



HARTFORD



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Community Resilience Building Summary of Findings

December 2024



Town of Hartford, Vermont

Community Resilience Building

Summary of Findings

Overview

The need for municipalities, regional planning organizations, academic institutions, corporations, states, and federal agencies to increase resilience to extreme weather events and a changing climate is strikingly evident amongst communities across the state of Vermont. Relatively recent events such as Tropical Storm Irene (2011), major flooding events (2019), COVID-19 pandemic, and flooding and landslides (2023) have reinforced this urgency and compelled leading communities like the Town of Hartford to proactively collaborate on planning and mitigating risks. Ultimately, this type of leadership is to be commended because it will reinforce the strengths and reduce the vulnerability of people, infrastructure, and ecosystems and serve as a model for other communities in Vermont, New England, and the nation.

Recently, the Town of Hartford signed on with The Nature Conservancy (TNC) to complete a Community Resilience Building process. The process included community-driven steps and tasks designed to assess current hazard and climate change impacts and to generate prioritized actions to improve resilience, sustainability, and equity. In December 2024, Hartford's Core Team helped organize a Community Resilience Building workshop facilitated by TNC in partnership with University of New Hampshire - Extension and supported by Dartmouth College. The core directive of this effort was the engagement with and between community members to define strengths and vulnerabilities and the development of agreeable, priority resilience actions for the Town of Hartford.

The Hartford Community Resilience Building workshop's central objectives were to:

- Define top local, natural, and climate-related hazards of concern.
- Identify existing and future strengths and vulnerabilities.
- Identify and prioritize actions for the Town.
- Identify opportunities to collaboratively advance actions to increase resilience in accord with residents and organizations from across the Town, and beyond.

The Town of Hartford employed an “anywhere at any scale”, community-driven process called Community Resilience Building (CRB) (www.CommunityResilienceBuilding.org). The CRB’s tools, reports, other relevant planning documents, and local maps were integrated into the workshop process to provide both decision-support and visualization around shared issues and existing priorities across Hartford. The Hartford Hazard Mitigation Plan (2021), Hartford Climate Action Plan (2021), and Hartford Town Plan (2019) were particularly instructive as map resources and references. Using the CRB process, the participants produced the findings presented in this summary report. This Summary of Findings includes an overview of the top hazards, current concerns and challenges, existing strengths, and proposed actions to improve Hartford’s resilience to hazards and climate change today, and in the future.

The Summary of Findings transcribed in this report, like any that concern the evolving nature of risk assessment and associated action, is proffered for comments, corrections, and updates from workshop attendees and other stakeholders alike. The leadership displayed by the Town of Hartford on community resilience building will benefit from the continuous participation of all those concerned.

Summary of Findings

Top Hazards and Vulnerable Areas for the Community

Prior to the CRB Workshop, the Hartford CRB Core Team identified the top hazards for the Town. The hazards of greatest concern included flooding from rivers and streams, extreme temperatures (heat and cold), and landslides. Additional hazards highlighted by participants during the CRB workshop included drought, infectious disease outbreaks resulting in public health emergencies, ice storms coupled with high winds, and Nor’easters and blizzards during the fall and spring months. These hazards have direct and increasing impacts on the infrastructure, environment, and residents of and visitors to Hartford. These effects are seen more specifically in residential areas, open space, businesses, public transportation, social support services, health care systems, and other assets and services across Hartford.

Current Concerns and Challenges Presented by Hazards

The Town of Hartford has several concerns and faces multiple challenges related to the impacts of natural hazards and climate change. In the last few decades, Hartford has experienced a series of highly disruptive and damaging weather events including major regional ice storm (December 2008), Tropical Storm Irene (August 2011), Super Storm Sandy (October 2012), Nor'easter Nemo (February 2013), major wind and rainstorm (July 2017), major flooding event (April 2019), flooding and landslides (July 2023), and other less impactful but more frequent events. Impacts from many of these extreme weather events have included inland flooding in low lying areas coupled with wind damage across large portions of Hartford. Large winter storms have dropped several feet of snow on the Town, knocking out power and isolating residents and neighborhoods for periods of 72 hours or more. The magnitude and intensity of these events and others across Vermont have increased awareness of natural hazards and climate change, while motivating communities such as Hartford to proactively improve their overall resilience.

This series of extreme weather events demonstrates that the impacts from hazards are diverse. In Hartford this ranges from riverine flooding of critical infrastructure, bridges, roads, commercial districts, and low-lying areas; localized flooding from stormwater runoff during intense storms and heavy precipitation events; road closures due to flooding and road washouts; and property damage from trees, wind, snow, and ice. Longer periods of elevated heat, particularly in July and August, have raised concerns about vulnerable segments of the population including elderly, disabled, and/or isolated residents. The combination of these issues presents a challenge to preparedness and mitigation priorities and requires comprehensive, yet tailored actions for various locations and/or areas across Hartford.

The CRB workshop participants were generally in agreement that Hartford is experiencing more intense and frequent storm events, associated flooding, short-term seasonal drought, as well as heat waves. Additionally, there was a general concern about the increasing challenges of being prepared for the worst-case scenarios (e.g., major thunderstorms and hurricanes (Cat-3 or above)) particularly in the late summer and in the fall/winter months when more intense storms coincide with colder weather (i.e., snow/ice storms, Nor'easters, blizzards).

Specific Categories of Concerns and Challenges

As in any community, Hartford is not uniformly vulnerable to hazards and climate change. Certain locations, assets, and populations have been and will be affected to a greater degree than others. Workshop participants identified the following items as their community's key areas of concern and challenges across several broad categories.

Municipal/Community Functions, Operations, & Growth:

- Typically, limited budget to help advance prioritized mitigation or adaptation projects that are outside of the reoccurring year-over-year expenses of running the municipality.
- High cost of living is making it difficult for residents to afford to remain living in the place where they work.
- Difficulties for the younger population including young families to afford living in Hartford with less expensive options in both Rutland and Claremont, New Hampshire.
- Concerns that aging population will not be able to afford the increasing cost of living and housing in Hartford.
- Seventy percent of municipal employees in Claremont live in proximity to their respective places of employment versus thirty-eight percent in Hartford, which raises concern when many municipal staff are unable to get to their place of employment during events.
- Teachers in the Hartford School System are not able to afford the cost of living in Town and live elsewhere, which may prevent involvement and representation at the parent teacher organization meetings.
- Lack of affordable housing with efficient and higher density housing units (condos/apartments) is currently limited.
- Existing housing stock is aging with limited additions of small family homes in current housing development projects or the lack of conversion of larger buildings into duplexes.
- Concerns that as more rentals are built via higher density housing developments that it will attract a more transient population that may be less engaged with local issues and actions to increase resiliency.
- Increasing concerns that the elderly population in Hartford is on the verge of becoming unhoused due to the accelerating cost of living.
- Facilities designed to help unhoused individuals and elderly folks are located on the north side of White River, which may result in further isolation during major events of those people located on the south side of the White River.

Specific Categories of Concerns and Challenges (cont'd)

- Concerns over the impact to the social fabric of the community due to growing divisiveness of political views over the last decade.
- Social distancing has led residents to become less involved in supporting the overall needs of the Hartford community, which may present further challenges during crisis when those services are truly needed. This may result in the view that outsiders are coming in to try and “fix” situation caused by major events versus residents just trying to help other residents in their community.
- Growing erosion of trust in government causing concerns that municipal facilities such as Town Hall, Library, and other public facilities and spaces will not then be used during times of emergency.
- Town Hall in White River Junction is extremely vulnerable to a large flooding event, which would present an immediate governance and operation issue for the entire community in the response phase of a major disaster.
- Bugbee Senior Center is vulnerable to landslides and power outages.
- Wendell A. Barwood Arena (ice skating rink) contributes a disproportionate amount of greenhouse gas emissions.
- Wilder Library is an old historical building that is vulnerable to extreme cold and heat.
- Cost of engineering and construction to stabilize steep slopes and hillsides to prevent impacts to downhill homes and residents is prohibitive. Voluntary buyouts of structures vulnerable to landslides is also prohibitive without some outside state or federal funding.
- Power outages can last longer in outlying areas due to the prioritization of reenergizing key facilities such as hospitals, downtown areas, and village centers.
- Growing awareness of opioid crises across Vermont and New Hampshire, including Hartford.
- Concerns about the increased financial impact on agriculture due to changes in the freeze-thaw cycles and other erratic weather events including the maple syrup and apple orchard industries.
- Commercial timber harvesting has been impacted by warmer temperatures from climate change which create muddy ground conditions that are difficult for operating heavy machinery, thereby threatening an important part of the region’s economy.

Specific Categories of Concerns and Challenges (cont'd)

Emergency Management & Preparedness:

- Increase in frequency and ongoing unpredictability of extent and location of flooding events and landslides across Hartford and adjoining communities (“Past events are no longer a predictor of future events.”).
- Revision and update gaps between and within the principal emergency management plans and support groups including the Hartford Hazard Mitigation Plan, Upper Valley Emergency Management Plan, and the Upper Valley Strong Support Network.
- Although Hartford High School is the only designated emergency shelter in Town it does not have enough back-up batteries to support operation as a long-term shelter. The purchase and installation of additional batteries has met resistance from the Hartford School Board.
- No comprehensive emergency management access road plan.
- Sixty-five percent of emergency calls currently come from elderly residents that have fallen and require assistance, which is a concern given that the State of Vermont estimates that by 2030 over thirty percent of people living in Vermont will be over sixty-years of age.
- Ongoing concerns regarding the ability of municipal staff and essential workers to get to their places of employment during major natural disasters.
- Flooding resulting in unsafe and/or unpassable roads has caused delays in emergency management services during major storm events.
- Lived experiences amongst residents and municipal staff suggest that the designated federal flood zones are not completely accurate with routine and extreme flooding occurring in non-recognized areas, specifically in areas that are at the base of steep slopes and in “downhill areas” adjoining river and streams. Limited to no outreach and education has occurred with residents in these non-recognized flood areas, which presents a potential for additive impacts and response/recovery needs after major events.
- Currently, there is a need to have separate evacuation plans for elderly and unhoused people due to some baseline tensions between the two groups as well as different medical and mobility requirements.
- Lack of adequate vehicles to transport large numbers of people on either side of the White River in the event of a major disaster that requires mass evacuation.
- Saturated slopes due to more intense storms of longer duration resulting in landslides.
- Increasing number of microbursts and tornados that have and can destroy homes, other facilities, and wood lots across Hartford.

Specific Categories of Concerns and Challenges (cont'd)

- Ongoing difficulty to secure and access federal assets from the National Guard and the U.S. Army Corps of Engineers in the aftermath of emergencies that require construction and safety needs for the community.
- Growing risk of wildfire in forested and grassland areas during more extreme droughts especially on steep slopes, which can then become more susceptible to erosion during precipitation events due to exposed soils.
- Three private schools in Hartford are not currently engaged in municipal planning and emergency preparedness which may represent a missed opportunity to increase the overall resilience of the larger community via shared services and resources.

Roads, Bridges, Road Networks, Rail, & Dams:

- Large number of roads and road segments that are subjected to various hazardous conditions including flooding (Route 14, Main Street (Quechee), among many others) as well as snow, ice, and mud that can make roads unsafe and/or unpassable. For example, in several locations school buses will not go up roads because they get stuck 3-4 times a year (i.e., Neil Road, Centertown Road, etc.).
- Hartford has more roads to maintain than any other community in Vermont with the most miles of gravel roads. Gravel roads never freeze anymore given the progressively warmer winters resulting in longer periods of water in the road.
- Recognition based on previous roadway construction effort after recent storm events that rebuilding and armoring a roadway against floods and associated bank erosion just pushes the flood risk further downstream (“Never ending cascading sequence of downstream roadway repairs across never ending storm events.”)
- Currently no inventory of Class 4 roads (approximately 10 miles of Class 4 roads in Hartford) and other associated access roads, which creates a challenge when determining fire suppression access to tens of thousands of forested acres now vulnerable to wildfire.
- “Micro-slides” or small landslides adjacent to roadways can cause safety hazards for motorists and sometime road closures until staff can clear up the rocks, soil, and debris.
- Class 3 road off of Turnpike Road coming from Norwich is no longer passible.
- River Road is a Class 3 road that is continuously flooded and frozen in winter months (“Road turns to ice every year.”) although there are alternate routes when not passable, so repairs and reengineering is not cost effective, currently.
- Water retention on Podunk Road that end up “blowing out” a specific culvert.
- Steep driveways from private property onto municipal roads can increase erosion.

Specific Categories of Concerns and Challenges (cont'd)

- Hemlock Ridge Drive where Dothan Brook comes in is experiencing landslides and erosion due to snow and rain runoff.
- Four individual bridges have been lost recently due to extreme flooding events which has raised concerns amongst emergency managers and first responders if one side of the river was cut off from the other due to future bridges losses.
- Two bridges over the Ottauquechee River that are susceptible to landslides with one bridge providing the only water supply to the other side of the Ottauquechee River.
- Town does not have access to, nor does it repair, the privately-owned railroad tracks and associated equipment when there is a landslide, which can present access issues when residential homes between the rail line and the hillside are impacted (“Railroads operate on their own playing field.”).
- Diverse assortment of dams that provide various functions and have various ownership. Recent extensive and prolonged rainfall amounts have surfaced concerns about contingency planning as well as level of impacts associated with catastrophic failures. Key dams mentioned include Simon Pearce (privately owned), Quechee Gorge (privately owned by a utility), Kilowatt Dam (private-owned and operated for hydropower), and Taftsville Dam (privately-owned).
- Quechee Club has experienced major flooding on the property including the golf course, which is located upstream from the Simon Pearce Dam.
- Simon Pearce Dam which was recently purchased by a private equity firm present a potential threat to the downstream community in the event of catastrophic failure.

Stormwater System, Wastewater Systems, & Drinking Water Supply:

- Culverts designed for major storms during the 1970s resulting in many undersized culverts given the significantly greater precipitation-related volumes in 2025 (50 years later).
- Estimates that forty percent of culverts are currently blocked by rocks.
- Municipally owned wastewater treatment plant and system in Wilder is currently utilizing pump stations installed in 1978 as well as experiencing rainwater intrusion or seepage into the wastewater system which can increase treatment volumes and unnecessary associated costs.
- Large percentage of residential homes are on private septic systems which can fail resulting in additional cost for homeowners.

Specific Categories of Concerns and Challenges (cont'd)

- Increasing number and longer duration loss of water in private wells with questionable water quality during low flow times of the year. Currently there is no state mandate to regulate water quality in private wells.
- Drought conditions of several months in the last decade have resulted in the need for households to conserve water. Concerns that extended drought periods longer than several months may result in extensive loss of drinking water in private wells.
- Two former municipal dams that formerly provided municipal water to the Town were removed in the 2010s (Lower Hurricane and Upper Hurricane). Two other municipal reservoirs managed by the Hartford Water Division (Simonds and Wright) have been lowered to prevent breaching due to high water volumes behind these dams. Wright Reservoir has been drained to prevent future breaching.

Watersheds, Wetlands, Rivers, Open Space, & Forests:

- Wildlife and critical habitats are threatened by climate change while invasive species are generally expanding their range into Hartford and the Upper Valley region.
- Large number of ash trees have been killed by the Emerald Ash Borer Beetles and subsequently downed by high wind events.
- Growing amount and extent of invasive species (such as Japanese knotweed) within riparian zones across Hartford.
- Ongoing issues with forest management practices on private forests that involves extensive and unsustainable logging operations.
- Concerns regarding the potential impacts from wildfire on large, forested areas due in part to the high percentage of dead and standing ash trees (40% on higher elevation of Morrill Mountain and high percentage of Downer Forest abutting the northwest edge of Hartford).
- Risk of disease and exposure to pathogens among humans and wildlife is on the rise, exemplified by the increasing number of ticks and their ability to survive through winter, as well as insects like that Emerald Ash Borer that threaten forest health.
- Noticeable increases in the incidents of tick-borne illnesses in recent years which may be linked to milder winters and early springs.
- Extensive flooding at Watson Park, Clifford Park, and Ratcliffe Park during Tropical Storm Irene.
- Stream bank loss within the David Chang Conservation Area in Quechee.

Current Strengths and Assets

Just as certain locations, facilities, and populations in Hartford stand out as particularly vulnerable to the effects of hazards and climate change, other features are notable assets for Hartford's resilience building. Workshop participants identified the following items as their community's key strengths and expressed interest in centering them as the core of future resilience building actions.

Municipal/Community Functions, Operations, & Growth:

- Clearly, the responsive and committed engagement exhibited by leadership, staff, volunteers, and residents is a very appreciated strength within and across Hartford. Ongoing collaboration between municipal staff, committee/commission/board volunteers, business community, faith-based organizations, non-profit organizations, adjoining municipalities, and various regional and state-wide organizations, on priorities identified herein will help advance comprehensive, cost-effective, community resilience-building actions.
- Growing commitment to resilience and sustainability within Hartford's municipal government with recent hires for an environmental sustainability coordinator and communication coordinator.
- Large community of professionals willing to work collaboratively on topics such as the environment and diversity, equity, and inclusion (DEI) in Hartford and adjoining communities in the Upper Valley.
- Extensive "in-house" expertise and local knowledge across many departments such as Public Works, Fire, Police, Planning and Development, and Parks and Recreation, among others.
- Active engagement of residents in much needed and appreciated volunteer opportunities that have been sustained over time.
- General sense that there are pathways for community members to get involved, stay connected, and make a difference via well communicated activities and service opportunities.
- New municipal website that has the potential to increase the sharing of information and decisions across the various boards, commissions, and committees.
- Governance, functionality, and operations of Hartford can be maintained remotely in the event of power outages as directed by communications planning to coordinate responses and connect residents with gathering spots via neighborhood mapping efforts already in place.

Current Strengths and Assets (cont'd)

- Upper Valley region is known for having strong community connections with shared interests in keeping this a vital and well supported area (i.e., Northern Stage, King Arthur Baking Company, etc.).
- Major teaching hospital with an integrated system designed to support community members at all stages of life via the Dartmouth Hitchcock Medical Center (DHMC) and Alice Peck Day Memorial Hospital located just across the Connecticut River in Lebanon, New Hampshire.
- Large number of non-profit organizations that reliably provide support and networks across Hartford and via collaborations across the Connecticut River into Lebanon, New Hampshire, and northward across the Upper Valley. This unique concentration includes Vital Communities, LISTEN Community Services (food and community dinners, housing and heating assistance, clothes and home goods), Upper Valley Haven (food support, shelter, service coordination, housing support, children's programs), and Special Needs Support Center (adult services, youth and teen services, community advocacy, special needs information program), among others.
- The privately owned and operated The Scotland House is a community-based, non-residential facility that provides adult day programming for those who are aging and is considered a strength of the Hartford community.
- Bugbee Senior Center is a municipally owned facility that helps strengthen connections with vulnerable populations in Hartford.
- Hartford is fortunate to have four public libraries (Hartford Village, West Hartford, Quechee, and Wilder) that provide invaluable community hubs that help to connect residents with each other as well as programs, resources, and services.
- West Hartford Library has back-up batteries to ensure power continuity for short duration power outages.
- Quechee Library has issues with power outages but has a propane system in place as a back-up heating system.
- Presence of Veterans Administration in Hartford provides jobs and capacity to assist with disasters although there is currently very limited engagement by leadership and staff with the municipal staff and planning processes in Hartford.
- Hartford hosts several important State of Vermont offices (Department of Health, Vermont Agency of Transportation, State Court, etc.) resulting in a regional hub for state services.

Current Strengths and Assets (cont'd)

- Concentration of services and resources in downtown and village centers, which therefore provide social and resilience hubs for the community. It also presents a concern for emergency managers if access to those hubs gets cut off due to natural hazards such as flooding.
- Four of Hartford's five villages have municipal water and sewer services which can support further density and may help to limit further development in rural areas of Hartford.
- Potential in Hartford for additional compact housing options (condos/apartments) within village centers where municipal services (water, sewer, transportation, etc.) already exist along with employment and shopping options.
- Re-zoning efforts (2007/2008), complete with overlay districts, has resulted in more thoughtful development and proactive protection of homes, neighborhoods, and businesses from flooding events.
- Convergence of transportation types (railroad, highways, waterways) in various locations in Hartford which helps with planning but can present challenges if those areas are impacted by natural hazards (flooding, landslides, etc.). These areas represent major transportation hubs for the entire Upper Valley area and beyond.
- Highly appreciated and respected Department of Parks and Recreation for their management and operation of a network of public open spaces, parks, and associated recreational opportunities.
- Strong and well-connected agricultural community comprised of small to medium sized farms that go out of their way to support one another. This community provides a great deal of value to Hartford and surrounding municipalities through the provisioning of healthy, local foods and sustainable land management.
- Regional entities such as Northeast Organic Farming Association of Vermont and University of Vermont's Agricultural Extension provide critical support for the local agricultural community and help connect farmers in a meaningful way.
- High speed internet available across most of Hartford.
- Programs and availability of student interns from Dartmouth College that provide crucial capacity to help with special projects in Hartford.
- Zillow and Redfin are now publishing climate risk data on property listings including properties in Hartford.

Current Strengths and Assets (cont'd)

Emergency Management & Preparedness:

- Highly regarded emergency management and service response team in Hartford that is well equipped with emergency service plans to guide and direct operations along with identified future investments in equipment, training, and facilities. The Federal Emergency Management Agency stages response efforts at the Hartford Fire Department due to the geographic location of the Town and recognized capabilities and expertise of Hartford's emergency management professionals.
- Robust planning around emergency management as expressed within or by the Hartford Hazard Mitigation Plan, Upper Valley Emergency Management Plan, and the Upper Valley Strong Support Network.
- Long standing mutual aid agreements in place with adjoining municipalities to help assist Hartford in times of need and for Hartford to assist other municipalities, as needed.
- High degree of access and egress in the event of emergencies given that Hartford is at the intersection of two interstate highways (I-91 and I-89) ("Relief can come in and we can evacuate quickly if need be.").
- Hartford High School is a designated regional emergency shelter facility that has limited vulnerability to hazards of concern. The facility was opened and operational for residents during Tropical Storm Irene.
- Heating center for residents located in Hartford High School with a large backup power generator that was recently purchased and installed. Additional ongoing renovations at the High School that could provide both a heating and cooling center. This facility is located right next to the Wendell A. Barwood Arena (ice skating rink).
- The Wendell A. Barwood Arena (ice skating rink) is available and could be used as a cooling center for residents during periods of extreme heat.
- Bugbee Senior Center is an established (opened in 1980) and well-equipped cooling center for Hartford residents during times of need.
- Quechee Gorge Visitors Center is a fine facility that could function as a secondary shelter in times of need.
- New municipal electric signboard that provides day-to-day notices about weather and fire risk alerts as well as emergency notices during major events.

Roads, Bridges, Road Networks, Rail, & Dams:

- Highest mileage of roadways of any municipality in the State which offers many redundancies for access and egress as well as state funding for Class 1-3 roads.

Current Strengths and Assets (cont'd)

- Recent bridge and associated infrastructure assessment completed by engineering consultant across Hartford.
- Flood control structure operated by the U.S. Army Corps of Engineers has a functional flood control system in place with coordinated decisions as to when to release water to protect the dam structure and prevent additive impacts to the downstream communities of Hartland and Quechee.
- The Nature Conservancy alongside municipalities along the Connecticut River in the Upper Valley has helped communities with re-licensing of hydro-electric dams in ways that have benefited and compensated entities and residents impacted by the Wilder Dam, among others.
- Wilder Dam is a 41-megawatt hydro power plant on the Connecticut River that generates locally produced and available electricity.

Stormwater System, Wastewater Systems, & Drinking Water Supply:

- Drinking water plants and supply wells are generally in good shape with high quality management however, the supply lines are aging resulting in breakage and associated erosion of surrounding soil in those locations.
- Quechee water supply well flooded during Tropical Storm Irene, but a protective berm has subsequently been installed to protect the well from surface water flooding events.
- High quality aquifer with drinking water wells in Wilder and Quechee which is managed by the Hartford Water Division.

Watersheds, Wetlands, Rivers, Open Space, & Forests:

- Hartford residents and most Vermont residents have a robust appreciation and respect for the environment and natural resources.
- Large and diverse recreational community (residents and visitors) that takes full advantage of the robust assortment of outdoor opportunities in Hartford and across the Upper Valley.
- High quality of life in Hartford due in part to the abundant recreational opportunities afforded by ample open spaces and parks.
- Contiguous, large patches of functioning and healthy forest ecosystems across Hartford as well as adjoining municipalities that provides a strength in terms of air quality, precipitation infiltration versus runoff/erosion, and improved water quality due to absorption by forest soils as it moves downward into the ground water and aquifer.

Current Strengths and Assets (cont'd)

- Vermont Institute of Natural Science (VINS) and their Nature Center provides environmental education and awareness for residents and visitors.
- High quality and well used network of public open space, conserved lands, and parks across Hartford including Clifford Park, Watson Park (including dog park), Lyman Point, Maxfield Complex, and Town Forest, among others.
- Town Forest provides a model for forest management which has increased the ecological integrity of the forest lands as well as helped to enhance onsite carbon sequestration.
- Large number of rivers, streams, and tributaries across Hartford that provide high quality recreational opportunities for residents and visitors.
- Connecticut River is a landmark natural resource and a historic point of connection between Hartford and neighboring communities.
- Connecticut River has not significantly flooded Hartford in many decades which is a positive given the River's relatively large size and high water volume as compared others waterways in Hartford that do flood (White River, Ottauquechee River).
- Relatively large amount of public and privately owned, intact, forested land that helps to ensure Hartford benefits from the environmental services such as clean water and air and reduced downslope flooding.



Credit: Hartford Parks & Recreation



Credit: Quechee Library



Credit: AllTrails

Recommendations to Improve Resilience

A common theme among workshop participants was the need to continue community-based planning efforts focused on developing adaptive measures to reinforce Hartford's strengths and reduce vulnerability to extreme weather, climate change, and other common concerns raised. To that end, the workshop participants helped to identify several priority topics requiring more immediate and/or ongoing attention including:

- **Long-term vision and growth** (i.e., affordable housing, sustainable growth, volunteerism, conservation and recreation, economic development, health care and safety);
- **Infrastructure improvements** (i.e., roads/bridges/culverts/dams, green stormwater infrastructure/management systems, riverine flood infrastructure, engineered landslide prevention, transportation);
- **Quality of life improvements** (i.e., housing, affordability, recreation, parks, accessibility, sustainability, health & safety, economic prosperity, elderly, transportation);
- **Emergency management** (i.e., communications, outreach, education, continuation of services, business recovery, evacuation, vulnerable populations).

In direct response, the Community Resilience Building workshop participants developed the following actions and identified (but not ranked) them as priority or as additional actions to advance. Base maps generated during the CRB workshop are provided in Appendix A. Mitigation actions from the Hartford Hazard Mitigation Plan (2021) are provided in Appendix B for cross-reference with actions presented herein. Maps provided during the CRB workshop, gathered from the Hartford Hazard Mitigation Plan, Hartford Climate Action Plan (2021), Hartford Town Plan (2019), and LebGIS Mapping Tool (2024) are provided in Appendix C.

Priority Actions

- Continue to develop awareness of the collective capacity and skill sets of the Hartford community alongside a pairing process with civic engagement opportunities to help build regional and individual self-sufficiency during events that require emergency response.

Priority Actions (cont'd)

- Offer opportunities to community-based groups and non-profits organizations to engage in emergency management preparedness planning including LISTEN Community Services, Upper Valley Haven, and Special Needs Support Center, among others. This will help to broaden the depth and reach of the collective response and recovery in Hartford from disasters. This inclusive approach should also be extended to State of Vermont offices in Hartford including Department of Health and the Veterans Administration.
- Cross-reference actions generated through the Hartford Community Resilience Building process with mitigation actions (see Appendix B for list of mitigation actions) identified in the Hartford Hazard Mitigation Plan (2021). Regularly revisit and revise as needed the mitigation projects identified in the Hartford Hazard Mitigation Plan.
- Look to increase Department of Public Works staffing or increase use of sub-contracts to ensure the culvert repairs/retrofits replacements proceed at a pace required to help reduce risk to infrastructure and keep residents and visitors safe on Hartford's roadways.
- Continue to utilize culvert inventory to conduct necessary repairs-retrofits-replacements including installing underdrains, resizing to accommodate current and anticipated future runoff volumes, stone line ditching, and headwalls on the culvert plates. Ensure culverts are re-designed to manage runoff volumes of projected precipitation events in the 2030s to 2050s ("not the 1970s"). Work to incorporate green stormwater infrastructure in with culvert improvement projects, where feasible.
- Explore possibilities of combining the collective capability and capacities of the Hartford High School, Wendell A. Barwood Arena, Bugbee Senior Center, and/or the various libraries as social or resilience hubs to service the community not only during times of need but as places to build and strengthen community year-round.
- Work to make the Hartford High School a designated heating and cooling center and look to coordinate capabilities and capacity needs during extreme temperature events with the adjoining Wendell A. Barwood Arena ("Two facilities working as one to service needs of the community in one easy to get to, centralized location.").

Priority Actions (cont'd)

- Improve the functionality of the Wendell A. Barwood Arena (ice skating rink) as a cooling center during the upcoming redesign and repurposing as well as a year-round facility.
- Assess and evaluate options and costs to establish a multi-generational, community center in Hartford.
- Look to identify and conduct floodplain restoration activities upstream from critical bridges as well as additional conservation of upstream floodplain areas to help maintain and possibly increase flood storage capacity within multiple watersheds.
- Explore potential to conduct floodplain and other ecological restoration projects on the Quechee Club property in partnership with their Land Committee to help trap and retain floodwater and reduce impacts downstream.
- Accelerate the number and extent of riparian buffer and floodplain restoration and enhancement to ensure these natural systems are capturing and retaining as much runoff and flood waters as possible to help alleviate localized and downstream flooding issues.
- Work to maintain intact and contiguous forest blocks and look to minimize forest fragmentation by preventing development in key areas.
- Look to establish a network of Village/Neighborhood Ambassadors, as identified as an action via a recommendation from the Town Plan Economic Development chapter, to help with coordination and communication across Hartford in advance of, during, and after major events. Village/Neighborhood Ambassadors could help with door-to-door outreach in cases where electrical communications are lost.
- Explore possible technological and alternative ways to improve on notification systems to ensure residents are aware of impending severe weather and to get help where people may be stranded or isolated. This could include connecting municipal-owned snowplows with call centers to better assist residents that find themselves in emergency situations during winter storms.

Priority Actions (cont'd)

- Invest in improving an emergency information system that would be able to effectively get information out to residents in the event of extended power outages.
- Connect with City of Lebanon (New Hampshire) to discuss the cost, process, and advantages of “Leb-alters”, which the City uses to send out regular notifications around happenings of public interest and in turn creates a larger audience when emergency alerts are needed (“Give folks something that helps on a regular basis and they will be there when emergencies happen.”).
- Explore further via emergency management tabletop exercises scenarios involving the loss of multiple bridges across the White River and elsewhere to help develop a more coordinated response, with redundancies, on both sides of the White River.
- Engage with the Veterans Administration Hospital to see if there are ways to collaborate with the Town on emergency response and support such as sheltering and medical assistance options. Look to open up opportunities for the Veterans Administration staff to become more involved with activities within Hartford.
- Create a robust and comprehensive Asset Management Plan that the Department of Public Works can implement with strategic understanding and agreement on where and when to invest in municipal infrastructure.
- Consider building a Class 4 road inventory and reporting tool to help make decisions about which segments to abandon or maintain given mounting costs to support going forward. Ensure the tool and assessments of Class 4 roadways consider respective contribution to assisting with emergency-related evacuation.
- Review recent bridge assessment to define priority list for infrastructure repair, replacement, and ongoing maintenance activities. Prioritized list may also lead to greater awareness and allocation of funding via state departments like Vermont Agency of Transportation.

Priority Actions (cont'd)

- Identify through further mapping and information from pump station meters where infiltration into the wastewater pipe system is occurring. Target areas of high infiltration for replacement of broken or compromised pipes.
- Maintain good working relationship with Green Mountain Power and explore, in a collaborative fashion, potential actions that may help to increase the overall resilience of Hartford and adjoining municipalities such as more back-up power and use of renewable sources of energy.
- Develop a program like Woodstock's fund to help keep working-class residents in the community via interest free loan programs or cash programs (i.e., Worker Housing Program).
- Work to establish a funding scheme to provide seed monies for property owners of large homes to rehabilitate and create multiple units to increase the housing stock in Hartford.



Credit: Hartford, VT



Credit: West Hartford Farmers Market



Credit: LamdSearch

Additional Actions

Municipal/Community Functions, Operations, & Growth:

- Identify a back-up facility for municipal governance and operation management in the event a major flood event renders the Town Hall unusable due to its recognized vulnerability as well as a larger portion of the downtown areas.
- Reevaluate overlay districts created by re-zoning efforts in 2007/2008 to see what advantages or disadvantages they have resulted in and may pose for future redevelopment/development in hopes of fostering even more resilience and sustainability across Hartford.
- Reevaluate subdivision development rules and permit regulations to better integrate consideration of stormwater runoff, erosion, and flood risks and use to assess potential development or redevelopment projects.
- Continue to support social programs, school programming, and community spaces and events to help the youth in Hartford find opportunities to come together in hopes of reducing issues with drugs.
- Review and look to increase funding for the Department of Parks and Recreation to help advance further school programming and outdoor amenities for all residents and visitors.
- Increase in the daily service hours and number of routes available via the public transportation system across Hartford for those residents without other forms of transportation and those looking to reduce use of personal automobiles.
- Look to foster unique partnerships between groups such as the Hartford Conservation Commission and the Chamber of Commerce to support engage with residents about different programs and opportunities to volunteer.
- Work in collaboration with utilities and others to help increase cell coverage across Hartford.

Additional Actions (cont'd)

- Review the economic development chapter in the Town Plan that identifies the need for expansion of services and resources in the village centers including expanding various libraries and municipal facilities to create a series of well-resourced and functioning community centers ready to response to the needs of residents.
- Implement weatherization and air conditioning installation at the Hartford High School to help reduce impact of higher temperatures on students, facility, and staff.
- Seek out approaches and ways to encourage new arrivals and younger people to engage in community forums as well as potentially joining various committees, board, and commissions in Hartford.
- Strongly consider allocating a percentage of the municipal budget to a dedicated fund to pay for priority resiliency investments.
- Initiate discussion with Green Mountain Power to help further develop renewable incentives, rebates, and back-up battery programs which may also include the consideration of micro-grid(s) installation in critical areas of Town.
- Conduct education to landlords to help ensure accessory dwelling units are properly managed.

Emergency Management & Preparedness:

- Secure large transport vehicles to enable mass evacuation during a major flooding event or equivalent disaster requiring rapid movement of large numbers of people. Proactively deploy large transportation vehicle(s) on either side of White River in advance of major events.
- Assess the possibilities of establishing a secondary team to focus on the evacuation and relocation of elderly and unhoused individuals in advance of major events. This would help free up the primary emergency management team to direct their full resources to dealing with major disasters.

Additional Actions (cont'd)

- Increase general awareness of wildfire risk amongst residents as well as conduct fire risk mapping across Hartford with an emphasis on risk on steep slopes.
- Continue to seek out opportunities for training for Fire Department personnel on wildfire procedures and techniques as well as securing equipment needed to respond effectively to wildfires.
- Connect with flooding modeling activities currently being run by the University of Vermont to learn more about actual and projected flood scenarios for Hartford.
- Ensure that any upgrades or installation of new communication systems associated with emergency alerts is not placing an additional burden on staff also charged with responding to and fixing issues.
- Evolve an emergency procedure to ensure critical personnel are rapidly mobilized during emergency events to help reduce delays that were experienced in the past with key issues such as food distribution to residents in need.
- Collaborate with the railroad companies to ensure a robust emergency management and evacuation plan is in place and routinely updated in hopes of proactively preparing for and increasing response effectiveness during a train derailment event.
- Look to clarify additional upgrades to the Bugbee Senior Center including securing additional back-up batteries and shoring up the building so that it can function as a secondary shelter during times of crises in the community, particularly amongst the elderly folks in Hartford who already are familiar and comfortable with the facility.
- Rectify overlaps in different databases in hopes of creating a single list of people in Hartford that are medically vulnerable and require electricity during power outages that can be shared amongst emergency management professionals and first responders.
- Provide educational outreach to residents on how and what to do to remain safe and well provisioned during extended power outages.

Additional Actions (cont'd)

- Look to help the Quechee Gorge Visitors Center become more self-sufficient via the installation of back-up power so the facility can provide secondary, short-term sheltering capacity during times of crises in Hartford and surrounding municipalities.
- Help make improvements to The Scotland House with installation of back-up power generation capability, so their clientele continues to have a safe and supportive place to go during emergencies. This will help to reduce the burden on first responders and primary sheltering facilities in Hartford.

Roads, Bridges, Road Networks, Rail, & Dams:

- Consider decommissioning River Road relocated and/or converting it into a more cost-effective, low maintenance alternative as a walking trail for residents and visitors.
- Properly engineer and replace culvert along Podunk Road to help ensure more effective drainage.
- Ensure a current condition assessment has been completed for all significant dams in Hartford and ensure that catastrophic failure and evacuation plans are in place for each one. Key dams mentioned include Simon Pierce (privately owned), Quechee Gorge (privately owned by a utility), Kilowatt Dam (private-owned and operated for hydropower), and Taftsville Dam (privately-owned).
- Secure and implement needed improvements at the Wright Reservoir.

Stormwater System, Wastewater Systems, & Drinking Water Supply:

- Use the culvert program to train staff and raise awareness around the culvert crawler program in Hartford.
- Explore possible approaches and incentives to disconnect roof drains located within the walls of older buildings in White River Junction to help reduce the amount of rainwater entering the wastewater system, which can needlessly drive-up downstream treatment costs at the wastewater treatment plant.

Additional Actions (cont'd)

- Assess and inventory private septic systems to ensure they are functioning and properly maintained to help prevent localized pollution of ground water and waterways, which will also help to reduce impacts to public health in Hartford.
- Create broader awareness about the availability and location of drinking water testing facilities for private wells, particularly during drought conditions when wells tend to run low.
- Develop and provide presentations and materials that will help build greater awareness of water conservation benefits at the household level, particularly during periods of drought.

Watersheds, Wetlands, Rivers, Open Space, & Forests:

- Re-evaluate historic riverbed straightening done to better accommodate highways and roadways to see what contributions these activities have on downstream flooding. Use outcomes of assessment to inform future floodplain and river restoration project extent and location.
- Work to ensure that steep slopes identified as having a potential for landslides remain well vegetated (i.e., native shrubs and trees with mature root systems intact) and are therefore less exposed to intense and longer duration precipitation events.
- Establish set back requirements to prevent development and/or manipulation of riparian buffer zones along waterways across Hartford to help increase the water storage capacity during flood events.
- Conduct a comprehensive wetland and waterway assessment to further identify which wetland resources should be prioritized for the protection of natural resources and ecological functions such as flood storage.
- Assess the impacts of roadways on waterways (i.e., increased erosion, runoff of salts, etc.) and work to minimize those impacts over time.

CRB Workshop Participants: Department/Organization

Town of Hartford – Office of the Town Manager
Town of Hartford – Department of Planning and Development Services
Town of Hartford – Health
Town of Hartford – Fire Department
Town of Hartford – Parks and Recreation Department
Town of Hartford – Department of Public Works
Town of Hartford – Bugbee Senior Center
Town of Hartford – Police Department
Town of Hartford – Conservation Commission
Town of Hartford – Planning Commission
Town of Hartford – Climate Action Steering Team
Town of Hartford – Resilient Hartford Committee
Town of Hartford – Community Advisory System Team
Town of Hartford - Residents
City of Lebanon – Office of Planning and Development
Hartford Area Chamber of Commerce
Two Rivers-Ottawaquechee Regional Commission
Vital Communities
Upper Valley Lake Sunapee Regional Planning Commission
Sunrise Farm
Quechee Club

Hartford CRB Core Project Team

John Haverstock – Town Manager

Dana Clawson – Environmental Sustainability Coordinator

Matt Osborn – Town Planner

Jeremy Delisle – Deputy Director – Department of Public Works

Kyle Katz – Chair - Resilient Hartford Committee

John Reid – Chair – Planning Commission

Anna Gunther – Project Manager – Vital Communities

Brett Mayfield – Town Health Officer

Mark Bradley – Executive Director – Bugbee Senior Center

CRB Workshop Facilitation Team

The Nature Conservancy – Adam Whelchel, Ph.D. (Co-Project Lead - Lead Facilitator)

The Nature Conservancy – Matthew Thorne (Small Group Facilitator)

University of New Hampshire Extension – Lisa Wise (Small Group Facilitator)

The Nature Conservancy – Drew Goldsman (Small Group Facilitator)

Dartmouth College – Lynee Turek (Scribe)

Dartmouth College – Leila Ambrus (Scribe)

The Nature Conservancy – Katherine Folts (Scribe)

Recommended Citation

Town of Hartford Community Resilience Building Process - Summary of Findings Report. (2024). Community Resilience Building Program. The Nature Conservancy and University of New Hampshire Extension. Hartford, Vermont.

Acknowledgements

Special thanks to the Town leadership, staff, and community members for their willingness to embrace the process in hopes of a more resilient future for Hartford. This in-person Community Resilience Building process was made possible in large part through the dedicated contribution of the facilitation team members who skillfully conducted the Hartford Community Resilience Building process in close partnership with the Town's CRB Core Project Team.

Appendix A

Town of Hartford Base Maps*

***Base Maps were generated by each of the three small groups (Green, Red, Blue) during the Community Resilience Building workshop in Hartford on December 5, 2024.**

[illegible]

Hartford CRB Green Group Base Map

HARTFORD BASE MAP

The map displays the Hartford area in Vermont, including towns such as North Pomfret, Millbrook, West Hartford, Centerville, Hartford, Centertown, Quechee, Taftsville, Jericho, Dothan, Bragg, Norwich, Hanover, Wilder, West Lebanon, and Russtown. Major roads like I-91, I-89, and I-4 are shown. The Connecticut River is prominent, flowing through the center. The map is marked with various colored shapes: green squares, yellow squares, and blue squares. A red dotted line runs diagonally across the map. The map is sourced from Google, as indicated by the logo at the bottom.

Hartford Community Resilience Building Workshop – 5 December 2024

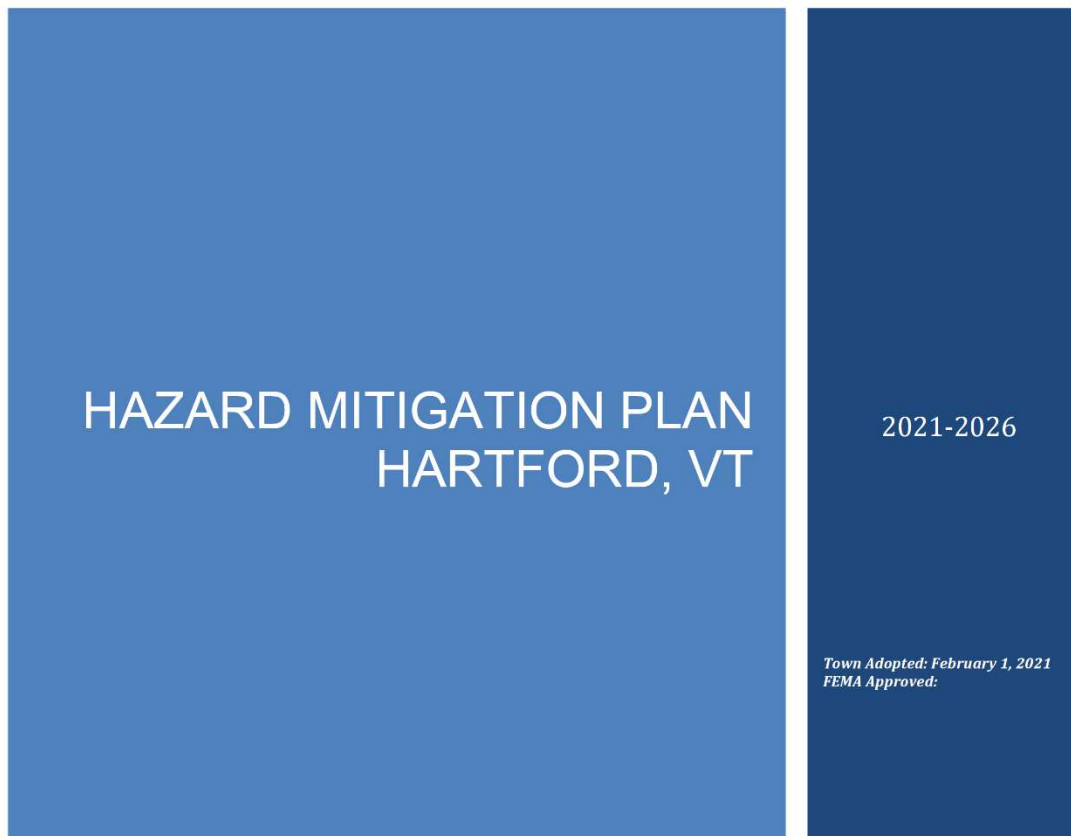
Hartford CRB Red Group Base Map

HARTFORD BASE MAP



Appendix B

Town of Hartford Mitigation Actions*



***Gathered from Town of Hartford’s Hazard Mitigation Plan Update (2021).**

Table 6.2 Hartford Hazard Mitigation Program: 2021-2026

Mitigation Action	Who (Leadership)	By When (Timeframe)	How (Funding, Resources & Cost)	Implementation (via Existing Programs, Organizations)
A. All Hazards				
<i>Priority 1 - Actionable items to be initiated or maintained during the next five years</i>				
A.1.1 Develop and implement a multi-hazard public awareness program by compiling “hazard vulnerability checklists” for local residents and businesses, and information on preparing home emergency kits. Post on the town’s website, in annual reports and at town libraries.	Planning & Development Department and Public Safety Department	Done, revamp in 2021-2022	Town Budget - Cost Low	Coordinate with Small Business Development, Distribution via Town website, Newsletter, Town Reports, libraries, Senior Center, churches, schools, Public Access TV
A.1.2 Monitor, review and prepare annual reports on actions to maintain active Town Hazard Mitigation Program	Planning & Development Department	Annual status reports (12 months)	Town Budget - Cost Low	Selectboard, Town Manager and Town Department

Table 6.2 Hartford Hazard Mitigation Program: 2021-2026

Mitigation Action	Who (Leadership)	By When (Timeframe)	How (Funding, Resources & Cost)	Implementation (via Existing Programs, Organizations)
A.2.1 Analyze and identify options to mitigate issues regarding extended interruptions in food supply, power, fuel, transportation, and communications networks; a. Determine what issues are within local control; and what are regional conversations. b. Investigate public and non-public partner involvement.	Planning & Development Department, Emergency Management Director	a. 2021-2022 b. 2022-2023	In Annual Work Program of both Departments Cost a. Medium b. Low	Via broad public process & Two Rivers-Ottawaquechee Regional Commission
A.2.2 Evaluate the financial impact of establishing a local reserve fund within the Capital Improvements Program for future mitigation projects and identify matching funds for grants.	Planning & Development Department, Public Works	2021-2022	Planning & Development and Public Works Staff Cost Low	Town Manager, Selectboard, Public Works & Planning Commission
B. Flooding and Erosion				

Table 6.2 Hartford Hazard Mitigation Program: 2021-2026

Mitigation Action	Who (Leadership)	By When (Timeframe)	How (Funding, Resources & Cost)	Implementation (via Existing Programs, Organizations)
A.1.3 Consult with partners such as the Two Rivers-Ottawaquechee Regional Commission, White River Partnership, neighboring towns, and state officials to identify any changes in hazard data/revise risk assessment, most at-risk critical facilities, and potential mitigation techniques.	Planning & Development Department	2020-2021	Town Budget - Cost Low	Other Town Departments, Planning Commission and Resilient Committee
A.1.4 Integrate hazard mitigation into local decision-making, Town Plan, and when adopting Town policies and land use regulations.	Planning & Development Department and Planning Commission	2022-2023	In Annual Work Program - Cost Low	Incorporate recommendations into town plan, bylaw and policy updates when revising
<i>PRIORITY 2 - Items needing further analysis during the next five years to determine the best course of action.</i>				

Table 6.2 Hartford Hazard Mitigation Program: 2021-2026

Mitigation Action	Who (Leadership)	By When (Timeframe)	How (Funding, Resources & Cost)	Implementation (via Existing Programs, Organizations)
<i>Priority 1 - Actionable items to be initiated or maintained during the next five years</i>				
B.1.1 Continue the Hazard Mitigation Grant Buyout program for properties substantially damaged during the 2011 Irene Flood. a. Apply for funds to purchase other properties. If obtained complete purchase, site restoration.	Planning & Development Department	2021-2025	HMGP & CDBG Funds Cost High	Town Manager & Selectboard
B.1.2 Mitigate damage from future flood and erosion damage through changes in the Hartford Flood Hazard Area Regulations:	Planning & Development Department	a. 2021-2022	Agency of Natural Resources Rivers Management and Two Rivers-Ottawaquechee Regional Commission	Planning Commission, Selectboard

Table 6.2 Hartford Hazard Mitigation Program: 2021-2026

Mitigation Action	Who (Leadership)	By When (Timeframe)	How (Funding, Resources & Cost)	Implementation (via Existing Programs, Organizations)
a. Complete draft revision to clarify existing requirements for all development in known flood hazard areas, such as tying down propane tanks in flood hazard areas, and elevation.				
<p>B.1.3 Reduce exposure and risk within known flood hazard areas through changes in the Town Plan and establishment of policies and recommendations, especially for critical facilities and infrastructure, and as required by new State law.</p> <p>a. Finalize policies and recommendations and begin implementation.</p>	Planning & Development Department	2022-2023	<p>Annual Work Program</p> <p>Cost:</p> <p>a. Medium</p>	Public Works, Planning Commission, Town Manager & Selectboard

Table 6.2 Hartford Hazard Mitigation Program: 2021-2026

Mitigation Action	Who (Leadership)	By When (Timeframe)	How (Funding, Resources & Cost)	Implementation (via Existing Programs, Organizations)
a. Complete draft revision to clarify existing requirements for all development in known flood hazard areas, such as tying down propane tanks in flood hazard areas, and elevation.				
<p>B.1.3 Reduce exposure and risk within known flood hazard areas through changes in the Town Plan and establishment of policies and recommendations, especially for critical facilities and infrastructure, and as required by new State law.</p> <p>a. Finalize policies and recommendations and begin implementation.</p>	Planning & Development Department	2022-2023	<p>Annual Work Program</p> <p>Cost:</p> <p>a. Medium</p>	Public Works, Planning Commission, Town Manager & Selectboard

Table 6.2 Hartford Hazard Mitigation Program: 2021-2026

Mitigation Action	Who (Leadership)	By When (Timeframe)	How (Funding, Resources & Cost)	Implementation (via Existing Programs, Organizations)
B.1.7 Regularly inspect town bridges and culverts to determine if adequate funds are in the Town budget for maintenance and upgrades to meet required standards.	Public Works Department	Annually (6-9 months)	Annual Work Program Cost Low	Selectboard
B.1.8 Inventory and track repetitive loss properties, including repair costs, photographs, and high-water level. a. Update FEMA database started with Tropical Storm Irene, with most current information for public and private properties. b. Solicit information from property owners to document damage from other flood events.	Planning & Development, Parks & Recreation, Public Works Dept.	a. 2021-2022 (9-12 months) b. following events (9-12 months)	Annual Work Program Cost: a. Medium b. Low	Vermont Emergency Management, USACOE, private owners
<i>PRIORITY 2- Items needing further analysis during the next five years to determine the best course of action.</i>				

Table 6.2 Hartford Hazard Mitigation Program: 2021-2026

Mitigation Action	Who (Leadership)	By When (Timeframe)	How (Funding, Resources & Cost)	Implementation (via Existing Programs, Organizations)
B.2.1 Review criteria and responsibilities for participation in the National Flood Insurance Program (NFIP) Community Rating System (CRS) and determine if appropriate for the Town.	Planning & Development Department	2021-2022	Annual Work Program/Cost Low	Town Manager, Selectboard, TRORC, VLCT and other CRS communities
B.2.2 Investigate the benefits and needed resources to develop and implement stormwater and erosion control management plans for public buildings.	Department of Public Works & Planning & Development Department	2022-2023	Annual Work Program Cost Medium	Selectboard and School Board
B.2.3 Investigate developing a town-wide program to collect, map and address accurate fluvial geomorphic data for the river corridors.	Planning & Development Department	2022-2024	Annual Work Program Cost High	Vermont Agency of Natural Resources, White River Partnership and Two Rivers-Ottawaquechee Regional Commission

Table 6.2 Hartford Hazard Mitigation Program: 2021-2026

Mitigation Action	Who (Leadership)	By When (Timeframe)	How (Funding, Resources & Cost)	Implementation (via Existing Programs, Organizations)
B.2.4 Identify interest and available resources to establish an annual "Clean our culverts" day during a "Hazards Awareness Week", or fold into Green Up Day, to encourage residents to maintain their culverts.	Department of Public Works & Planning & Development Department	2021-2022	Annual Work Program Cost Low	Hartford Resilience Committee
C. Hazardous Materials Transportation Accidents (Chemicals)				
<i>Priority 1 - Actionable items to be initiated or maintained during the next five years</i>				
C.1.1 Conduct an emergency response exercise with the Railroad companies, VTrans and fuel dealers	Public Safety Department	2022-2023	Annual Work Program, VTrans, VT DEC and VEM Cost Low	VTrans, Rail Companies
<i>PRIORITY 2- Items needing further analysis during the next five years to determine the best course of action.</i>				

Table 6.2 Hartford Hazard Mitigation Program: 2021-2026

Mitigation Action	Who (Leadership)	By When (Timeframe)	How (Funding, Resources & Cost)	Implementation (via Existing Programs, Organizations)
C.2.1 Identify options and needed resources to disseminate public information on how the Town will respond, where or how residents can obtain information, and what residents should do in such an emergency	Public Safety Department	2021-2022 (9-12 months)	Annual Work Program Cost Low	Upper Valley Strong, Community Leaders
D. Severe Wind				
<i>Priority 1 - Actionable items to be initiated or maintained during the next five years</i>				
D.1.1 As subdivision and site development review applications come before the Planning Commission, evaluate the feasibility of undergrounding utilities.	Planning & Dev. Dept. & Planning Commission	Regularly reviewed during application submittal process	Annual Work Program Cost Low	Utility Companies, Two Rivers-Ottawaquechee Regional Commission
D.1.2 Work with utility companies to identify options to harden lines/upgrade utility poles.	Planning & Development Department,	a. 2021-2022	Annual Work Program	Department of Public Works, GMP

Table 6.2 Hartford Hazard Mitigation Program: 2021-2026

Mitigation Action	Who (Leadership)	By When (Timeframe)	How (Funding, Resources & Cost)	Implementation (via Existing Programs, Organizations)
a. Assemble group of utility representatives & town agencies.	Planning Commission	(2-3 months)	Cost:	
b. Identify options/recommendations for improving grid resilience.		b. 2022-2023	a. Low	
c. Begin implementation of recommendations.		(9-12 months)	b. Medium c. Medium	
D.1.3 Develop a public awareness campaign to encourage protecting and securing residential properties from severe wind events in coordination with Mitigation Action A.1.1.	Public Safety Department	a. 2021-2023	Town Budget	Distribution via Town website, Newsletter, Town Reports, libraries, Senior Center, churches, schools, Public Access TV
a. Develop vulnerability checklist and distribution of information.		(6-12 months)	Cost:	

Table 6.2 Hartford Hazard Mitigation Program: 2021-2026

Mitigation Action	Who (Leadership)	By When (Timeframe)	How (Funding, Resources & Cost)	Implementation (via Existing Programs, Organizations)
b. Identify other information needed regarding emergency preparedness and emergency services and develop implementation schedule.		b. 2022-2023 (6-12 months)	a. Low b. Low	
E. Severe Winter Weather				
Priority 1 - Actionable items to be initiated or maintained during the next five years				
E.1.1 Continue to insulate public buildings and facilities to provide shelter during extreme weather events. a. Complete energy audit of other town buildings and create implementation schedule.	Energy Commission	2021-2023	Town Budget Cost Medium	Town Manager, Selectboard, Efficiency Vermont, Energy Coordinator
PRIORITY 2- Items needing further analysis during the next five years to determine the best course of action.				
E.2.1		a. 2022-2023	Work Program	

Table 6.2 Hartford Hazard Mitigation Program: 2021-2026

Mitigation Action	Who (Leadership)	By When (Timeframe)	How (Funding, Resources & Cost)	Implementation (via Existing Programs, Organizations)
<p>a. Determine the need to conduct a snow load capacity analysis for public buildings given changing weather patterns.</p> <p>b. Determine the Town's role in a community warning process for buildings with flat roofs.</p>	Public Safety Department	<p>(9-12 months)</p> <p>b. 2022-2023</p> <p>(3-6 months)</p>	<p>Cost</p> <p>a. Low</p> <p>b. Low</p>	Selectboard, VT Dept of Labor and Industry
F. Fire Hazards				
<i>Priority 1 - Actionable items to be initiated or maintained during the next five years</i>				
<p>F.1.1 Provide educational materials and outreach to residents regarding benefits of residential fire sprinklers.</p> <p>a. Design outreach program</p> <p>b. Implement</p>	Public Safety Department	<p>a. 2021-2022</p> <p>(3-6 months)</p> <p>b. 2022-2025</p> <p>(3-5 years)</p>	<p>Town Budget</p> <p>Cost:</p> <p>a. Low</p> <p>b. Medium</p>	Distribution via Town website, Newsletter, Town Reports, libraries, Senior Center, churches, schools, Public Access TV
G. Pandemic				

Table 6.2 Hartford Hazard Mitigation Program: 2021-2026

Mitigation Action	Who (Leadership)	By When (Timeframe)	How (Funding, Resources & Cost)	Implementation (via Existing Programs, Organizations)
<i>Priority 1 - Actionable items to be initiated or maintained during the next five years</i>				
G.1.1 Create a town working group to identify food and shelter needs.	UV Strong, Public Safety Department, Upper Valley Haven	2021-2022 (3-6 months)	Town Budget Cost: Low	
G.1.2 Create a stockpile of PPE for town employees.	Public Safety Department	2021-2022	Town Budget Cost: Medium	Strategically purchase PPE for Hartford town employees to mitigate against potential shortages in future pandemic surges.
G.1.3 Protect public health by mitigation actions.	Health Officer, Public Safety Department, Selectboard	Ongoing	Town Budget Cost: Unknown	Work with VT Department of Health and VEM to take needed actions to reduce disease transmission and increase case tracking.

The following Priority 3 items are important to the Town for consideration in the future, but will not be acted on in the next five years:

All Hazards

1. Fund a dedicated staff position for hazard mitigation and risk assessment at the town or regional level that can provide services to the Town.

Fire Hazards

1. Identify areas of town with poor water access and install and maintain dry hydrants in strategic locations around town.

Extreme Heat

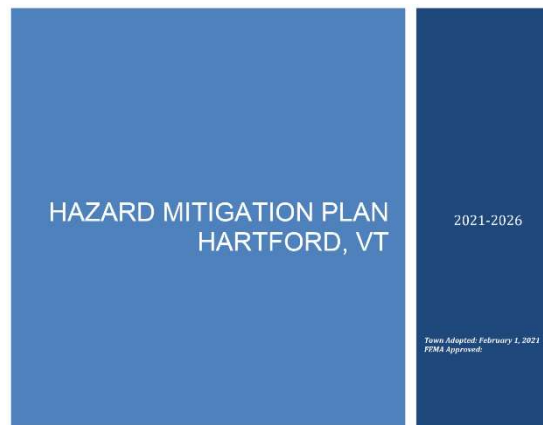
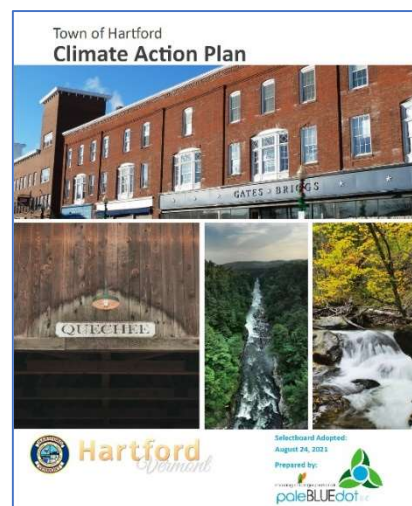
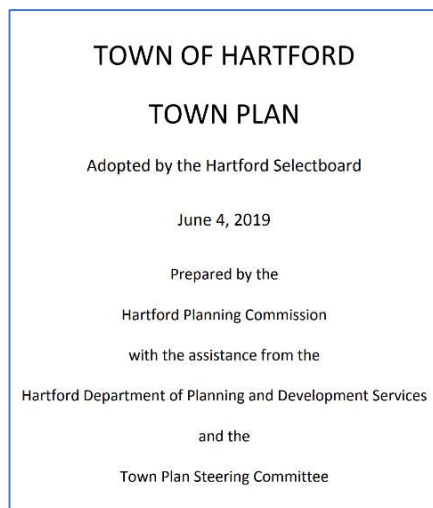
1. Identify cooling shelters and create a public information campaign to use when temperature thresholds are met.

Landslides

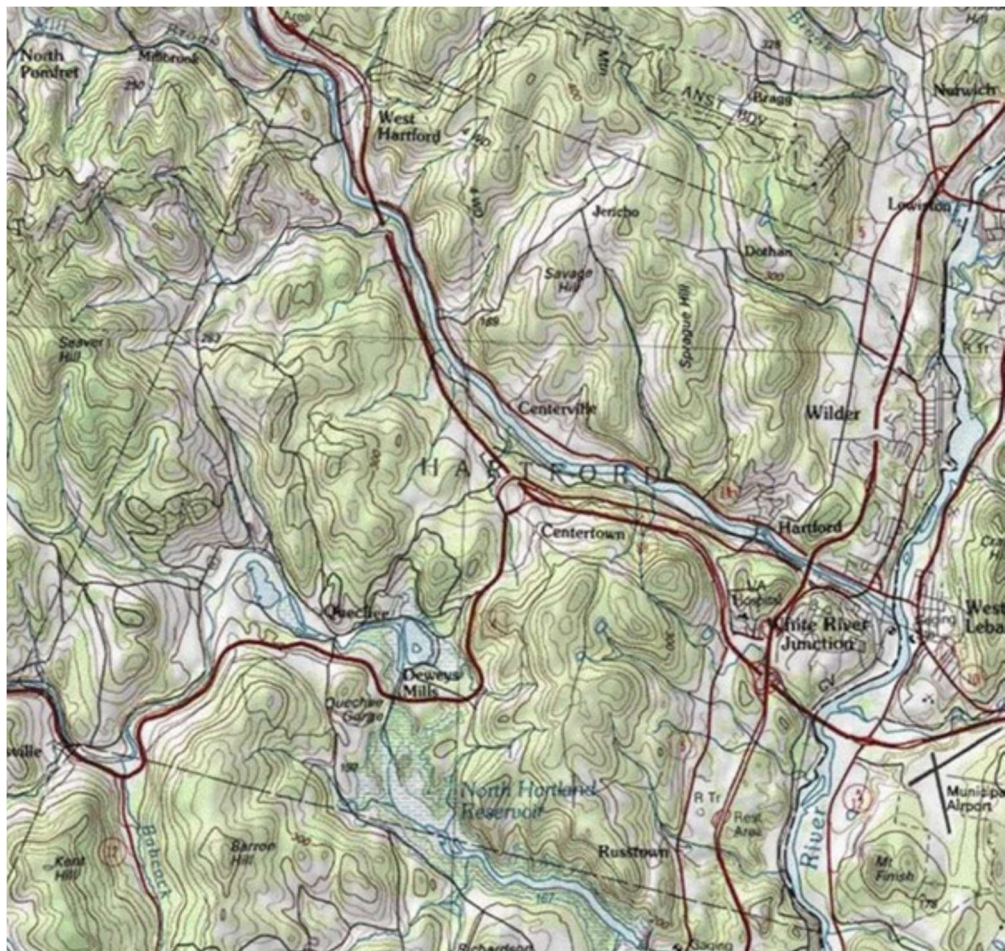
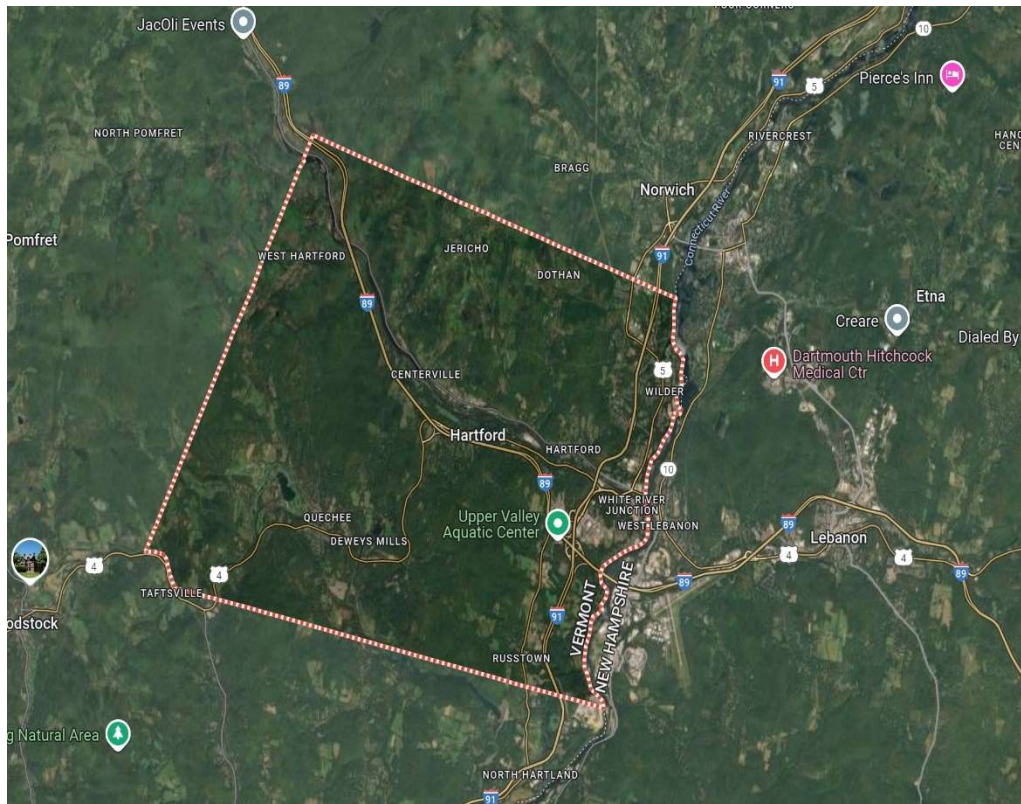
1. Assess known slide areas for movement and stabilize potential landslides/possible residential buyouts on Jericho Road, Country Lane, and Pomfret Road.

Appendix C

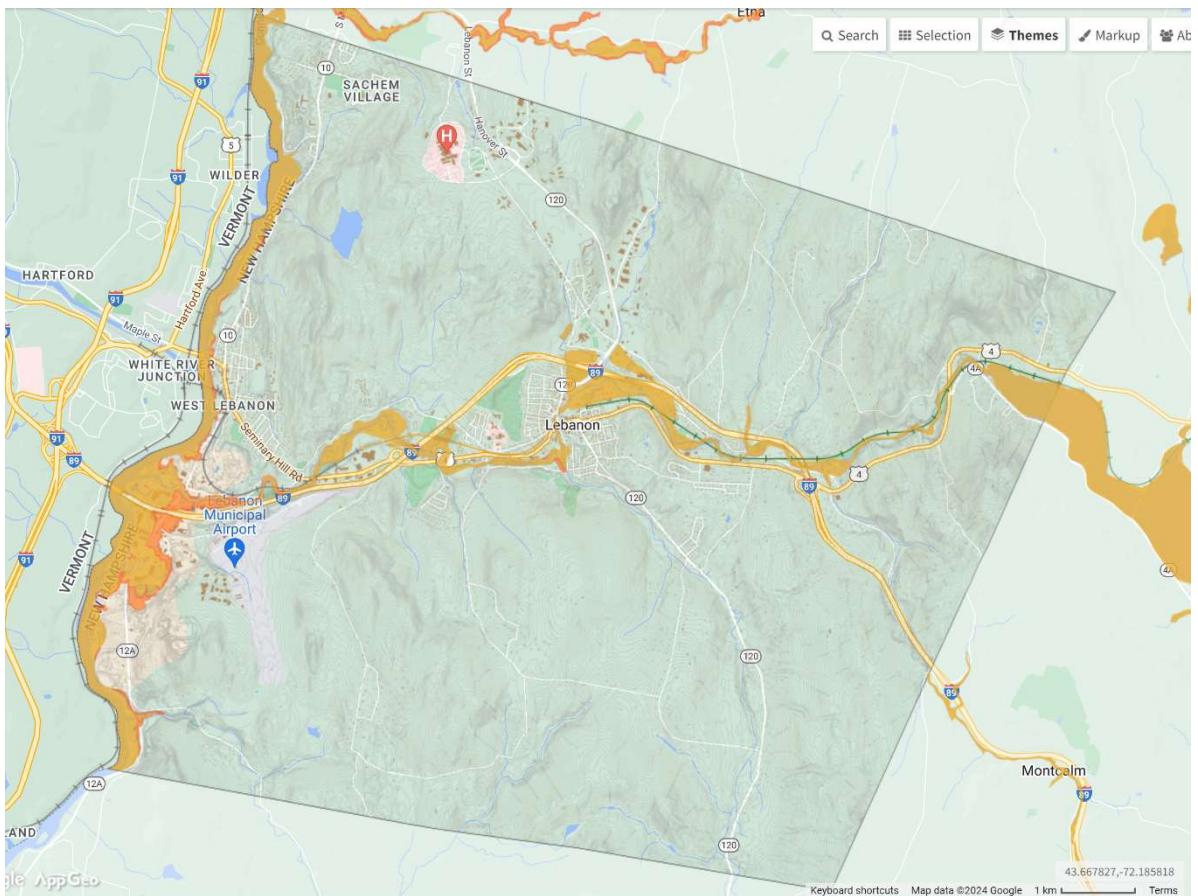
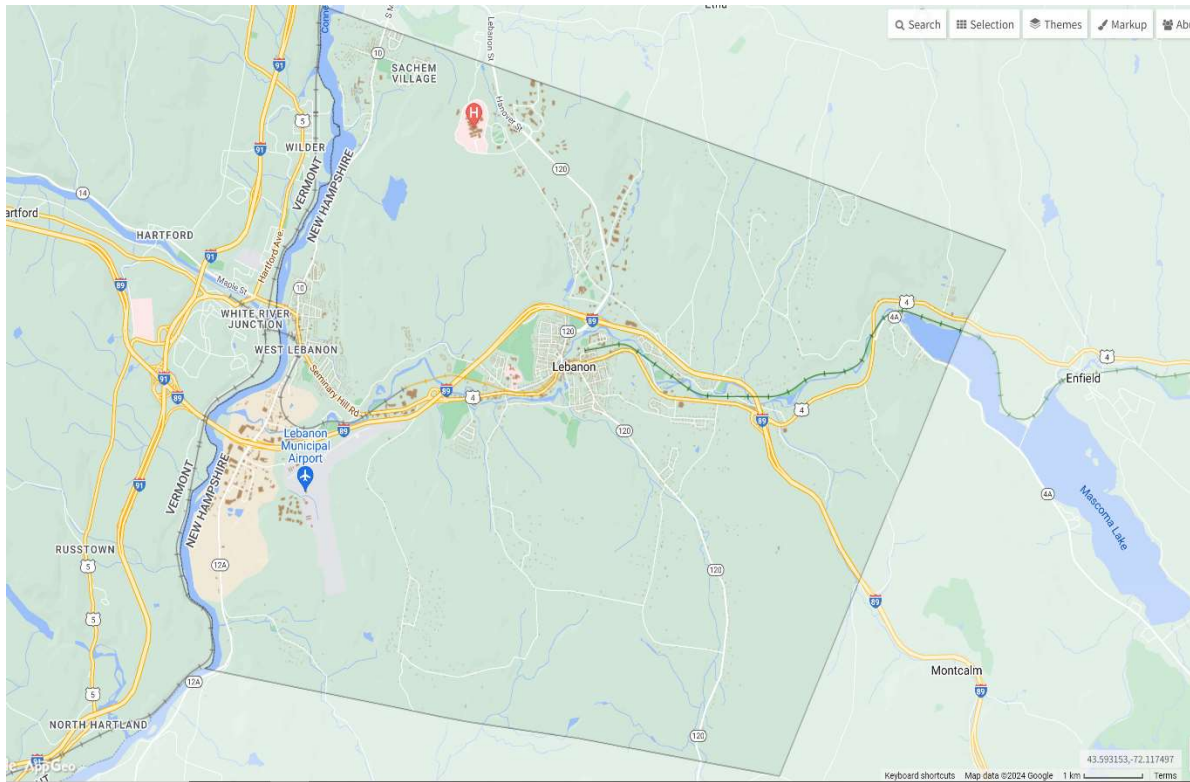
Town of Hartford Map Resource Packet* Used During Community Resilience Building Workshop



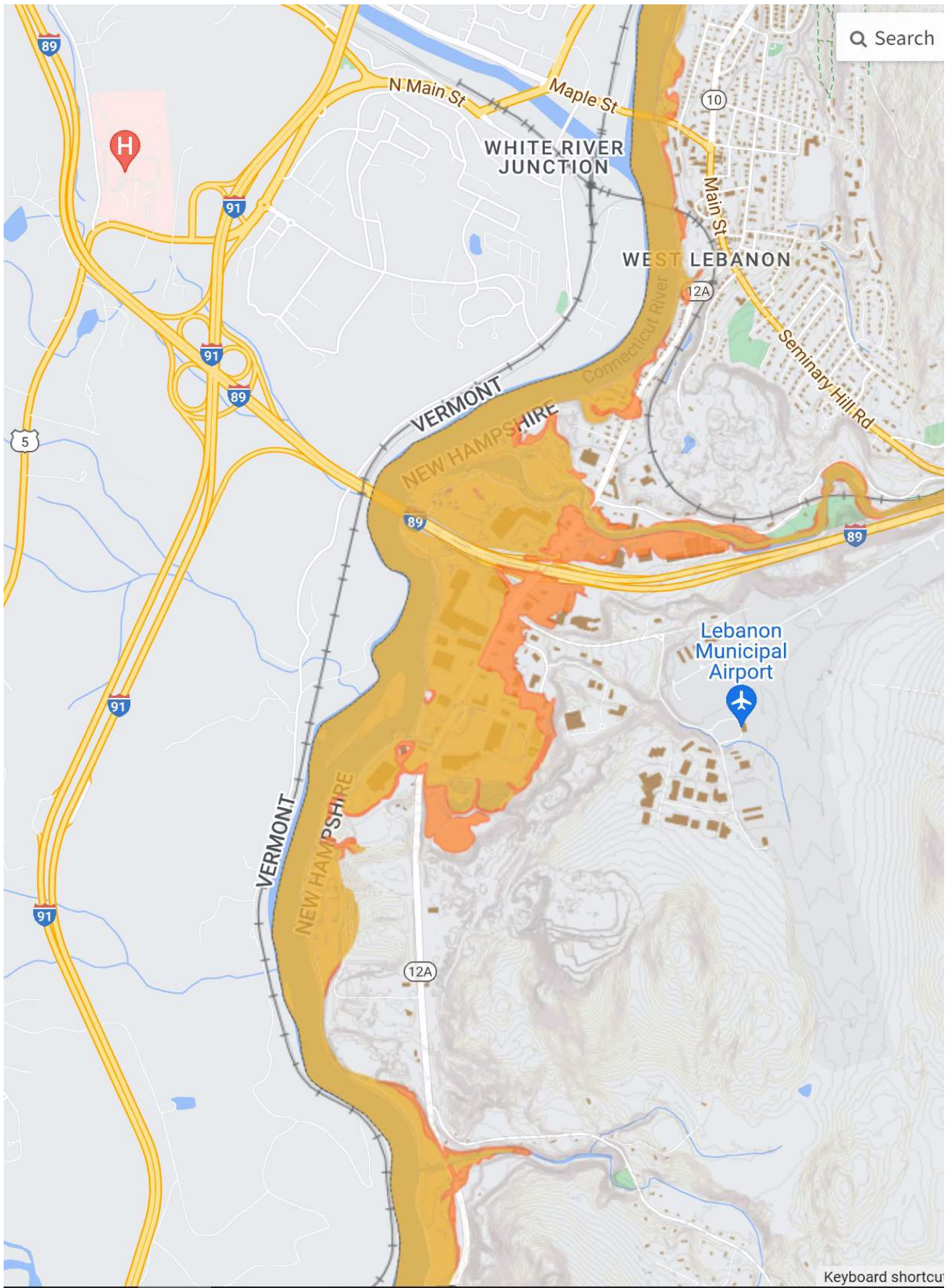
***Gathered from Hartford's Hazard Mitigation Plan (2021), Hartford Climate Action Plan (2021), Hartford Town Plan (2019), and LebGIS Mapping Tool (2024).**



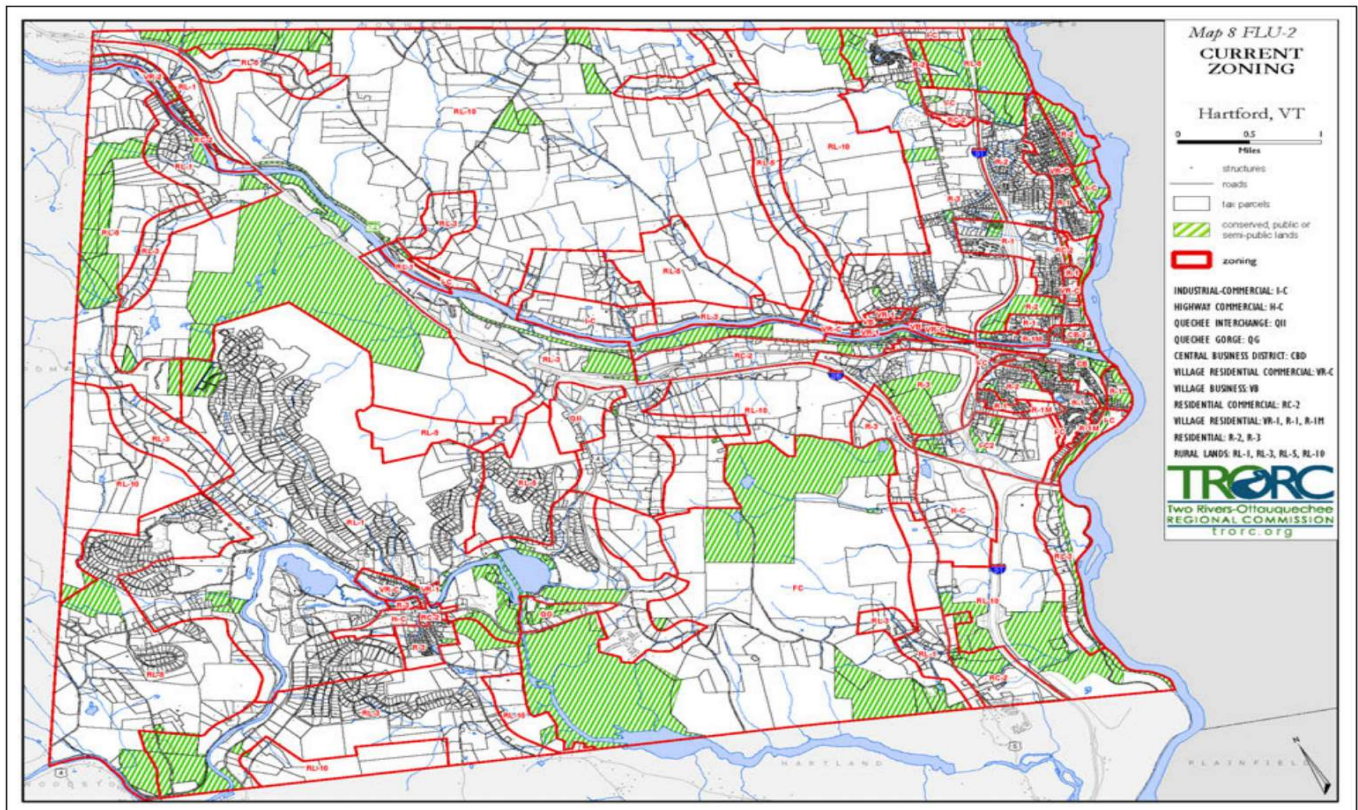
Source: Hartford Climate Action Plan (2021) & Google Maps



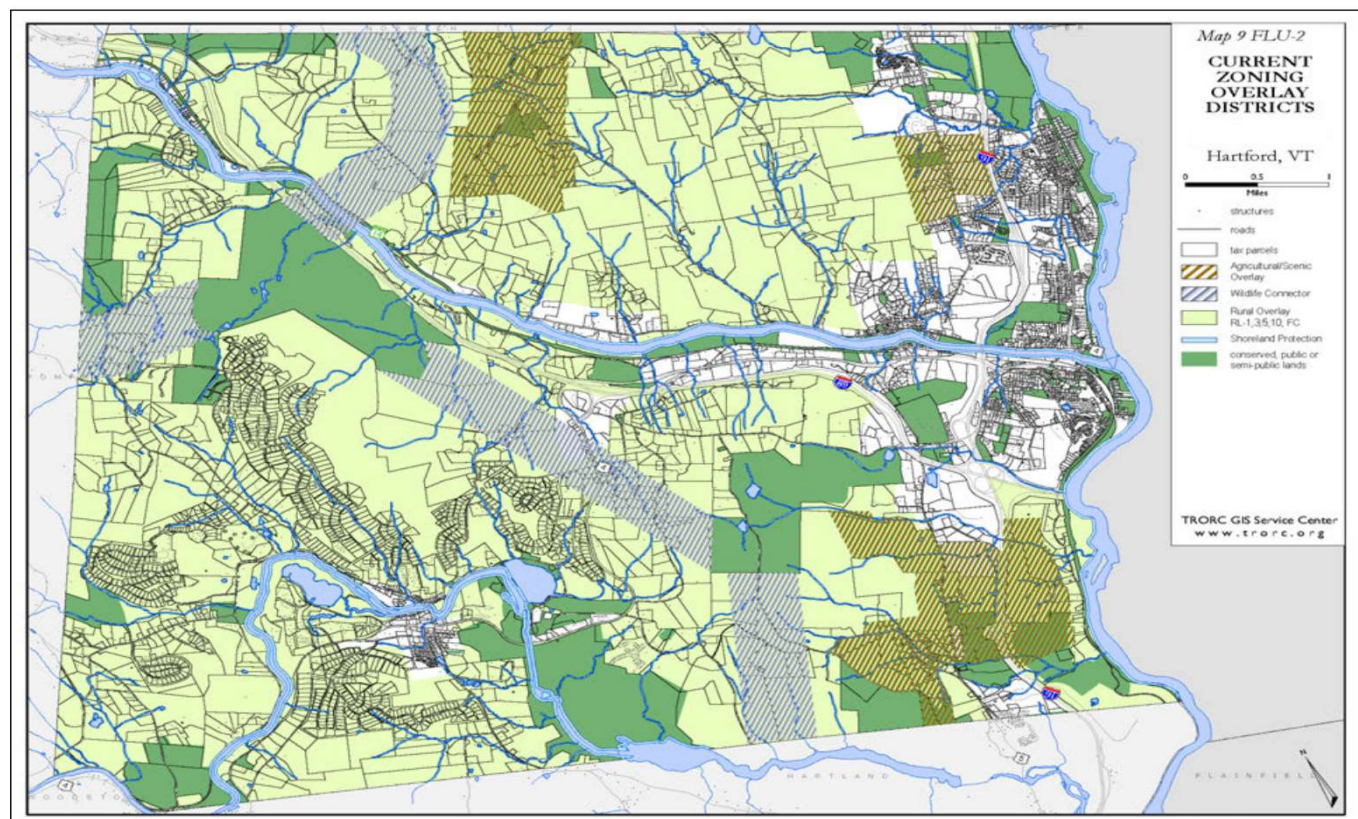
Source: City of Lebanon – LebGIS Mapping Tool



Source: City of Lebanon – LebGIS Mapping Tool

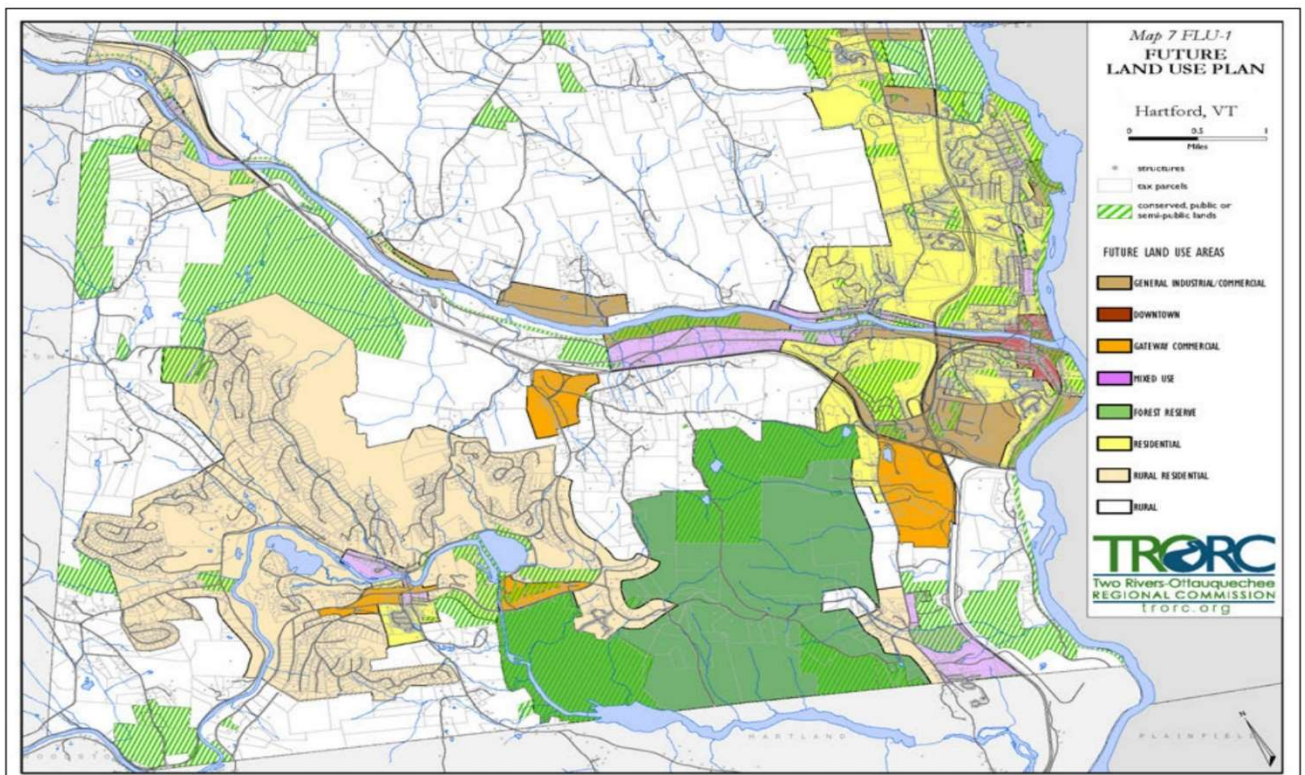
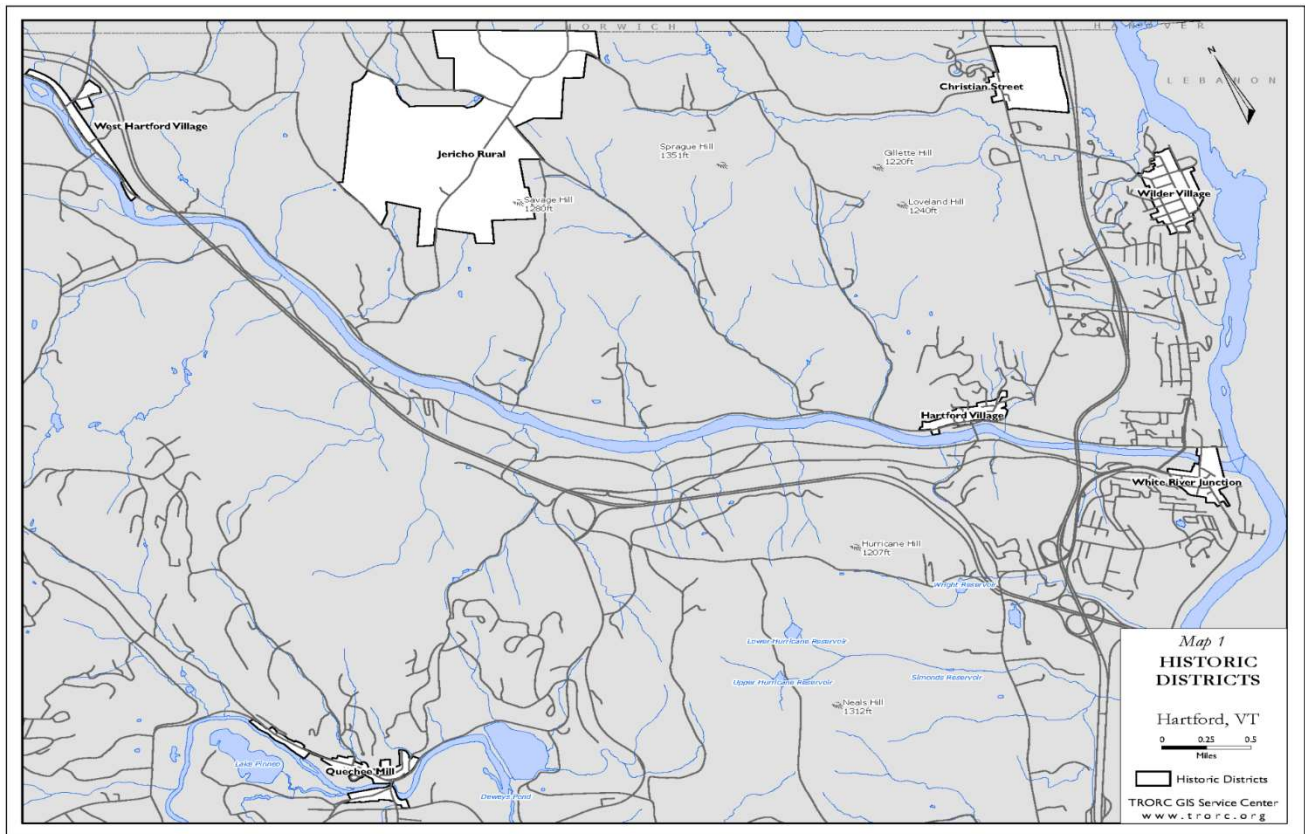


Hartford Town Plan 2019



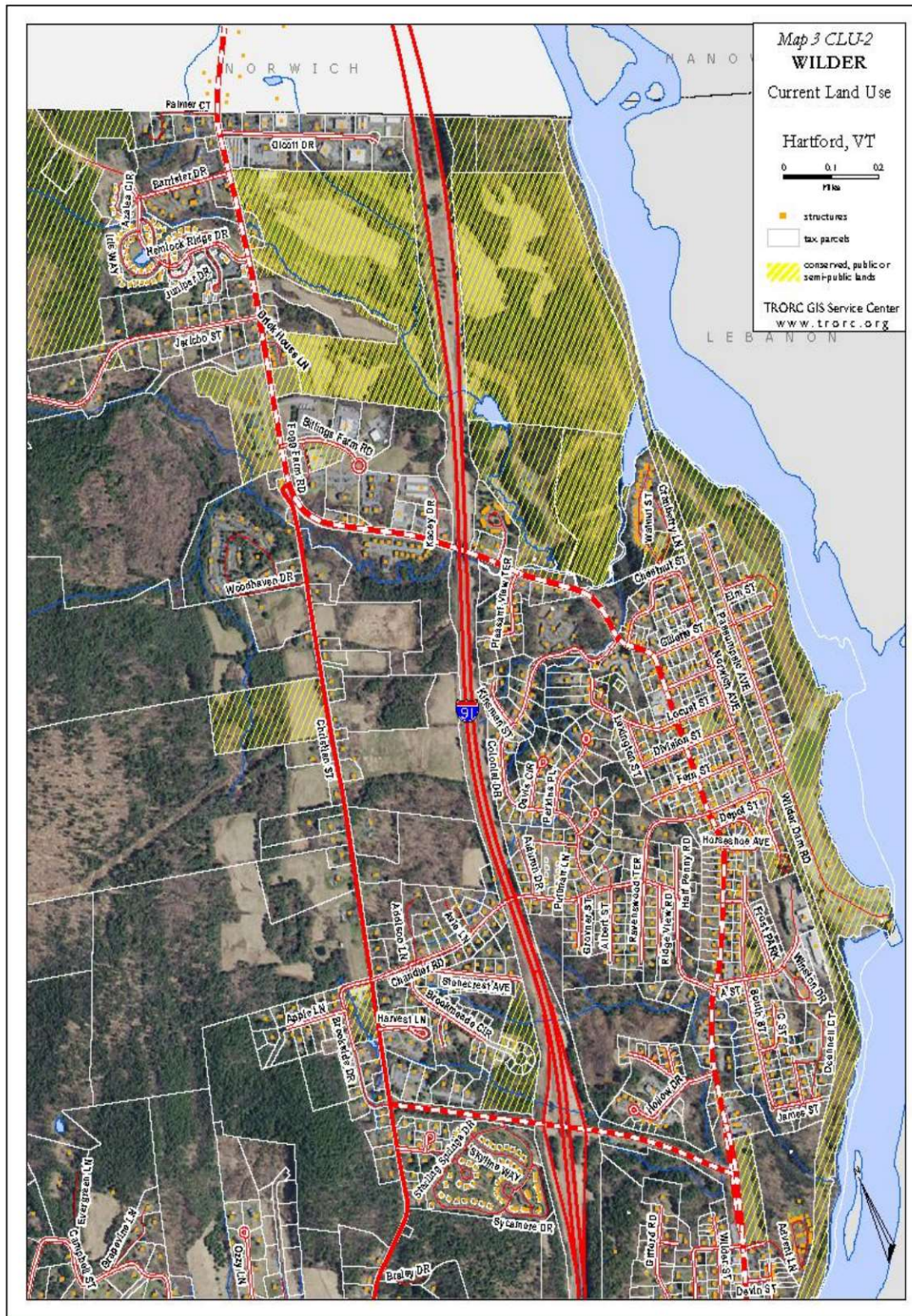
Hartford Town Plan 2019

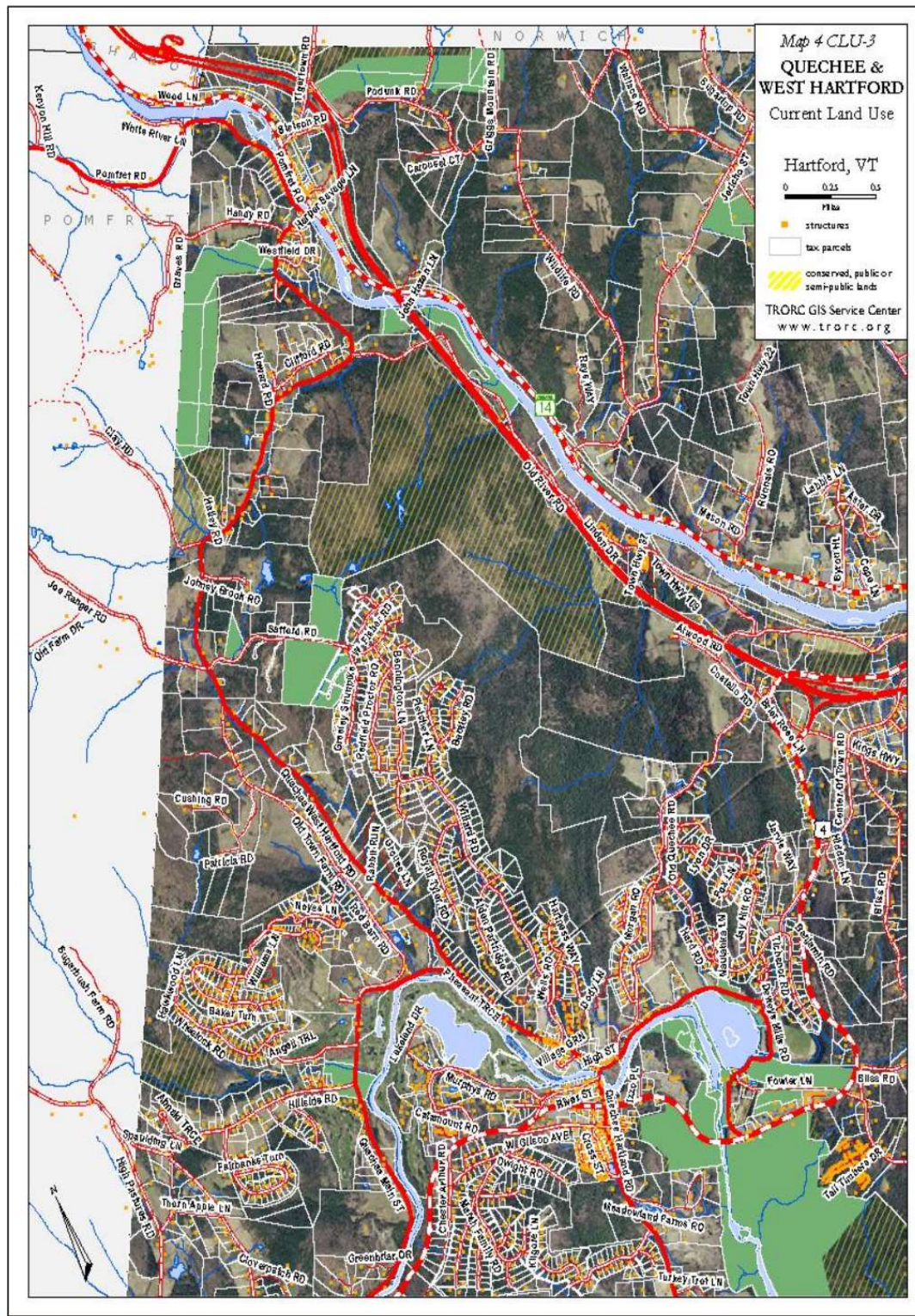
Source: Town of Hartford – Hartford Town Plan (2019)

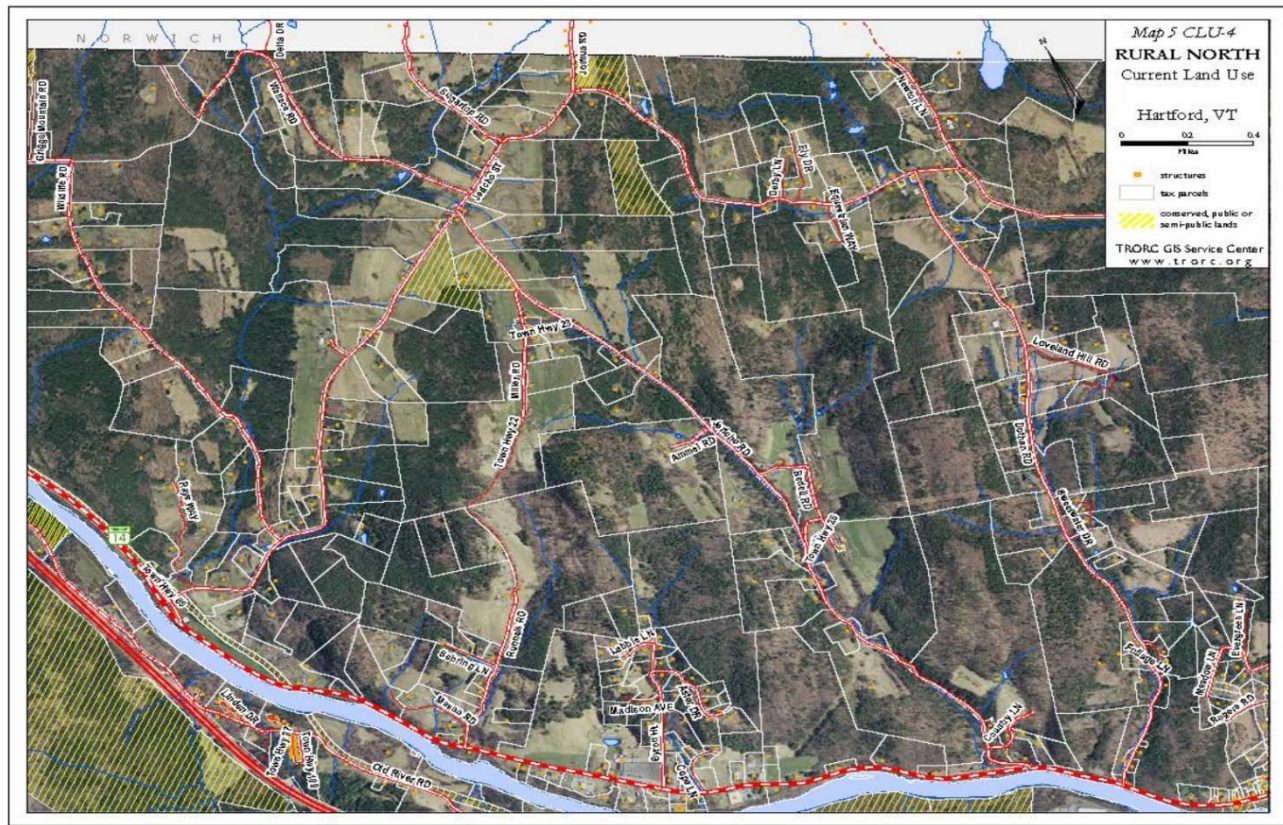


Source: Town of Hartford – Hartford Town Plan (2019)

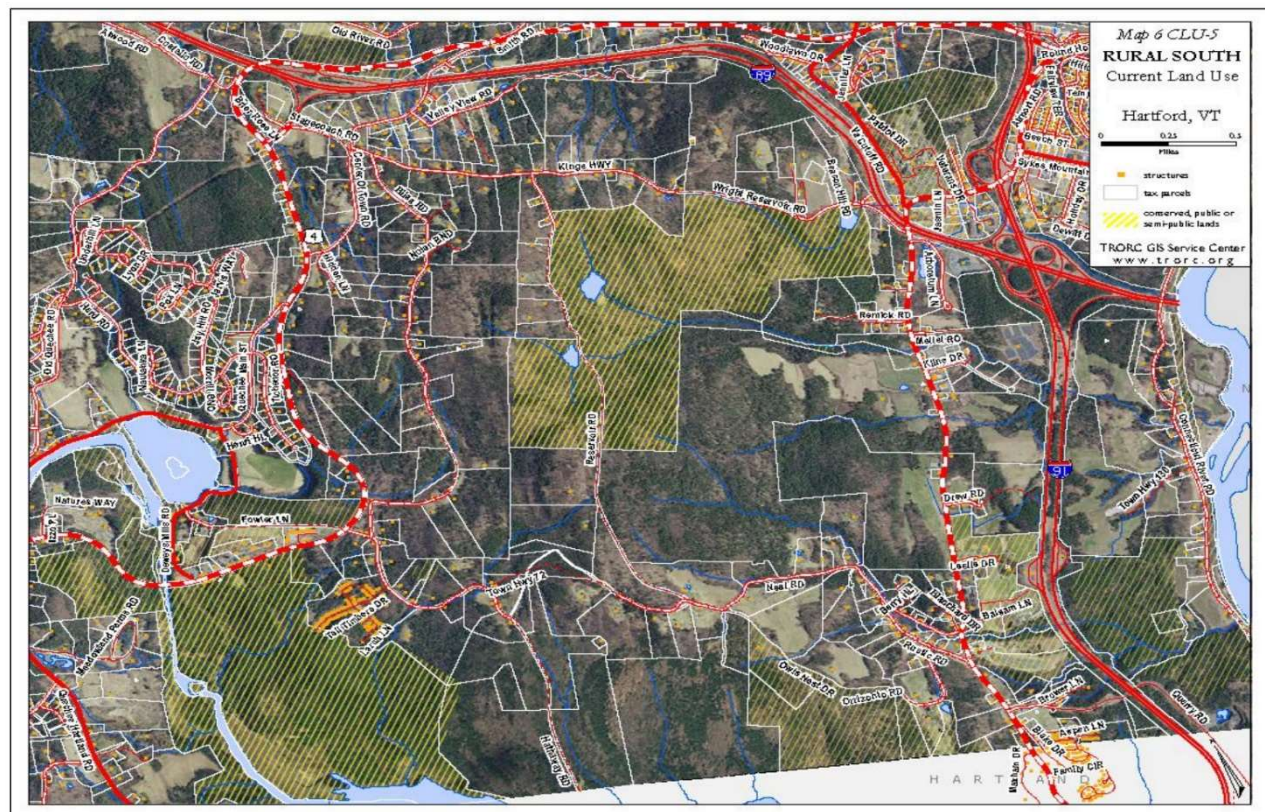








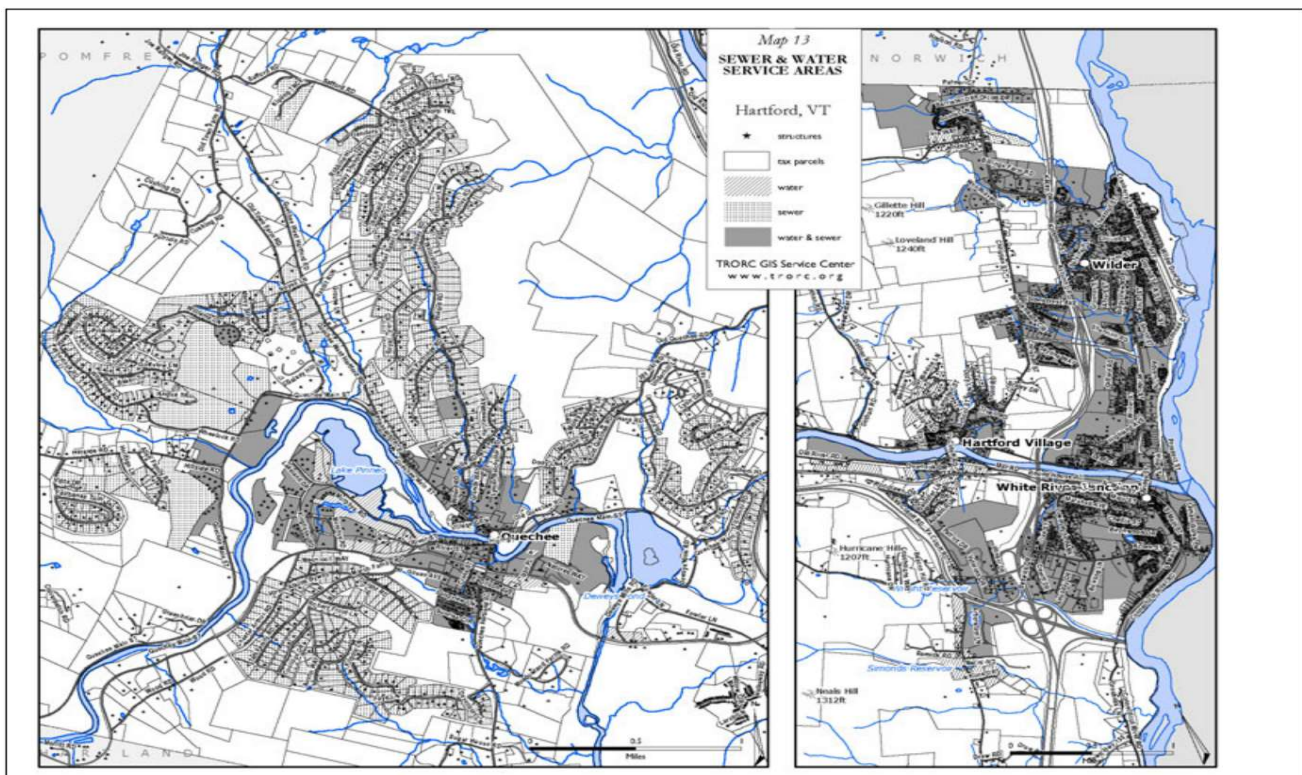
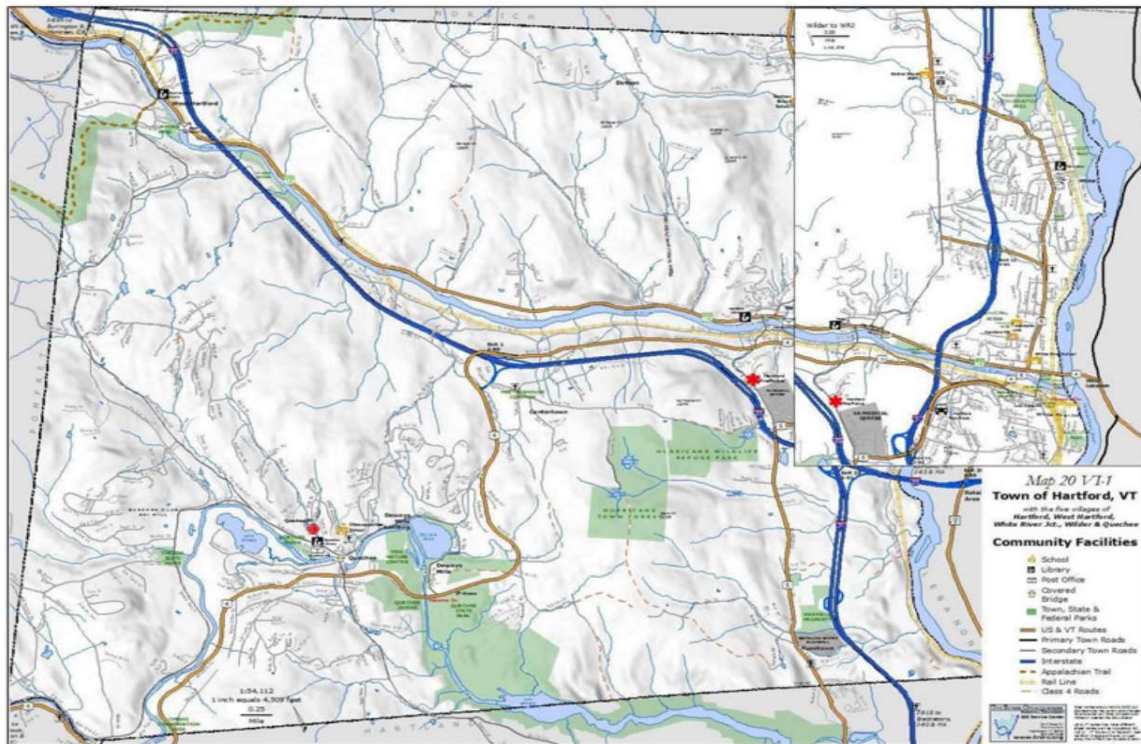
Hartford Town Plan 2019



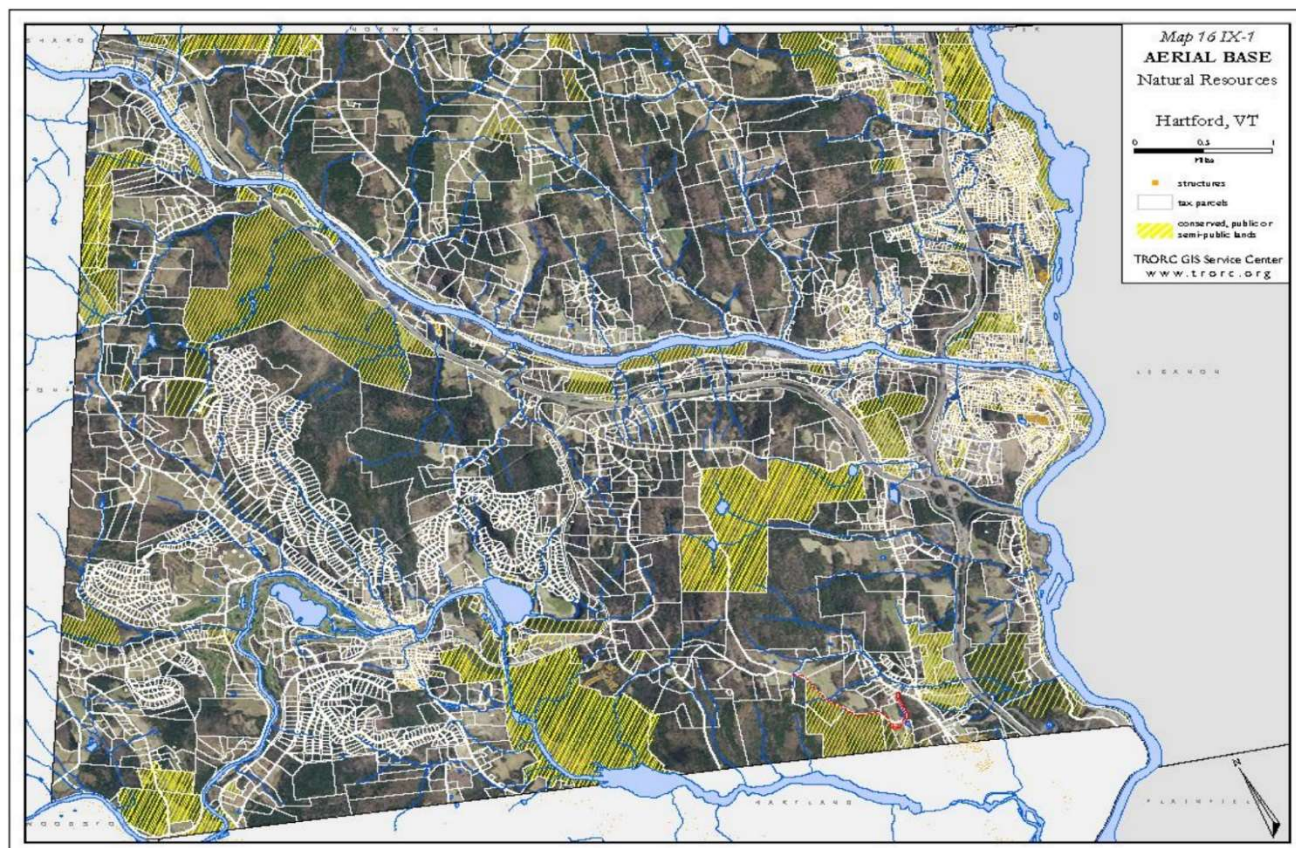
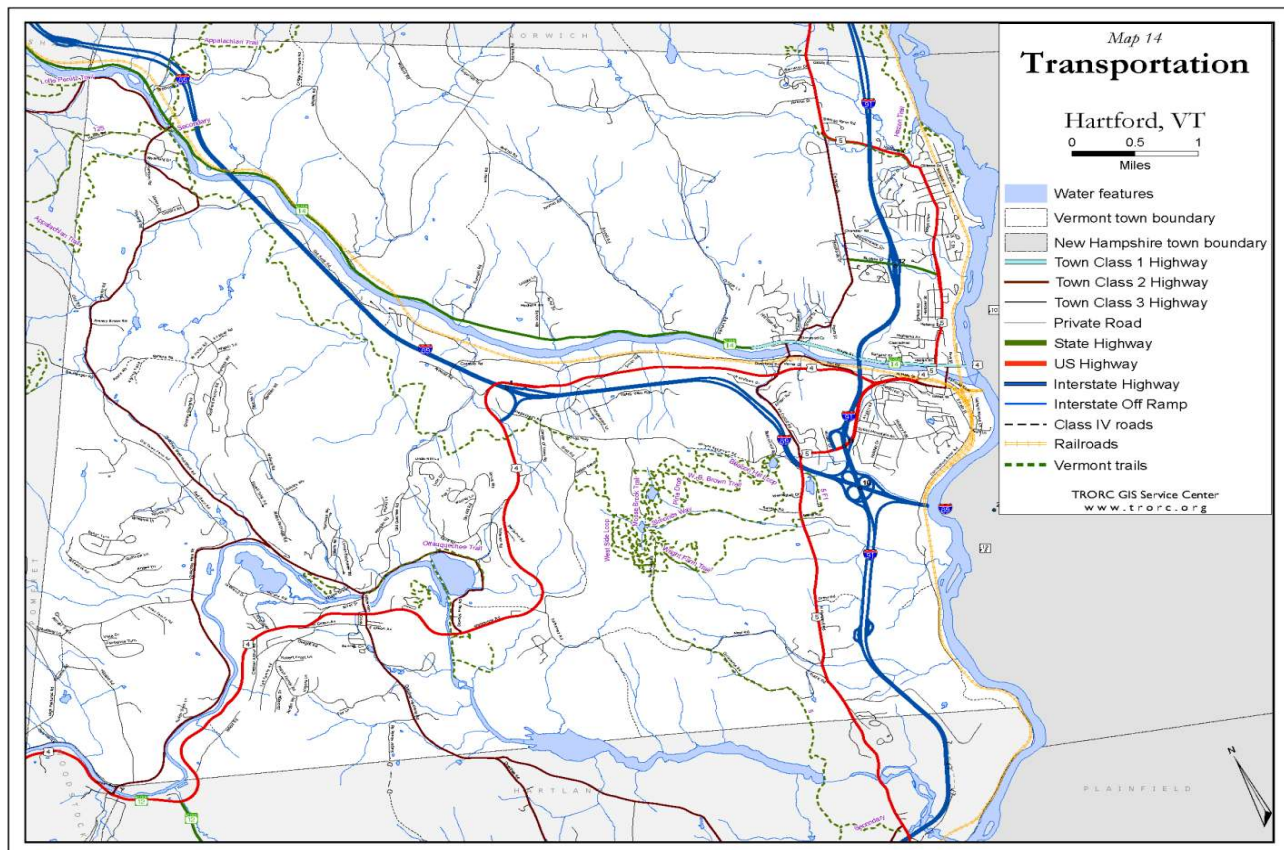
Hartford Town Plan 2019

Source: Town of Hartford – Hartford Town Plan (2019)

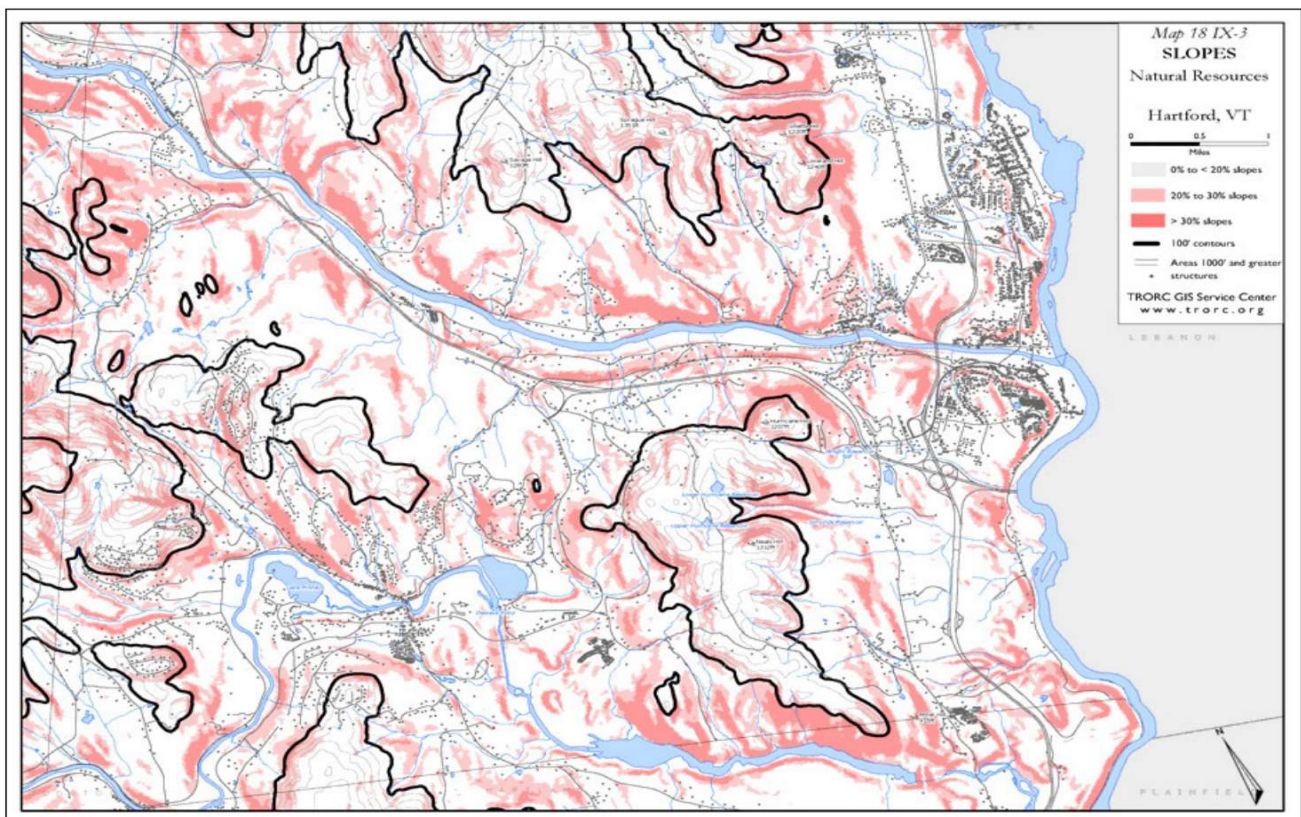
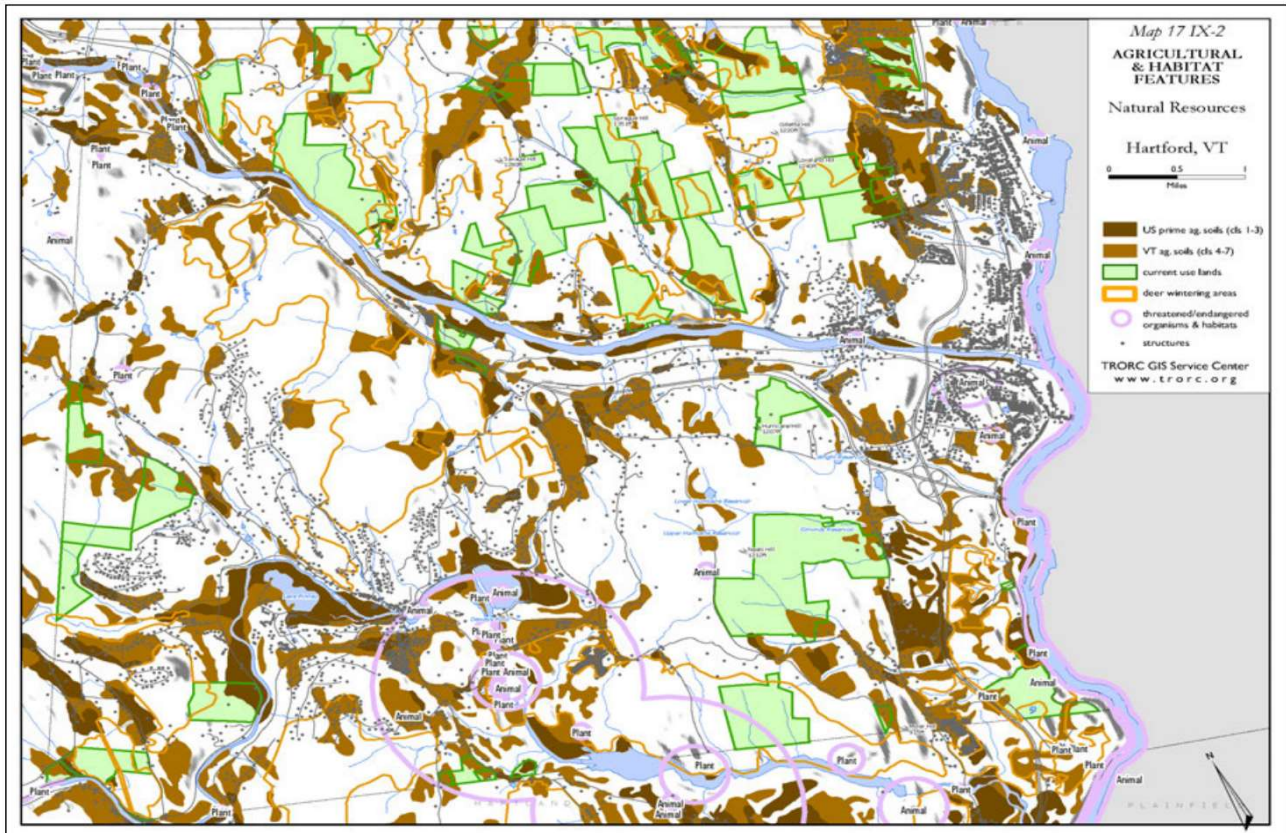
Map12 (Community Facilities)



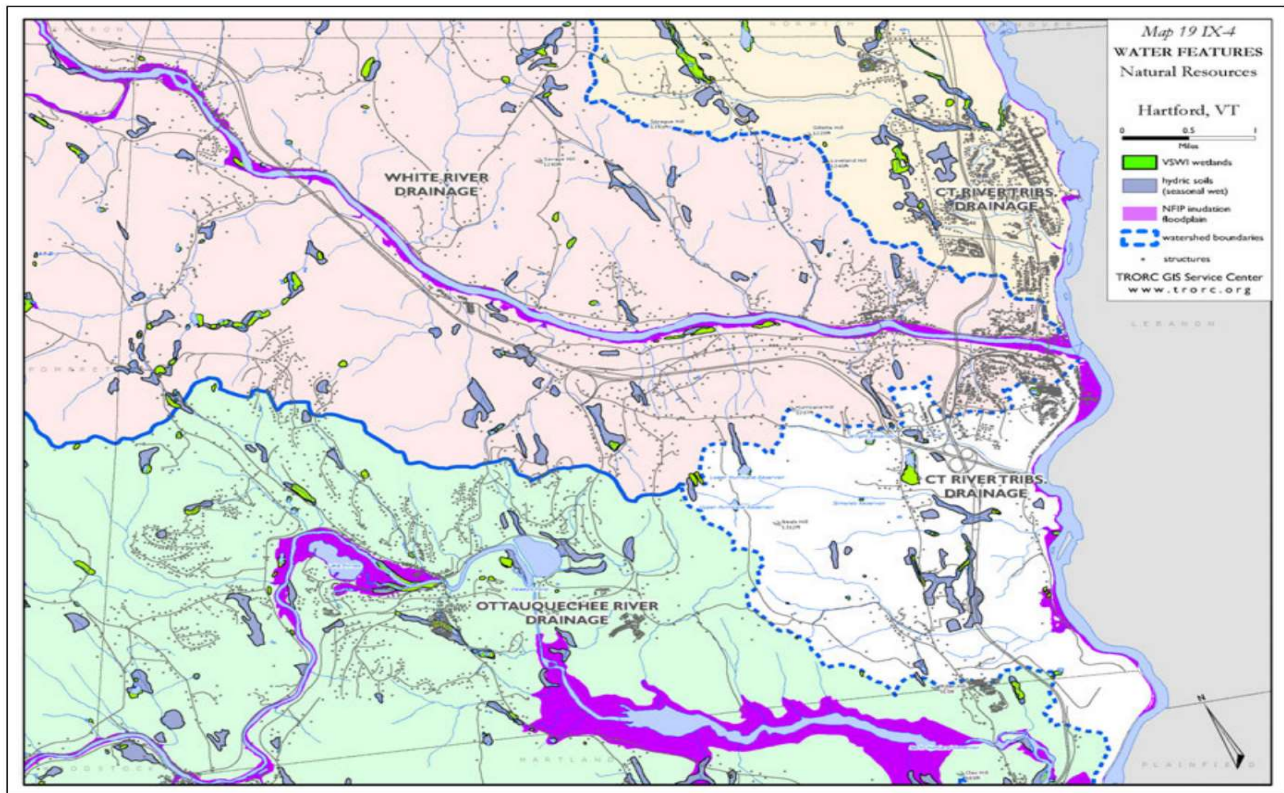
Source: Town of Hartford – Hartford Town Plan (2019)



Source: Town of Hartford – Hartford Town Plan (2019)

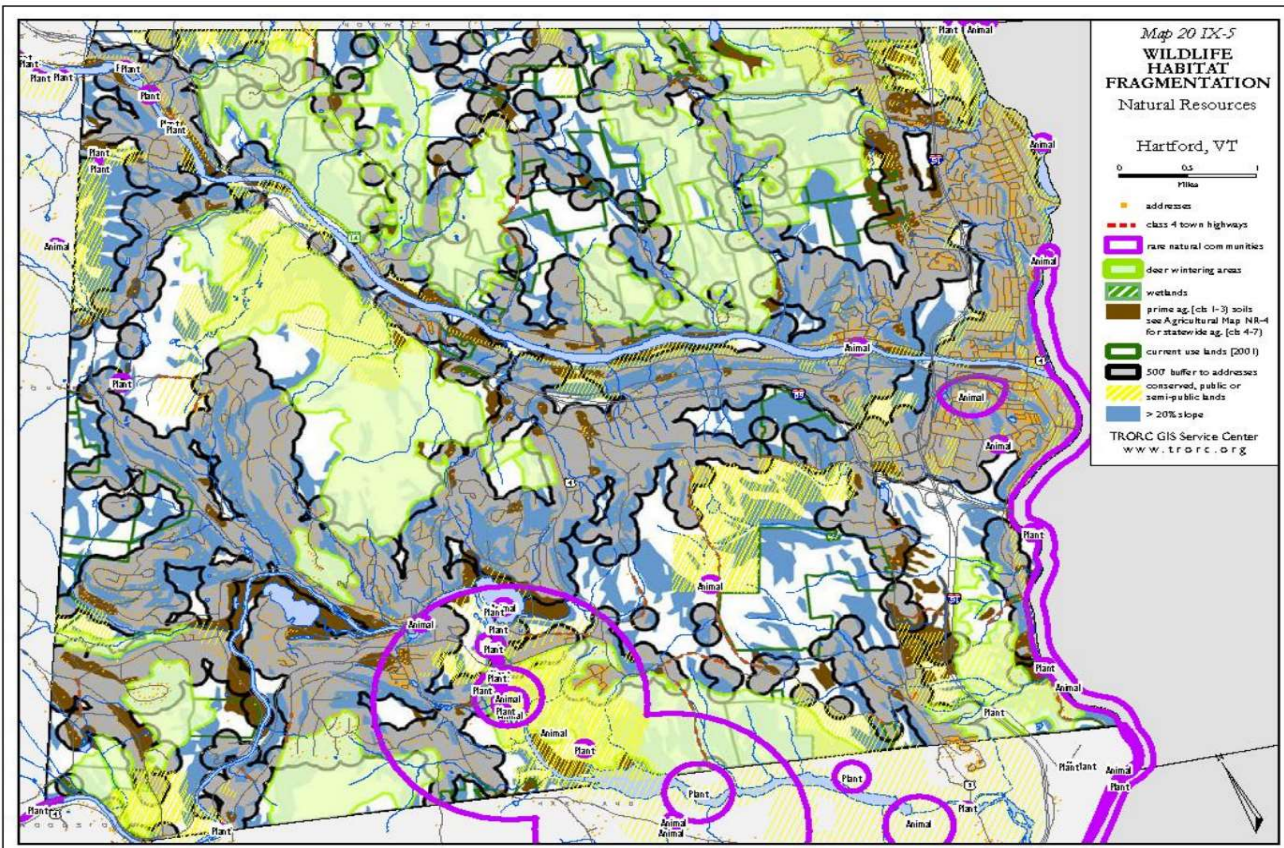


Source: Town of Hartford – Hartford Town Plan (2019)



Hartford Town Plan 2019

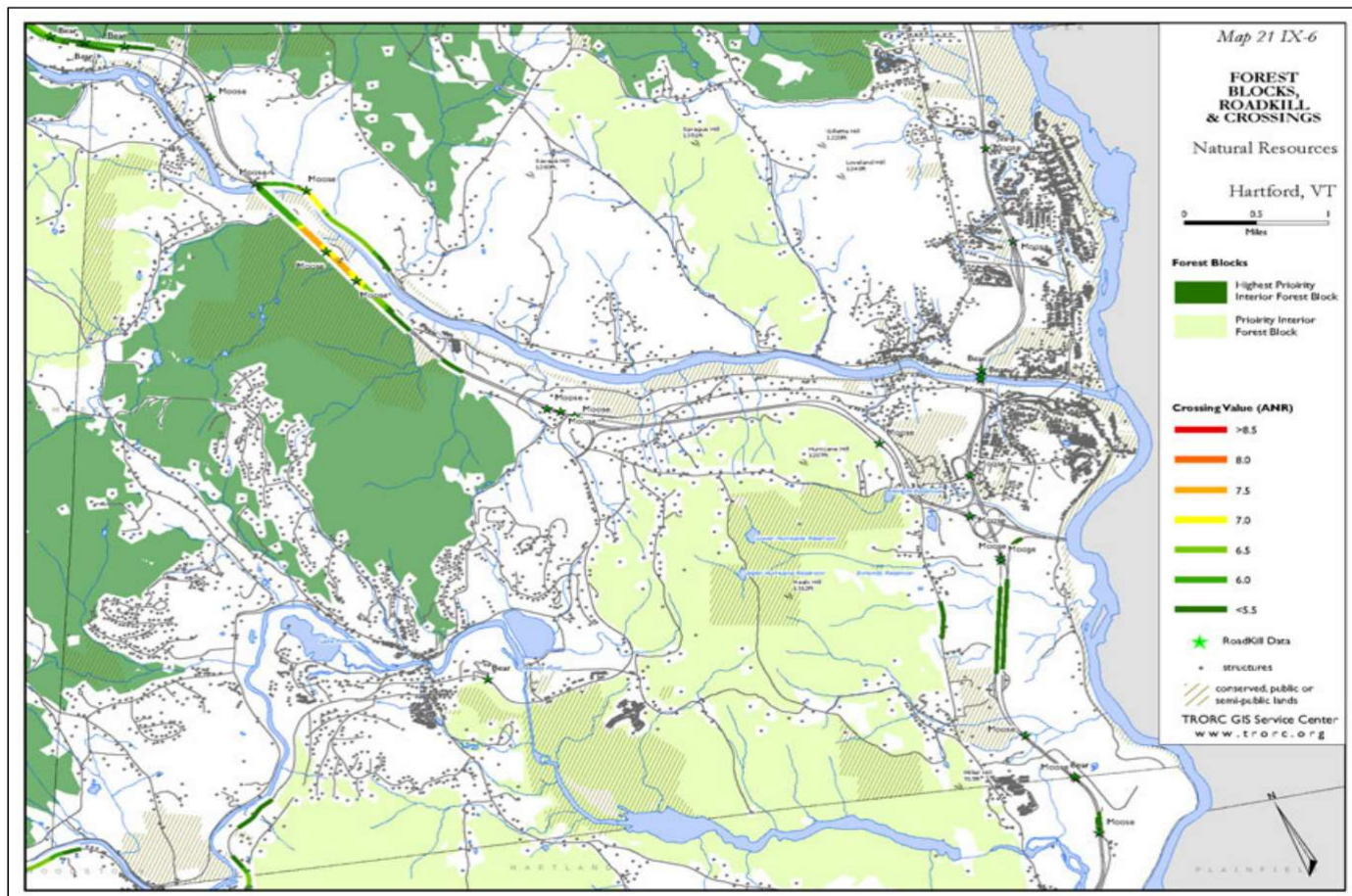
Page 205

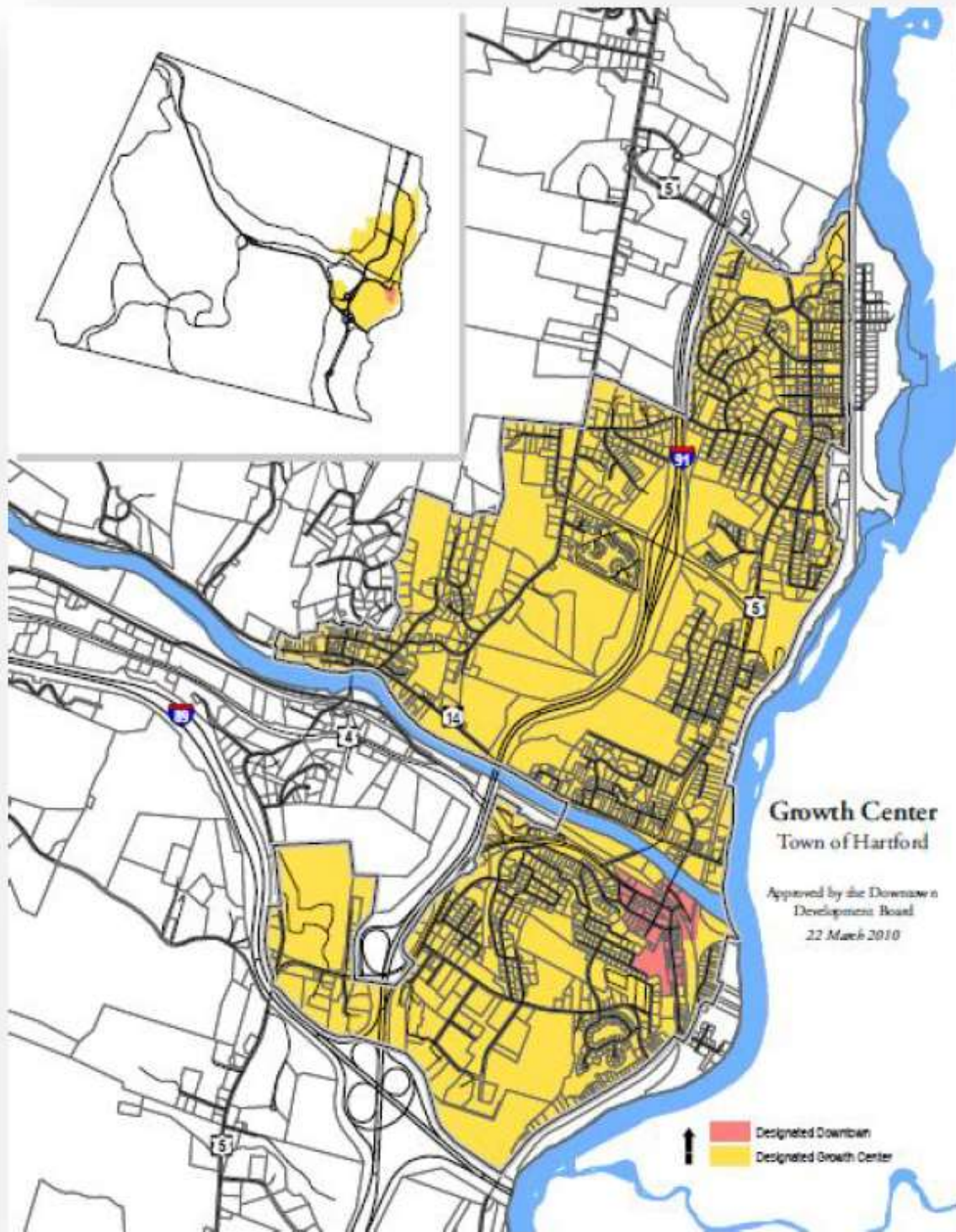


Hartford Town Plan 2019

Page 214

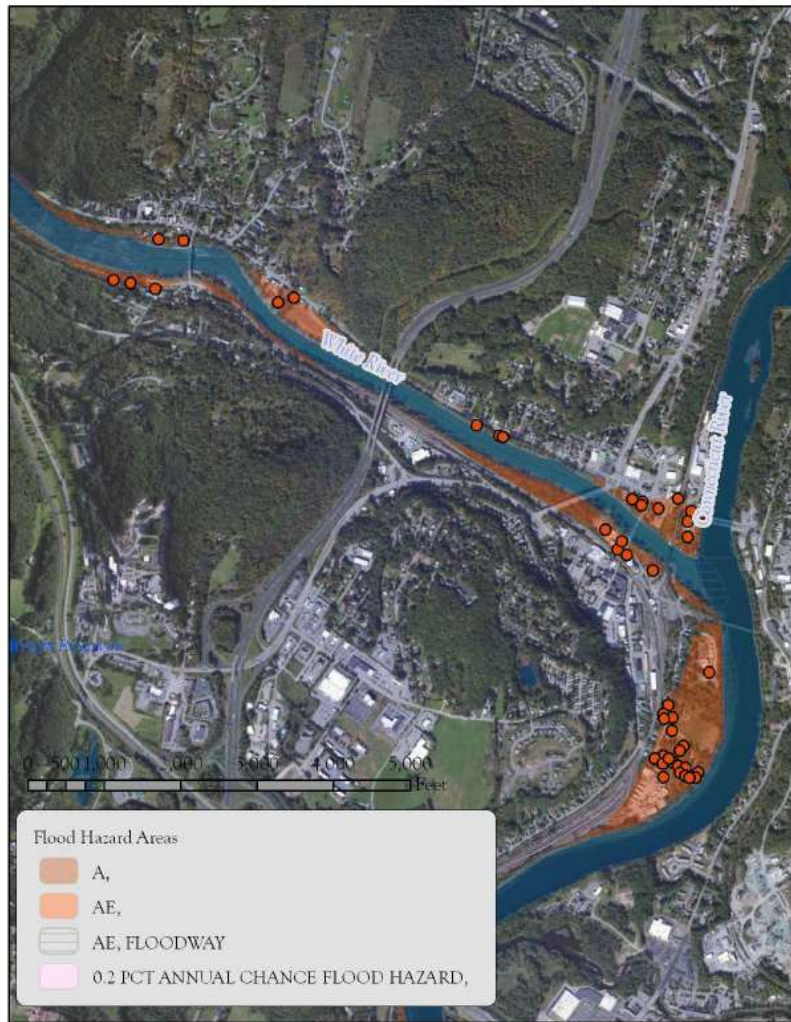
Source: Town of Hartford – Hartford Town Plan (2019)





Source: Town of Hartford – Hazard Mitigation Plan (2021)

Hartford, Vermont Flood Hazards - White River Junction



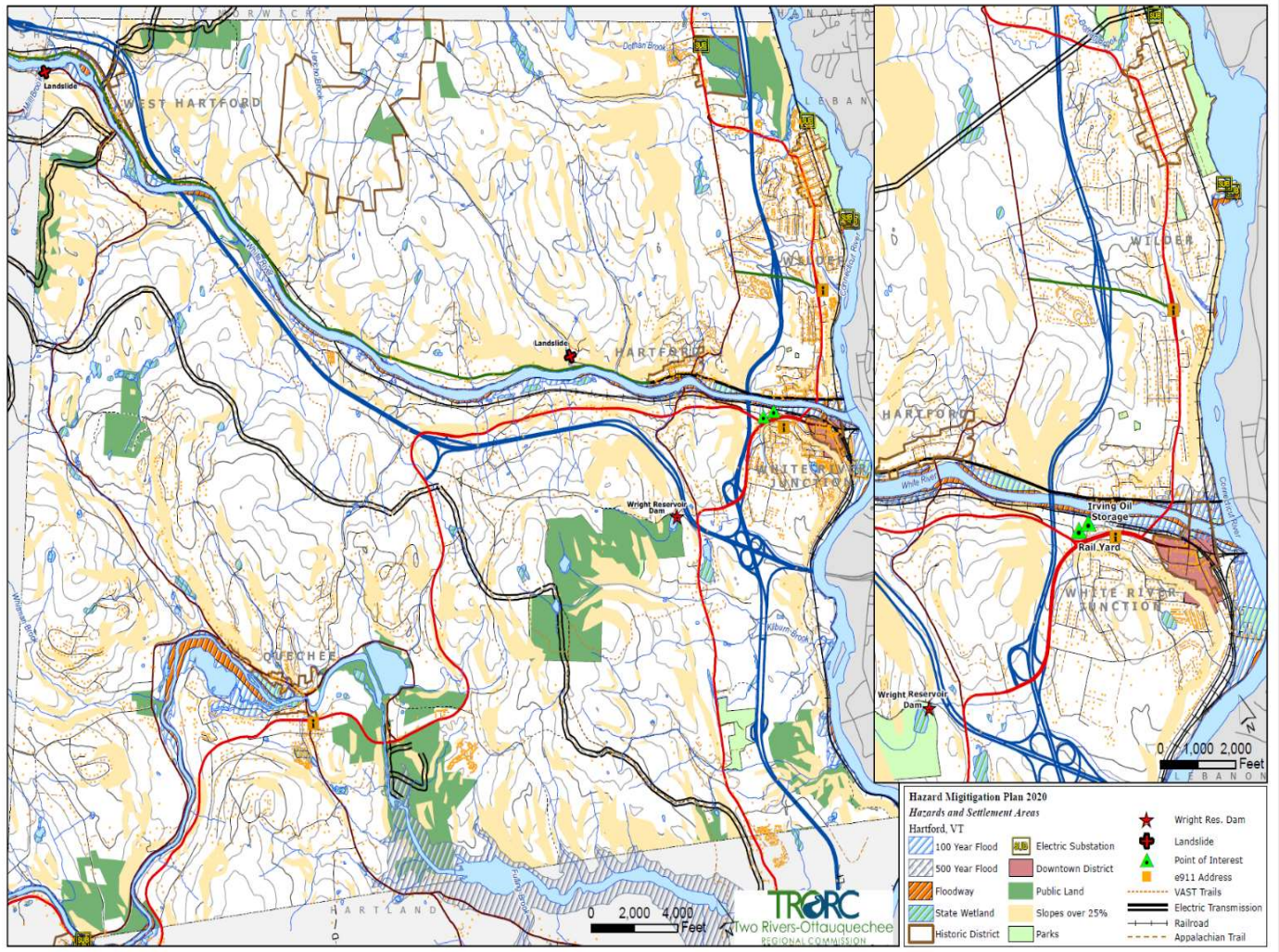
Hartford, Vermont Flood Hazards - Quechee



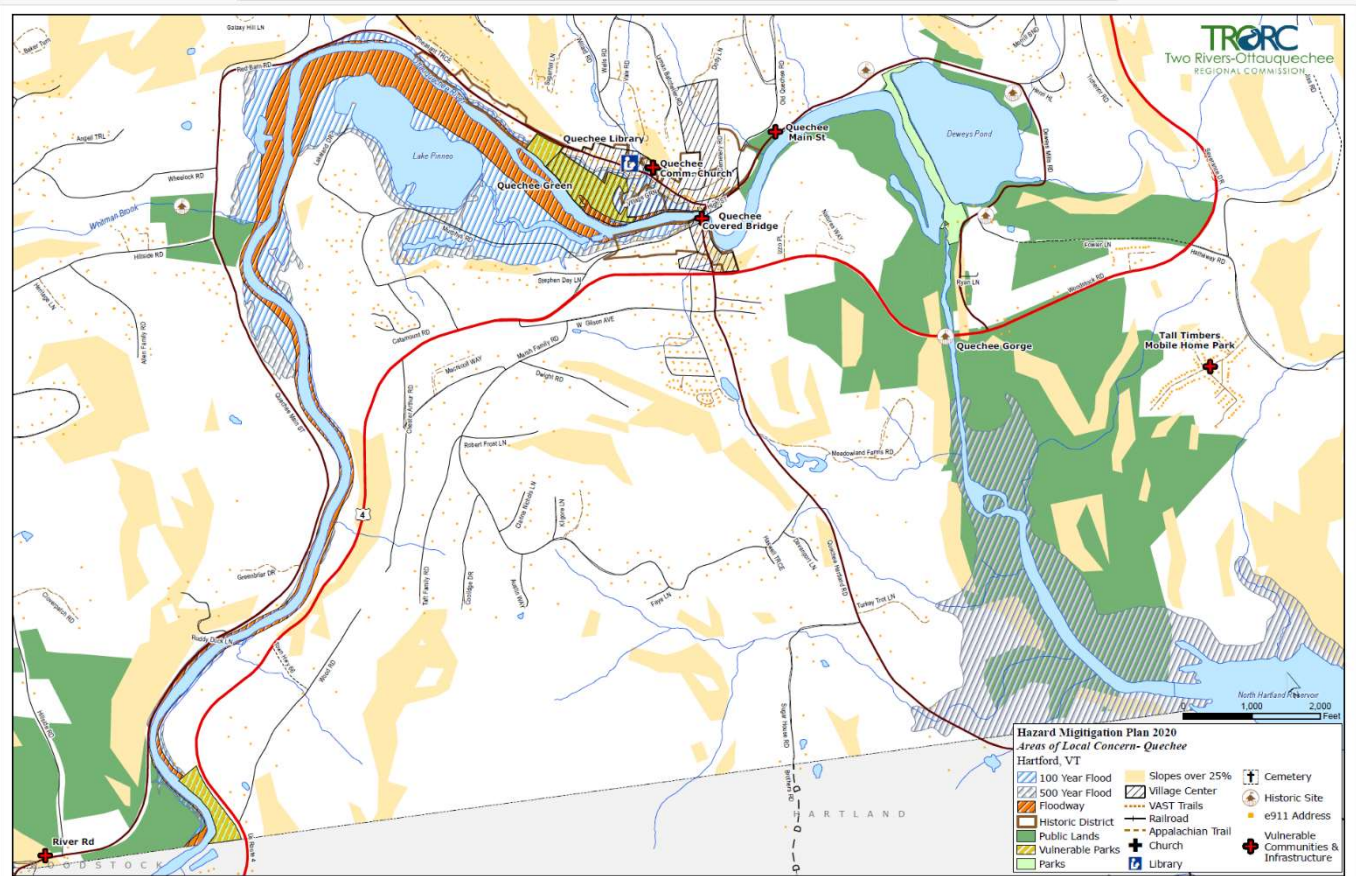
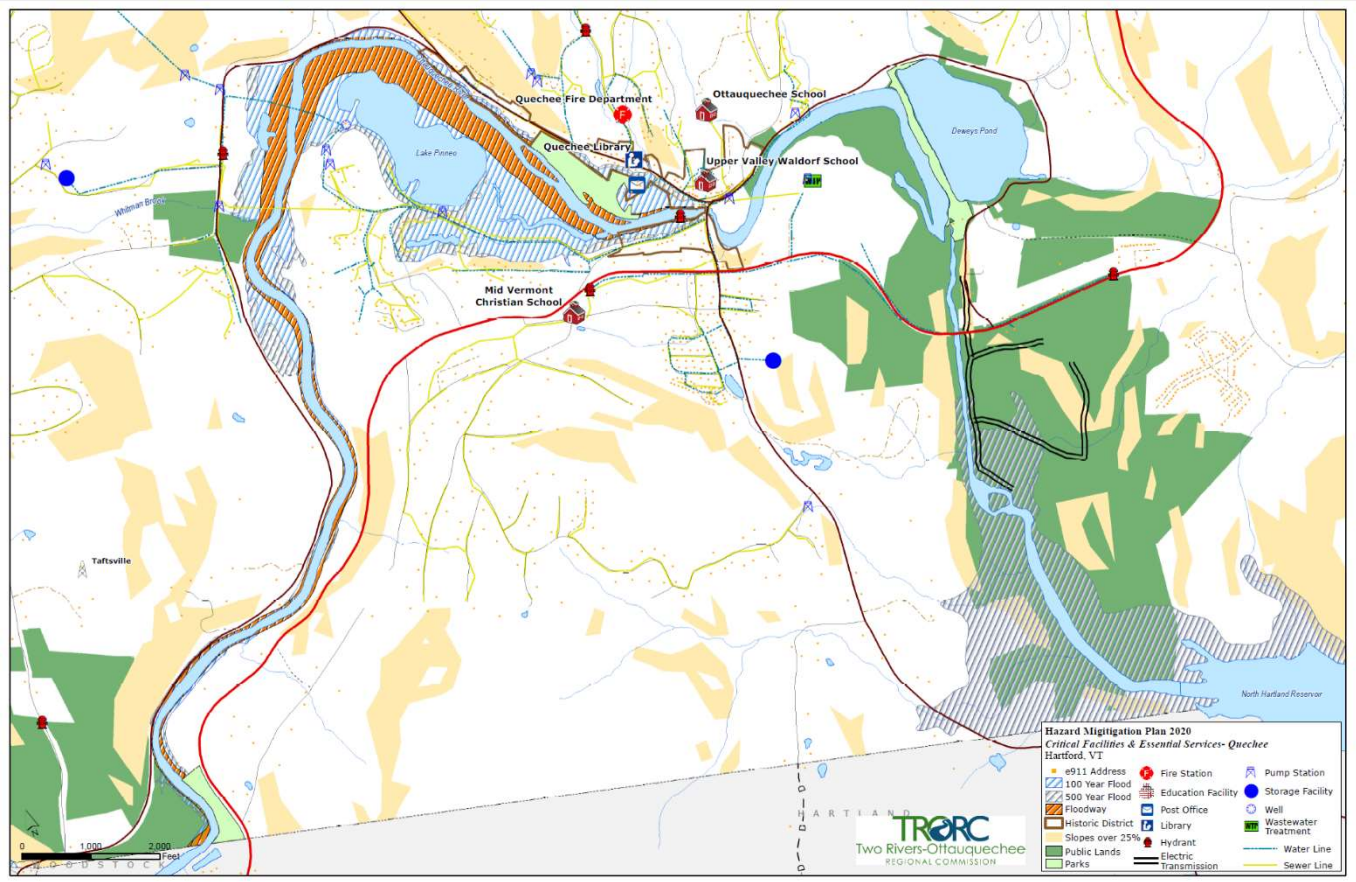
Hartford, Vermont Flood Hazards - West Hartford



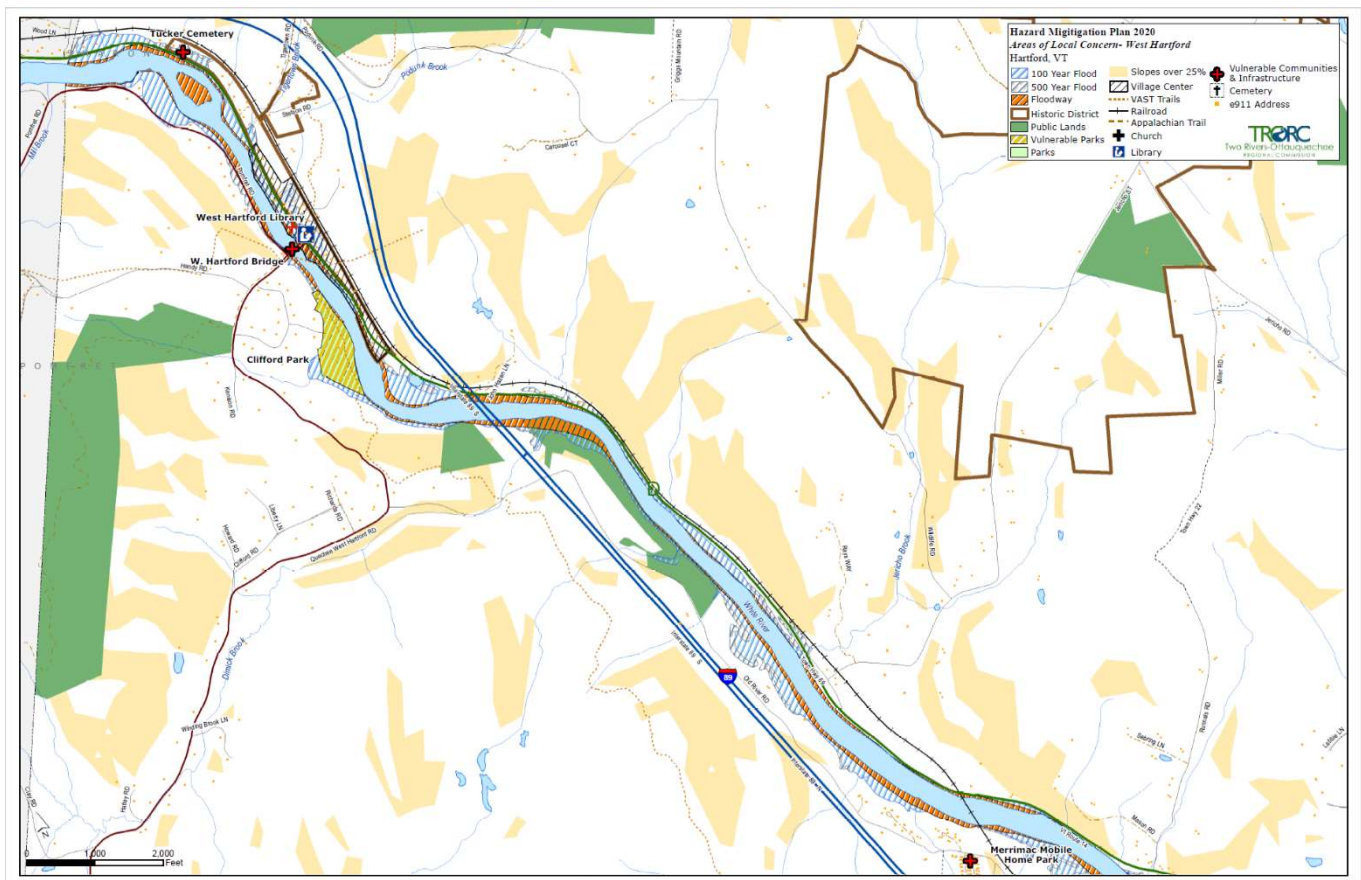
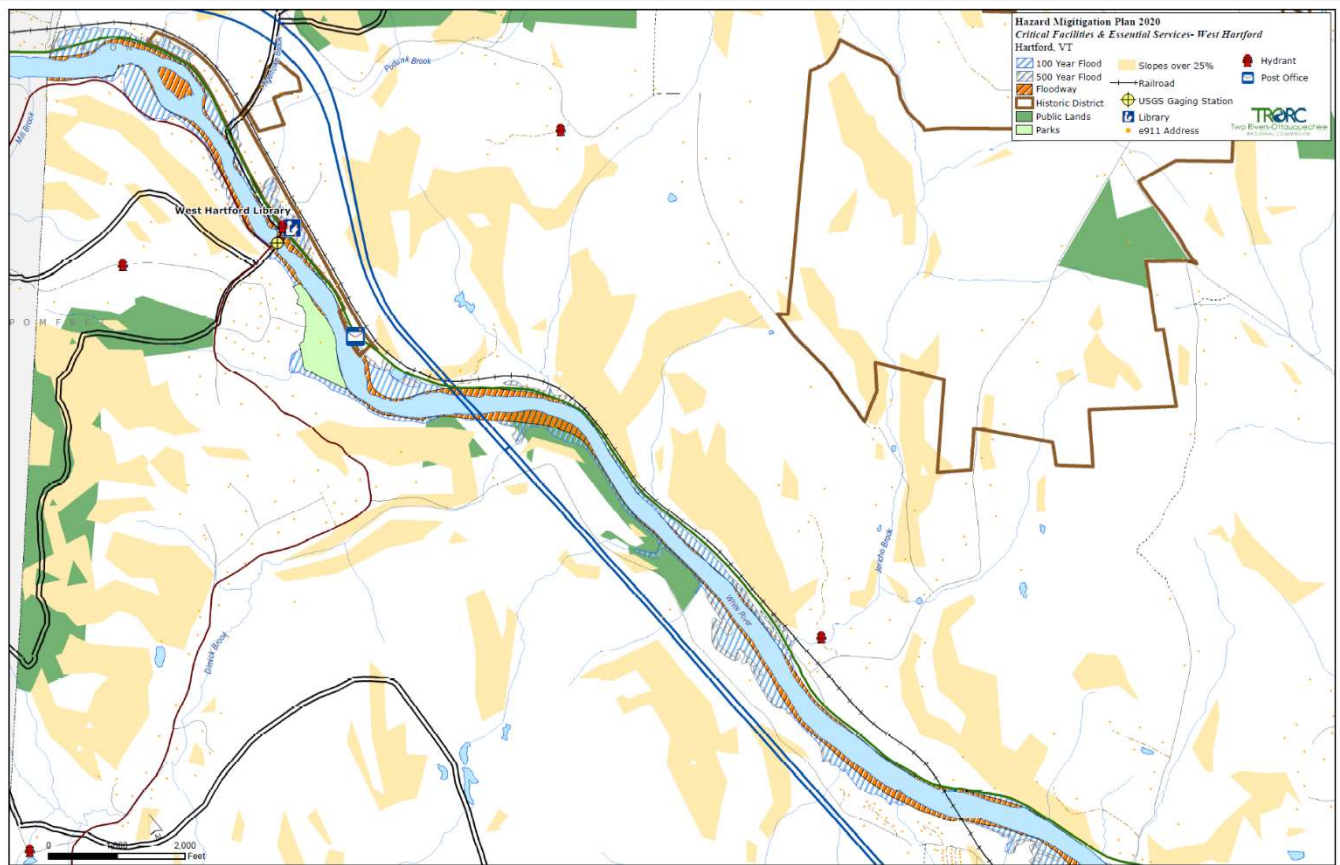
Source: Town of Hartford – Hazard Mitigation Plan (2021)



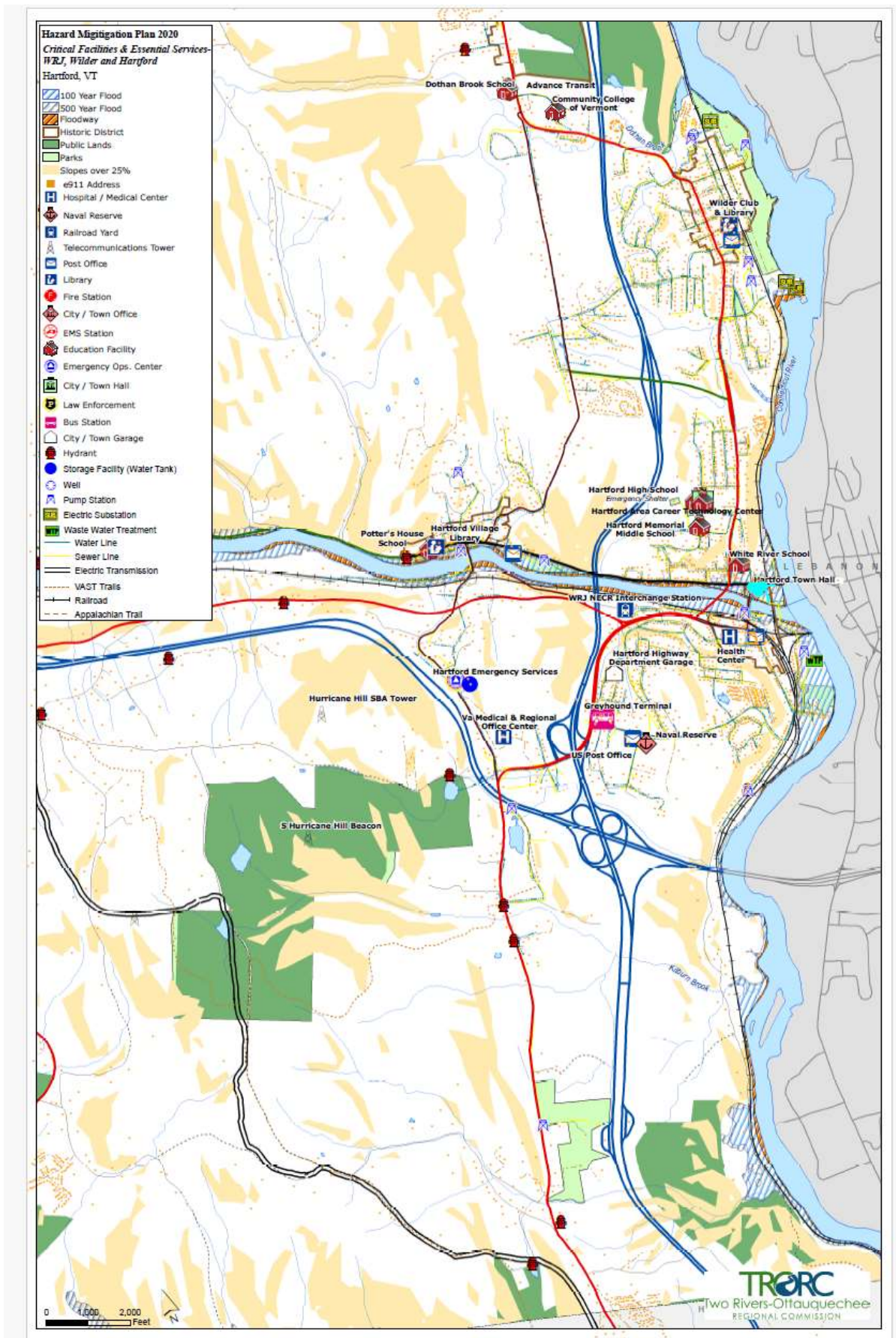
Source: Town of Hartford – Hazard Mitigation Plan (2021)



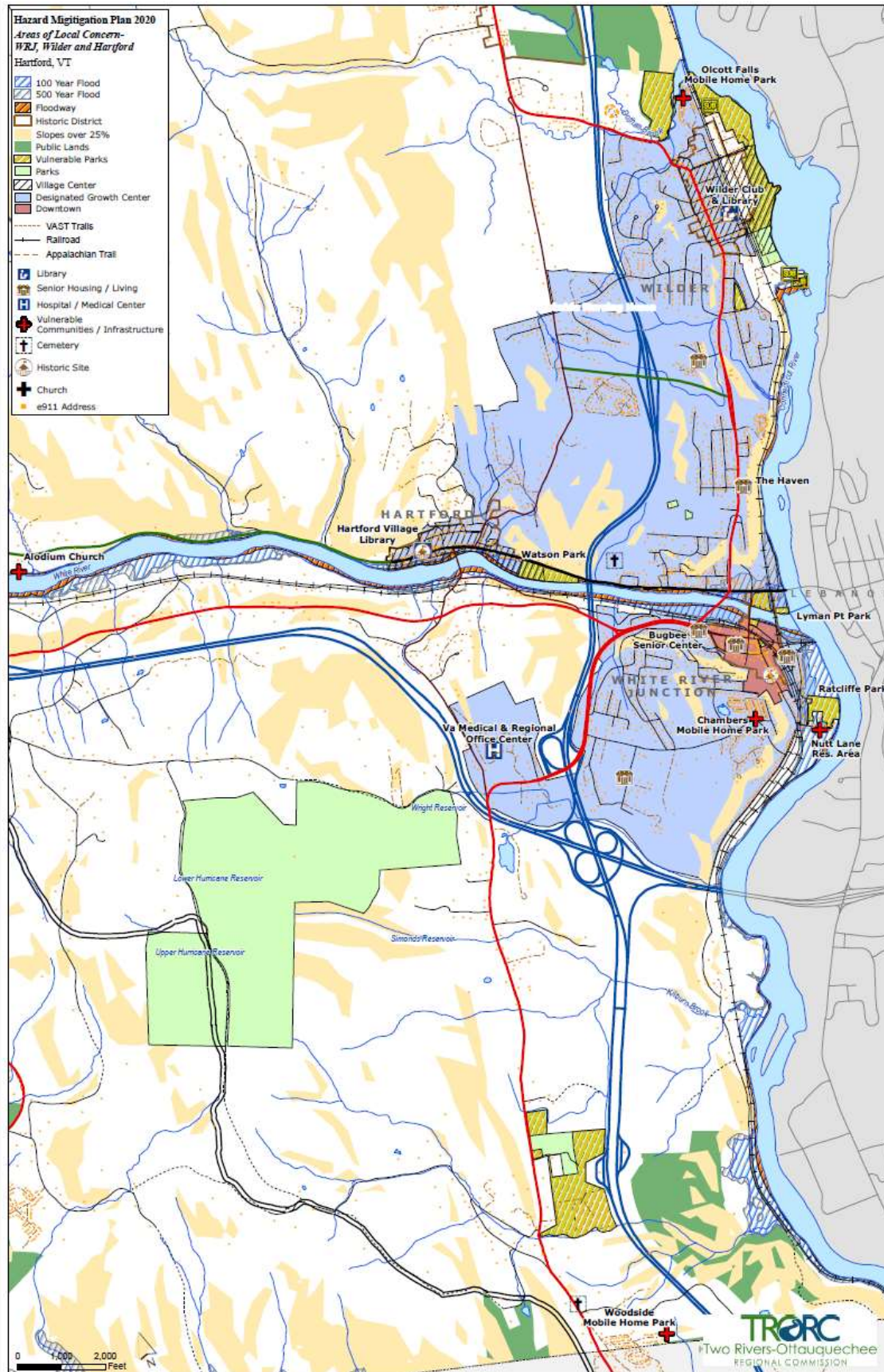
Source: Town of Hartford – Hazard Mitigation Plan (2021)



Source: Town of Hartford – Hazard Mitigation Plan (2021)



Source: Town of Hartford – Hazard Mitigation Plan (2021)



Source: Town of Hartford – Hazard Mitigation Plan (2021)

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