, G6	Multiple Hazards (Flood, Severe Storm, Extreme Temperatures)	According to Albany County's Climate Resiliency Plan, several municipal facilities throughout the County are vulnerable to natural hazards such as flooding, severe storms, and extreme temperatures, especially older buildings and buildings that serve vulnerable populations. Some City of Watervliet facilities may fall into this category.	Partner with Albany County to assess additional opportunities to increase resilience at critical facilities and other key assets. This may include, but is not limited to, action items detailed in the Albany County Climate Resiliency Plan page 180-197, such as: 1) Assess municipal buildings for resilient retrofit opportunities, 2) Assess municipal properties for resilient site improvements, and 3) Assess climate risks and identify proactive solutions for climate resilience at a local level. Particular facilities of interest may include, but are not limited to, the ones listed in the Climate Resiliency Plan (Chapter 3 and pages 180-197), as well as the ones listed in the Critical Facilities section of the jurisdictional annex.	Yes	Potentially	3-5 years	Building Department	High	This action would reduce the vulnerability of the community's critical facilities to natural hazards including storms, floods, and extreme temperatures.	DASNY State and Municipal Facilities Program, US HMGP, US BRIC, US Flood Mitigation Assistance, US HUD CDBG-MIT, NYS HM RLF, NYS CSC, FEMA EOC Grant Program	Medium

*Note: CF = Critical Facility, EHP = Environmental and Historic Preservation.

7.3 Mitigation Action Prioritization

Each of the City's proposed mitigation actions were evaluated and prioritized according to the criteria listed in Section 9 of the main body of the HMP. This includes a cost-benefit review of the proposed actions. The results are included in Table 7-3.

Table 7-3. New Mitigation Action Prioritization

Mitigation Action ID	Mitigation Action Name	Ability to Increase Resilience	Economic Feasibility	Low Environmental Impact	Ability to Implement	Total Score	Priority
C Watervliet MH1	Watervliet Fire Station Relocation and Upgrades	3	2	2	3	10	High
C Watervliet MH2	Equipment for Stormwater System Maintenance	3	1	2	2	8	Medium
C Watervliet MH3	Broadway Flood Mitigation Strategy	2	2	3	2	9	Medium
C Watervliet F1	Route 787 Partnership for Flood Mitigation	3	3	3	3	12	High
C Watervliet MH4	Electrical Grid Assessment and Improvements	3	2	2	2	9	Medium
C Watervliet MH5	Purchase Generators	3	2	2	3	10	High
C Watervliet MH6	Power Outage Education Initiative	2	3	3	3	11	High
C Watervliet D1	Backup Water Supply	3	2	2	2	9	Medium
C Watervliet MH7	FEMA IPAWS Assessment	2	3	3	3	11	High
C Watervliet MH8	Watervliet Dam Mitigation Plan	3	1	2	2	8	Medium
C Watervliet MH9	Watervliet Reservoir Dam Engineering Study	3	1	2	3	9	Medium
C Watervliet F2	Dry River Debris Removal for Dam Flood Mitigation	3	2	2	3	10	High

Mitigation Action ID	Mitigation Action Name	Ability to Increase Resilience	Economic Feasibility	Low Environmental Impact	Ability to Implement	Total Score	Priority
C Watervliet F3	Vulnerability Assessment and Flood Protection for Critical Facilities	2	1	2	2	7	Medium
C Watervliet MH10	Increase Resilience at Municipal Facilities and Key Assets	2	1	2	2	7	Medium

Note: Feasibility/effectiveness is rated as follows: 1 = Poor, 2 = Moderate, 3 = Good. Priority is determined as follows based on total score: 4-6 = Low, 7-9 = Medium, 10-12 = High.

7.4 Mitigation Action Implementation and Administration

The City's new mitigation actions will be implemented and administered via the lead agencies listed in Table 7-2 of this annex, using the timeframes, prioritization, and funding sources in Sections 7.2 and 7.3 as a guide. Further details about implementation of mitigation actions for all jurisdictions in Albany County, as well as a description of funding sources, are described in Sections 9 and 10 of the main body of the HMP.

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8 ADDITIONAL PUBLIC INVOLVEMENT

Public input was solicited to guide the development of the HMP through two public information meetings and a community survey. A summary of the findings of these outreach activities can be found in Section 3 of the main body of the HMP. The City of Watervliet may continue to seek public participation in hazard mitigation planning after HMP approval by including discussion of the HMP as an agenda item at public City Council meetings and by offering opportunities for members of the public to participate in the implementation of relevant mitigation actions.

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