9.23 City of Saratoga Springs

This section presents the jurisdictional annex for the City of Saratoga Springs. The city provided the following updates that were incorporated into this annex:

- Jurisdictional Annex Update Form (Contact Information, Profile, and Capability Assessment)
- Hazard Event History
- Hazard Ranking
- NYS Mitigation Action Worksheets

9.23.1 Hazard Mitigation Plan Point of Contact

Primary Point of Contact	Alternate Point of Contact
Marilyn Rivers Director of Risk and Safety City Safety Compliance Officer City of Saratoga Springs 474 Broadway, Suite 14 Saratoga Springs, NY 12866 (518) 587 – 3550, ext. 2612 marilyn.rivers@saratoga-springs.org	Tina Carton Administrator of Parks, Open Lands, Historic Preservation and Sustainability (POSH) City of Saratoga Springs 474 Broadway, Suite 23 Saratoga Springs, NY 12866 (518) 587 – 3550, ext 2534 tina.carton@saratoga-springs.org

9.23.2 City Profile

Population

27,447 (American Community Survey 5-Year 2016 Estimates)

Location

The City of Saratoga Springs is centrally located in Saratoga County. The city is bounded on the north by the towns of Greenfield and Wilton, on the east by Saratoga, on the south by Malta and on the west by Milton. Saratoga Springs is the principal city in the town. It is situated in the northern part of the town, just west of the center. Stafford's Bridge, Eddy's Corners, Ashley's Corners, Ellis Corners, Cady's Hill and The Geysers are the principal hamlets or localities in the town, aside from the City of Saratoga Springs. Ellis Corners and Cady's Hill in recent years have become known as The Geysers. The Adirondack Northway (Interstate 87) and US Route 9 pass alongside and through the city. New York State Route 29, New York State Route 50, New York State Route 9N, and New York State Route 9P lead into Saratoga Springs. Saratoga Lake is southeast of the City.

According to the U.S. Census Bureau, the City has a total area of 29.1 square miles (75.3 km²), with 28.4 square miles (73.6 km²) of it land and 0.6 square miles (1.6 km²) of it (2.17-percent) water.

Climate

Temperature

Saratoga Springs experiences an average temperature of 48°F. Midsummer temperatures typically range from 60°F to 83°F (Fahrenheit), with occasional high temperatures and humidity. The winters of Saratoga Springs are long and cold, with temperatures typically ranging from 12°F to 30°F (Fahrenheit). (Source: usclimatedata.com, Climate- Saratoga Springs, NY, 2019).

Precipitation

Saratoga Springs experiences an average annual precipitation of 44.96 inches. This does not include the average depth of snow accumulation each year, which is 63.4 inches. Snowfall can be expected from November to March, although it is not uncommon for earlier or later snowfall events.

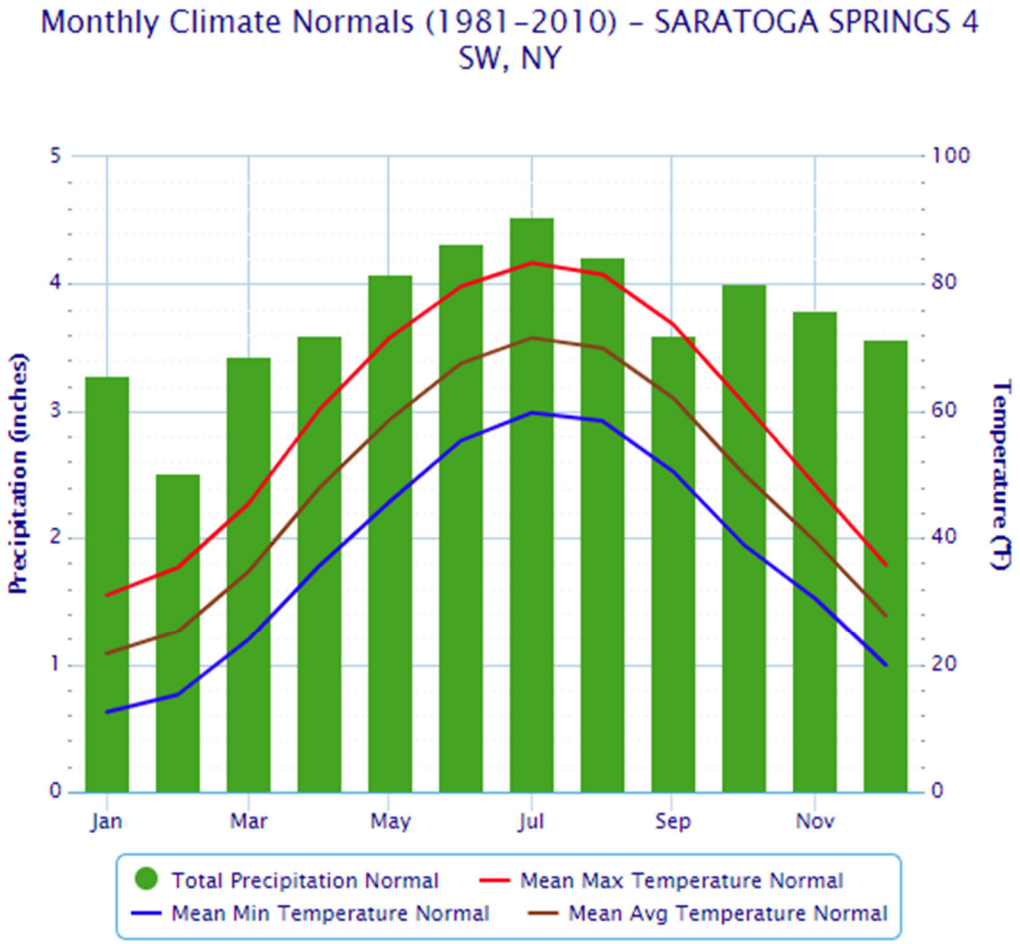

Figure 1: Source: NOAA National Centers for Environmental Information Weather Station: SARATOGA SPRINGS 4 SW, NEW YORK
(Lat. 43.04 N, Long. - 73.82 W, Elevation 326 Feet)

Local Climate Projections

Local climate projections indicate the following changes for Saratoga Springs:

- Average temperatures in Saratoga County are expected to rise between +4.1 to +13.6 degrees F above the current average (47.6o F) by 2080.
- Extreme heat (days with maximum temperature exceeding 90o F) may increase from the baseline of 14 days to between 27 days (low estimate – 10th percentile) to 87 days (90th percentile) by 2080.
- Precipitation is projected to increase by +3% (1.16 in) low estimate to +17% (6.58 in) high estimate by 2080.
- Precipitation variability is also projected to continue into the future with intense precipitation events alternating with drought.
- Rising temperatures will increase evaporation rates, which will lead to drier soils and contribute to more frequent drought conditions.
- Rising minimum temperatures also indicate a likely shift in precipitation from snowfall to more precipitation falling as rain.

Extreme Weather Event Projections

Figure 2: Projected changes in annual frequency of extreme temperature events for the seven ClimAID regions of New York (Horton et al. 2014)

Region 5 – Saratoga									
	2020s			2050s			2080s		
	Low Estimate (10th Percentile)	Middle Range (25th to 75th Percentile)	High Estimate (90th Percentile)	Low Estimate (10th Percentile)	Middle Range (25th to 75th Percentile)	High Estimate (90th Percentile)	Low Estimate (10th Percentile)	Middle Range (25th to 75th Percentile)	High Estimate (90th Percentile)
Days over 90°F (8 days)	14	17 to 22	23	22	27 to 41	50	27	35 to 70	82
# of Heat Waves (0.7 heat waves)	2	2 to 3	4	3	4 to 6	7	4	5 to 8	9
Duration of Heat Waves (4 days)	4	5 to 5	5	5	5 to 6	6	5	5 to 7	9
Days below 32°F (133 days)	123	127 to 136	139	98	104 to 119	125	77	84 to 109	120
Days over 1" Rainfall (5 days)	10	10 to 11	12	10	11 to 12	13	10	11 to 13	14
Days over 2" Rainfall (0.6 days)	1	1 to 2	2	1	1 to 2	2	1	1 to 2	2

The Figure above provides projected annual changes in annual frequency of extreme temperature events in Region 5 of the ClimAID region, which includes Saratoga Springs. The Northeast Regional Climate Center's Climate Data Grapher, available at https://www.nyclimatescience.org/highlights/data_products, provides information on trends in several climate parameters.

Brief History

The City of Saratoga Springs derives its name from a variation of the Iroquois word Sa-ragh-to-ga- "place of the swift waters" (Sylvester 1878). Native Americans were the first to discover the area's mineral springs and believed the spring waters to have healing properties. In the late 1770's, European settlement was established in the area of High Rock spring. The fame of the springs increased after the Revolutionary War and many visitors believed in and sought the curative powers of the spring waters.

By the 19th century, Saratoga Springs had become "The Queen of Spas" with spas, bathhouses, drinking saloons, and various other establishments erected to allow visitors and members of the community access to the spring waters. The bathhouses featured naturally carbonated mineral waters, the only baths east of the Mississippi River featuring this type of water. The mineral spring

water and fresh waters became successful commercial enterprises. Spring water was bottled and sold widely to the public. Eventually, it generated the city's flowering as an elegant Victorian-era resort center.

In 1863, a racing meet for thoroughbreds marked the beginning of the foundation for the Saratoga Race Track. With the exception of 1896, 1911, 1912, and 1943-45, the track has continued to operate and grow in popularity. In 1864, the Saratoga Racing Association named a stakes race for William Travers, and that race became the oldest major thoroughbred horse race in America. The attendance at the famous Travers Day race can double the city's population.

Today, the motto for Saratoga Springs is "Health, History, and Horses" reflecting the three things that the city is best known for.

Governing Body Format

The Saratoga Springs Charter specifies a "Commission" form of city government. The city government consists of the Mayor, Commissioner of Public Safety, Commissioner of Public Works, Commissioner of Accounts, Commissioner of Finance, and two Supervisors who serve on the Saratoga County Board of Supervisors.

Growth/Development Trends

The City of Saratoga Springs City Council passed a Unified Development Ordinance in December of 2021 which replaced its existing historical land use regulations. It may be found on the City's website at www.saratoga-springs.org. Growth and development trends for the City may be obtained by contacting the City's Planning and Building Departments.

(Please delete all tables included in this section as they are outdated)

9.23.3 City-Specific Hazard Information

Detailed hazard event histories can be found in the Previous Occurrences and Losses sections of each hazard profile in Section 5. The information is summarized in Table 9.23-1**.** is unique hazard occurrences reported within the City of Saratoga Springs in the last 10 years. 0 summarizes the City of Saratoga Spring's ranking of the hazards based on probability of occurrence and impacts to the city. The most notable difference between the City of Saratoga Springs and the County is that severe winter weather is the City's highest risk hazard, whereas the County ranked it a moderate hazard. The City of Saratoga Springs also ranked ground failure low, whereas the County ranked this hazard moderate.

Table 9.23.3-1 Hazard Event History for the City of Saratoga Springs

Hazard	Previous Events (Last 10 Years)
Extreme Temperatures (Heat and Cold)	**Extreme heat events:** 6/9/2008[b]; 6/10/2008 [b]; 6/11/2008 [b]; 7/6/2010[a, b]; 7/7/2010 [b]; 7/8/2010 [b]; 7/21/2011[a,b]; 7/22/2011 [b]; 7/23/2011 [b]; 7/17/2012 [b]; 7/18/2012 [b]; 7/20/2013 [b]; 7/29/2015 [b]; 7/30/2015 [b]; 6/12/2017 [b]; 6/13/2017 [b]; **Extreme cold events:** 1/14/2009[b]; 1/16/2009 [b]; 1/25/2009 [b]; 1/23/2011[a];1/24/2011 [b]; 1/25/2011 [b]; 1/3/2014 [b]; 1/4/2014 [b]; 1/23/2014 [b]; 2/3/2015 [b]; 2/4/2015 [b]; 2/15/2015[a;] 2/16/2015 [b]; 2/17/2015 [b]; 2/21/2015 [b]; 2/13/2016[a]; 2/14/2016 [b]; 2/15/2016 [b]; 1/5/2018[a;] 12/17/2020[a]
Drought	Spring 2015 – D1 Drought Fall 2016 – D1 Drought
Earthquake	M 1.9 Quarry Blast - 12km WNW of Saratoga Springs, New York - Epicenter at 43.133°N 73.920°W
Flood	7/2/2013[a]; 7/1/2017;
Ground Failure (Landslide, land Subsidence)	None
Invasive Species	Milfoil; Invasive Chestnut and Phragmites Austrails
Animal Activity	Beaver damming

Hazard	Previous Events (Last 10 Years)
Severe Winter Weather (Ice storm, nor'easters, heavy snow, blizzards, freezing rain/sleet)	**Heavy Snow (Over 10" in a day):** 2/26/2008[a]; 2/29/2008[b]; 3/1/2008 [a]; 12/21/2008 [a]; 1/18/2009 [a]; 1/31/2009 [b]; 2/18/2009 [a]; 12/9/2009 [a]; 12/31/2009 [b]; 2/23/2010 [a]; 2/28/2010 [b]; 1/12/2011 [b]; 2/25/2011 [b]; 2/28/2011[b]; 12/26/2012 [a,b]; 12/31/2012 [b]; 3/31/2013 [b]; 3/18/2013 [a]; 12/31/2013 [b]; 12/14/2013 [a]; 12/31/2014 [b]; 1/2/2014 [a]; 2/5/2014 [a,b]; 2/13/2014 [a]; 2/2/2015[a,b]; 2/7/2015 [a]; 2/28/2015 [b]; 12/31/2016 [b]; 2/9/2017 [b]; 2/28/2017 [b]; 3/14/2017 [a,b]; 3/31/2017 [b]; 12/24/2017 [a]; 12/31/2017 [b]; 2/4/2018;12/17/2020[a] **Hail/Freezing Rain/Sleet/Ice Storm:** 2/7/2008 [b]; 2/13/2008 [a]; 6/22/2008 [a]; 8/7/2008 [a]; 12/11/2008[a]; 1/5/2009 [b]; 6/15/2009 [a]; 1/18/2011 [b]; 6/1/2011 [a,b]; 6/8/2011 [a,b]; 5/21/2013 [a]; 1/28/2013 [b]; 1/5/2014 [b]; 2/13/2014 [b]; 12/5/2014 [b]; 3/3/2015 [b]; 12/29/2015 [b]; 12/17/2016 [b]; 2/7/2017 [a]; 12/22/2017 [b] **Winter Storm:** 2/6/2008 [a]; 2/12/2008 [a]; 1/6/2009 [a]; 1/28/2009 [a]; 2/1/2011 [a]; 2/25/2011 [a]; 3/6/2011 [a]; 2/29/2012 [a]; 3/1/2012 [a]; 3/12/2014 [a]; 11/26/2014 [a]; 1/3/2015 [a]; 2/12/2017 [a]; 12/22/2017 [a]; 2/7/2018 [a]; 3/2/2018 [a]; 3/7/2018 [a;] 12/17/2020[a]
Severe Storm (Hurricane, windstorm, thunderstorm, lightning, tornados, hail, microbursts)	**High/Strong Wind:** 1/30/2008[a]; 9/15/2008 [a];10/25/2008 [a]; 12/7/2008 [a]; 12/25/2008 [a]; 12/30/2008 [a]; 5/31/2009 [a]; 5/8/2010 [a]; 5/8/2010 [a]; 5/8/2010 [a]; 5/8/2010 [a]; 12/1/2010 [a]; 10/29/2012 [a];12/21/2012 [a]; 1/20/2013 [a]; 1/31/2013 [a]; 11/18/2013 [a]; 5/12/2014 [a]; 2/29/2016 [a]; 3/1/2016 [a]; 0/22/2016 [a]; 1/10/2017 [a]; 3/1/2017 [a]; 4/16/2017 [a]; 10/30/2017 [a]; 11/10/2017 [a]; 4/4/2018 [a] **Lighting:** 7/26/2008 [a]; 7/23/2014 [a]; 8/17/2018 [a] **Thunderstorm:** 6/22/2008 [a]; 6/8/2011 [a]; 5/29/2012 [a]; 9/11/2013 [a]; 10/7/2013 [a]; 6/17/2014 [a]; 7/3/2014 [a]; 6/9/2015 [a]; 8/13/2016 [a]; 5/18/2017 [a]; 5/18/2017 [a] **Tropical Storm:** 8/2/8/2011 [a]
Wildfire	None
a – Private Weather Station 307484 – Saratoga Springs, NY 12866 b - Albany Airport (No Data Available Historically from NOAA Climate Dataset for Saratoga Springs) c - Northeast Region, NOAA Report - Saratoga Springs, NY	

Table 9.23.3-2 City of Saratoga Springs Hazard Ranking

Rank #	Hazard Type	Probability of Occurrence	Risk Ranking Score[a]	Hazard Ranking[b]	County Hazard Ranking[b]
5	Drought	Infrequent	12	Medium	Low
5	Earthquake	Infrequent	12	Medium	Low
4	Extreme Temperature	Regular	27	Medium	High
3	Flood (riverine, flash, and urban flooding)	Regular	30	High	High
8	Ground Failure	Rare	6	Low	Medium
5	Invasive Species	Regular	12	Medium	Medium
1	Severe Storm (windstorms, thunderstorms, hail, lightning and tornados)	Frequent	44	High	High
2	Severe Winter Storm (heavy snow, blizzards, ice storms)	Frequent	32	High	Medium

Rank #	Hazard Type	Probability of Occurrence	Risk Ranking Score[a]	Hazard Ranking[b]	County Hazard Ranking[b]
8	Wildfire	Rare	6	Low	Low

a. Risk ranking score = Probability x Impact

b. High = Total hazard priority risk ranking score of 31 and above; Medium = Total hazard priority risk ranking of 16-30; and Low = Total hazard risk ranking below 15

9.23.4 Capability Assessment

This section identifies the following capabilities of the local jurisdiction:

- Legal and regulatory capability;
- Administrative and technical capability;
- Fiscal capability; and,
- Community classification.

Legal and Regulatory Capability

Table 9.23.4-1 Legal and Regulatory Capability of the City of Saratoga Springs

Regulatory Tools (Codes, Ordinances, Plans)	Local Authority (Y or N)	Prohibitions (State or Federal) (Y or N)	Higher Jurisdictional Authority (Y or N)	State Mandated (Y or N)	Code Citation (Section, Paragraph, Page Number, date of adoption)
1) Building Code	Y	N	Y	N	Ch. 118, Building Code Administration, Last Am. 2007
2) Zoning Ordinance	Y	N	N	N	(Replaced with Unified Development Ordinance (UDO) April 2022)
3) Subdivision Ordinance	Y	N	N	N	(Replaced with Unified Development Ordinance (UDO) April 2022)
4) NFIP Flood Damage Prevention Ordinance(if you are in the NFIP, you must have this.)	Y	Y	Y	Y	Ch. 120, City Ord. Floodplain Damage Prevention, Last Am. 1997
5) Growth Management	Y	N	N	N	Comprehensive Plan Section 4.0 Future Use and Section 5.0 Implementation 2015
6) Floodplain Management / Basin Plan	Y	Y	Y	N	Ch. 120, City Ord. Floodplain Damage Prevention, Last Am. 1997
7) Stormwater Management Plan/Ordinance	Y	N	Y	Y	(Replaced with Unified Development Ordinance (UDO) April 2022)

Regulatory Tools (Codes, Ordinances, Plans)	Local Authority (Y or N)	Prohibitions (State or Federal) (Y or N)	Higher Jurisdictional Authority (Y or N)	State Mandated (Y or N)	Code Citation (Section, Paragraph, Page Number, date of adoption)
8) Comprehensive Plan	Y	N	N	N	City of Saratoga Springs 2015 Comprehensive Plan 06/16/15
9) Capital Improvements Plan	Y	N	N	N	City Charter 2001
10) Site Plan Review Requirements	Y	Y	Y	N	City of Saratoga Springs Zoning Ordinance Appendix B
11) Open Space Plan	Y	N	N	N	Standalone Document Revised 2002; Incorporated into Comprehensive Plan
12) Economic Development Plan	Y	N	N	N	Comprehensive Plan Section 3.0 Guiding Principles 2015
13) Emergency Response Plan	Y	N	Y	Y	City of Saratoga Springs Emergency Management Plan 8/31/16; To be updated 2022
14) Post Disaster Recovery Plan	Y	N	Y	Y	City of Saratoga Springs Emergency Management Plan 8/31/16; To be updated 2022
15) Post Disaster Recovery Ordinance	Y	N	Y	N	City of Saratoga Springs Emergency Management Plan 8/31/16; To be updated 2022
16) Real Estate Disclosure req.	Y	N	Y	N	City Ethics Legislation Annual Disclosure
17) Other [Special Purpose Ordinances (i.e., critical or sensitive areas)]	Y	N	N	N	Complete Streets Plan 2016; Natural Resource Inventory 2020

Administrative and Technical Capability

Table 9.23.4-2 Administrative and Technical Capability of the City of Saratoga Springs

Staff/ Personnel Resources	Available (Y or N)	Department/ Agency/Position
1) Planner(s) or Engineer(s) with knowledge of land development and land management practices	Y	Administrator of Parks, Open Lands, and Historic Preservation, Senior Planner, and Principal Planner

Staff/ Personnel Resources	Available (Y or N)	Department/ Agency/Position
2) Engineer(s) or Professional(s) trained in construction practices related to buildings and/or infrastructure	Y	City Engineer, Assistant City Engineer, and Senior Engineering Technician
3) Planners or engineers with an understanding of natural hazards	Y	City Engineer, Director of Risk & Safety and City Planning Department
4) NFIP Floodplain Administrator (if you are in the NFIP, you must have one.)	Y	Flood Plan Administrator (Building Inspector and Zoning Officer)
5) Surveyor(s)	Y	Surveyor
6) Personnel skilled or trained in "GIS" applications	Y	Engineering, Director Risk and Safety, Administrator POSH, and Planning Staff
7) Scientist familiar with natural hazards in the City of Saratoga Springs.	Y	Skidmore College Science Department
8) Emergency Manager	Y	City Safety Officer, Police Chief and Fire Chief
9) Grant Writer(s)	Y	Administrator of POSH
10) Staff with expertise or training in benefit/cost analysis	Y	Multiple City Staff

Fiscal Capability

Table 9.23.4-3 Fiscal Capability of the City of Saratoga Springs

Financial Resources	Accessible or Eligible to use (Yes/No/Don't know)
1) Community development Block Grants (CDBG)	Y
2) Capital Improvements Project Funding	Y
3) Authority to Levy Taxes for specific purposes	Y
4) User fees for water, sewer, gas or electric service	Y
5) Impact Fees for homebuyers or developers of new development/homes	Y
6) Incur debt through general obligation bonds	Y
7) Incur debt through special tax bonds	Y
8) Incur debt through private activity bonds	N
9) Withhold public expenditures in hazard-prone areas	Y
10) State mitigation grant programs (e.g. NYSDEC, NYS DOT, NYCDEP)	Y
11) Other	NYS DOT, Saratoga County, NYS DEC, FEMA, and

Community Classifications

Table 9.23.4-4 Community Classifications of the City of Saratoga Springs

Program	Classification	Date Classified
Community Rating System (CRS)	NP	N/A
Building Code Effectiveness Grading Schedule (BCEGS)	4 (as of 05/05/2008)	N/A
Public Protection	4 (as of July 2015)	N/A
Storm Ready	NP	N/A
Firewise	4 (as of August 2014)	N/A

N/A = Not applicable. NP = Not participating. - = Unavailable.

The classifications listed above relate to the community's effectiveness in providing services that may impact 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 one being the best possible classification, and class 10 representing no classification benefit. Firewise classifications include a higher classification when the subject property is located beyond 1000 feet of a creditable fire hydrant and is within 5 road miles of a recognized Fire Station. Criteria for classification credits are outlined in the following documents:

- The Community Rating System Coordinators Manual;
- The Building Code Effectiveness Grading Schedule;
- The ISO Mitigation online ISO's Public Protection website at: https://www.isomitigation.com/ppc/;
- The National Weather Service Storm Ready website at https://www.weather.gov/stormready/; and,
- The National Firewise Communities website at http://firewise.org/.

9.23.5 Mitigation Strategy

Proposed Hazard Mitigation Initiatives

Table 9.23.5-1 Proposed Hazard Mitigation Initiatives of the City of Saratoga Springs

Initiative	Mitigation Initiative	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Goals Met	Objectives Met	Lead	Support	Estimated Cost	Sources of Funding	Timeline
CSS-3	Consider participation in incentive-based programs such as CRS.	New & Existing	Flood	1, 2, 5	1-1, 1-3, 1-6, 2-1, 2-2, 2-3, 2-4, 5-2	NFIP Floodplain Administrator	SEMO, ISO, FEMA	Low to Medium	Local Budget	Long Term
CSS-4	Continue to support the implementation, monitoring, maintenance, and updating of this Plan, as defined in Section 7.0	New & Existing	All Hazards	1 to 5	All	NFIP Floodplain Administrator	Mitigation Planning Coordinator), SEMO	Low – High(for 5-year update)	Local Budget, possibly FEMA Mitigation Grant Funding for 5-year update	Long Term
CSS-5	Strive to maintain compliance with, and good-standing in the National Flood Insurance program.	New & Existing	Flood	1, 2, 4	1-1, 1-2, 1-3, 1-8, 2-2, 2-3, 2-4, 4-1, 4-2, 4-3,4-4	NFIP Floodplain Administrator	SEMO, ISO, FEMA	Low-Medium	Local Budget	Long Term
CSS-6	Continue to develop, enhance, and implement existing emergency plans.	New & Existing	All Hazards	1, 3	1-1, 1-7, 3-2, 3-4, 3-5	Office of Risk and Safety and Department	County Emergency Management, SEMO	Low-Medium	Local Budget	Long Term

Initiative	Mitigation Initiative	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Goals Met	Objectives Met	Lead	Support	Estimated Cost	Sources of Funding	Timeline
CSS-7	Create/enhance/ maintain mutual aid agreements with neighboring communities for continuity of operations.	New & Existing	All Hazards	3, 5	3-4, 5-1, 5-3	Department of Public Safety	Surrounding municipalities and County	Low-Medium	Local Budget	Long Term
CSS-8	Support County-wide initiatives identified in Section 9.1 of the County Annex.	New & Existing	All Hazards	1 to 5	All	Appropriate Agencies	County and Regional agencies (as appropriate for initiative)	Low-High	Existing programs and grant funding where applicable	Long Term
CSS-9	Upgrade and increase the capacity of the current Stormwater collection system such that there will be a net reduction in the flood risk caused by Stormwater impacts	Existing	Flood	1, 3	1-1, 1-5, 1-9, 3-6	City Engineer	Regional agencies as appropriate	Varies per project - project specific	Local Capital Budget	Short Term
CSS-10	Move power, telephone and cable utility wiring underground for critical City infrastructure.	New & Existing	All Hazards	1, 3	1-1, 1-3, 1-6, 1-8, 3-4, 3-6	Department of Public Works	National Grid	Varies per project - project specific	Local Capital Budget	Long Term
CSS-11	Enhance interoperability communications between fire, police, EMS, DPW and emergency management.	New & Existing	All Hazards	1, 3, 5	1-1, 1-6, 3-3, 3-4, 3-5, 5-1, 5-2	Department of Public Safety	Federal, State and Regional Agency Coordination	Currently being examined for cost	Federal, State, Regional and Local monies as available	Short Term
CSS-12	MIS Hazardous Waste Mitigation Program per state and federal guidelines Ongoing per federal and state regulatory agency mandates.	New & Existing	Hazardous Waste	1, 3-6	1-1, 3-6	NYS DEC	Regional Coordination as appropriate	Costs pending	Municipality	Long Term

Initiative	Mitigation Initiative	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Goals Met	Objectives Met	Lead	Support	Estimated Cost	Sources of Funding	Timeline
CSS-13	Identify storm water system rehabilitation needs and areas for new storm system development including culvert replacements and enhanced drainage systems. City has identified area surrounding: Gilbert Road, 5th Ave, Lincoln Ave, Vanderbilt Ave, Walnut St, Saratoga Harness and Flat Tracks and area of North Broadway as High-Risk Storm Water Disaster Areas due to topography and geology of these sites within City.	New & Existing	Flood	1, 3	1-1, 1-5, 1-9, 3-6	Department of Public Works	Regional and Private Sector coordination as appropriate	Costs have varied per project and are specific to geology and topography	Municipality	Short Term
CSS-14	Participate in the County's ongoing GIS initiative. Currently, the City is examining and mapping all new and existing electrical, sanitary sewer, water and traffic conduits with GPS Coordinate Systems.	New & Existing	All Hazards	1, 3, 5	1-4, 1-6, 3-2, 3-4, 5-2	Department of Public Works and Administrator of POSH	Regional and Private Sector coordination as appropriate	Project specific. Existing resources utilized budget	Municipality; Grants	Long Term
CSS-15	Support/enhance Building and/or Flood code enforcement programs at the local level public education and awareness of current codes. City has developed and is in the process of expanding public awareness programs via written and electronic means.	New & Existing	Flood	2, 5	2-2, 2-4, 2-5, 5-3	NFIP Floodplain Administrator	Federal, state and regional and private sector coordination as needed	Project Specific	Federal, State, Regional & Municipal Authorities; Grants	Long Term

Initiative	Mitigation Initiative	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Goals Met	Objectives Met	Lead	Support	Estimated Cost	Sources of Funding	Timeline
CSS-16	Vegetation Management: Trim trees and vegetation in the City rights-of-way to mitigate potential power loss in storm management	New & Existing	Severe Storm	1, 3	1-1, 3-4, 3-6	Department of Public Works	Regional and Private Sector coordination as needed	Project Specific	Federal, State, Regional & Municipal Authorities; Grants	Short Term
CSS-17	Implement dam structure repairs as required by dam safety report/protocols. Budget for inspections as required by state law.	Existing	Flood	3	3-1, 3-3, 3- 6	Department Public Works	Watershed districts (if applicable); neighboring municipalities ; County (if applicable); NYS	High	FEMA HMA	Short Term
CSS-18	Support the Installation/Implementation of Community Emergency Alert System	New & Existing	All Hazards	1, 3, 5	1-1, 3-1, 3- 3, 3-5, 3-6, 5-1	Police Department	Watershed districts (if applicable); neighboring municipalities ; County (if applicable); NYS	Medium	FEMA HMA	Short Term
CSS-20	Continue to implement Loughberry Lake dam management by working with engineers, NYS DEC, and NYS DOT to facilitate improvements to the dam embankments, creating a new spillway and addition water diversion mechanisms to safeguard life and property.	New & Existing	Flood	1,3	1-1, 3-6	Department of Public Works	NYS DEC; NYS DOT	High	City Capital Bonding	Short Term

Initiative	Mitigation Initiative	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Goals Met	Objectives Met	Lead	Support	Estimated Cost	Sources of Funding	Timeline
CSS-21	Promote windstorm mitigation by promoting public and private tree management, providing links for emergency management notifications via Nixle, Code Red, 511NY, and National Grid weblinks, and promoting protection of public and private infrastructure through enforcement of building codes.	N/A	Severe Storm	1, 2, 3	1-1, 2-1, 2-4, 3-6	Department of Public Works and Police Department	County, State, Private Property Owners	Low	Federal and State	Ongoing

*Does this mitigation initiative reduce the effects of hazards on new and/or existing buildings and/or infrastructure?
Notes: Short term = 1 to 5 years; Long Term= 5 years or greater; OG = Ongoing program; DOF = Depending on funding; NA = Not applicable; PDM = Pre-Disaster Mitigation Grant Program.

Analysis of Mitigation Actions

This table summarizes the participant's mitigation actions by hazard of concern and the six mitigation types to illustrate that the City has selected a comprehensive range of actions/projects.

Table 9.23.5-2 Analysis of Mitigation Actions of the City of Saratoga Springs

Hazard of Concern	Type of Mitigation Action					
	Prevention	Property Protection	Public Education and Awareness	Natural Resource Protection	Emergency Services	Structural Projects
Drought	CSS-4, CSS-8, CSS-14, CSS-18	CSS-4, CSS-8, CSS-10, CSS-14, CSS-16	CSS-4, CSS-8	CSS-4, CSS-8	CSS-4, CSS-6, CSS-7, CSS-8, CSS-10, CSS-11, CSS-14,	CSS-4, CSS-8

Hazard of Concern	Type of Mitigation Action					
	Prevention	Property Protection	Public Education and Awareness	Natural Resource Protection	Emergency Services	Structural Projects
Earthquake	CSS-4, CSS-8, CSS-14, CSS-18	CSS-4, CSS-8, CSS-10, CSS-14	CSS-4, CSS-8	CSS-4, CSS-8	CSS-4, CSS-6, CSS-7, CSS-8, CSS-10, CSS-11, CSS-14,	CSS-4, CSS-8
Extreme Temperatures	CSS-4, CSS-8, CSS-14, CSS-18	CSS-4, CSS-8, CSS-10, CSS-14, CSS-16	CSS-4, CSS-8	CSS-4, CSS-8	CSS-4, CSS-6, CSS-7, CSS-8, CSS-10, CSS-11, CSS-14,	CSS-4, CSS-8
Flooding (riverine, flash, coastal and urban flooding)	CSS-3, CSS-4, CSS-5, CSS-8, CSS-14, CSS-15, CSS-18	CSS-1,CSS-2 CSS-3,CSS-4, CSS-5, CSS-8, CSS-9, CSS-10, CSS-13, CSS-14	CSS-1, CSS-2, CSS-3, CSS-4, CSS-5, CSS-8	CSS-4, CSS-8, CSS-9, CSS-13	CSS-3, CSS-4, CSS-5, CSS-7, CSS-8, CSS-10, CSS-11, CSS-14, CSS-18	CSS-4, CSS-8, CSS-9, CSS-17, CSS-20
Ground Failure	CSS-4, CSS-8, CSS-14, CSS-18	CSS-4, CSS-8, CSS-10, CSS-14	CSS-4, CSS-8	CSS-4, CSS-8	CSS-4, CSS-6, CSS-7, CSS-8, CSS-10, CSS-11, CSS-14,	CSS-4, CSS-8
Invasive Species	CSS-4, CSS-8, CSS-14, CSS-18	CSS-4, CSS-8, CSS-10, CSS-14, CSS-16	CSS-4, CSS-8	CSS-4, CSS-8	CSS-4, CSS-6, CSS-7, CSS-8, CSS-10, CSS-11, CSS-14,	CSS-4, CSS-8
Severe Storms (windstorms, thunderstorms, hail, lightning and tornados)	CSS-3, CSS-4, CSS-5, CSS-8, CSS-14, CSS-18, CSS-21	CSS-1, CSS-2, CSS-3, CSS-4, CSS-5, CSS-8, CSS-10, CSS-14, CSS-16	CSS-1, 2, CSS-3, CSS-4, CSS-5, CSS-8, CSS-21	CSS-4, CSS-8	CSS-3, CSS-4, CSS-6, CSS-7, CSS-8, CSS-10, CSS-11, CSS-14, CSS-16, CSS-18, CSS-21	CSS-4, CSS-8
Severe Winter Storm (heavy snow, blizzards, ice storms)	CSS-4, CSS-8, CSS-14, CSS-18	CSS-4, CSS-8, CSS-10, CSS-14, CSS-16	CSS-4, CSS-8	CSS-4, CSS-8	CSS-4, CSS-6, CSS-7, CSS-8, CSS-10, CSS-11, CSS-14, CSS-16, CSS-18	CSS-4, CSS-8

Hazard of Concern	Type of Mitigation Action					
	Prevention	Property Protection	Public Education and Awareness	Natural Resource Protection	Emergency Services	Structural Projects
Wildfire	CSS-4, CSS-8, CSS-14, CSS-18	CSS-4, CSS-8, CSS-10, CSS-14, CSS-16	CSS-4, CSS-8	CSS-4, CSS-8	CSS-4, CSS-6, CSS-7, CSS-8, CSS-10, CSS-11, CSS-14,	CSS-4, CSS-8

Notes:

1. **Prevention:** Government, administrative or regulatory actions or processes that influence the way land and buildings are developed and built. These actions also include public activities to reduce hazard losses. Examples include planning and zoning, floodplain local laws, capital improvement programs, open space preservation, and storm water management regulations.
2. **Property Protection:** Actions that involve (1) modification of existing buildings or structures to protect them from a hazard or (2) removal of the structures from the hazard area. Examples include acquisition, elevation, relocation, structural retrofits, storm shutters, and shatter-resistant glass.
3. **Public Education and Awareness:** Actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. Such actions include outreach projects, real estate disclosure, hazard information centers, and school-age and adult education programs.
4. **Natural Resource Protection:** Actions that minimize hazard loss and also preserve or restore the functions of natural systems. These actions include sediment and erosion control, stream corridor restoration, watershed management, forest and vegetation management, and wetland restoration and preservation.
5. **Emergency Services:** Actions that protect people and property, during and immediately following, a disaster or hazard event. Services include warning systems, emergency response services, and the protection of essential facilities.
6. **Structural Projects:** Actions that involve the construction of structures to reduce the impact of a hazard. Such structures include dams, setback levees, floodwalls, retaining walls, and safe rooms.

Prioritization of Mitigation Initiatives

Table 9.23.5-3 Prioritization of Mitigation Initiatives of the City of Saratoga Springs

Initiative #	# of Objectives Met	Benefits	Costs	Do Benefits equal or exceed Costs? (Yes or No)	Is project Grant eligible? (Yes or No)	Can Project be funded under existing programs/budgets? (Yes or No)	Priority (High, Med., Low)
CSS-1	8	H	H	Y	Y	N	M-H*
CSS-2	8	H	H	Y	Y	N	M-H*
CSS-3	8	M	L	Y	N	Y	H
CSS-4	28	M	M	Y	N (Yes for 5-year update)	Y	H
CSS-5	11	L	L	Y	N	Y	H
CSS-6	5	M	L	Y	N	Y	M
CSS-7	35	M	L	Y	N	Y	H
CSS-8	28	H	L-M	Y	Dependent on specific initiative	Dependent on specific initiative	M-H (dependent)
CSS-9	4	H	H	Y	Y	Partial (local match)	M-H
CSS- 10	6	M	M	Y	N	Y	M
CSS- 11	7	H	M	Y	Y	Partial (local match)	M
CSS- 12	2	M	Costs pending		Dependent on specific initiative	Dependent on specific initiative	Dependent
CSS- 13	4	H	L	Y	Y	Y	H
CSS- 14	5	H	L	Y	Y	Y	H
CSS- 15	4	H	L	Y	Y	Partial (local match)	H
CSS- 16	3	H	M	Y	Y	Partial (local match)	H
CSS- 17	3	M	M	Y	Y	Y (local match)	M
CSS- 18	6	M	M	Y	Y	Y (local match)	M
CSS- 20	2	M	M	Y	N	Y	H
CSS- 21	3	L	L	Y	Y	N	H

Initiative #	# of Objectives Met	Benefits	Costs	Do Benefits equal or exceed Costs? (Yes or No)	Is project Grant eligible? (Yes or No)	Can Project be funded under existing programs/budgets? (Yes or No)	Priority (High, Med., Low)

Notes: H = High. L = Low. M = Medium. N = No. N/A = Not applicable. Y = Yes.
*This initiative has a Medium priority based on the prioritization scheme used in this planning process (implementation based on grant funding), however it is recognized that addressing repetitive and severe repetitive loss properties is considered a high priority by Federal Emergency Management Agency (FEMA) and NYS Division of Homeland Security and Emergency Services (NYS DHSES) (as expressed in the State HMP), and thus shall be considered a High priority for all participants in the planning process.

Explanation of Priorities

High Priority - A project that meets multiple objectives (i.e., multiple hazards), benefits exceeds cost, has funding secured or is an on-going project and project meets eligibility requirements for the Hazard Mitigation Grant Program (HMGP) or Pre-Disaster Mitigation Grant Program (PDM) programs. High priority projects can be completed in the short term (1 to 5 years).
Medium Priority - A project that meets goals and objectives, benefits exceeds costs, funding has not been secured but project is grant eligible under, HMGP, PDM or other grant programs. Project can be completed in the short term, once funding is completed. Medium priority projects will become high priority projects once funding is secured.
Low Priority - Any project that will mitigate the risk of a hazard, benefits do not exceed the costs or are difficult to quantify, funding has not been secured and project is not eligible for HMGP or PDM grant funding, and time line for completion is considered long term (1 to 10 years). Low priority projects may be eligible other sources of grant funding from other programs. A low priority project could become a high priority project once funding is secured as long as it could be completed in the short term.

Prioritization of initiatives was based on above definitions: Yes.

Prioritization of initiatives was based on parameters other than stated above: Not Applicable.

9.23.6 National Flood Insurance Program Compliance

The City of Saratoga Springs (City) participates in the NFIP and draws on a number of capabilities to carry out program requirements. The City maintains a number of jurisdictional ordinances that ensure all construction is appropriate for the areas considered at risk to flooding: NFIP Flood Damage Prevention Ordinance (Ch. 120, City Ord. Floodplain Damage Prevention, Last Am. 1997); a Floodplain Management/Basin Plan (Ch. 120, City Ord. Floodplain Damage Prevention, Last Am. 1997); Stormwater Management Plan/Ordinance (Ch. 138 Stormwater Management, Last Am. 2008); Site Plan Review Requirements (City of Saratoga Springs Zoning Ordinance Appendix B); and the Unified Development Ordinance set to become law in April of 2022. The City has also created other special purpose ordinances (Complete Streets Plan 2016) and the Natural Resource Inventory adopted in 2020.

The City is staffed with professionals whose expertise supports a high standard of floodplain management. In addition to employing a floodplain administrator, included on City staff are planners and engineers with knowledge of land development and land management practices; engineers and professionals trained construction practices related to buildings and infrastructure; technical staff with an understanding of natural hazards; surveyors; personnel trained in GIS applications; scientists familiar with natural hazards in the City of Saratoga Springs; emergency managers; grant writers; and staff with expertise of training in benefit/cost analysis. Project review input from professionals serving in these technical positions provides guidance to property owners about how to build or rebuild in ways that minimize flood damage to persons and property.

The community also developed three mitigation actions to enhance NFIP program management. These include reviewing the feasibility of becoming a member of the Community Rating System; striving to maintain compliance with, and good-standing in the National Flood Insurance program; and upgrading and increasing the capacity of the current Stormwater collection system such that there will be a net reduction in the flood risk caused by Stormwater impacts.

The City has is also reviewing how to best address problems arising from the presence of three repetitive loss (RL) properties located in the jurisdiction. These properties, on Brown Point Lane, Route 9P, and Palmers Maple Shade, are all located in the special flood hazard area. These properties have experienced repetitive flood claims in the past and may experience additional impacts in the future. The City will conduct outreach to the owners of affected properties and discuss with the owners the possibility of elevating or acquiring the properties. City officials will pursue FEMA Hazard Mitigation Assistance (HMA) funding in the future should property owners be interested in mitigating their property's risk.

9.23.7 Future Needs to Better Understand Risk/Vulnerability

None at this time.

9.23.8 Additional Comments

No additional comments at this time.

9.23.9 NYS Mitigation Worksheets

To be provided as City's Emergency Management Plan is updated.

Name of Jurisdiction: City of Saratoga Springs

NYS DHSES Action Worksheet			
Project Name:	Windstorm		
Project Number:	CSS-21		
Risk / Vulnerability			
Hazard of Concern:	Severe Storm		
Description of the Problem:	City experiences frequent and severe wind microbursts that cause structural property and urban forest damage to critical infrastructure.		
Action or Project Intended for Implementation			
Description of the Solution :	The solution is complex; the City will promote public and private tree management; provide links for emergency management notifications via Nixie, Code Red, 511NY and National Grid web links; and promote protection of public and private infrastructure through enforcement of building codes.		
Is this project related to a Critical Facility?	Yes [X]	No [ ]	
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	High	Estimated Benefits (losses avoided):	Protection of life and property and critical infrastructure.
Useful Life:	Varies		
Estimated Cost:	Varies		
Plan for Implementation			
Prioritization:	High	Desired Time: frame for Implementation:	Ongoing
Estimated Time Required for Project Implementation:	Ongoing	Potential Funding Sources:	Reallocation of existing municipal budget
Responsible Organization:	Private, City, County, and State	Local Planning Mechanisms to be Used in Implementation , if any:	Public and private community resources
Three Alternatives Considered (including No Action)			
Alternatives :	Action	Estimated Cost	Evaluation
	No Action	$0	
	N/A - action already in progress		
	N/A - action already in progress		
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			