

9.33 CITY OF SYRACUSE

This section presents the jurisdictional annex for the City of Syracuse.

A.) HAZARD MITIGATION PLAN POINT OF CONTACT

Primary Point of Contact	Alternate Point of Contact
Mary E. Robison, PE, City Engineer 233 E. Washington Street, Room 401 Syracuse, NY 13202 Phone: 315-448-8214 E-mail: mrobison@ci.syracuse.ny.us	Bill Elderbroomb,, Deputy Fire Chief 312 State Fair Blvd. Syracuse, NY 13204 (315) 473-3277 elderbroomb@ci.syracuse.ny.us

B.) CITY PROFILE

Population

145,170 (2010 U.S. Census)

Location

The City of Syracuse is located on the south edge of Onondaga Lake in Onondaga County. This city is the fifth largest city in Central New York State and is the county seat of Onondaga County. It is bordered by the Town of Salina to the north, the Town of Geddes to the northwest, the Village of Solvay to the west, the Town of Onondaga to the south and the Town of DeWitt and Village of East Syracuse to the east. The city has functioned as a major crossroads over the last two centuries, first between the Erie Canal and its branch canals, then of the railway network. Syracuse is located by the intersection of Interstates 90 and 81, and its airport is the largest in the region. Syracuse is home to Syracuse University, a major research university, as well as several smaller colleges and professional schools. The city stands at the northeast corner of the Finger Lakes Region. The City has many neighborhoods which were originally various villages that joined the city over the years. Although the central part of Syracuse is flat, many of its neighborhoods are located on small hills such as University Hill and Tipperary Hill. Land to the north of Syracuse is generally flat while land to the south is hilly. Onondaga Creek, a waterway that runs through downtown, flows northward through the city. The City of Syracuse maintains over 170 parks, fields, and recreation areas, totaling over 1,000 acres.

According to the U.S. Census Bureau, the city has a total area of 25.6 square miles (66.4 km²), with 25.1 square miles (65.0 km²) of it land and 0.6 square miles of it (2.15-percent) water.

Climate

Onondaga County generally experiences seasonable weather patterns characteristic of the northeastern U.S. Cyclonic systems and cold air masses affect the County's weather, making winters cold with snow. During the summer and parts of spring and autumn, temperatures rise during the daytime and fall rapidly after sunset. Summer temperatures typically range from about 76°F to 81°F (Fahrenheit). Winter high temperatures are usually in the middle to upper 30°F, with minimum temperatures of 14°F expected.

Overall, the average high temperature for the County is approximately 57°F and the average low temperature is approximately 37°F. Snow accumulates to an average depth of 121 inches each year.

Syracuse is known for its snowfall. Boasting 115.6 inches on average, the Syracuse metro area receives more snow on average than any other large city in the U.S. The high snowfall is a result of the fact that the city receives both lake effect and nor'easter snow. Snow most often falls in small (about one to three inches), almost daily, amounts over a period of several days. Larger snowfalls do occur occasionally and even more so in the northern suburbs. Syracuse's hottest month is historically July, with an average high temperature of 82 °F, while its coldest month is historically January, with an average high temperature of 31 °F. The Record high of 102 °F was recorded on July 9, 1936 and record lows of -26 °F were recorded on January 26, 1966 and February 18, 1979.

Brief History

Before Syracuse was known as Syracuse, it was called Bogardus Corners because the first building in the area was an inn owned by Mr. Bogardus. The inn was sold to Mr. Cossit, and the name of the area was changed to Cossit's Corners. The community was growing and wanted a post office and a new name. John Wilkinson, the man who was to become the Village of Syracuse's first postmaster, suggested the name "Syracuse". He had read about a city in Sicily called "Siracusa" that sounded a lot like Cossit's Corners. So Cossit's Corners became Syracuse, and Syracuse became a village, just in time for opening of the Erie Canal.

Syracuse's low, swampy land was ideal for canal construction. The Erie Canal opened in 1825 and quickly established Syracuse's dominance over nearby settlements, including the Village of Salina. As a result of the boom of the early canal years, the villages of Salina and Syracuse merged to become the City of Syracuse in 1848. Syracuse's first mayor was Harvey Baldwin. Syracuse's nickname is the "salt city." Some people say that Syracuse was a city that salt built. But in reality, the city was built because of the Erie Canal, which continued to run through the heart of the city until the mid- 1920's.

The present appearance of Syracuse was shaped in the years after the Civil War, a time when salt manufacturing began to decline. But Syracuse's many businesses and diversified industries assured the city's continued economic prosperity. Candle makers, beer brewers, steel producers and manufacturers of furniture, caskets, bicycles and cars helped the city to flourish. All sorts of goods were made in Syracuse (including gears, typewriters, electrical devices, shoes, glass and china) by companies who took advantage of Syracuse's good transportation system, its central location and its ready, skilled labor force.

Governing Body Format

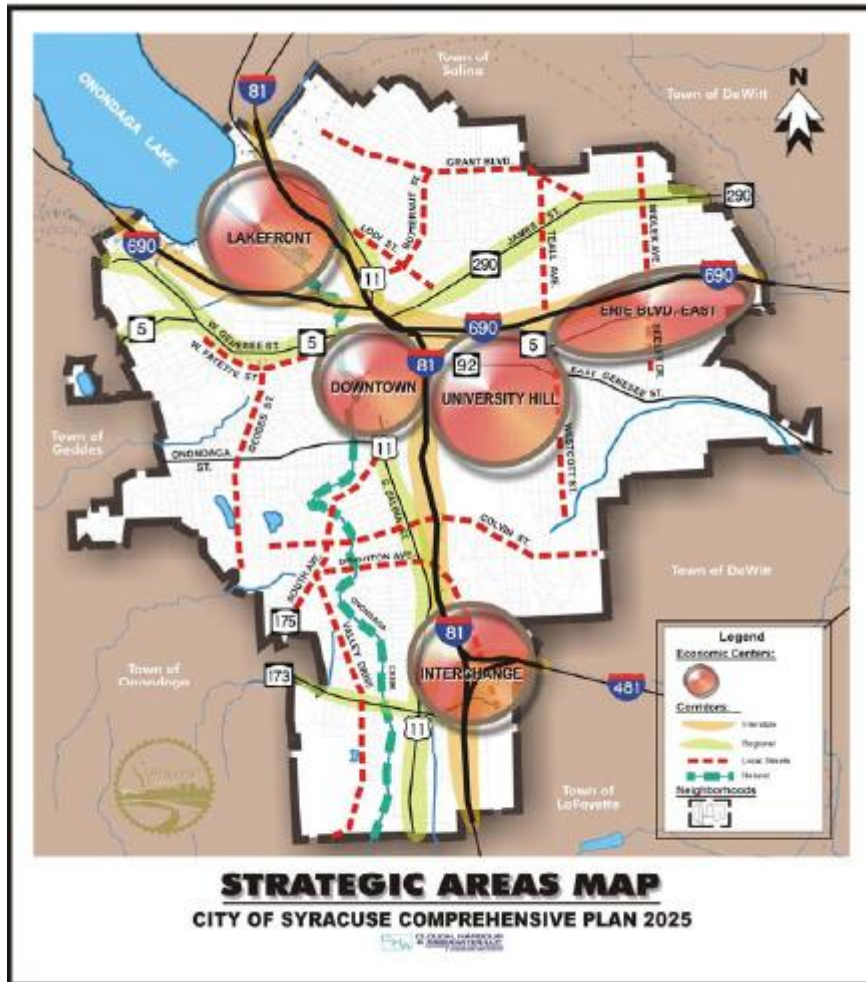
The city is headed by an elected mayor who is limited to two four-year terms. The legislative branch of Syracuse is the Syracuse Common Council. The Onondaga County Supreme and County Court is the trial court of general jurisdiction for Syracuse. It is also the administrative court for the Fifth District of the New York State Unified Court System.

Growth/Development Trends

According to the City of Syracuse Comprehensive Plan 2025 (January, 2005), the City owns approximately 27 acres of land along Onondaga Creek that it plans to develop as a citywide waterside promenade and catalyst for future economic development. There are several distinct commercial areas or areas where commercial growth is encouraged. The Downtown, Lakefront, and University Hill Areas hold the greatest concentration of current and potential development, and have been referred to as

Syracuse's Commercial Crescent. The area of the southern edge of the City near Interstates 81 and 481 presents an additional land area marketable for new development (City of Syracuse, 2005).

Five strategic economic areas that support distinct economic development opportunities were identified during the comprehensive planning process. These areas include the Lakefront Area, Downtown, University Hill, Erie Boulevard (east of State Street) and the area surrounding the Route 81 and 481 Interchange (see map below) (City of Syracuse, 2005).



Source: Map from the City of Syracuse Comprehensive Plan 2025 (January, 2005)

According to the Syracuse-Onondaga County Planning Agency, as of 2009, the City of Syracuse will be either in the process of completing or will be in the process of planning to build one residential subdivision, Resub Bulk 548 Ackerman with 5 lots. The location is provided in the hazard area map at the end of this annex.

C.) NATURAL HAZARD EVENT HISTORY SPECIFIC TO THE CITY

Type of Event	FEMA Disaster # (if applicable)	Date	Preliminary Damage Assessment
Tornado	Not applicable	December, 1889	Buildings destroyed; one fatality and three injuries; thousands in citywide damages
Flood	Not applicable	December, 1901	Evacuations and heavy property damage
Flood	Not applicable	June, 1922	\$800,000 (citywide)
Snowstorm / Extreme Cold	Not applicable	February, 1961	\$80,000 (countywide)
Flood	Not applicable	June, 1968	250 homes inundates in Claramont Park
Flood	Not applicable	July, 1970	\$250,000 (countywide)
Snowstorm	Not applicable	March, 1971	\$806,000 (countywide)
Snowstorm / Extreme cold	Not applicable	February, 1972	\$803,000 (countywide)
Flood (Tropical Storm Agnes)	DR-338	June, 1972	\$1,600,000 (countywide)
Flood	Not applicable	March, 1973	\$200,000 (countywide)
Snowstorm	Not applicable	December, 1973	\$83,000 (countywide)
Severe Storms and Flooding	DR-447	July, 1974	\$7,200,000 (countywide); over 1,000 citywide evacuations
Severe Storms, Heavy Rain, Landslides, Flooding	DR-487	September, 1975	\$6,300,000 (countywide)
Flood	Not applicable	April, 1976	\$313,000 (countywide)
Blizzard	Not applicable	January, 1977	\$2,100,000 (countywide)
Flood	Not applicable	October, 1981	\$833,000 (countywide)
Snowstorm / Extreme Cold	Not applicable	January, 1982	\$5,000 (countywide)
Tornado (F3)	Not applicable	May, 1983	\$2,500,000 (countywide)
Snowstorm	Not applicable	February, 1984	\$156,000 (countywide)
Tornado (F1)	Not applicable	July, 1986	\$250,000 (countywide)
Blizzard and Extreme Cold	EM-3107	March, 1993	\$455,000 (countywide)
Snowstorm	Not applicable	April, 1993	\$100,000 (countywide)
Thunderstorm / Wind	Not applicable	May, 1993	\$50,000 (citywide)
Thunderstorm / Winds	Not applicable	August, 1993	\$600,000 (countywide)
Tornado (F0)	Not applicable	August, 1993	\$500,000 (citywide)
Snowstorm	Not applicable	November, 1995	\$2,500 (countywide)
Severe Storm and Flooding	DR-1095	January, 1996	\$7,600,000 (countywide)
Extreme Cold	Not applicable	February, 1996	Not available
Flood	Not applicable	November, 1996	\$100,000 (countywide)
Snowstorm	Not applicable	December, 1997	City officials declared a State of Emergency
Thunderstorm / Wind	Not applicable	May, 1998	One fatality in Syracuse; downed

SECTION 9.33: CITY OF SYRACUSE

Type of Event	FEMA Disaster # (if applicable)	Date	Preliminary Damage Assessment
			trees and power lines
Thunderstorm / Hail / Tornado	Not applicable	May, 1998	\$200,000 (countywide)
Thunderstorm / Winds	Not applicable	August, 1998	\$200,000 (countywide)
Severe Storm	DR-1244	September, 1998	\$90,000,000, 3 fatalities, 7 injuries (countywide)
Thunderstorm / Winds	Not applicable	July, 1999	\$750,000 (countywide); 11 injuries at the "Taste of Syracuse" festival in Syracuse
Severe Storms	DR-1335	May/September, 2000	Road closures
Snowstorms	Not applicable	December, 2002 / January, 2003	\$353,000 (countywide)
Flood	Not applicable	June, 2002	\$2,000,000 (countywide)
Flood	Not applicable	June, 2002	\$20,000 (citywide); street and basement flooding; sump pumps in Hotel Syracuse were inundated
Lightning		June, 2002	\$20,000 (citywide)
Snowstorm (President's Day Storm)	Not applicable	February, 2003	\$153,000 (countywide)
Ice Storm	DR-1467	April, 2003	\$2,900,000 (countywide)
Severe Storm / Flooding / Lightning	Not applicable	May, 2004	Police headquarters and a vacant house were struck by lightning
Severe Storms and Flooding	DR-1564	August / September 2004	\$2,000,000 (countywide)
Severe Storm and Flooding	Not applicable	April, 2005	\$100,000 (countywide)
Flood	Not applicable	July, 2005	\$500,000 (countywide)
Lightning Storm	Not applicable	July, 2005	Power outages; heavy flooding
Severe Storms and Flooding	Not applicable	June/July, 2006	\$29,000 (countywide)
Lake Effect Snowstorm / Extreme Cold	Not applicable	February, 2007	\$3,000,000 (countywide)
Snowstorm / Wind	Not applicable	March, 2007	26-car pile up on Onondaga Lake Parkway
Severe Storms and Inland and Coastal Flooding	Not applicable	April, 2007	Power outages; downed trees; flight cancellations
Flood	Not applicable	December, 2007	Road closures; evacuations; basements flooded

Number of FEMA Identified Repetitive Flood Loss Properties: 2

Number of FEMA Identified Severe Repetitive Flood Loss Properties: 0

Source: FEMA Region II, 2009

Note: Repetitive loss and severe repetitive loss data as of February 2009



D.) NATURAL HAZARD RISK/VULNERABILITY RISK RANKING

Rank #	Hazard type	Estimate of Potential Dollar Losses to Structures Vulnerable to the Hazard ^{a,c}	Probability of Occurrence	Risk Ranking Score (Probability x Impact)	Hazard Ranking ^b
3	Earthquake	\$362,208,384 ^{c,e}	Rare	16	Low
2	Flood	\$926,156,000 ^{c,e}	Frequent	36	Medium
4	Ground Failure	Not available ^f	Rare	6	Low
1	Severe Storm	\$0 ^{c,d,g}	Frequent	48	High
1	Severe Winter Storm	\$680,919,400 ^{c,d}	Frequent	48	High

- a. Building damage ratio estimates based on FEMA 386-2 (August 2001)
- b. High = Total hazard priority risk ranking score of 40 and above
Medium = Total hazard priority risk ranking of 20 to 39
Low = Total hazard risk ranking below 20
- c. The valuation of general building stock and loss estimates determined in Onondaga County were based on the default general building stock database provided in HAZUS-MH MR3 (RSMeans 2006).
- d. Severe storm and severe winter storm hazard 500-year MRP loss estimate is structural value only; does not include the value of contents. For severe winter storm, the loss estimate is 5% of total general building stock value.
- e. Loss estimates for both structure and contents (500-year MRP for the flood hazard and 2,500-year MRP for the earthquake hazard).
- f. Approximately 22% of the City's general building stock is located within the landslide hazard area.
- g. Potential losses for severe storm are underestimated by HAZUS.

E.) CAPABILITY ASSESSMENT

This section identifies the following capabilities of the local jurisdiction:

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

E.1) Legal and Regulatory Capability

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	NYS Building Code - 1959
2) Zoning Ordinance	Y	N	N	N	
3) Subdivision Ordinance	Y	N	N	N	3 Mile Limit Subdivision Review
4) NFIP Flood Damage Prevention Ordinance	Y	Y	Y	Y	General Ordinance # 28-1988
5) Growth Management	N	N	N	N	
6) Floodplain Management / Basin Plan	Y	Y	Y	N	General Ordinance # 28-1988
7) Stormwater Management Plan/Ordinance	Y	N	Y	Y	General Ordinance # 53-2007 General Ordinance # 13-1995
8) Comprehensive Plan / Master Plan/ General Plan	Y	N	N	N	Comprehensive Plan
9) Capital Improvements Plan	Y	N	N	N	
10) Site Plan Review Requirements	Y	Y	Y	N	General Ordinance #13-1995 General Ordinance #
11) Open Space Plan	N				
12) Economic Development Plan	N	N	N	N	
13) Emergency Response Plan	Y	N	Y	Y	Under Review / Development
14) Post Disaster Recovery Plan	N				
15) Post Disaster Recovery Ordinance	N	N	N	N	
16) Real Estate Disclosure req.		N	N	N	
17) Other [Special Purpose Ordinances (i.e., critical or sensitive areas)]	N				

E.2) Administrative and Technical Capability

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	Zoning Administration
2) Engineer(s) or Professional(s) trained in construction practices related to buildings and/or infrastructure	Y	Public Buildings Division, Construction Inspectors, Economic Development, Brownfield Coordinator, Education Specialist
3) Planners or engineers with an understanding of natural hazards	Y	Community Development Neighborhood Planning Division
4) NFIP Floodplain Administrator	Y	Carlo R. Basta, Administrative Analyst
5) Surveyor(s)	Y	GIS Specialists
6) Personnel skilled or trained in "GIS" applications	N	
7) Scientist familiar with natural hazards in the City of Syracuse.	N	
8) Emergency Manager	N	
9) Grant Writer(s)	Y	Department of Research, Grant Procurement Specialists, Community Development Grant Managing Unit
10) Staff with expertise or training in benefit/cost analysis	Y	Department of Finance

E.3) Fiscal Capability

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

E.4) Community Classifications

Program	Classification	Date Classified
Community Rating System (CRS)	9 (current)	10/1/1993
Building Code Effectiveness Grading Schedule (BCEGS)	NP	N/A
Public Protection	NP	N/A
Storm Ready	NP	NP
Firewise	NP	NP

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 (1) being the best possible classification, and class 10 representing no classification benefit. Firewise classifications include a higher classification when the subject property is located beyond 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 <http://www.isomitigation.com/ppc/0000/ppc0001.html>
- The National Weather Service Storm Ready website at <http://www.weather.gov/stormready/howto.htm>
- The National Firewise Communities website at <http://firewise.org/>

E.) PROPOSED HAZARD MITIGATION INITIATIVES

Initiative #	Mitigation Initiative	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Goals / Objectives Met	Lead Agency	Estimated Cost	Sources of Funding	Time-line
CSY-1a	Where appropriate, support retrofitting of structures located in hazard-prone areas to protect structures from future damage, with repetitive loss and severe repetitive loss properties as priority. Identify facilities that are viable candidates for retrofitting based on cost-effectiveness versus relocation. Where retrofitting is determined to be a viable option, consider implementation of that action based on available funding.	Existing	Flood, Severe Storm	1-1, 1-2, 1-6; 2-5, 2-6; 3-2, 3-5, 6-1	Municipality (likely through NFIP Floodplain Administrator)	High	FEMA Mitigation Grant Programs and local match	Long-term
CSY-1b	Where appropriate, support purchase, or relocation of structures located in hazard-prone areas to protect structures from future damage, with repetitive loss and severe repetitive loss properties as priority. Identify facilities that are viable candidates for relocation based on cost-effectiveness versus retrofitting. Where relocation is determined to be a viable option, consider implementation of that action based on available funding.	Existing	Flood, Severe Storm	1-1, 1-2, 1-6; 2-5, 2-6; 3-2, 3-5; 6-1	Municipality (likely through NFIP Floodplain Administrator)	High	FEMA Mitigation Grant Programs and local match	Long-term
CSY-2	<p>Conduct and facilitate community and public education and outreach for residents and businesses to include, but not be limited to, the following to promote and effect natural hazard risk reduction:</p> <ul style="list-style-type: none"> • Provide and maintain links to the Onondaga County HMP website, and regularly post notices on the municipal homepage referencing the Onondaga County HMP webpages. • Prepare and distribute informational letters to flood vulnerable property owners and neighborhood associations, explaining the availability of mitigation grant funding to mitigate their properties, and instructing them on how they can learn more and implement mitigation. • Use the village email notification systems and newsletters to better educate the public on flood insurance, the availability of mitigation grant funding, and personal natural hazard risk reduction measures. • Work with neighborhood associations, civic and business groups to disseminate information on flood insurance and the availability of mitigation 							

Initiative #	Mitigation Initiative	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Goals / Objectives Met	Lead Agency	Estimated Cost	Sources of Funding	Time-line
	grant funding. Municipal outreach activities to be supported by the County, as identified at County initiative OC-0.							
	See above.	N/A	All Hazards	All Goals	Municipal officials and floodplain administrators supported by the County (through SOCPA and EM)	Low	County and Municipal Budgets; grant eligible for a defined outreach program	Short
CSY-3	Continue to support the implementation, monitoring, maintenance, and updating of this Plan, as defined in Section 7.0	New & Existing	All Hazards	All Goals and Objectives	Municipality (through mitigation planning point of contacts)	Low	Local Budget, possibly FEMA Mitigation Grant Funding for 5-year update	Ongoing
CSY-4	Maintain compliance with and good-standing in the NFIP including adoption and enforcement of floodplain management requirements (e.g. regulating all new and substantially improved construction in Special Hazard Flood Areas), floodplain identification and mapping, and flood insurance outreach to the community. Further meet and/or exceed the minimum NFIP standards and criteria through the following NFIP-related continued compliance actions identified as Initiatives CSY-0, 1a, 1b, 2, and 8 through 23.	New & Existing	Flood	2-4; 3-5, 3-6	Municipality (likely through NFIP Floodplain Administrator)	Low	Local Budget	Ongoing
CSY-5	Continue to develop, enhance, and implement existing emergency plans.	New & Existing	All Hazards	1-4; 5-5; Goal 6 –	Municipal Emergency	Low - Medium	Local Budget	Ongoing

Initiative #	Mitigation Initiative	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Goals / Objectives Met	Lead Agency	Estimated Cost	Sources of Funding	Time-line
				All Objectives	Manager with support from County OEM and SEMO			
CSY-6	Create/enhance/ maintain mutual aid agreements with neighboring communities.	New & Existing	All Hazards	3-3; 5-2, 5-3, 5-5, 5-6; 6-5, 6-6	Local Emergency Management, DPW and Roads	Low - Medium	Local Budget	Ongoing
CSY-7	Support County-wide initiatives identified in Section 9.1 of the County Annex.	New & Existing	All Hazards	All Goals and Objectives	Local departments (as applicable for specific initiative)	Low - Medium	Local Budget	Ongoing
CSY-8	Support/Participate in the Stream Team program offered by the Onondaga County SWCD, to assist in the removal of debris, log jams, etc. in flood vulnerable stream sections.	N/A	Flood, Severe Storms	1-3, 1-7; 2-3; 4-1, 4-4; 5-1, 5-2, 5-3	County, OCSWCD (Mark Burger)	Medium	Local Budget	Short-term
CSY-9	As identified in the 2006 Beartrap-Ley Creek Drainage District Study, the confluence of the Ley Creek North and South Branches, and the nearby Sanders Creek 'bottleneck' from Townline Road to the confluence with Ley Creek – North Branch and Ley Creek – South Branch. Support a detailed survey within the area to allow for a more precise determination of the limits of flooding impacts because the Beartrap-Ley Creek Drainage Study (2006) was based on 10-foot contours and the inundation mapping created may be conservative. The Ley Creek Main stem flows through the City of Syracuse and the Towns of Salina and Dewitt.	N/A	Flood, Severe Storms	1-3; 4-1, 4-2	OC Dept of Water Environment Protection; Beartrap-Ley Creek Drainage District	Medium	FEMA HMA; OC and/or local budget	DOF
CSY-10	As identified in the 2006 Beartrap-Ley	New &	Flood, Severe	1-2, 1-6;	OC Dept of	Low to	County/	Ongoing

Initiative #	Mitigation Initiative	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Goals / Objectives Met	Lead Agency	Estimated Cost	Sources of Funding	Time-line
	Creek Drainage District Study, continue existing Beartrap-Ley Creek District channel maintenance and inspection programs within Ley Creek – Main Stem to ensure that debris does not accumulate in the watercourse. Continue to support this action. The Ley Creek Main stem flows through the City of Syracuse and the Towns of Salina and Dewitt.	Existing	Storms	4-1, 4-2	Water Environment Protection; Beartrap-Ley Creek Drainage District	Medium	District/ Local Budgets	
CSY-11	The Beartrap-Ley Creek Drainage District is flat and heavily urbanized making the lowest areas extremely vulnerable to rain-event flooding that approach or exceed 5-year storms. Conduct /support a more detailed topographic study in the identified critical areas in the 2006 Beartrap-Ley Creek Drainage District Study to determine which individual properties are most at risk to assist with determining mitigation actions.	N/A	Flood, Severe Storms	1-2, 1-3; 5-1	OC Dept of Water Environment Protection; Beartrap-Ley Creek Drainage District; Village	Low-Medium	FEMA HMA; District/Cou nty/Local budgets	DOF
CSY-12	Investigate the feasibility of “daylighting” feeder streams to Onondaga Creek (e.g. Harbor Brook, Kimber Brook) to return these streams to a more natural condition, increasing their capacity particularly during high water and storm events. Implement feasible “daylighting” projects as funding becomes available.	N/A	Flood, Severe Storms	1-6, 4-1, 5-1, 5-2	City of Syracuse Departments of Public Works	Medium (feasibility investigation) , High (implementation)	TBD	Longterm DOF
CSY-13	Repair/rehabilitate deficient combined sewers (sewer sections identified below) to increase capacity and reduce associated flooding, and reduce risk of overwhelming treatment systems.	Existing	Flood, Severe Storms	1-2, 1-6; 3-2, 3-4; 4-2; 6-5	City DPW	High	City Budgets with grant funding as applicable	Longterm DOF

SECTION 9.33: CITY OF SYRACUSE

Initiative #	Mitigation Initiative	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Goals / Objectives Met	Lead Agency	Estimated Cost	Sources of Funding	Time-line																																								
	<table border="1"> <thead> <tr> <th>Street</th> <th>From</th> <th>To</th> <th>Yr. Built</th> <th>Length</th> </tr> </thead> <tbody> <tr> <td>College Place</td> <td>Euclid Avenue</td> <td>College Place</td> <td>1896</td> <td>1136</td> </tr> <tr> <td>University Place</td> <td>Walnut Avenue</td> <td>Comstock Avenue</td> <td>1895/98 (1969)</td> <td>790</td> </tr> <tr> <td>North Townsend</td> <td>James Street</td> <td>Burnet Avenue</td> <td>New Construction</td> <td>550</td> </tr> <tr> <td>East Adams</td> <td>700 Block</td> <td>800 Block</td> <td>1822 (1984)</td> <td>970</td> </tr> <tr> <td>Belle Avenue</td> <td>Midland Avenue</td> <td>Salina Street</td> <td>1927</td> <td>1447</td> </tr> <tr> <td>Schiller Avenue</td> <td>Wadsworth Street</td> <td>Highland Street</td> <td>1901</td> <td>714</td> </tr> <tr> <td>Almond Street</td> <td>Adams Street</td> <td>Harrison Street</td> <td>New Construction</td> <td>600</td> </tr> </tbody> </table>	Street	From	To	Yr. Built	Length	College Place	Euclid Avenue	College Place	1896	1136	University Place	Walnut Avenue	Comstock Avenue	1895/98 (1969)	790	North Townsend	James Street	Burnet Avenue	New Construction	550	East Adams	700 Block	800 Block	1822 (1984)	970	Belle Avenue	Midland Avenue	Salina Street	1927	1447	Schiller Avenue	Wadsworth Street	Highland Street	1901	714	Almond Street	Adams Street	Harrison Street	New Construction	600							
Street	From	To	Yr. Built	Length																																												
College Place	Euclid Avenue	College Place	1896	1136																																												
University Place	Walnut Avenue	Comstock Avenue	1895/98 (1969)	790																																												
North Townsend	James Street	Burnet Avenue	New Construction	550																																												
East Adams	700 Block	800 Block	1822 (1984)	970																																												
Belle Avenue	Midland Avenue	Salina Street	1927	1447																																												
Schiller Avenue	Wadsworth Street	Highland Street	1901	714																																												
Almond Street	Adams Street	Harrison Street	New Construction	600																																												
CSY-14	Repair channel linings in Onondaga Creek through the City.	Existing	Flood, Severe Storms	1-2, 1-6; 3-2; 4-1	City DPW	High	City Budgets with grant funding as applicable	Longterm DOF																																								
CSY-15	Implement sediment removal and/or control for Onondaga Creek within the City to regain/maintain capacity and reduce flooding.	Existing	Flood, Severe Storms	1-2, 1-6; 3-2; 4-1	City DPW	High	City Budgets with grant funding as applicable	Longterm DOF																																								
CSY-16	Conduct repairs to the bank of Onondaga Creek through the City (stabilization, retaining wall repairs, brush clearing).	Existing	Flood, Severe Storms	1-2, 1-6; 3-2; 4-1	City DPW	High	City Budgets with grant funding as applicable	Longterm DOF																																								
CSY-17	Repair culverts (approx. 40, varying in length from 50'-350') on the following creeks, which due to their age are in varying states of deterioration: Hopper Brook, Furnace Brook, Spring Brook and Cold Brook	Existing	Flood, Severe Storms	1-2, 1-6; 3-2, 3-4; 4-1	City DPW	High	City Budgets with grant funding as	Longterm DOF																																								
CSY-18	Conduct dredging/cleaning of Hopper Brook, Furnace Brook, Spring Brook and Cold Brook to regain capacity and reduce flooding.	Existing	Flood, Severe Storms	1-2, 1-6; 3-2; 4-1, 4-2	City DPW	Medium	City Budgets with grant funding as applicable	Longterm DOF																																								
CSY-19	Conduct scour/bank repair at seven pedestrian bridges over Onondaga	Existing	Flood, Severe Storms	1-2, 1-6; 3-2, 3-4;	City Engineering	Low	City Budgets	Longterm DOF																																								



Initiative #	Mitigation Initiative	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Goals / Objectives Met	Lead Agency	Estimated Cost	Sources of Funding	Time-line
	Creek in the City.			4-1			with grant funding as applicable	
CSY-20	Conduct regular cleaning of catch-basins throughout the city (approx. 11,300) to maintain stormwater management capacity.	Existing	Flood, Severe Storms	1-2, 1-6; 3-2, 3-4; 4-1	City DPW	Medium	City Budgets with grant funding as applicable	Longterm DOF
CSY-21	Determine if a Community Assistance Visit (CAV) or Community Assistance Contact (CAC) is needed, and schedule if needed.	NA	Flood, Severe Storms	All Goals	NFIP Floodplain Administrator, with support from NYSDEC, SOEM, FEMA	Low	Municipal Budget	Short (year 1)
CSY-22	Remove one or more abandoned bridges at Jefferson Street to reduce flood risk.	Existing	Flood, Severe Storms	1-2, 1-3, 1-6, 3-2, 4-1	City Engineer	Low-Medium	City Budgets with grant funding as applicable	Longterm DOF
CSY-23	<p>Participate in RL/SRL property owner outreach and education activities, provided by FEMA, as initiated and coordinated by the County initiative OC-35, described herein.</p> <p>Within the first year of Plan adoption, request FEMA to conduct a mitigation workshop targeting those communities with significant numbers of flood vulnerable properties and Repetitive Loss/Severe Repetitive Loss (RL/SRL) properties (e.g. Towns of Cicero, DeWitt, Elbridge, Lafayette, Lysander, Manlius; Village of Skaneateles; City of Syracuse). This program should address the specific interests and concerns of these flood vulnerable communities in the County which includes:</p> <ul style="list-style-type: none"> Gaining a better understanding of the available mitigation grant programs, including the procedural requirements of a RL/SRL community under this program; Understanding how flood vulnerable and RL/SRL communities can enhance their efforts to encourage and support property owners to mitigate their properties, Understanding how flood vulnerable and RL/SRL communities can best leverage existing data, information and studies (e.g. NFIP data) to target specific properties for mitigation, and Learning what resources are available to conduct/complete Repetitive Loss Area Analyses, and gather critical data (e.g. structure elevations) to screen and move properties through the applicable mitigation grant programs. <p>The County shall promote this workshop through established groups and forums including the OC SWCD and the ongoing County Hazard Mitigation Planning Committee. Further, the County shall continue to conduct meetings as needed with these flood vulnerable communities, with the support of NYSOEM and FEMA, to assist communities as they work to address their flood vulnerable and RL/RSL properties.</p>							

Initiative #	Mitigation Initiative	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Goals / Objectives Met	Lead Agency	Estimated Cost	Sources of Funding	Time-line
	See description above	Existing	Flood, Severe Storm	1-1; 2-1, 2-5, 2-6; 3-6, 3-7; 5-4, 5-6	Local floodplain administrator working with County Hazard Mitigation Coordinator	L	Existing Budgets	Short (year 1)
CSY-24	<p>Participate in regional, county and/or state level projects and programs to develop improved structure and facility inventories and hazard datasets to support enhanced risk assessment efforts. Such programs may include developing a detailed inventory of critical facilities based upon FEMA's Comprehensive Data Management System (CDMS) which could be used for various planning and emergency management purposes including:</p> <ul style="list-style-type: none"> • Support the performance of enhanced risk and vulnerability assessments for hazards including flooding, earthquake, wind, and land failure. • Support state, county and local planning efforts including mitigation (including updates to the State HMP), comprehensive emergency management, debris management, and land use. <p>Improved structural and facility inventories could incorporate flood, wind and seismic-specific parameters (e.g. first floor elevations, roof types, structure types) based on FEMA-154 "Rapid Visual Screening of Buildings for Potential Seismic Hazards" methodologies, or "Rapid Observation of Vulnerability and Estimation of Risk - ROVER. It is recognized that these programs will likely need to be initiated and supported at the Regional and/or State level, and will likely require training, tools and funding provided at the regional, state and/or federal level.</p>							
	See above.	Existing	All Hazards	1-2, 1-4, 1-6; 2-3; 3-2; 5-2, 5-3; 6-2, 6-3, 6-5	Local building code official and/or engineer working with OC EM	M-H	Regional funding; Mitigation grant programs (PDM or HMGP) with local match	Long

Notes: DOF = Depending on Funding. FEMA = Federal Emergency Management Agency. Long = 5 years or greater. N/A = Not applicable. Short = 1 to 5 years. TBD = To be determined.



G.) 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.

Hazard of Concern	Mitigation Type					
	1. Prevention	2. Property Protection	3. Public Education and Awareness	4. Natural Resource Protection	5. Emergency Services	6. Structural Projects
Earthquake	CSY-3, CSY-7	CSY-3, CSY-7	CSY-2, CSY-3, CSY-7, CSY-23	CSY-3, CSY-7	CSY-3, CSY-5, CSY-6, CSY-7, CSY-24	CSY-3, CSY-7
Flooding (riverine, flash, coastal and urban flooding)	CSY-3, CSY-4, CSY-7, CSY-8, CSY-9, CSY-11, CSY-12, CSY-21, CSY-22	CSY-1a and b, CSY-3, CSY-4, CSY-7, CSY-13 through CSY-18, CSY-22	CSY-1a and b, CSY-2, CSY-3, CSY-4, CSY-7, CSY-23, CSY-24	CSY-3, CSY-7, CSY-8, CSY-10, CSY-12, CSY-13 through CSY-18, CSY-22	CSY-3, CSY-5, CSY-6, CSY-7, CSY-24	CSY-3, CSY-7, CSY-13, CSY-16, CSY-22
Ground Failure	CSY-3, CSY-7	CSY-3, CSY-7	CSY-2, CSY-3, CSY-7, CSY-24	CSY-3, CSY-7	CSY-3, CSY-5, CSY-6, CSY-7, CSY-24	CSY-3, CSY-7
Severe Storms (windstorms, thunderstorms, hail, lightning and tornados)	CSY-3, CSY-4, CSY-7, CSY-8, CSY-9, CSY-11, CSY-12, CSY-21, CSY-22	CSY-1a and b, CSY-3, CSY-4, CSY-7, CSY-13 through CSY-18, CSY-22	CSY-1a and b, CSY-2, CSY-3, CSY-4, CSY-7, CSY-23, CSY-24	CSY-3, CSY-7, CSY-8, CSY-10, CSY-12, CSY-13 through CSY-18, CSY-22	CSY-3, CSY-5, CSY-6, CSY-7, CSY-24	CSY-3, CSY-7, CSY-13, CSY-16, CSY-22
Severe Winter Storm (heavy snow, blizzards, ice storms)	CSY-3, CSY-7	CSY-3, CSY-7	CSY-2, CSY-3, CSY-7, CSY-24	CSY-3, CSY-7	CSY-3, CSY-5, CSY-6, CSY-7, CSY-24	CSY-3, CSY-7

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.

H.) PRIORITIZATION OF MITIGATION INITIATIVES

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)
CSY-1a	8	H	H	Y	Y	N	M-H*
CSY-1b	8	H	H	Y	Y	N	M-H*
CSY-2	38	M	L	Y	Y (for defined outreach project)	Y	H
CSY-3	38	M	M	Y	N (Yes for 5 year update)	Y	H
CSY-4	3	H	L	Y	N	Y	H
CSY-5	8	M	L	Y	N	Y	H
CSY-6	7	M	L	Y	N	Y	H
CSY-7	38	M-H	L-M	Y	Dependant on specific initiative	Dependant on specific initiative	M-H (dependant)
CSY-8	8	H	L - H	Y	Y	Dependant on specific initiative	M
CSY-9	3	M	L-M	Y	Y	N	M
CSY-10	4	M	M	Y	N	Y	H
CSY-11	3	M	L-M	Y	Y	Local Match Dependant on specific initiative	M
CSY-12	4	M-H	M-H	Y	TBD	N	L-M
CSY-13	6	M-H	H	Y	TBD (not HMA)	TBD	L-M
CSY-14	4	M-H	H	Y	TBD (not HMA)	TBD	L-M

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)
CSY-15	4	M-H	H	Y	Y	TBD	M-H
CSY-16	4	M-H	H	Y	TBD (not HMA)	TBD	L-M
CSY-17	5	M-H	H	Y	TBD (not HMA)	TBD	L-M
CSY-18	5	M-H	H	Y	TBD (not HMA)	TBD	L-M
CSY-19	5	M-H	H	Y	TBD (not HMA)	TBD	L-M
CSY-20	5	M-H	H	Y	TBD (not HMA)	TBD	L-M
CSY-21	38	L	L	Y	N	TBD	M
CSY-22	5	H	M	Y	Y	TBD	H
CSY-23	8	M	L	Y	N	Y	H
CSY-24	8	M-H	M-H	Y	Y	N	M

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 dependent on grant funding), however it is recognized that addressing repetitive and severe repetitive loss properties is considered a high priority by FEMA and SEMO (as expressed in the State HMP), and thus shall be considered a “High” priority for all participants in this 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.

I.) FUTURE NEEDS TO BETTER UNDERSTAND RISK/VULNERABILITY

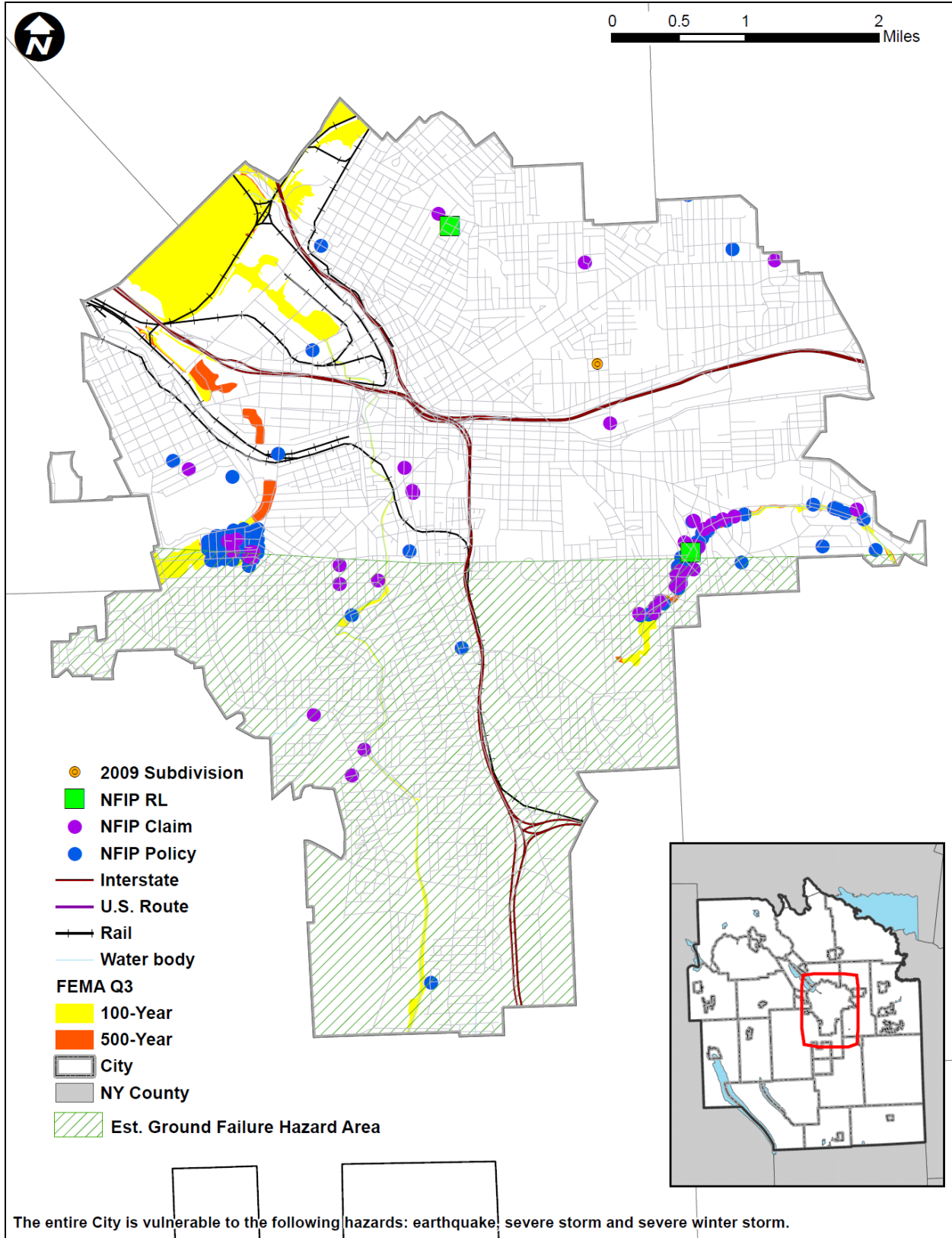
None at this time.

J.) HAZARD AREA EXTENT AND LOCATION

A hazard area extent and location map has been generated and is provided below for the City of Syracuse to illustrate the probable areas impacted within the City. This map is based on the best available data at the time of the preparation of this Plan, and is considered to be adequate for planning purposes. Maps have only been generated for those hazards that can be clearly identified using mapping techniques and technologies, and for which the City of Syracuse has significant exposure. The County maps are provided in the hazard profiles within Section 5.4, Volume I of this Plan.

K.) ADDITIONAL COMMENTS

8/2012 – City of Syracuse requested and executed the following modifications to its municipal annex. Edited action CSY-15, added CSY-22, renumbered CSY-22 to be CSY-23 and renumbered CSY-23 to be CSY-23 to be CSY-24. A letter reflecting the changes was emailed to NYS OEM (Attn: Richard Lord) on 8/10/2012.



The entire City is vulnerable to the following hazards: earthquake, severe storm and severe winter storm.

Sources: FEMA Q3; FEMA Region II, 2008; HAZUS-MH MR3; NYSDPC, 2008; Syracuse-Onondaga Planning Agency, 2009
 Notes: Est. = Estimated; NFIP = National Flood Insurance Program; RL = Repetitive Loss

The entire municipality is vulnerable to the following hazards: earthquake, severe storm, and severe winter storm.