



9 East Granby

Community Overview

East Granby is a rural community in the Capitol Region that covers encompasses about 17.5 sq. miles and has a population of approximately 5,277. Most of the land area in Town falls in the Farmington River Watershed, though the northeastern portion drains to the Stony Brook watershed. The Farmington River forms the southern municipal boundary. The Salmon and Muddy Brooks are major tributaries to the Farmington that flow through East Granby. Other watercourses running through town include Holcomb, Sanborn and Sheldon’s Brooks. Farming has traditionally been the mainstay of the Town however today’s principle industries include manufacturing and quarrying. Approximately 85% of the Town is developed. The major transportation routes through East Granby are State routes 20, 187 and 189. The Connecticut Air National Guard has a base in East Granby. Bradley International Airport, while primarily located in Windsor Locks to the east, has runway space in East Granby.

Critical Facilities

Critical Facilities throughout the Capitol Region are listed in Appendix B. In East Granby these include the Town Hall (serves as the Emergency Operations Center), an Ambulance facility, the Public Safety building, the South End Fire station the East Granby Recreation Building, the Parks and Recreation Office, the Public Library, the Department of Public Works facility, three sewer pumping stations, the Community Center / Senior Center (serves as the primary shelter), four schools, the Congregational Church, and two private senior housing facilities.

The Community Center shelter does not have showers; showers at Nufern-Coherent on Airport Park Road may be used as needed. The Town is interested in making the High School the primary shelter but needs to install a generator first. The Congregational Church could serve as a secondary shelter, but also needs a generator installed.

Approximately 30% of the Town is on the municipal water system.

Table 9-1: Critical Facilities, East Granby

Facility	Shelter	Generator
Town Hall (EOC)		X
Ambulance		X
Public Safety		X
South End Fire station		X
East Granby Recreation Building		
Park and Rec Office		
Library		
DPW		X
3 Sewer Pumping Stations		X
Community Center/Senior Center	Primary	X
Four Schools		

Facility	Shelter	Generator
Congregational Church		
Two private Senior Housing Facilities		Limited

Capabilities

East Granby has not permitted any new structures or had any demolitions in the floodplain since 2008. Hazard mitigation is addressed specifically in the community’s Plan of Conservation and Development.

East Granby has a grant through the State Local Bridge Grant Program to address scouring issues at Floodville Bridge.

Challenges

Challenges Overview

Areas known to be prone to flooding include Route 189 along Salmon Brook near Granby park (four to five houses are prone to flooding), and generally areas along Salmon Brook. The Floodville Bridge has scouring issues.

The area of Hatchett Hill is at risk from wildfires and currently has inadequate firefighting water supplies.

In the past, the Town experienced roof collapses due to heavy snow loads on flat roofed buildings.

Hazard Losses

The economic losses faced by East Granby from natural hazards can be estimated by reviewing historic, and modeling future, loss figures. Loss estimates are summarized below.

Historic FEMA Payments

FEMA reimburses communities for hazard losses through programs including Public Assistance (PA) and the National Flood Insurance Program (NFIP). Combining PA and private flood insurance payments can give an estimate for total losses to a community.

The NFIP has paid three property damage claims in East Granby totaling \$2,318 to-date. East Granby has no Repetitive Loss (RL) Property claims to-date.

Total PA reimbursements to the community were as follows:

- Flood Events: \$34,790 (\$1,831 annually)
- Hurricane Events: \$13,686 (\$720 annually)
- Winter Storm Events: \$770,810 (\$40,569 annually)



These are summarized in the tables below.

Table 9-2: Flood Event PA Reimbursements, East Granby

Incident	Sep 1999	Oct 2005
Declaration	9/23/1999	12/16/2005
Disaster No.	1302	1619
Entity	FEMA PA Reimbursement	
State	\$239	\$296
Municipal	\$0	\$34,255
Nonprofit	\$0	\$0
Total	\$239	\$34,551
Annualized	\$13	\$1,818

Table 9-3: Hurricane Wind Event PA Reimbursements, East Granby

Incident	Aug - Sep 2011 (T.S. Irene)
Declaration	9/2/2011
Disaster #	4023
Entity	FEMA PA Reimbursement
State	\$988
Municipal	\$12,699
Nonprofit	\$0
Total	\$13,686
Annualized	\$720

Table 9-4: Winter Storm PA Reimbursements, East Granby

Incident	Mar 2003	Dec 2003	Jan 2005	Feb 2006	Jan 2011	Oct 2011	Feb 2013
Declaration	3/11/03	1/15/04	2/17/05	5/2/06	3/3/11	11/17/11	3/21/13
Disaster #	3176	3192	3200	3266	1958	4046	4106
Entity	FEMA PA Reimbursement						
State	\$4,464	\$4,001	\$5,279	\$6,408	\$5,583	\$7,163	\$15,575
Municipal	\$8,663	\$22,879	\$21,600	\$21,145	\$39,916	\$555,322	\$52,812
Nonprofit	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total	\$13,126	\$26,880	\$26,879	\$27,552	\$45,499	\$562,486	\$68,387
Annualized	\$691	\$1,415	\$1,415	\$1,450	\$2,395	\$29,605	\$3,599

National Centers for Environmental Information Losses

The table below summarizes events in the National Centers for Environmental Information (NCEI) severe storm database that were specifically noted as having impacted East Granby since 2012.



Table 9-5: NCEI Database Losses since 2012, East Granby

Date	Event	Property Damage
8/25/2015	Thunderstorm Wind	\$5,000
7/12/2017	Hail	\$0
Total		\$5,000

NCEI losses under other event categories (such as drought, high wind, flooding, and winter storms) were not specifically noted as impacting East Granby, though they did impact Hartford County and nearby towns. NCEI losses are reported in Section II of this Plan.

HAZUS-MH Losses

CRCOG used FEMA’s Hazus-MH model to analyze the risks that the Town of East Granby might face from flooding, hurricanes, and earthquakes. The model estimates economic losses to the town due to damage to buildings and building contents, as well as other economic disruptions. Both residential and commercial structures are addressed. Losses from different hazards are summarized below. Where available, estimates from the previous and current versions of the HMP are provided side-by-side; differences between the two may have been caused by a combination of the following:

- Changes in methodology: such as hazard zone mapping
- Changes in data: such as population and property values
- Changes in the model: this HMP utilized Hazus-MH version 4.0 rather than 2.1
- Other factors: inherent in a complex software like Hazus-MH

More details are available in the Multi-Jurisdictional HMP. Ultimately, changes in the loss estimates reflect the reality that small differences in hazard event features can have a significant impact on losses incurred.

Table 9-6: Estimated Damages to East Granby from a 1% Annual-Chance Flood

Loss Type	2014 Results	2018 Results
Households Displaced	67	49
People Needing Shelter	96	24
Buildings at Least Moderately Damaged	13	0
Economic Losses		
Residential Building & Content Losses	\$7,210,000	\$2,330,622
Other Building & Content Losses	\$6,110,000	\$5,390,141
Total Building & Content Loss	\$13,320,000	\$7,720,763
Total Business Interruption Losses	\$10,000	\$216,909
TOTAL	\$13,330,000	\$7,937,671



Table 9-7: Estimated Damages to East Granby from a 1% Annual-Chance Hurricane

Loss Type	2014 Results (1938 event)	2018 Results (1% track)
Buildings at Least Moderately Damaged	135	1
Buildings Completely Damaged	6	1
Total Debris Generated (tons)	21,073	2947
Truckloads (at 25 tons/truck) of building debris	67	118
Economic Losses		
Residential Building & Content Losses	\$13,580,000	\$2,664,244
Other Building & Content Losses	\$4,210,000	\$89,282
Total Building & Content Loss	\$17,790,000	\$2,753,526
Total Business Interruption Losses	\$2,010,000	\$16,642
TOTAL LOSSES	\$19,800,000	\$2,770,168

Losses were calculated from a modeled probabilistic earthquake (1% annual-chance of occurrence), as well as for four specific scenarios with epicenters around Connecticut.

Table 9-8: Estimated Damages to East Granby from a Probabilistic Earthquake

Loss Type	2018 Results
Wage Loss	\$846
Rent Loss	\$788
Relocation Loss	\$1,447
Income Loss	\$724
Inventory Loss	\$109
Total Business Disruption	\$3,915
Structural Loss	\$2,818
Non-Structural Loss	\$9,680
Total Building Loss	\$10,699
Total Content Loss	\$3,293
TOTAL LOSSES	\$17,850

Table 9-9: Estimated Damages to East Granby from Modeled Earthquake Scenarios

Epicenter Location	Magnitude	Estimated Total Losses
East Haddam	6.4	\$37,239.21
Haddam	5.7	\$8,653.59
Portland	5.7	\$22,688.93
Stamford	5.7	\$1,810.51

Average Annualized Losses

Average Annualized Loss (AAL) figures are useful tools for comparison of the risks faced from different hazards with different likelihoods of occurring in a given time period. AAL estimates were prepared for East Granby based on the methodologies discussed in Section II of the Multi-Jurisdictional HMP. Dam failure, drought, tornado, and wildfire losses were sourced from the 2014 Connecticut Natural Hazard Mitigation Plan Update, with dam failure data supplemented by the National Performance of Dams Program and the Connecticut Department of Energy &



Environmental Protection. Earthquake and hurricane losses were calculated in HAZUS-MH. Losses for flooding came from NFIP claims, for winter storms from Public Assistance Reimbursements, and for thunderstorms from the NCEI database. These are presented in the table below in dollars per year. Note that Hurricanes and Tropical Storms represent the largest share of total annualized losses.

Table 9-10: Average Annualized Losses, East Granby

Dam Failure	Drought	Earthquakes	Flooding	Hurricanes and Tropical Storms	Severe Winter Storms	Thunderstorms	Tornadoes	Wildfires	Total
\$9	\$0	\$17,850	\$1,892	\$322,721	\$40,569	\$684	\$75,531	\$3,264	\$462,519

Mitigation Strategies and Actions

Noted Hazard Mitigation Needs

During the course of this Plan development, multiple hazard mitigation needs of East Granby were noted, including:

- Install a generator at the High School to make progress on creating a primary shelter there.
- Install a generator at the Congregational Church to make progress on creating a backup shelter there.
- Install dry hydrant at Hatchett Hill.
- Construct access road at Tunxis/Spoonville across the Farmington River.

Status of Previous Mitigation Strategies and Actions

The Town of East Granby reviewed the mitigation actions proposed in the 2014-2019 Capitol Region Natural Hazards Mitigation Plan Update and determined the status of each. That information is included in the table below.

Table 9-11: Status of Previous Mitigation Strategies and Actions, East Granby

Action #	Action	Notes	Status
GOAL: REDUCE THE IMPACTS OF FLOODING ON PEOPLE AND PROPERTY.			
Objective 1: Strengthen land use regulations, and their implementation, to ensure flood risks do not increase.			
1.1	Consider requiring more low impact development measures through zoning regulations.	Adopted performance-based LID regulations in 2012.	Complete
1.2	Educate land use officials on low impact development techniques.	Town now has a land use manual in place.	Carry Forward with Revisions



Action #	Action	Notes	Status
Objective 2: Encourage acquisition of undeveloped land subject to flooding as open space.			
2.1	Develop an open space plan, with special attention paid to land along rivers and streams not only because of flooding concerns, but also for recreation and wildlife management interests.	Deferred; Cultural resources inventory created to identify open spaces. State funds were used to buy development rights for 400+ acres of farmland. 2016 POCD developed and working on hierarchy.	Carry Forward
Objective 3: Improve stormwater management practices to reduce runoff.			
3.1	Continue to implement measures under Phase II MS4 Stormwater program.	Town now has an environmental consultant working to identify stormwater outfalls, with 30 completed to date.	Drop
Objective 4: Ensure that vulnerable areas remain accessible during floods.			
4.1	Develop a plan for accessing flood prone areas, such as Winding Hill Road.	Identified two new routes for emergency access. Winding Hill Road has one additional access point via utility road.	Complete
4.2	Implement recommendations from above-mentioned plan.	Recommendations implemented, but still need a secondary access to Cowles Park.	Carry Forward with Revisions
4.3	Address Floydville Road culvert, either by cleaning or by replacing.	Completed. Culvert was replaced in 2011. No additional work needed.	Complete
GOAL: MINIMIZE LOSS OF LIFE, PROPERTY AND ECONOMIC CONSEQUENCES OF HIGH WIND AND WINTER STORM EVENTS.			
Objective 1: Ensure adequate tree trimming in public rights-of-way.			
1.1	Continue tree evaluation practices.	Tree Warden informally evaluates; but a more formal plan/process is needed along with the identification of areas with overhead wires.	Carry Forward with Revisions
1.2	Continue to contract out preventive maintenance of trees.	Purchased bucket truck in 2010, and cherry picker for medium trees. Preventative work now performed by town staff. A new action identifying a need for equipment to handle larger trees is listed below.	Drop



Action #	Action	Notes	Status
Objective 2: Minimize power outages.			
2.1	Analyze areas where outages occur and monitor new developments.	Existing capability / ongoing activity.	Capability
2.2	Work with utility to reduce outages in areas frequently without power.	Upgrades have been made. Worked with CL&P on aggressive tree cutbacks and identified a prioritized list of facilities for power restoration.	Complete
Objective 3: Communicate effectively with residents before, during and after hazard events.			
3.1	Continue to maintain special needs population list.	Update special needs population lists quarterly.	Capability
3.2	Monitor and ensure effective implementation of Reverse-911 system.	Complete - Everbridge system in place.	Complete
Objective 4: Ensure that roads in East Granby remain passable.			
4.1	Treat roads in advance of winter storms, when possible.	Existing capability / ongoing activity.	Capability
4.2	Continue to address state roads, when necessary to maintain safety.	Existing capability / ongoing activity.	Capability

Active Mitigation Strategies and Actions

The Town proposed to initiate several new mitigation actions for the upcoming five years. Additionally, a number of actions from the previous planning period are being carried forward or replaced with revised actions. These are listed below.

Each of the following actions has been prioritized based on FEMA guidelines, listed from highest to lowest priority, and numbered.

Action #1	
Enter the Sustainable CT program through Registration and review actions that can be undertaken to pursue Certification. Make progress with the actions related to hazard mitigation.	
Goal	4. Increase the use of natural, "green," or "soft" hazard mitigation measures, such as open space preservation and green infrastructure.
Category	Natural Resources Protection
Lead	Planning
Cost	\$0 - \$10,000
Funding	Town Operating Budget
Timeframe	01/2019 - 12/2019
Priority	High



Action #2

Install a generator at the High School to make progress on creating a primary shelter there.

Goal	7. Improve the emergency response capabilities of the region and its communities
Category	Preparedness & Emergency Response
Lead	Emergency Management
Cost	\$10,000 - \$25,000
Funding	Town Operating Budget / DEMHS
Timeframe	07/2019 - 06/2020
Priority	High

Action #3

Conduct a stormwater management study to determine local best management practices to reduce runoff.

Goal	3. Improve institutional awareness and understanding of natural hazard impacts and mitigation within municipal governments and other decision-making bodies
Category	Prevention
Lead	Planning
Cost	\$25,000 - \$50,000
Funding	Grants
Timeframe	07/2019 - 06/2021
Priority	High

Action #4

Conduct outreach to local small businesses with the aim of preventing the accidental release and pollution from chemicals stored and used at their facilities during or following natural hazard events.

Goal	6. Improve public outreach, education, and warning systems
Category	Education & Awareness
Lead	Planning, in coordination with DEEP
Cost	\$0 - \$10,000
Funding	Materials & Resources Provided by CT DEEP
Timeframe	01/2019 - 12/2019
Priority	Medium



Action #5

Coordinate with NEMO and CRCOG to share resources and gain technical support for hazard mitigation actions involving stormwater management and public outreach, which have parallel benefits related to MS4 stormwater permit compliance.

Goal	1. Minimize the impact of natural hazards on physical buildings and infrastructure
Category	Prevention
Lead	Public Works
Cost	\$0 - \$10,000
Funding	Town Operating Budget
Timeframe	01/2020 - 12/2020
Priority	Medium

Action #6

Participate in EMI courses or the seminars and annual conference held by the Connecticut Association of Flood Managers.

Goal	3. Improve institutional awareness and understanding of natural hazard impacts and mitigation within municipal governments and other decision-making bodies
Category	Education & Awareness
Lead	Planning
Cost	\$0 - \$10,000
Funding	Town Operating Budget
Timeframe	07/2019 - 06/2024
Priority	Medium

Action #7

Install a dry hydrant or cistern at Hatchett Hill.

Goal	7. Improve the emergency response capabilities of the region and its communities
Category	Preparedness & Emergency Response
Lead	Fire Department
Cost	\$10,000 - \$25,000
Funding	CT DEEP
Timeframe	07/2020 - 06/2021
Priority	Medium



Action #8

Work with MDC to identify potential hazard mitigation actions for MDC facilities, and list those actions in the next HMP Update.

Goal	5. Improve the resilience of local and regional utilities and infrastructure using strategies including adaptation, hardening, and creating redundancies.
Category	Property Protection
Lead	Public Works
Cost	\$10,000 - \$25,000
Funding	Town Operating Budget / DEMHS
Timeframe	07/2020 - 06/2022
Priority	Medium

Action #9

Install a generator at the Congregational Church to make progress on creating a backup shelter there.

Goal	7. Improve the emergency response capabilities of the region and its communities
Category	Preparedness & Emergency Response
Lead	Emergency Management
Cost	\$10,000 - \$25,000
Funding	Town Operating Budget / DEMHS
Timeframe	07/2020 - 06/2022
Priority	Medium

Action #10

Construct an access road across the Farmington River at Tunxis/Spoonville to provide an additional access/egress route.

Goal	7. Improve the emergency response capabilities of the region and its communities
Category	Preparedness & Emergency Response
Lead	Planning
Cost	More than \$100,000
Funding	Grants
Timeframe	07/2021 - 06/2023
Priority	Medium



Action #11

Construct a secondary access route to Cowles Park.

Goal	7. Improve the emergency response capabilities of the region and its communities
Category	Preparedness & Emergency Response
Lead	Planning
Cost	More than \$100,000
Funding	Grants
Timeframe	01/2022 - 12/2023
Priority	Medium

Action #12

Educate land use officials on low impact development techniques. Consider contacting UConn Extension for assistance.

Goal	3. Improve institutional awareness and understanding of natural hazard impacts and mitigation within municipal governments and other decision-making bodies
Category	Education & Awareness
Lead	Planning
Cost	\$0 - \$10,000
Funding	Town Operating Budget
Timeframe	07/2020 - 06/2022
Priority	Low

Action #13

Develop a formal process of tree evaluation and overhead wires. Consider collaborating with Eversource.

Goal	5. Improve the resilience of local and regional utilities and infrastructure using strategies including adaptation, hardening, and creating redundancies.
Category	Prevention
Lead	Public Works
Cost	\$0 - \$10,000
Funding	Town Operating Budget
Timeframe	07/2021 - 06/2023
Priority	Low



Action #14

Coordinate with CT SHPO to conduct historic resource surveys, focusing on areas within natural hazard risk zones (such as flood or wildfire hazard zones and areas near steep slopes), to support identification of vulnerable historic properties and preparation of resiliency plans across the state. This action leverages existing resources and best practices for protection of historic and cultural resources through an ongoing statewide initiative by CT SHPO.

Goal	8. Ensure community character and social equity are addressed in mitigation activities
Category	Property Protection
Lead	Planning, in coordination with SHPO
Cost	\$10,000 - \$25,000
Funding	SHPO
Timeframe	07/2021 - 06/2023
Priority	Low

Action #15

Develop an open space plan, with special attention paid to land along rivers and streams not only because of flooding concerns, but also for recreation and wildlife management interests.

Goal	4. Increase the use of natural, "green," or "soft" hazard mitigation measures, such as open space preservation and green infrastructure.
Category	Natural Resources Protection
Lead	Planning
Cost	\$25,000 - \$50,000
Funding	Grants / CT DEEP
Timeframe	07/2021 - 06/2022
Priority	Low

Action #16

Acquire equipment necessary to maintain and remove large trees.

Goal	5. Improve the resilience of local and regional utilities and infrastructure using strategies including adaptation, hardening, and creating redundancies.
Category	Prevention
Lead	Public Works
Cost	\$50,000 - \$100,000
Funding	Grants
Timeframe	07/2023 - 12/2023
Priority	Low








Capitol Region Natural Hazards Mitigation Plan Update










East Granby, Connecticut

Flood Plains, Dams & Critical Facilities

Dam Hazard Class



-  BB, A, AA OR Unclassified
-  Class B - Significant Hazard
-  Class C - High Hazard

Critical Facilities

-  Fire Station
-  Police Station
-  School
-  Healthcare Facility
-  State Facility
-  Town Facility
-  Waste Water Facility
-  Emergency Center
-  NRHP Buildings/Sites

 NRHP Districts/Areas

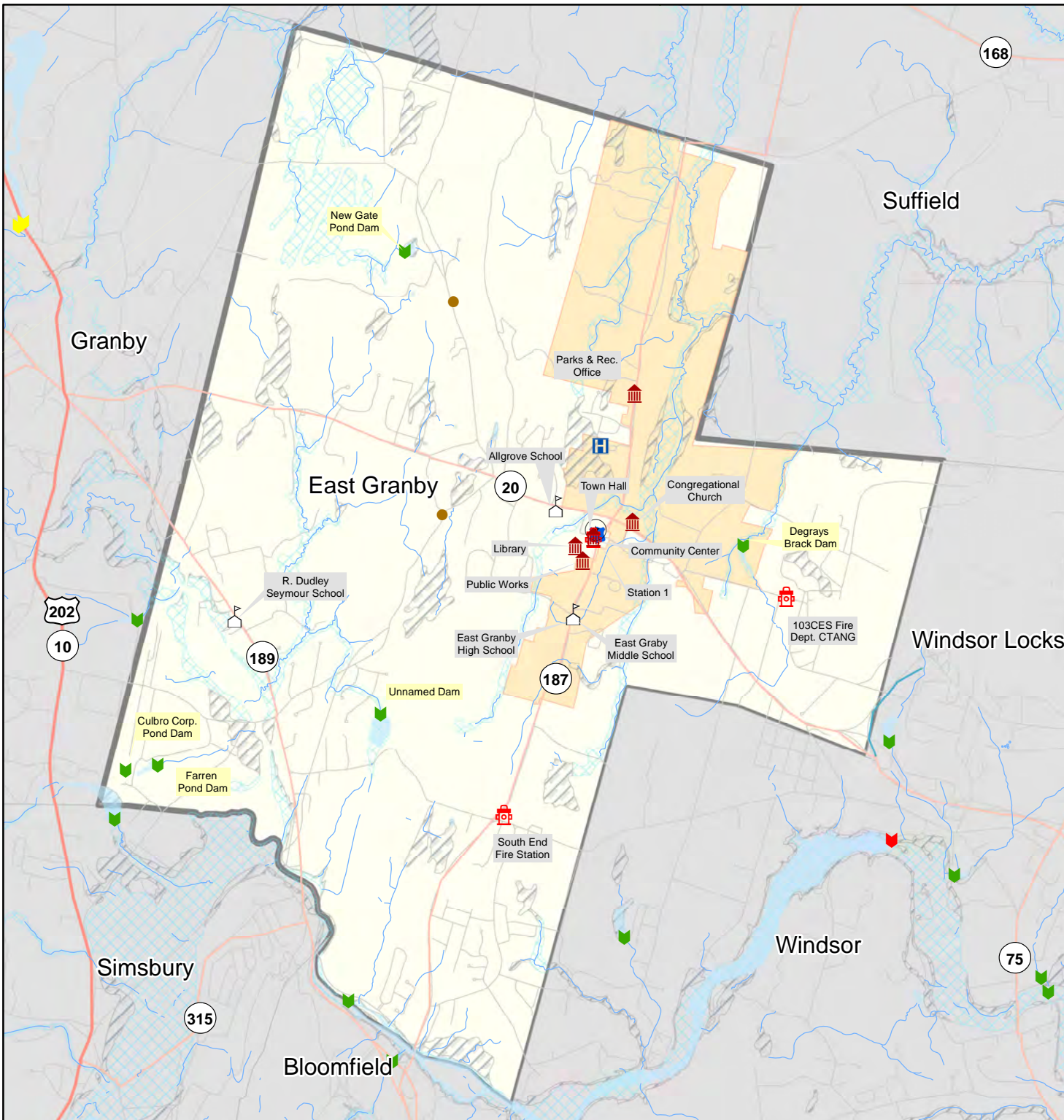
FEMA Flood Hazard Area

-  100 Year Flood Zone
-  500 Year Flood Zone

Data Sources: FEMA, National Register of Historic Places, CT DEEP, CRCOG, ESRI



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Capitol Region Natural Hazards Mitigation Plan Update












East Granby, Connecticut

Dam Breach Inundation Area & Critical Facilities

Dam Hazard Class

-  BB, A, AA OR Unclassified
-  Class B - Significant Hazard
-  Class C - High Hazard

Critical Facilities

-  Fire Station
-  Police Station
-  School
-  Healthcare Facility
-  State Facility
-  Town Facility
-  Waste Water Facility
-  Emergency Center
-  NRHP Buildings/Sites
-  NRHP Districts/Areas
-  Dam Breach Inundation Areas

Data Sources: FEMA, National Register of Historic Places, CT DEEP, CRCOG, ESRI



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