



## 34 West Hartford

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### Community Overview

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West Hartford is a fully suburbanized community that encompasses a land area of 22 square miles with a population of approximately 63,300. Major transportation routes through Town include Interstate 84, State Routes 4, 44, 71, 173, 185, 189 and 218. *CTfastrak*, a regional Bus Rapid Transit System, has stations in West Hartford, and it is expected that in the near future the Hartford Line commuter rail will add a stop in Town.

West Hartford is within the Park River Watershed, and contains several reservoirs that supply the Metropolitan District Commission's system. Major watercourses in town include Meadow, Piper, Rockledge, Trout, and Tumbledown Brooks, and the North Branch of the Park River.

About 21% of the Town's non-agricultural employment is in manufacturing. The Town has several large established commercial districts. New Park Avenue continues to be an area of potential redevelopment; a new apartment complex constructed on that road adjacent to Trout Brook received state funding and therefore is elevated above the 0.2% annual-chance flood elevation. Potential for additional development remains at the intersection of Park Road and Prospect Avenue, at the site of an old convent. This site is close to a stream that crosses into Hartford.

The Town hosts the University of Hartford, St. Joseph College and the American School for the Deaf. In August of 2017, the University of Connecticut relocated operations from its West Hartford Campus to downtown Hartford, leaving behind a 58-acre property that is currently for sale. The Town had considered acquisition of the property, but has instead decided to allow it to be sold on the public market. It is unknown what kind of redevelopment will occur here. Part of the campus is in a Special Flood Hazard Area (SFHA).

### Critical Facilities

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Critical Facilities throughout the Capitol Region are listed in Appendix B. In West Hartford these include the Elmwood Community Center (a shelter) and two public high schools (also shelters), the Police Department, Fire Department, and Public Works Department. The Police Department is the EOC and the Public Works in the backup EOC. The high schools do not have permanent generators, but do have connective capabilities for portable generators. This is also the case for the Town Hall. The Fire Department provides EMS-related services.

**Table 34-1: Critical Facilities, West Hartford**

Facility	Shelter	Generator
Elmwood Community Center	X	Yes
2 High Schools	X	Portable
Town Hall		Portable
Police Department (EOC)		Yes
Public Works		Yes
Fire Department		Yes

## Capabilities

Hazard mitigation is addressed specifically in West Hartford’s Plan of Conservation and Development (POCD). POCD actions specifically address natural hazards.

The Town has experienced significant flooding events in the past and has worked to mitigate the problem over the course of many years. West Hartford participates in the FEMA Community Rating System (CRS), and therefore has many flood-mitigation capabilities and programs in place. The Town is currently a Class-8 CRS community.

The Town of West Hartford undertook significant structural mitigation projects in the early 1980s, including rechanneling the Trout Brook to remove 238 houses from the floodplain. Additional work has been completed in recent years.

In 2001, the Town adopted a Repetitive Flood Loss Plan, and has consistently worked to implement the action plan contained within. Recent flood-mitigation work on Trout Brook is expected to help mitigate flooding at RLP sites. The Town periodically ensures that repetitive flood loss property owners have adequate information for retro-fitting flood-prone structures. The Town also holds regular meetings with residents to provide technical advice on flood protection and flood preparedness. In 2008, in order to remain eligible for participation in the National Flood Insurance Program, the Town revised its floodplain ordinance using adopting language that meets or exceeds federal or state requirements. The revised ordinance improves the Town’s ability to restrict new development in flood prone areas, and requires buildings in the floodplain be elevated or floodproofed to at least one foot above the base flood elevation (freeboard).

Very little development occurs in flood zones. Since 2008, the Town’s Inland Wetlands and Watercourses Commission has approved some regulated activities in areas either identified as floodplain or wetlands. Most of these approvals were for work in regulated inland wetlands areas outside of the floodplain, or for minor structural renovations and site improvements in regulated areas, in accordance with the Town’s flood hazard reduction and resource compensation standards. No new structures have been approved in the special flood hazard area. Permitted activities did not result in increased vulnerabilities to flooding and in some cases reduced the community’s flood risk. For example, permitted activities included structural stormwater drainage improvements, stream bank stabilization and removal of sediment and debris in floodplain and wetlands that help mitigate flood risks.



West Hartford works closely with the regional energy provider, Eversource, to mitigate power outages caused by natural hazards.

## New Capabilities

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West Hartford hopes to ascend to CRS Class 7 at some point in the future. The CRS re-certification process was underway at the time this HMP was being developed.

Additional mitigation work on Trout Brook, including tree and debris removal, has been completed since adoption of the 2014-2019 Capitol Region Natural Hazards Mitigation Plan Update (“2014 HMP”). A North Branch Trout Brook Study was recently completed by Milone & MacBroom Inc. A shack at the Buena Vista Golf Course that was located within a FEMA floodway has been replaced by a new structure outside the floodplain.

The West Hartford Public Works has acquired new snow-removal equipment since adoption of the 2014 HMP, improving its ability to clear streets following storms.

West Hartford was awarded the Bronze Certification level within the SustainableCT program in October 2018.

## Challenges

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### Challenges Overview

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Flooding continues to be a major concern for the Town. The recently completed North Branch Trout Brook study showed flood problems related to an undersized culvert. Erosion is also a concern; Trout Brook in the Montclair and Fox Meadow area is experiencing channel sedimentation and bank erosion, affecting riverside properties.

Some of the flooding issues in West Hartford result from sanitary sewer service back-ups. The Metropolitan District Commission owns and operates the sewer system in West Hartford. The Clean Water Project should alleviate overflow problems in this area.

Hurricanes and severe winter storms can also create significant impacts to the Town and its residents and businesses. Winter storms in 2015 significantly impacted the Town; one concern with regards to snow events is a lack of space to store snow removed from roads.

Thunderstorms and associated high winds are also a concern. Microbursts have caused considerable damage in nearby towns in the past, including Wethersfield and in the Elmwood section of Town in 2009. West Hartford also feels that its lack of access to real-time data and reporting during power outages is a hindrance to its mitigation capabilities.

Relatively significant droughts in recent years have increased concern about that risk. Aquarion Water Company installed a temporary pipeline to bring water to areas suffering from low supplies during the drought conditions of 2017. MDC rarely transfers water to New Britain during droughts.



## Hazard Losses

The economic losses faced by the community 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 322 property damage claims in West Hartford totaling \$1,182,879 to-date. The NFIP has paid out has 89 Repetitive Loss (RL) Property claims on 33 properties in West Hartford to-date. These claims have totaled \$677,684.

Total PA reimbursements to the community were as follows:

- Flood Events: \$136,024 (\$7,159 annually)
- Hurricane Events: \$185,498 (\$9,763 annually)
- Winter Storm Events: \$12,723,234 (\$669,644 annually)

These are summarized in the tables below.

**Table 34-2: Flood Event PA Reimbursements, West Hartford**

Incident	Sep 1999	Oct 2005
Declaration	9/23/1999	12/16/2005
Disaster No.	1302	1619
Entity	<b>FEMA PA Reimbursement</b>	
State	\$2,934	\$3,639
Municipal	\$0	\$63,486
Nonprofit	\$0	\$65,965
<b>Total</b>	<b>\$2,934</b>	<b>\$133,089</b>
<b>Annualized</b>	<b>\$154</b>	<b>\$7,005</b>

**Table 34-3: Hurricane Wind Event PA Reimbursements, West Hartford**

<b>Incident</b>	Aug - Sep 2011 (T.S. Irene)
<b>Declaration</b>	9/2/2011
<b>Disaster #</b>	4023
<b>Entity</b>	<b>FEMA PA Reimbursement</b>
<b>State</b>	\$17,543
<b>Municipal</b>	\$111,036
<b>Nonprofit</b>	\$56,919
<b>Total</b>	<b>\$185,498</b>
<b>Annualized</b>	<b>\$9,763</b>

**Table 34-4: Winter Storm PA Reimbursements, West Hartford**

<b>Incident</b>	Mar 2003	Dec 2003	Jan 2005	Feb 2006	Jan 2011	Oct 2011	Feb 2013
<b>Declaration</b>	3/11/03	1/15/04	2/17/05	5/2/06	3/3/11	11/17/11	3/21/13
<b>Disaster #</b>	3176	3192	3200	3266	1958	4046	4106
<b>Entity</b>	<b>FEMA PA Reimbursement</b>						
<b>State</b>	\$54,857	\$49,177	\$64,879	\$78,749	\$68,612	\$68,473	\$171,108
<b>Municipal</b>	\$158,434	\$140,607	\$169,639	\$224,514	\$224,753	\$10,424,232	\$301,081
<b>Nonprofit</b>	\$23,597	\$19,383	\$27,505	\$13,280	\$28,637	\$329,758	\$81,959
<b>Total</b>	<b>\$236,889</b>	<b>\$209,168</b>	<b>\$262,022</b>	<b>\$316,543</b>	<b>\$322,002</b>	<b>\$10,822,463</b>	<b>\$554,148</b>
<b>Annualized</b>	<b>\$12,468</b>	<b>\$11,009</b>	<b>\$13,791</b>	<b>\$16,660</b>	<b>\$16,947</b>	<b>\$569,603</b>	<b>\$29,166</b>

*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 the community since 2012.

**Table 34-5: NCEI Database Losses since 2012, West Hartford**

<b>Date</b>	<b>Event</b>	<b>Property Damage</b>
6/27/2017	Hail	\$0
6/30/2017	Flood	\$0
<b>Total Thunderstorm</b>		<b>\$0</b>
<b>Total Flood</b>		<b>\$0</b>

NCEI losses under other event categories (such as drought, high wind, flooding, and winter storms) were not specifically noted as impacting this community, 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 community 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 34-6: Estimated Damages to West Hartford from a 1% Annual-Chance Flood**

Loss Type	2014 Results	2018 Results
Households Displaced	893	642
People Needing Shelter	2,004	960
Buildings at Least Moderately Damaged	140	0
<b>Economic Losses</b>		
Residential Building & Content Losses	\$49,140,000	\$31,963,050
Other Building & Content Losses	\$80,830,000	\$53,374,375
<b>Total Building &amp; Content Loss</b>	<b>\$129,970,000</b>	<b>\$85,337,424</b>
<b>Total Business Interruption Losses</b>	<b>\$740,000</b>	<b>\$3,788,079</b>
<b>TOTAL</b>	<b>\$130,710,000</b>	<b>\$89,125,503</b>

**Table 34-7: Estimated Damages to West Hartford from a 1% Annual-Chance Hurricane**

Loss Type	2014 Results (1938 event)	2018 Results (1% track)
Buildings at Least Moderately Damaged	2,358	1
Buildings Completely Damaged	138	0
Total Debris Generated	56,362 tons	4483
Truckloads (at 25 tons/truck) of building debris	1,271	179
<b>Economic Losses</b>		
Residential Building & Content Losses	\$265,371,000	\$29,987,193
Other Building & Content Losses	\$53,553,000	\$979,569
<b>Total Building &amp; Content Loss</b>	<b>\$318,924,000</b>	<b>\$30,966,762</b>
<b>Total Business Interruption Losses</b>	<b>\$36,402,000</b>	<b>\$1,070,053</b>
<b>TOTAL LOSSES</b>	<b>\$355,325,000</b>	<b>\$32,036,815</b>



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 34-8: Estimated Damages to West Hartford from a Probabilistic Earthquake**

Loss Type	2018 Results
Wage Loss	\$13,881
Rent Loss	\$9,387
Relocation Loss	\$16,186
Income Loss	\$9,127
Inventory Loss	\$1,060
<b>Total Business Disruption</b>	<b>\$49,641</b>
Structural Loss	\$30,775
Non-Structural Loss	\$100,510
<b>Total Building Loss</b>	<b>\$131,285</b>
<b>Total Content Loss</b>	<b>\$40,440</b>
<b>TOTAL LOSSES</b>	<b>\$221,366</b>

**Table 34-9: Estimated Damages to West Hartford from Modeled Earthquake Scenarios**

Epicenter Location	Magnitude	Estimated Total Losses
East Haddam	6.4	\$1,242,110.43
Haddam	5.7	\$306,809.27
Portland	5.7	\$1,408,734.87
Stamford	5.7	\$24,302.51

### *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 the community 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 34-10: Average Annualized Losses, West Hartford**

Dam Failure	Drought	Earthquakes	Flooding	Hurricanes and Tropical Storms	Severe Winter Storms	Thunderstorms	Tornadoes	Wildfires	Total
\$113	\$0	\$221,366	\$38,288	\$3,966,180	\$669,644	\$8,403	\$928,260	\$4,059	\$5,836,312



## Losses Summary

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A review of the above loss estimates demonstrates that the Town of West Hartford has experienced significant expenses as a result of natural hazards, and is at risk for additional losses if some of the less-frequent events were to occur. These actual and potential losses justify hazard mitigation actions to reduce losses in the future.

## Mitigation Strategies and Actions

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### Noted Hazard Mitigation Needs

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During Plan development, specific hazard mitigation needs of West Hartford were noted.

- Microgrids may be of interest to the Town, especially at the Town Hall and Police Department.
- Locations for snow storage and disposal must be identified.
- West Hartford has explored the use of drought-resistant vegetation in landscaping that can reduce water use during droughts. With the MS4 implementation underway, it is expected that more low-impact development (LID) ideas, including drought-resistant planting, will be employed. The Town may also develop wells to irrigate some fields, which would remove those sites from the MDC treated water supply. This is consistent with the State Water Plan's recommendation to use Class B water sources for non-potable uses.

### Status of Previous Mitigation Strategies and Actions

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The Town of West Hartford reviewed the mitigation actions proposed in the 2014 HMP and determined the status of each. That information is included in the table below.



**Table 34-11: Status of Previous Mitigation Strategies and Actions, West Hartford**

Action #	Action	Notes	Status
<b>GOAL: MINIMIZE LOSS OF LIFE AND PROPERTY FROM NATURAL HAZARDS</b>			
<b>Objective 1: Continue to implement Repetitive Flood Loss Plan.</b>			
1.1	Reduce risk to flood-prone structures.	<p>Town consistently implements the Repetitive Flood Loss Plan’s action plan. The Town periodically ensures that repetitive flood loss property owners have adequate information for retro-fitting flood-prone structures and holds regular meetings with residents to provide technical advice on flood protection and flood preparedness. In addition, the Town has a stormwater management program that includes repair and replacement of storm sewers as part of street reconstruction or resurfacing projects. Storm sewers are also replaced or improved as a result of flooding complaints or roadway failures. Considerable progress, but the action is too broad to measure.</p>	Capability
<b>GOAL: MINIMIZE LOSS TO CRITICAL INFRASTRUCTURE AND REDUCE LOSS OF LIFE, PROPERTY AND ECONOMIC CONSEQUENCES AS A RESULT OF NATURAL DISASTERS.</b>			
<b>Objective 2: Improve the ability of town to provide emergency sheltering for at least 6,000 residents.</b>			
2.1	Install generators at all primary and tertiary shelters and designated alternate care sites.	Generators can be quickly connected at Elmwood Community Center and the two high schools (all shelters) and the Town Hall. DPW and PD both have fixed-in-place generators (the EOC and backup EOC). Additional generators may be needed.	Carry Forward with Revisions
2.2	Increase sheltering supplies (cots, water, food, etc.).	Progress has been made in partnership with the American Red Cross. Carry Forward to Completion.	Carry Forward
2.3	Ensure and supply transportation access to emergency shelters.	Progress has not been made on this action due to lack of resources.	Carry Forward
2.4	Ensure ability of the town to safely shelter in place, and when necessary, evacuate residents and visitors.	Progress has not been made on this action due to lack of resources.	Carry Forward
2.5	Establish pet sheltering alternatives.	Progress has not been made on this action due to lack of resources.	Carry Forward
<b>Objective 3: Reinforce, renovate and upgrade existing critical town facilities and support facilities.</b>			
3.1	Implement needed improvements to the Emergency Operations Center to withstand high wind and other natural and manmade disasters.	Progress has not been made on this action due to lack of resources.	Carry Forward
3.2	Upgrade and enhance operational equipment in Emergency Operations Center including radio communications, satellite communications and visual display media.	This action has been completed	Completed



Action #	Action	Notes	Status
3.3	Identify and establish a secondary Emergency Operations Center.	Public Works is the backup EOC with an emergency generator.	Completed
3.4	Work with local fuel stations to ensure adequate emergency generating equipment for emergency response vehicles.	Town wishes to construct a municipal fueling facility so they don't have to rely on private facilities.	Drop
<b>Objective 4: Increase training for hazard response to town employees, volunteers and emergency services personnel.</b>			
4.1	Provide Incident Command training to all personnel for position and function.	Progress has not been made on this action due to lack of resources.	Carry Forward
4.2	Provide shelter management training to all personnel for position and function.	Progress has not been made on this action due to lack of resources.	Carry Forward
4.3	Provide specific incident action plan development training to positions and functions of EOC representatives.	Progress has not been made on this action due to lack of resources.	Carry Forward

### 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.

<b>Action #1</b>	
<b>Develop a prioritized list of emergency generator acquisition, upgrade, or maintenance needs.</b>	
<b>Goal</b>	7. Improve the emergency response capabilities of the region and its communities
<b>Category</b>	Preparedness & Emergency Response
<b>Lead</b>	Emergency Management
<b>Cost</b>	\$0 - \$10,000
<b>Funding</b>	Town Operating Budget
<b>Timeframe</b>	01/2019 - 12/2019
<b>Priority</b>	High

<b>Action #2</b>	
<b>Incorporate Low Impact Development requirements into the Subdivision and Zoning Regulations.</b>	
<b>Goal</b>	2. Ensure Municipal Codes and Regulations support hazard mitigation
<b>Category</b>	Prevention
<b>Lead</b>	Planning
<b>Cost</b>	\$0 - \$10,000
<b>Funding</b>	Town Operating Budget
<b>Timeframe</b>	01/2019 - 12/2019
<b>Priority</b>	High



**Action #3**

**Establish pet sheltering alternatives.**

<b>Goal</b>	7. Improve the emergency response capabilities of the region and its communities
<b>Category</b>	Preparedness & Emergency Response
<b>Lead</b>	Emergency Management
<b>Cost</b>	\$10,000 - \$25,000
<b>Funding</b>	Town Operating Budget / Grants
<b>Timeframe</b>	01/2019 - 12/2020
<b>Priority</b>	High

**Action #4**

**Increase the ability of residents and visitors to safely shelter in place and when necessary, evacuate to safer locations, through education, trainings, and warnings.**

<b>Goal</b>	7. Improve the emergency response capabilities of the region and its communities
<b>Category</b>	Preparedness & Emergency Response
<b>Lead</b>	Emergency Management
<b>Cost</b>	\$10,000 - \$25,000
<b>Funding</b>	Town Operating Budget / Grants / DEMHS
<b>Timeframe</b>	01/2019 - 12/2020
<b>Priority</b>	High

**Action #5**

**Improve transportation access for residents and visitors to emergency shelters.**

<b>Goal</b>	7. Improve the emergency response capabilities of the region and its communities
<b>Category</b>	Preparedness & Emergency Response
<b>Lead</b>	Emergency Management
<b>Cost</b>	\$10,000 - \$25,000
<b>Funding</b>	Town Operating Budget / Grants / DEMHS
<b>Timeframe</b>	01/2019 - 12/2020
<b>Priority</b>	High

**Action #6**

**Determine sheltering supplies needs and increase supplies if needed (cots, water, food, etc.).**

<b>Goal</b>	7. Improve the emergency response capabilities of the region and its communities
<b>Category</b>	Preparedness & Emergency Response
<b>Lead</b>	Emergency Management
<b>Cost</b>	\$25,000 - \$50,000
<b>Funding</b>	Town Operating Budget / Grants / DEMHS
<b>Timeframe</b>	07/2020 - 06/2021
<b>Priority</b>	High



**Action #7**

**Complete the North Branch Trout Brook flood study.**

<b>Goal</b>	3. Improve institutional awareness and understanding of natural hazard impacts and mitigation within municipal governments and other decision-making bodies
<b>Category</b>	Prevention
<b>Lead</b>	Public Works
<b>Cost</b>	\$50,000 - \$100,000
<b>Funding</b>	Grants
<b>Timeframe</b>	07/2021 - 06/2022
<b>Priority</b>	High

**Action #8**

**Implement needed improvements to the Emergency Operations Center to withstand high wind and other natural and manmade disasters.**

<b>Goal</b>	1. Minimize the impact of natural hazards on physical buildings and infrastructure
<b>Category</b>	Property Protection
<b>Lead</b>	Emergency Management
<b>Cost</b>	More than \$100,000
<b>Funding</b>	Grants / DEMHS
<b>Timeframe</b>	07/2022 - 06/2023
<b>Priority</b>	High

**Action #9**

**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.**

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



**Action #10**

**Define a set of actions to be taken by the Town to increase its Community Rating System rating by at least one tier.**

<b>Goal</b>	9. Minimize the economic impact of hazard damages
<b>Category</b>	Prevention
<b>Lead</b>	Planning
<b>Cost</b>	\$0 - \$10,000
<b>Funding</b>	Town Operating Budget
<b>Timeframe</b>	01/2020 - 12/2020
<b>Priority</b>	Medium

**Action #11**

**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.**

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

**Action #12**

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

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



**Action #13**

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

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

**Action #14**

**Develop a list of local resources, including non-profits, volunteers, and gas-stations and grocery stores with emergency generators, to distribute to residents prior to forecast hazard events.**

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

**Action #15**

**Provide specific incident action plan development training to positions and functions of EOC representatives.**

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



**Action #16**

**Provide Incident Command training to all personnel for position and function.**

<b>Goal</b>	7. Improve the emergency response capabilities of the region and its communities
<b>Category</b>	Preparedness & Emergency Response
<b>Lead</b>	Emergency Management
<b>Cost</b>	\$10,000 - \$25,000
<b>Funding</b>	Town Operating Budget / Grants / DEMHS
<b>Timeframe</b>	01/2020 - 12/2022
<b>Priority</b>	Medium

**Action #17**

**Provide shelter management training to all personnel for position and function.**

<b>Goal</b>	7. Improve the emergency response capabilities of the region and its communities
<b>Category</b>	Preparedness & Emergency Response
<b>Lead</b>	Emergency Management
<b>Cost</b>	\$10,000 - \$25,000
<b>Funding</b>	Town Operating Budget / Grants / DEMHS
<b>Timeframe</b>	01/2020 - 12/2022
<b>Priority</b>	Medium

**Action #18**

**Explore feasibility and cost/benefit balance of developing a microgrid for the Town Hall and Police Department.**

<b>Goal</b>	5. Improve the resilience of local and regional utilities and infrastructure using strategies including adaptation, hardening, and creating redundancies.
<b>Category</b>	Prevention
<b>Lead</b>	Public Works
<b>Cost</b>	\$10,000 - \$25,000
<b>Funding</b>	Town Operating Budget / Grants / CT DEEP
<b>Timeframe</b>	01/2020 - 12/2022
<b>Priority</b>	Medium

**Action #19**

**Construct a new fueling facility for municipal vehicles.**

<b>Goal</b>	7. Improve the emergency response capabilities of the region and its communities
<b>Category</b>	Preparedness & Emergency Response
<b>Lead</b>	Public Works
<b>Cost</b>	More than \$100,000
<b>Funding</b>	Grants
<b>Timeframe</b>	07/2022 - 06/2024
<b>Priority</b>	Medium



**Action #20**

**Contact the owners of Repetitive Loss Properties and nearby properties at risk to inquire about mitigation undertaken and suggest options for mitigating flooding in those areas. This should be accomplished with a letter directly mailed to each property owner.**

<b>Goal</b>	1. Minimize the impact of natural hazards on physical buildings and infrastructure
<b>Category</b>	Property Protection
<b>Lead</b>	Planning
<b>Cost</b>	\$0 - \$10,000
<b>Funding</b>	Town Operating Budget / DEMHS
<b>Timeframe</b>	07/2021 - 06/2022
<b>Priority</b>	Low

**Action #21**

**Coordinate with CT SHPO to conduct outreach to historic property owners to educate them on methods of retrofitting their properties to be more hazard-resilient while maintaining historic character.**

<b>Goal</b>	8. Ensure community character and social equity are addressed in mitigation activities
<b>Category</b>	Education & Awareness
<b>Lead</b>	Planning, in coordination with SHPO
<b>Cost</b>	\$0 - \$10,000
<b>Funding</b>	SHPO
<b>Timeframe</b>	01/2021 - 12/2022
<b>Priority</b>	Low

**Action #22**

**Make progress with the hazard mitigation goals associated with SustainableCT certified actions.**

<b>Goal</b>	4. Increase the use of natural, "green," or "soft" hazard mitigation measures, such as open space preservation and green infrastructure.
<b>Category</b>	Natural Resources Protection
<b>Lead</b>	Planning
<b>Cost</b>	\$0 - \$10,000
<b>Funding</b>	Town Operating Budget
<b>Timeframe</b>	07/2021 - 06/2022
<b>Priority</b>	Low





**Action #23**

**Work with CT DEEP to complete a formal validation of the Repetitive Loss Property list and update the mitigation status of each listed property.**

<b>Goal</b>	1. Minimize the impact of natural hazards on physical buildings and infrastructure
<b>Category</b>	Property Protection
<b>Lead</b>	Planning
<b>Cost</b>	\$10,000 - \$25,000
<b>Funding</b>	Town Operating Budget / CT DEEP / DEMHS
<b>Timeframe</b>	07/2021 - 06/2023
<b>Priority</b>	Low

**Action #24**

**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.**

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

**Action #25**

**Send property owners along streams a mailer with information about ordinances against, and dangers of, dumping and placing obstructions into streams.**

<b>Goal</b>	6. Improve public outreach, education, and warning systems
<b>Category</b>	Education & Awareness
<b>Lead</b>	Planning
<b>Cost</b>	\$10,000 - \$25,000
<b>Funding</b>	Town Operating Budget
<b>Timeframe</b>	01/2021 - 12/2023
<b>Priority</b>	Low



**Action #26**

**Perform a Repetitive Loss Area Analysis (RLAA).**

<b>Goal</b>	3. Improve institutional awareness and understanding of natural hazard impacts and mitigation within municipal governments and other decision-making bodies
<b>Category</b>	Prevention
<b>Lead</b>	Planning
<b>Cost</b>	\$50,000 - \$100,000
<b>Funding</b>	Town Operating Budget / Grants / DEMHS
<b>Timeframe</b>	07/2023 - 06/2024
<b>Priority</b>	Low

**Action #27**

**Replace undersized and/or degraded culverts on Trout Brook.**

<b>Goal</b>	1. Minimize the impact of natural hazards on physical buildings and infrastructure
<b>Category</b>	Structural Projects
<b>Lead</b>	Public Works
<b>Cost</b>	More than \$100,000
<b>Funding</b>	Grants
<b>Timeframe</b>	07/2023 - 06/2024
<b>Priority</b>	Low

**Action #28**

**Stabilize unstable streambanks along Trout Brook.**

<b>Goal</b>	1. Minimize the impact of natural hazards on physical buildings and infrastructure
<b>Category</b>	Structural Projects
<b>Lead</b>	Public Works
<b>Cost</b>	More than \$100,000
<b>Funding</b>	Grants
<b>Timeframe</b>	07/2023 - 06/2024
<b>Priority</b>	Low

**Action #29**

**Replace the Fern Street Bridge over Trout Brook to ensure continued operation during future emergency events.**

<b>Goal</b>	1. Minimize the impact of natural hazards on physical buildings and infrastructure
<b>Category</b>	Structural Projects
<b>Lead</b>	Public Works
<b>Cost</b>	More than \$100,000
<b>Funding</b>	Grants
<b>Timeframe</b>	07/2023 - 06/2024
<b>Priority</b>	Low

