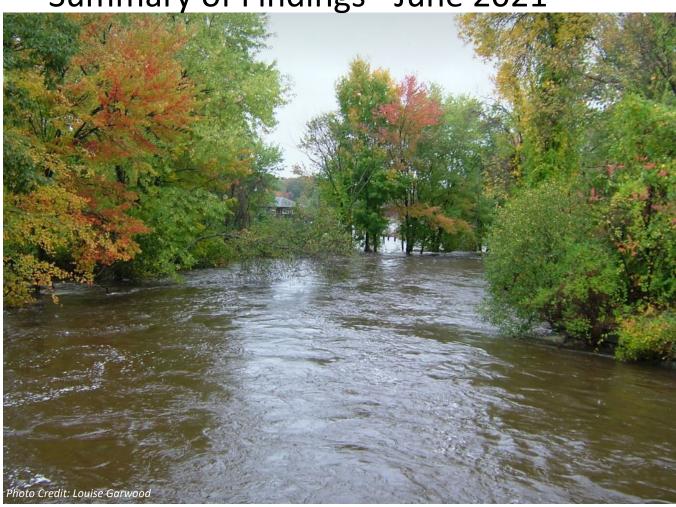
# Town of West Brookfield



# Municipal Vulnerability Preparedness Summary of Findings - June 2021



Last revised 06/28/21



#### CMRPC MISSION

The Central Massachusetts Regional Planning Commission is a regional partnership serving the planning and development interests of 40 member communities in southern Worcester County in Massachusetts. Our primary mission is to improve the quality of life for those who live and work in our region.

We do this by (1) addressing growth and development issues that extend beyond community boundaries; (2) maintaining the region's

certification for federal transportation improvement funds; (3) providing technical knowledge and resources to assist local government in addressing specific land use, economic or environmental problems resulting from growth or decline, and (4) building strong working relationships with member communities, state and federal officials, as well as the range of area stakeholders.

#### **OUR HISTORY AND PROGRESS**

Founded by the Massachusetts Legislature in 1963, the Central Massachusetts Regional Planning Commission (CMRPC) provides a variety of services to its constituencies and brings a regional perspective to planning and development. One of 13 regional planning agencies in Massachusetts, CMRPC serves the city of Worcester and 39 surrounding communities in the southern two-thirds of Worcester County. CMPRC's programs include Transportation, Regional Services, Geographic Information Systems (GIS), and Community Development & Planning.

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#### FEDERAL TITLE VI/NONDISCRIMINATION PROTECTIONS

The Central Massachusetts Metropolitan Planning Organization (CMMPO) hereby states its policy to operate its programs, services and activities in full compliance with federal nondiscrimination laws including Title VI of the Civil Rights Act of 1964 (Title VI), the Civil Rights Restoration Act of 1987, and related federal and state statutes and regulations. Title VI prohibits discrimination in federally assisted programs and requires that no person in the United States of America shall, on the grounds of race, color, or national origin, including limited English proficiency, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity receiving Federal assistance. Related federal nondiscrimination laws administered by the Federal Highway Administration, the Federal Transit Administration, or both prohibit discrimination on the basis of age, sex, and disability. These protected categories are contemplated within the CMMPO's Title VI Programs consistent with federal and state interpretation and administration. Additionally, the CMMPO provides meaningful access to its programs, services, and activities to individuals with limited English proficiency, in compliance with US Department of Transportation policy and guidance on federal Executive Order 13166.

#### STATE NONDISCRIMINATION PROTECTIONS

The CMMPO also complies with the Massachusetts Public Accommodation Law, M.G.L. c272§§ 92a, 98, 98a, prohibiting making any distinction, discrimination, or restriction in admission to or treatment in a place of public accommodation based on race, color, religious creed, national origin, sex, sexual orientation, disability or ancestry. Likewise, CMMPO complies with the Governor's Executive Order 526, section 4, requiring all programs, activities and services provided, performed, licensed, chartered, funded, regulated, or contracted for by the state shall be conducted without unlawful discrimination based on race, color, age, gender, ethnicity, sexual orientation, gender identity or expression, religion, creed, ancestry, national origin, disability, veteran's status (including Vietnam-era veterans), or background.



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# EXECUTIVE ORDER 569 AND THE MASSACHUSETTS MUNICIPAL VULNERABILITY PREPAREDNESS PROGRAM

In September 2016, Massachusetts Governor Baker signed Executive Order 569, directing multiple state agencies to develop and implement a statewide comprehensive climate adaptation plan with the best climate-change data available. Recognizing that many adaptation solutions are local in nature, a key commitment of Executive Order 569 is to assist local governments in completing their own assessments and resiliency plans. The MVP Grant and Designation Program represents the first step in fulfilling this commitment.

The MVP program provides planning grants to municipalities to complete vulnerability assessments and develop action-oriented resiliency plans. Funding is used by cities and towns to hire an MVP-certified consultant who is trained to provide technical assistance and complete a community's vulnerability assessment and resiliency plan using the Community Resilience Building Framework. Towns and cities are free to choose the consultant of their choice from a list of certified MVP providers. The Town of West Brookfield invited the Central Massachusetts Regional Planning Commission to lead them in this planning effort.

Communities that complete the MVP planning process become certified "MVP Communities" and are eligible for Action Grant funding and other opportunities through the Commonwealth.



Figure 1 Governor Baker signing legislation H. 4835, which included \$75 million for MVP program funding. Source: https://www.mass.gov/news/governor-baker-signs-legislation-directing-24-billion-to-climate-change-adaptation

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# ACKNOWLEDGEMENTS

The Municipal Vulnerability Preparedness (MVP) program and Community Resiliency Building Workshop was funded by the Executive Office of Energy and Environmental Affairs. This Summary of Findings and CRB Workshop were prepared for the community of West Brookfield by the Central Massachusetts Regional Planning Commission (CMRPC). Support from the West Brookfield Board of Selectmen and the town officials was much appreciated, especially for allowing the workshop and listening session to take place virtually.

The CMRPC would like to acknowledge the Town of West Brookfield's Core Team for their time and hard work in participating in this project. These include, but are not limited to:

Barbara Portal, Lake Wickaboag Preservation Association (LWPA), Co-Lead

Dave Brown, Lake Wickaboag Preservation Association (LWPA), Co-Lead

Jim Daley, Highway Department

Tom O'Donnell, Police Chief

Becky Acerra, Executive Secretary

MJ Haesche, Architect/Health Department/Planning Department

The following individuals were directly and personally involved in planning and conducting the West Brookfield Community Resilience Building Workshop:

Ian McElwee, Associate Planner, CMRPC

Peter Peloquin, Associate Planner, CMRPC

Danielle Marini, Assistant Environmental Planner, CMRPC

Mary Hannah Smith, Associate Environmental and Resiliency Planner, CMRPC

Andrew Loew, Project Manager, CMRPC

Matt Franz, GIS Analyst, CMRPC

Andrew Smith, Regional Coordinator, EOEEA





# WEST BROOKFIELD: A PROFILE

The Town of West Brookfield, Massachusetts, was incorporated in 1848.<sup>1</sup> It is located on MA-09, on the western edge of Worcester County in central Massachusetts, approximately 23 miles away from Worcester City.<sup>2</sup> The Town of New Braintree borders in the north, North Brookfield borders in the northeast, Brookfield borders in the southeast, and Warren borders in the southwest.

With an estimated population of about 1,479 residents as of 2019, the small town's population has decreased by 11% since 2010. 97.7% of town residents are white, with about 2.3% of the population belonging to another race. 1.5% of the town's population is Latino. The median age of the population of West Brookfield is 54.1 years. 12.6% of residents under the age of 18, and 28.1% are over 65. The median household income is \$51,680, compared to \$81,215 for all Massachusetts residents, with 3.8% of the population living below the poverty line.<sup>3</sup> West Brookfield has no designated Environmental Justice populations, according to the EEA.

The Town of West Brookfield is a classic New England community rich in history, extending well before the town's incorporation in 1848. The town lies on the ancestral land of the Nipmuc people, and one of the largest indigenous people's villages was historically located at the southern boundary of Lake Wickaboag.<sup>45</sup> In the 1660s, English settlers obtained rights to land in and around West Brookfield and established the Quaboag Plantation, an agricultural settlement along the banks of the Quaboag River.<sup>6</sup> The plantation disbanded during King Philip's war in 1675. Still, white settlers continued to move to the area, and this population growth eventually led to the incorporation of West Brookfield and 19th centuries, and Fort Gilbert are among the many historical tourist sites found in West Brookfield.<sup>8</sup> The town center is also a nationally recognized historic district, including historic buildings like the Town Hall.<sup>9</sup> Today, the town is known for its historic sites, pastoral scenery, and small-town atmosphere.<sup>10</sup>

A Board of Selectmen governs West Brookfield, and numerous town departments and volunteer boards contribute to a caring and engaged community for all residents. The Lake Wickaboag Preservation Association also actively works to provide programs that maintain the ecological health and water quality of the lake and the town.<sup>11</sup>

- <sup>2</sup> (Worcester Regional Chamber of Commerce, 2018)
- <sup>3</sup> (United States Census Bureau, 2019)
- <sup>4</sup> (Nipmuc Nation Tribal Council Inc., n.d.)
- <sup>5</sup> (West Brookfield Historical Commission, n.d.)
- <sup>6</sup> (West Brookfield Historical Commission, 2010)
- <sup>7</sup> (West Brookfield Historical Commission, n.d.)
- <sup>8</sup> (West Brookfield Historical Commission, n.d.)





<sup>&</sup>lt;sup>1</sup> (West Brookfield Historical Commission, n.d.)

<sup>&</sup>lt;sup>9</sup> (West Brookfield Historic Commission, n.d.)

<sup>&</sup>lt;sup>10</sup> (Hurwitz, 2017)

<sup>&</sup>lt;sup>11</sup> (Lake Wickaboag Preservation Association, n.d.)

# WORKSHOP SUMMARY

The Town of West Brookfield contracted with the Central Massachusetts Regional Planning Commission (CMRPC) on November 18, 2020, to serve as the MVP provider, including completing the Community Resiliency Building (CRB) workshop. Through the Community Resilience Building (CRB) process, stakeholders actively engaged in an ongoing discussion to determine the top hazards related to climate change that currently impact or have the potential to impact West Brookfield. A small group of town officials and Board Members convened on November 20, 2020, to form the 'Core Team' that, together with CMRPC staff, organized and planned the CRB Workshop over three meetings.

The Town of West Brookfield's CRB workshop was scheduled to be held virtually over the course of three separate meetings. Core Team and CMRPC planned the first meeting to last two hours. CMRPC's facilitator dedicated the first quarter-hour to familiarizing participants with all of ZOOM's functions and introductions. After a brief introduction to the MVP program, the remaining time was devoted to the CRB process -- identifying town features and their locations, ownership, and classification as a vulnerability or strength. The remaining two meetings were reserved to complete the CRB matrix and develop a list of actionable items that could improve resiliency throughout the Town of West Brookfield.

The virtual workshops were held on March 4<sup>th</sup>, 11<sup>th</sup>, and 18<sup>th</sup> from 7:00-9:00 PM. The Core Team and CMRPC staff pre-recorded all presentations, allowing participants to view them in preparation for the workshop. Upon completing the Core Team introduction videos, MVP program overview presentation, Climate Projections presentation, Hazards presentation, and Matrix & Nature-Based solutions presentation, the Core Team and CMRPC developed the workshop invitation. The invitation included links to each pre-recorded presentation, table maps, an excerpt from the West Brookfield Hazard Mitigation Plan, a two-page MVP program overview, a CRB Workbook, a how-to-use-ZOOM information page, an online mapping tool, and an agenda with ZOOM log-in information for each of the three meetings. Participants were instructed to watch all presentations at their leisure before the workshop.





# Core Team and Project Team

Name	Affiliation	Role
Barbara Portal	Lake Wickaboag Preservation Association (LWPA)	Project co-leader
Dave Brown	LWPA Member	Project co-leader
Jim Daley	Highway Department	Core Team
Tom O'Donnell	Police Chief	Core Team
Becky Acerra	Executive Secretary	Core Team
MJ Haesche	Architect/Health Dept/Planning Dept	Core Team
lan McElwee	CMRPC	Project Lead
Dani Marini	CMRPC	Project Support
Peter Peloquin	CMRPC	Project Support
Mary Hannah Smith	CMRPC	Project Support

# Workshop Invitees and Participants

Name	Organization	Attended
Anne Gobi	MA State Senator	Y
James McFarland	Brookhaven Lake	Y
Brett Kustigian	Superintendant, Quaboag Regional School District	Y
Alexandra McNitt	Dir South Central Chamber of Commerce	Y
MaryBeth Czaja	LWPA & Manufacturing Co-Owner	Y
Rachel O'Donnell	Safe Routes to School	Y
Al Collings	LWPA	Y
Abigail Birch	Brookhaven Lake	Y
Melvin Dorman	Earth Removal/ BOH Chair	Y
Marc Astrella	Quaboag Regional Schools Head of Facilities	Y
Jim DiMaio	Tree Warden	Y
Karen Phillips	Senior Center Director	Y
Louise Garwood	Landscape Designer, Farmer's Market, Historical Commission	Y
Rich Lapierre	Fire Captain	Y
Danny Santos	Sportsman Club/Fire Department	Y
Clayton Edwards	Fire Chief	Y
Mark O'Donnell	Boat Club	Y
Matt Koziol	Agricultural Commission and local cattle farmer	Y
Wes Cassavant/Andy Tombar	Water Department	Y
Donald Berthiaume	MA House Rep	Y
Brita Dempsey	MA Envirothon	Ν
Craig Carter	Master plan and other	Ν
Rebecca Cornell	Master plan team	N
Keith Davies	Blue Trails	Ν
Brianna Green	Army Corps of Engineers	N
Zachery Koziol	Army Corps of Engineers	Ν
Tim Morrel	Former Planning Board	N





Wesley Slobody	Former Planning Board	Ν
Lucas McDirmard	Anne Gobi's Office	Ν
Carl Hartwick	National Grid Community Relations	Ν
Heidi Ricci	Director, MA Audubon	Ν
Cynthia Henshaw	Director, East Quabbin Land Trust	N
Jim Lagacy	Mass Wildlife	Ν
Steve Garwood	Cidery Mill Owner Operator	N
Paul Lussier	Builder, Boy Scout/Eagle Scout Leader & Former Conservation Commission	Ν
David Mazzarese	Conservation Commission	Ν
Tom Flannery	DCR Lakes and Ponds	Ν
Jim Straub	DCR Lakes and Ponds	Ν
A Gouveia	Rock House, Trustee, Public Relations	Ν
Richard Rossman	Historical Society	Ν
Lester Paquette	Board of Water Commissioner	Ν
Robert Benson	Board of Water Commissioner	Ν
Barry Nadon	Board of Water Commissioner	Ν
Bob Datz	Environmental Studies	Ν
Holly Takorian	Library	Ν
Dave Healey	Water Department	N

The workshop's goal was to identify the four top natural hazards that impact West Brookfield and develop strategies to enhance the Town's resiliency related to climate change. Following the CRB work plan, the Core Team and CMRPC facilitators and planners pre-recorded four presentations:

- Overview of the MVP program
- Overview of the CRB process
- A summary of climate change projections, impacts, and mitigation strategies
- A detailed profile of natural hazards in the Town of West Brookfield, including the top four hazards perceived by the core team.

During the first virtual workshop meeting date, the group discussed the top four hazards that affect West Brookfield. There was an agreement between the Core Team and all participants that--in no particular order-- drought, wind events, flooding, and winter storms have the most significant effects and potential impacts on the Town. After identifying these hazards, workshop attendees proceeded to work through the CRB matrix and mapping exercise in three small groups facilitated by CMRPC staff. Table facilitators guided stakeholders through examining the Town's infrastructural, societal, and environmental features to identify stakeholders' concerns regarding natural and climate-related hazards.

The group then reconvened seven days later to build upon the first day's work. The second session's goal was to continue identifying Town features and list ideas for actions that could reduce or mitigate climate change's projected impacts. One week later, the group used the final





CRB meeting to complete the matrix. Once attendees had completed the matrix, a table reporter from each small group announced a summary of their group's findings.

Upon completing the three virtual workshop meetings, CMRPC compiled all information from the completed CRB matrices into a survey. The survey was then distributed to all workshop attendees from March 29, 2021, through May 4, 2021. The attendees took the survey to prioritize and vote for what they believed to be the top project in the infrastructure, society, and environmental categories. The survey results were used to prioritize action ideas and organize the Summary of Findings Report.

Twenty-six (26) stakeholders attended the virtual CRB Workshop, including representatives from town and state government, emergency services, the MVP Core team, municipal department heads, the Wickaboag Lake Preservation Association, the school district, the local business community, and concerned citizens of West Brookfield.

A public listening session to discuss MVP results and recommendations for future actions was held in person on June 9, 2021. The listening session was properly promoted across several avenues, with a combined thirteen (13) residents including all three selectmen in attendance. Between the workshop and listening session, a total of thirty (30) people participated in the MVP process.

#### Top Hazards

Following the presentations at the beginning of the workshop, a full-group discussion was held to determine the top four hazards for breakout groups to assess solutions further. Taking climate change projections, critical infrastructure, and other considerations into account, workshop participants chose to focus on the four following hazards. They are presented in no particular order: **flooding**, **drought**, **winter storms**, and **wind events**.

In 2016 and 2020, West Brookfield experienced extreme droughts along with the majority of the state of Massachusetts. Severe storms, including high winds and intense rainfall, have been increasing in frequency and impact. All of these have disrupted the Town, causing localized flooding, power outages, severe property damage and calling upon mutual aid agreements. With climate change, all of these natural events are expected to increase in severity and frequency.



#### DROUGHT

Projecting an increase of consecutive dry days, with the driest periods in the summer and fall. This leads to increased risk and stress on drinking water systems and wildfire potential.

#### WINTER STORMS

Annual days below freezing will decrease, winter precipitation falling as rain or freezing rain. This increases risk for ice storms and flash flooding when rain falls on frozen ground.

West Brookfield Nive summary or Finallys June 2021





#### FLOODING

Expected increase in precipitation across all seasons. Heavy rainfall will become more frequent, increasing the risk for flash floods. Also increases non-point source pollution.

#### WIND EVENTS

Intensity of storm events is expected to increase due to the warmer atmosphere. This will lead to increased severe thunderstorm and hurricane activity with higher wind speeds.





**Flooding.** While West Brookfield has not experienced major flooding in recent years, much of the town's development is clustered around water bodies, including Wickaboag Pond (hereafter referred to as Lake Wickaboag), the Quaboag River, and various other small brooks. Due to topography and the number of water bodies, a significant portion of the Town's area lies within a regulated floodplain. One-hundred and twenty-nine buildings, with an assessed value of \$32 million, are estimated to lie within official FEMA flood zones and have an annual risk of flooding between .2 and 1%. Roads and developed areas outside of the FEMA flood zones in West Brookfield have also been known to flood due to inadequate drainage, local topography, or other reasons. Areas with known drainage issues include sections of Main Street, Front Street, Wigwam Road, and Snow Road.

**Winter Storms**. Winter ice storms, a regional problem, are expected to be more intense and include more mixed precipitation, which is highly damaging to trees, power lines, and other property and infrastructure.

**Drought**. Drought could lead to water shortages that will impact the entire town, regardless of whether residents and businesses are on town water or have private wells. Due to the impact of prolonged droughts and extreme heat, wildfires may become more frequent, and forests and wooded areas may become more combustible. As of 2007, an estimated 65.6% of land in West Brookfield was forested, and between 2004 and 2018 there have been at least 11 wildfire incidents with at least 18 acres burned.<sup>12</sup> While part of the town is located within the public water area and any wildfires that occur within this zone can be easily controlled by the fire department, much of the town's forested area lies outside this zone and has an elevated risk for uncontrolled burning.

**Wind Events**. Heavy wind events are a serious concern. The Town and the surrounding area have experienced a recent uptick in storms with hurricane-level winds and tornado-like micro bursts. While this phenomenon can be linked to extreme temperatures and rising precipitation rates, workshop participants felt it was serious enough to be singled out as a hazard. Thus, the fourth hazard is focused primarily on the winds associated with these storms, leaving heavy rain events to be discussed under flooding.

The workshop participants agreed that these hazards affect West Brookfield at different times of the year. Flexibility and year-round preparedness by town officials are needed to ensure citizens' safety across all the different hazard situations that climate change will exacerbate.

The hazards identified by West Brookfield are based on data provided by the Massachusetts Climate Clearinghouse and watershed-specific data from the Northeast Climate Adaptation Science Center at the University of Massachusetts at Amherst. For the Chicopee River Basin, where West Brookfield is located, projections show an expected increase in precipitation overall, with the most significant increase during winter. The number of days with more than 2"





<sup>&</sup>lt;sup>12</sup> (Town of West Brookfield; Central Massachusetts Regional Planning Commission, 2016)

of rainfall, potentially leading to inland flooding, is also expected to increase. Consecutive dry days and days above 90 degrees Fahrenheit are expected to increase, leading to drought. Days at the wintery-mix level of cold are also expected to increase, leading to a greater likelihood of freezing rain in the winter. Higher wind in the summer and storm severity increases with warmer temperatures.

# CURRENT CONCERNS AND CHALLENGES PRESENTED BY HAZARDS AND CLIMATE CHANGE

CMRPC, the MVP planning provider, had the unique advantage of preparing West Brookfield's Hazard Mitigation Plan (HMP), which was adopted by the Town's Board of Selectmen in January 2017 and received FEMA approval in February 2017. The recent HMP process and preworkshop MVP Core Team meetings helped identify past climate-related events that significantly impacted West Brookfield. Disaster events of concern included:

- Microburst (2020)
- Frequent major winter storms (2013, 2015)
- Tropical storms (Irene, Sandy)
- Infestations of invasive and otherwise undesirable species (aquatic invasive species, ticks).
- Wildfires (multiple instances between 2014 and 2018)
- Extended periods of drought (2016, 2020)
- Lake flooding (2005)

Future challenges linked to climate change, which were highlighted in the presentations and breakout groups, included:

- An increase in hot and warm days and a decrease in cold days could result in a greater need for cooling and less need for heating. West Brookfield residents will need to adapt to these temperature changes and potentially invest in new equipment like air conditioning systems to cope with extreme heat.
- Increased temperatures may also impact the water cycle, leading to more intense rain events. Higher precipitation rates could lead to more frequent and severe flooding in areas outside of designated flood zones, defined using historical data.
- Heavy precipitation could overwhelm West Brookfield's stormwater drainage infrastructure. Nutrients in the stormwater run-off from roads and farms could lead to eutrophication of local water bodies.
- Intense storms with high winds and precipitation are already a problem for West Brookfield. More frequent or more severe storms could cause tree damage leading to power outages and road closures, high peak river flows and potential flooding, and erosion of riverbanks.
- More frequent and severe droughts will challenge water supplies and increase risks from wildfire. Drought conditions could also exacerbate water quality problems by concentrating contaminants in local wells.





 Ecological changes resulting from environmental shifts like rising temperatures can challenge native species and cause non-native or invasive plant and animal species to thrive. Increasing numbers of disease-carrying pests (e.g., ticks and mosquitoes) may result from these broader environmental changes, challenging public health. Other pests may damage native tree species and compound the impact of other hazards like intense storms.





# VULNERABLE AREAS

The following locations in West Brookfield were identified by workshop participants during the discussion as vulnerable to climate change-related hazards.

**Lake Wickaboag** faces ongoing water quality problems, including sedimentation, seasonal algae blooms, contamination from septic tanks, and nonpoint source pollution. The lake and surrounding wetlands are a biodiverse wildlife habitat, and

# VULNERABLE AREAS

- Lake Wickaboag
- Waterways
- Properties within the floodplain

workshop participants rated it as the most valuable natural and economic resource in West Brookfield. Water quality problems negatively impact the residences lining the lakeshore, as well as the broader community, since West Brookfield's public drinking water aquifer lies partially beneath the lake and the lake is used for recreation purposes with boating and the town beach. Changes to precipitation, including drought, could further disrupt the lake's ecology.

**Waterways** in West Brookfield, including the Quaboag River and various brooks and streams, were perceived as vulnerable to water quality problems caused by stormwater runoff. Small streams and brooks receive West Brookfield's stormwater, which is predominantly unfiltered and includes sediment, pollutants, and trash. In addition, many waterways are interconnected, so pollution problems are broadly spread across various areas in town. For example, Sucker Brook and Mill Brook flow from New Braintree into Lake Wickaboag and may carry contaminants into the Lake from upstream, which ultimately drain into the Quaboag River. The Quaboag River also collects unfiltered runoff from roadways, including pollutants, pesticides, and trash. One workshop table noted that agricultural runoff from orchards along Route 9 might also be entering the river.

**Properties within the floodplain** are vulnerable to flooding. West Brookfield has a broad area around the Quaboag River and Coys Brook near the town's center that FEMA has assigned a 1% annual flood risk. Many buildings in this commercial and industrial section of town are included in the floodplain, including the town's senior center and the Highway Department's garage. West Brookfield also has a flood zone around Lake Wickaboag, which includes many of the residential lakeside lots. Workshop participants considered the wide floodplain to be a town asset because it allows stormwater to spread out gradually. However, they were also worried about future property damage should West Brookfield fail to protect town wetlands or disruption to the floodplain's normal functioning.





# SPECIFIC CATEGORIES OF CONCERNS AND CHALLENGES

The following topics were identified by workshop attendees as concerns or challenges related to West Brookfield's changing climate and natural hazards.

#### Infrastructure Concerns:

**Dams** throughout West Brookfield were noted as potential hazards. The Wright Mill Brook Dam in nearby Warren is inoperable

and limits options for the release of water from Wickaboag Dam, which lies upstream. Dams on Lake Wickaboag, Sucker Brook, and Brookhaven Lake are not currently causing problems for the town, but workshop participants want to ensure ongoing maintenance continues to prevent future dam failures.

**Roadways** across West Brookfield have poor drainage or are in low-lying areas. Areas that have previously flooded with stormwater include parts of Shea Road, Route 57, Route 9 near Brookhaven Lake, Front Street, Milk Street, Ware Street, Long Hill Road, and New Braintree Road. Multiple workshop groups noted that culverts under public roadways are being clogged or are old and degraded, leading to roadway flooding and the proliferation of vector-borne disease.

# INFRASTRUCTURE

- Dams
- Roadways
- Private roads and bridges
- Buildings near Quaboag River
- Emergency preparedness
- Public safety facility
- Wells
- Rail hazards
- Government communications
- Power outages

**Private roads and bridges** may be vulnerable to wash out during severe storms and lack proper stormwater management. Road and bridge washouts during future emergencies could prevent residents from evacuating and challenge the ability of first responders to access certain properties. The lack of stormwater management, especially on private roads near Lake Wickaboag, has led to sedimentation and damage to the aquatic environment. This infrastructure is owned and maintained by private landowners, and the town has very little control over their construction or maintenance. The expense of infrastructure construction may deter or prevent some landowners from making necessary improvements to their roadways, and the Town also has very limited funding to assist them.

Town-owned buildings near the Quaboag River, including the Senior Center and Highway Department Garage lie within the town's current 500-year FEMA plain. Services provided or





coordinated by West Brookfield's Senior Center and the Highway Department could play an essential role in future hazard mitigation and recovery efforts. If their buildings flood, these agencies may be unable to assist the town and instead require town assistance and funding to recover. The Quaboag Historical Society Museum, operated by a non-profit, is also located in this vulnerable location.

West Brookfield should revisit the town's **emergency preparedness** planning to ensure community resilience. The evacuation plan needs to be updated, and shelter plans should be reviewed. CRB participants also highlighted the need for increased public education and awareness of local emergency plans to help residents understand where to go and what to bring with them if they are forced to evacuate. In addition, multiple workshop tables noted the lack of adequate backup power at key town buildings. While the high school, an officially designated shelter, has a backup generator, other facilities like the Town Hall lack adequate backup power systems. Lastly, West Brookfield needs to address known problems with signing up residents for the CodeRED communications system. CRB participants felt that this public alerting system would be a future town strength, but it was slow to catch on in part due to the broken sign-up link on the town's website. As CodeRED is a critical component in West Brookfield's emergency communications strategy, signing up more households for the system is crucial for building community resilience.

West Brookfield does not have an **appropriate space for the town's police and fire departments**. For example, the Town Hall currently houses the police department, equipped with an underpowered generator. Without adequate emergency power and space to operate or store equipment, first responders face an even more challenging task of responding to climate-related natural hazards.

Workshop participants saw **public and private wells** as vulnerable to both drought and flooding. West Brookfield has a public water distribution system, which serves the center of town, buildings along route 9, and residences surrounding Lake Wickaboag. Water is drawn from several wells. One CRB workshop table noted that Well #1, located near the dam on the southern edge of Lake Wickaboag, could be vulnerable to future flooding. They also pointed out that Well #2 is no longer in compliance with Mass DEP drinking water regulations as of February 2021 due to high iron and manganese levels. The Water Department is also aware of elevated amounts of sodium in groundwater, though workshop participants felt that the town needed to devote more resources to tracking this issue. In general, workshop participants were concerned that drought could lower the water table and further concentrate minerals or contaminants in well water. They also highlighted the risk of flooding, which could contaminate drinking water. Landowners outside of the drinking water system who operate private wells across town face similar challenges. Additionally, some private wells are relatively shallow and may go dry or recharge more slowly than the town's wells. Other private wells are near the old dump site and would be vulnerable to contamination if the pollution plume were ever to expand or shift.

**Rail hazards** like derailment were noted by multiple groups at the CRB workshop. The town rail line follows the Quaboag River across the southern part of town and crosses the River just





south of Lake Wickaboag. Workshop participants were concerned about the impact of rail traffic on the wetlands and river, the height of the rail bridge crossing the Quaboag, and the potential impacts of a major disaster like a derailment.

**Government communication** issues were perceived as a factor that could hamper local resilience. The town website was seen as the most significant communication challenge by all groups at the CRB workshop. Participants noted that the website design does not work well on certain devices, includes broken links like one for CodeRED sign-up, and is not maintained or updated with enough frequency. Inter- and intragovernmental communication is also a hurdle for West Brookfield. Workshop participants commented on the perceived lack of transparency and coordination between town boards, which prevents integrated planning and regulatory decision-making. For example, public works projects are exempt from the town's standard Stormwater Authority review process, which was seen as a regulatory loophole that could negatively impact the town's environment. Additionally, participants thought that West Brookfield could improve coordination with other levels of governance, such as state agencies, to keep bylaws aligned with best practices and in compliance with state requirements.

Like many towns in Massachusetts, West Brookfield experiences **power outages** caused by tree damage during storms. The New Braintree Road neighborhood and the Ragged Hill neighborhood were specified as areas of particular concern, but workshop participants also expressed that this is a town-wide problem. Cable and electric lines are above ground in West Brookfield and are difficult for the town to protect. Workshop participants supported the performance of the town's tree warden, who has already trimmed, removed, or replaced many trees. However, outages still occur, and West Brookfield should expect climate change to exacerbate this problem by increasing the severity of storms and damaging tree health.





#### Societal Concerns:

Workshop participants identified the town's senior population as having greater vulnerability to climate-related hazards. The Quaboag Nursing Home, which can house up to 320 seniors, backs onto Coy Brook, and some of the property may lie within the town's current 100-year flood zone. Workshop participants noted that the facility has a weak relationship with the town government. They noted that the facility has its own emergency/evacuation plan but were unsure whether the nursing home has any emergency needs that they need the town's help to



#### SOCIETAL

- Seniors •
- Other climate-vulnerable populations
- Access to emergency • healthcare
- Impacts of future migration

address. The Brookhaven Rest Home is another long-term care facility for seniors with 40-50 beds. Workshop participants noted that this facility has a strong relationship with the town and has its own backup generator. Quaboag on the Common is a rehabilitation and skilled nursing facility catering to seniors in West Brookfield, though workshop participants did not know many other details about this facility. The West Brookfield Housing Authority property also houses low-income seniors and disabled residents, along with low-income families. The Housing Authority property is adjacent to Coys Brook and is partially surrounded by the current 100year flood zone. Workshop participants were unsure whether this facility has generators or a substantive emergency plan that includes climate-related hazards like extreme heat or extreme flooding that could exceed the existing 100- and 500-year flood zones. Other seniors live in residential housing throughout the town. They may have higher vulnerability to climate hazards for reasons including poor health, lack of transportation, lack of internet access, unwillingness to leave their homes during weather events, concern over leaving pets during evacuations, limited incomes that could prevent necessary home maintenance or amenities like air conditioning, and lack of access to backup power.

West Brookfield does not have any officially designated environmental justice communities. Beyond seniors, other climate-vulnerable populations in West Brookfield include low-income residents and disabled residents. Low-income residents may have fewer resources to complete home maintenance to prepare for or recover from natural hazards. They are also limited in their housing choice as West Brookfield has minimal regulated affordable units (Section 8 eligible), so this community is dispersed throughout the town, with a small transient population gathered at the Copper Lantern Motel. Lack of access to private vehicles or public transportation alternatives limits the mobility of some low-income and disabled residents and increases their vulnerability to natural hazards. CRB workshop participants noted that the needs of the low-income community are somewhat unknown, so further outreach to this community would be a starting point for cultivating community resilience. West Brookfield also has several mobile home communities. Workshop participants observed that these communities consist primarily of prefabricated homes rather than trailer homes but could be less resilient than traditional construction to high wind events, flooding, or high temperatures.





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The closest hospital to West Brookfield was formerly in Ware but is in the process of phasing out services and will close by 2023, so **access to emergency healthcare** is another community resiliency challenge. The town is served by a non-profit EMS service that was well-regarded by workshop participants but needs additional Advanced Life Support training and is handicapped by the long distances to hospitals, which are in Worcester, Springfield and Southbridge.

One table at the CRB workshop also expressed concern about the **impacts of future migration** from coastal communities into West Brookfield. Future migration was perceived as a potential threat to the town's farm land because housing construction and other forms of development could replace current agricultural land uses. However, the broader community and state impacts of such a large-scale migration scenario were not explored further during the CRB workshop.

#### Environmental Concerns:

The most frequently cited environmental concern at West Brookfield's CRB workshop was **non-point source pollution and runoff.** This type of pollution has many different origins and negatively impacts aquatic environments across the town. Workshop participants identified the following sources of freshwater contaminants:

- Fertilizer runoff from lawns surrounding Lake Wickaboag and others rivers and waterways.
- Stormwater drainage from roads carrying trash and chemical residue into waterways.

# ENVIRONMENTAL

- Non-point source pollution and runoff
- Invasive plants
- Wildfire risk
- Wildlife
- Solar farms
- Brownfields
- Potential drainage from farms along route 9 carrying pesticides and animal feed or waste into waterways.
- Septic tanks.

Workshop participants also pointed out that drought conditions are exacerbating this issue. Droughts may harden the soil and make water more difficult to absorb, causing more water to flow into waterways. The consequences of runoff include sedimentation and cyanobacteria algal blooms in Lake Wickaboag, which then drains into the Quaboag River. While there are active environmental campaigns focused on protecting Lake Wickaboag, the Quaboag River is less actively managed. Therefore, improving the river's water quality may present a more significant challenge for West Brookfield than mitigating environmental problems in the lake. Wetland ecosystems and smaller waterways in West Brookfield also face runoff-related issues, such as trash and pollution.

**Invasive plants** are a problem for West Brookfield's aquatic and terrestrial ecosystems. CRB workshop participants commented that bittersweet vines contribute to ecological changes in woodlands by killing trees and competing for resources with native species. Similarly,





phragmites growth is clogging waterways and displacing other wetlands plants. Also, invasive weeds including milfoil and other aquatic plants are a challenge for Lake Wickaboag and are treated annually during the summer. Rising temperatures and changes to precipitation patterns may induce further changes in West Brookfield's local ecosystems.

**Wildfire risk** was another concern for West Brookfield. Storm damage and recent droughts have led to some accumulation of dead trees in forested areas. The Town's lack of resources for adequate forest management has also contributed to extensive dead wood and brush build-up throughout the vast areas of forest in West Brookfield. Also, a large geographic area on the outskirts of town is not connected to town water. However, the town has been actively working on providing water sources for firefighting in rural areas by installing dry hydrants and identifying new draw points.

Wildlife living on land and in West Brookfield's lakes, streams, and wetlands will likely be challenged by climate change and habitat encroachment in the coming decades. Workshop participants linked the water quality challenges identified earlier in this section to oxygenation and pH changes, which could cause cascading problems in aquatic ecosystems, impacting fish, waterfowl, and many other creatures. Other participants noted that there has been an increasing number of notable wildlife and human interactions like black bears in residential areas. As a relatively rural town with plentiful open space, workshop participants felt that West Brookfield residents need to learn how to share space with many different species. Continued development, combined with potential changes to wildlife populations could lead to encroachment on wildlife habitat, which could negatively impact wildlife. Beavers are one species that is very common in West Brookfield, and their growing population and continuous dam building have caused roads to flood in the past. Workshop participants noted dams near Saw Mill Farm and past flooding along Shea Road. Fortunately, West Brookfield officials are used to beavers and regularly use beaver deceivers to control the local impacts of beaver dams. However, changes to beaver populations or changes to precipitation that increase dam water levels could cause future challenges for the town.

While solar energy may be an essential power source for West Brookfield in the future, CRB workshop participants were concerned about the potential impact of **solar farms** on the local environment. Workshop participants were worried that large installations could lead to erosion, deforestation, and stormwater drainage problems in the near-term. In the long-term, participants were concerned that chemicals could leach or off-gas from panels and battery back-up systems as solar installations age or are decommissioned. They identified the Beeman Road solar farms as an example of these problems in town. Another participant wanted to know whether these installations were resilient to high winds.

**Brownfields** were also an environmental concern for CRB workshop participants. West Brookfield's old town dump site is a regulated brownfield site. Toxic discharge from this site is monitored, but workshop participants were concerned that climate change could cause shifts to groundwater that could cause the contamination plume to shift and leak into drinking water.





One CRB workshop table also wanted to determine whether the former Quaboag Corset Factory site is leaching any pollutants, though it is not officially classified as a brownfield site.





# **CURRENT STRENGTHS AND ASSETS**

West Brookfield has taken some steps to address natural hazards and climate change over recent years. Workshop attendees identified the following topics as strengths or assets that will aid in West Brookfield's climate resilience.

#### Infrastructure Strengths:



The town's **power outage mitigation** work was rated as a community strength. The tree warden has done an excellent job trimming, removing, and replacing street trees that threaten power lines. The town, led by the tree warden, also successfully removed invasive maple trees across West Brookfield and replaced them with more resilient native species. The town also has maintained a good working relationship with National Grid, which facilitates outage mitigation.

While solar farms were identified as an environmental challenge for West Brookfield, they were also considered a potential town strength because of their important role in the transition to green energy sources. The town's plentiful open space means that there are many potential sites for large solar installations. While solar can negatively impact the local environment, large installations can be a cost-effective and environmentally friendly green energy option when sited and installed responsibly.

# **INFRASTRUCTURE**

- Power outage mitigation
- Solar farms
- Federally maintained dams and dikes
- Drinking water distribution system
- Publicly owned buildings
- Town whistle
- Historic Town Common and Town Hall

The federally maintained dam on Lake Wickaboag and dikes along Route 9 were perceived as well-managed by workshop participants. They perform their primary function of containing water, require minimal maintenance from the town, and are expected to perform well into the future, assuming that routine maintenance and inspections continue.

West Brookfield's drinking water distribution system was rated as a town strength because it provides centralized water access to many of the town's residents. While the town must address the water quality issues identified in earlier sections of this report, having the water distribution infrastructure in place may facilitate future development in the areas of town that can access this system.

Publicly owned buildings, including the Quaboag Regional High School, West Brookfield Elementary School, Town Hall, and Senior Center, were designated as assets for their town's overall emergency preparedness. The high school located in Warren is the current official shelter and has an adequate generator. The elementary school recently received some building upgrades and could be another shelter option for West Brookfield if equipped with a backup





power source. Workshop participants also thought that the Town Hall and Senior Center could be effective warming centers during severe winter storms, though these facilities are not equipped as overnight shelters. West Brookfield's access to a geographically dispersed array of public facilities that could double as emergency shelters is an asset to the town's overall emergency plan, as long as these facilities are adequately maintained and provided with necessary shelter equipment.

West Brookfield has a functioning **town whistle**, which provides a useful communication option during severe weather. The town has used this tool as a warning for emergency scenarios and can activate it as a backup system if radio systems fail. The whistle was rated as another positive component of West Brookfield's emergency preparedness.

## Societal Strengths:

West Brookfield's **senior community** supplies the town with knowledge and

experience that could benefit the town as they navigate climate change. The town has some essential features that cater to this population, such as the senior center, the hub for senior activities in West Brookfield. Due to the three senior care facilities in the town center, the availability of senior care was also seen as a strength. West Brookfield has also integrated senior needs into the fire department's standard response to severe



# SOCIETAL

- Senior community
- Informal communication channels
- Schools
- Agriculture

storms and outages. The Council on Aging maintains a list of home-bound seniors and seniors who need specialized health equipment like ventilators. This list has been shared with the Fire Department, who check on each individual to ensure they are safe and able to weather the storm.

While workshop participants were critical of some aspects of town communications, they considered **informal communication channels** to be a local strength. Due to the tight network of community relationships, information spreads quickly by word of mouth. In addition, many residents are also active on social media. Consequently, the police department, fire department, and LWPA all have active social media accounts, which they use to disperse important messages quickly throughout the community.

Local **schools** are an important magnet for community activity in West Brookfield. The town's elementary school has a strong community of children and parents, and the school building is a useful meeting place for local activities. Also, the Quaboag Regional High School has been a good source of volunteer labor for West Brookfield, despite the school's location in neighboring Warren.

CRB workshop participants considered the prevalence of local **agriculture** to be a defining part of West Brookfield's town character. Farms in town provide an important local food source and





have helped support neighboring communities during Covid, demonstrating their value as a local resiliency asset. West Brookfield hosts a seasonal weekly farmer's market in the town center. However, given the many pressures on local farmers, including climate change, workshop participants thought that the town should find new ways to help local farmers market their goods and preserve agricultural land.

The **Town Common and historic Town Hall** are valued aspects of West Brookfield's identity. Both locations are important gathering places that bring community members together. Workshop participants said that the town is known for their Town Common in particular, which contributes to West Brookfield's traditional New England small-town aesthetic. The Town Common hosts town events like the local farmers market, flea markets, and the annual Asparagus Festival, as well as more informal gatherings like musical performances. The Town Hall was built in 1859 and renovated most recently in 1997, and the building houses many of the town's offices.<sup>13</sup>

#### Environmental Strengths:

**Forest** covers much of West Brookfield's land area. This land cover was considered an asset to the town's climate resilience for two reasons. First, the trees stabilize local soil and help minimize erosion caused by precipitation and wind. Second, the trees and other forest plants capture and store carbon. Workshop participants also valued the forest environment for the habitat it provides to numerous wildlife species.



## ENVIRONMENTAL

- Forest
- Wetlands
- Lake Wickaboag
- Protected land
- Brookhaven Lake

**Wetlands** in West Brookfield were also classified as a climate resilience asset. The wetlands in the Quaboag River floodplain were specifically mentioned at the workshop as a form of natural flood control, and wetlands in other areas of town may perform the same ecosystem service. Workshop participants observed that there is currently a strong conservation effort in town to protect the town's existing wetlands, though more work may need to be done to fix past mistakes.

**Lake Wickaboag** was rated by one workshop participant as the number one most valuable natural resource in West Brookfield. The lake is home to wetlands that help with natural flood control, biodiverse wildlife habitat, and recreational opportunities for the town's residents.

West Brookfield has large areas of **protected land**, which preserve the open space and wildlife habitats that residents value. Preserved land includes the Rock House Reservation, the West Brookfield State Forest, the Quaboag Wildlife Management Area, the Whortleberry Hill Wildlife Management Area, the Coy Hill Wildlife Management Area, the Pynchon's Grist Mill Site, the





<sup>&</sup>lt;sup>13</sup> (West Brookfield Historical Commission, n.d.)

West Brookfield Common, the Lamberton Brook Flood Control Site, the West Brookfield Sportsman's Club, lands protected by Chapter 61 restrictions, and individual conservation restrictions managed by the East Quabbin Land Trust and Trustees of Reservations.<sup>14</sup> The town does not have a current Open Space and Recreation Plan.

**Brookhaven Lake** was classified as an environmental asset for West Brookfield. This lake is fed by Pierce Brook and is surrounded by residential buildings. CRB workshop attendees valued the lake for its wildlife habitat and noted that the waters and surrounding environment are home to beavers, protected bird species and bears. The lake shore also hosts wild asparagus growth.

# **RECOMMENDATIONS TO IMPROVE RESILIENCE**

On Day 2 and 3 of the workshop, attendees took the next step in completing the CRB Matrix by suggesting actions that would address vulnerabilities, or further bolster strengths they identified. The following actions are summarized from the matrix, which can be found in Appendix B of this document.

#### Infrastructure Actions

Ensuring a **safe and plentiful town water supply** will be an important job

for West Brookfield in the future as climate change alters precipitation patterns. To this end, workshop participants proposed an assessment of water system's existing conditions and projections of future capacity based on various climate and community development scenarios. However, the town also needs to invest in fixes for the town's various water quality problems, such as getting Well #2 back online. To prevent future contamination issues, the town should consider a water treatment plant upgrade and conduct a vulnerability assessment focused on wells and sources of pointbased pollution.

To address the likelihood of future flooding due to West Brookfield's wide flood plain and the likelihood of future storms with heavy amounts of precipitation, workshop attendees suggested several forms of **proactive flood mitigation**. To address roadway flooding, West Brookfield should

## INFRASTRUCTURE

- Safe and plentiful town water supply
- Proactive flood mitigation
- Controlling wastewater
- Improving drainage and maintenance on private roads
- Regulate large-scale solar installations
- Prevent power outages
- Address wildfire risk
- Improving town communication
- Make town buildings more resilient
- Emergency preparedness
- Railroad safety

<sup>14</sup> (Executive Office of Energy and Environmental Affairs (EOEEA), 2020)





replace culverts known to flood, and assess whether other culverts will need replacement should stormwater volumes increase. Going forward, when the town installs drainage infrastructure to manage runoff, the town should also consider green infrastructure options. In developed areas around town, West Brookfield should explore whether properties could retain and absorb more water on-site, to avoid excess stormwater draining into waterways and inundating areas downstream. The town should also ensure that new construction is prevented in both the current 100 and 500-year FEMA flood zones, as well as other areas that might flood in future due to increasingly severe floods. Additionally, West Brookfield should continue to address known hazards from the 2017 Hazard Mitigation Plan Update, and coordinate with dam owners in town to ensure that necessary maintenance and upgrades occur.

CRB workshop participants were unhappy about the negative environmental impacts of nonpoint source pollution, and identified **controlling wastewater** as a way to improve the local environment. Nutrients leaching from septic tanks are a water quality challenge for West Brookfield, and the town does not have a public wastewater treatment system. To address septic leaching in the near term, CRB workshop attendees wanted to see the town designate funding, and identify new funding sources, to help those who need septic tank replacements but are unable to afford them. To address the long-term climate risks, the town should conduct an assessment to see if any private septic tanks are in "high hazard" areas, so that owners know to relocate their tanks the next time that they need replacement. CRB workshop attendees also thought that the town should investigate the feasibility of creating a shared wastewater treatment facility with neighboring towns, as well as assess the viability of managing private septic systems for a fee on behalf of homeowners that have severely degraded or mismanaged systems.

Improving drainage and maintenance on private roads was another key element of reducing non-point source pollutants. As a first step in addressing this issue, the town should identify private roads with significant environmental or public safety impacts and use this list to prioritize future town efforts to address this problem. However, because many of these roads are privately owned, the town cannot require owners to address problems that the town identifies. While the town could adopt bylaw changes to enforce certain engineering standards on these roads, CRB workshop participants focused their suggestions on educating owners and encouraging them to take voluntary action. One suggestion was for the town to provide education resources like trainings on how to design and maintain private roads, which could also include information about the environmental impact of poor roadway design. The town should also explore options for funding to subsidize culverts additions on some private roads. Another idea was to acquire land adjacent to private roads and use it to build a better drainage system or incorporate rain gardens or swales to capture runoff. This idea was specifically proposed to address drainage issues at the end of Council Grove Road but could be applied to any road with severe drainage problems where the owner is unwilling or unable to act on their own. Lastly, the town should consider a vulnerability assessment of private bridges to future increases in water levels caused by climate change. While this assessment will not address the





town's water quality challenges, any bridge improvements made due to this assessment could directly improve West Brookfield's community climate resilience.

The potential for stormwater runoff and erosion caused by improper solar installations was also perceived as a threat to the town's environment. Participants at the CRB workshop thought that West Brookfield should **regulate large-scale solar installations** more closely to prevent negative environmental impacts. Specifically, the town should improve enforcement of existing bylaws and explore bylaw updates that would strengthen regulations. West Brookfield should collect data on erosion, or other environmental impacts, caused by existing solar arrays in town and use this as the basis for future regulatory updates.

While the town has already taken proactive steps to **prevent power outages** caused by downed trees, CRB workshop participants felt that there is still more work to be done. The town could conduct a study in consultation with National Grid to identify high risk and high impact areas for power outages. The findings of the study could then be used to inform shelter planning and determine the need for additional backup power sources. Workshop attendees also wanted to see the town continue to partner with National Grid on tree trimming. Additionally, West Brookfield could create a street tree inventory to aid the tree warden's maintenance work. The inventory could include details like location, species, and planting date. The town could also update its bylaws to encourage or require the use of climate-resilient native tree species in new development, to avoid future problems with invasive species or sick trees that are unable to withstand future climate conditions.

To **address wildfire risk**, participants at the CRB workshop supported the fire department's recent project to identify locations for new dry hydrants in rural areas and wanted to see the town install new dry hydrants as appropriate. However, since future droughts may make dry hydrant water sources unreliable, the town should also explore other climate-resilient solutions to mitigate fire risk in neighborhoods unconnected to the town's water system. One idea proposed at the meeting was to update town subdivision regulations to require cisterns or a similar stormwater collection system in all future developments unconnected to town water.

**Improving town communication** with the public and between various departments could impact many aspects of West Brookfield's town governance and make any other resiliencebuilding activity more likely to succeed. CRB workshop participants came up with a suite of ideas to address this goal. Most immediately, the town government could assign a staff member to be responsible for fixing known problems with the website like the CodeRED link, as well as maintaining information on the site on an ongoing basis. Workshop participants thought that the town could also consider changes to governance processes to ensure compliance with town bylaws and regulations. West Brookfield could consider reviewing interdepartmental processes for project reviews or permitting to ensure that approval processes are straightforward, timely, and enforce the environmental protections enshrined in Town Bylaws. Workshop participants also considered developing an educational guidebook to teach new volunteer board members about their responsibilities, and the many overlaps between state and local regulations. Finally, to improve communication with the public, workshop participants





suggested establishing a formal phone-tree, to leverage town residents' individual communication networks.

CRB workshop attendees also wanted to see West Brookfield **make town buildings more resilient** to climate hazards. One idea proposed at the workshop was to improve drainage in the town center around the senior center and town hall to reduce flood risk from stormwater. To fund resiliency measures and maintenance at the historic town hall, workshop participants proposed that the town adopt the Community Preservation Act. Participants also wanted to see West Brookfield form a capital investment campaign to fund a new building for the fire and police departments. They felt that a modern public safety center would contribute to the entire community's climate resilience by enabling first responders to focus on emergency response during major hazards, rather than having to deal with problems like radio and power outages within their own headquarters.

**Better emergency preparedness** through planning, public education, and equipment purchases would help West Brookfield address known emergency management shortcomings. Ideas proposed at the CRB workshop include:

## <u>Planning</u>

- A review and update of the regional shelter plan if needed, to ensure it accounts for climate-related hazards and the likelihood that these events will increase in frequency and severity.
- An investigation into whether and how the Town could utilize the school system communication/alert infrastructure more broadly.
- Designation of the elementary school as an alternative warming center.

# Public education

- Conducting general outreach on how to prepare for disasters or potential evacuation.
- Producing materials on what residents can and cannot bring with them to shelters.
- Creating an education campaign to improve citizen knowledge of shelter locations and emergency systems to prepare for future, potentially new, types of emergencies (i.e. tornados).

# Equipment purchases

- Purchase of an information board near the town common (similar to North Brookfield's) to broadcast important messages.
- Pursuit of funding for radio upgrades for public safety officials.
- Pursuit of funding to purchase backup power sources, including generators or green alternatives, for critical town departments and buildings including the fire department, police department, and town hall.
- Purchase of a backup power source for the elementary school to expand local shelter options.





**Railroad safety and emergency response planning** could mitigate the risk to the Quaboag River and surround wetlands from a major rail accident. CRB workshop participants recommended that the town form a coalition with neighboring communities to discuss rail hazard mitigation along the entire line and engage with the railway company.

#### Societal Actions

CRB workshop participants thought of many actions that the town could take to

**improve the emergency preparedness of vulnerable populations** to climate hazards, such as senior citizens and low-income residents. To start with, the town should conduct outreach to facilities that focus their services on these populations. This includes opening a dialogue with the long-term care facilities and West Brookfield Housing Authority about their emergency

# SOCIETAL

- Improve the emergency preparedness of vulnerable populations
- Support the agricultural community

plans. It also extends to maintaining the town's strong relationship with the Brookhaven Rest Home and building ties with the other care facilities. The West Brookfield Community Emergency Response Team (CERT) was designated as the most relevant town body to take responsibility for these tasks. West Brookfield Council on Aging should also continue to maintain the "storm list" of vulnerable residents, which the fire department uses to conduct check-ins after storms or power outages. To supplement this system, the town should consider organizing a neighbor-to-neighbor check-in system, as well as ensuring that alternative communication systems like cable access are utilized during emergencies to reach residents who are unable to use the phone or internet. CRB participants also thought that the town should conduct outreach to mobile home parks to assess whether there are any emergency preparedness needs that are specific to mobile home residents, and to ensure that park owners have an appropriate emergency plan on-hand. Additionally, the town should conduct outreach to low-income residents of West Brookfield through existing organizations like food pantries. Workshop participants also proposed exploring new options for low to moderate income affordable housing and conducting a zoning review to ensure that existing regulations do not discourage new affordable units.

To offset environmental and economic pressures felt by local farmers, West Brookfield should find new ways to **support the agricultural community**. Workshop participants thought the town could partner with Central Mass Grown and the Agricultural Commission to provide information about West Brookfield farms for the town website. The town could also shift the farmer's market day from Wednesday to Saturday to potentially improve attendance. Lastly, the town should work with local farmers to find new ways to support them and highlight their products. CRB workshop participants felt that agriculture was a core component of West Brookfield's community identity, so the town should do what it can to ensure local farmers continue to prosper.





#### **Environmental Actions**



Reflecting their importance to workshop ( participants and the greater West

Brookfield community, many environmental action ideas focused on **preserving and protecting Lake Wickaboag and other waterbodies**. Most ideas focused on Lake Wickaboag, where water quality challenges are easily observed, and where some environmental restoration projects are already underway. Ideas to improve the Lake's water quality include:

- Education of residents around Lake Wickaboag on stormwater pollution, and the impact of fertilizers, roadways, landscaping practices, and other resident behaviors on the lake.
- More comprehensive testing and monitoring of the lake to assess specific water quality issues and identify appropriate solutions.

# ENVIRONMENTAL

- Preserve and protect Lake Wickaboag and other water bodies
- Teach residents how to protect natural ecosystems
- Protect local wildlife
- Mosquito and tick control
- Monitor Old Dump Site brownfield
- Control illegal dumping
- Continuing to perform aquatic weed control.
- Working with the lake community to identify ways to reduce fertilizer usage, to prevent excess nutrients from draining into the lake.
- Identifying examples of "best practice" landscaping and stormwater managements areas in lake community or create demonstration areas.
- Conducting a comprehensive stormwater and septic tank assessment in lake neighborhoods to identify problem areas.
- Considering regulatory updates to enforce water quality protection.

CRB workshop participants also identified actions that West Brookfield could take to mitigate water quality issues in other local surface waters. Participants wanted to continue water quality testing in Sucker Brook and Mill Brook, which lie upstream from Lake Wickaboag. Better data in these areas could be leveraged to develop a larger grant funded project to address contamination issues that also impact the lake. Additionally, workshop participants wanted to start a testing program to determine the extent of water quality issues in the Quaboag River, and explore watershed partnerships and resources.

CRB participants also wanted West Brookfield to proactively **teach residents how to protect natural ecosystems**. The town could partner with local land trusts and environmental organizations to educate landowners about conservation restrictions and best practices for forestry management. The town could also educate all residents on the importance of wetlands for flood control. This education campaign could emphasize that preserving wetlands is the responsibility of homeowners but doing so is in their best interest because it helps mitigate





flooding. West Brookfield is fortunate to have multiple nongovernmental organizations with a vested interest in the environment, wildlife, and land conservation. Workshop participants wanted to see the town develop a stronger network with these community groups, including the East Quabbin Land Trust, the Trustees of Reservations, and the Wickaboag Sportsmen Club. Workshop participants also wanted to see the town elevate the work of local conservation organizations by providing information about local open space on the town's website.

CRB workshop participants wanted the town to find ways to **protect local wildlife** to mitigate the disruptive impacts of development and climate change on certain species. One specific idea was to study whether habitat is being actively lost in West Brookfield, and if so, develop an action plan to mitigate it. Another idea was to expand local education on normal versus abnormal interactions with wildlife, and guide residents on how to prevent unsafe interactions for humans and animals. Lastly, participants suggested options for protecting pollinator species, like building pollinator gardens or conducting selective mowing (with sheep) in public green spaces. These pollinator-friendly landscapes would be paired with informational content on why pollinators are important to natural environments and agriculture.

Prioritizing **mosquito and tick control** was suggested by workshop attendees to address the town's vulnerability to vector-borne diseases like Eastern Equine Encephalitis, Zika, West Nile Virus, and Lyme Disease. Workshop participants did not favor aerial spraying as a mosquito control option and proposed other alternatives. These included wetlands maintenance, eliminating unnatural forms of nesting areas such as water pooling in old tires, building bat houses near wetlands, and conducting outreach to community members about how they can manage their property to reduce pest populations. Workshop participants also wanted to identify other alternatives to pesticide spraying beyond those listed above.

Workshop participants were concerned that climate change could shift the contamination area of the **Old Dump Site brownfield** and consequently wanted to see additional study of this brownfield area to occur in the future. This assessment should determine whether Bradish Brook, which is within the contaminated area, may be carrying toxic waste to other waterbodies including Lake Wickaboag. Additionally, the old dump site assessment area should be expanded to include surrounding wells, which are currently outside the known contamination area, but might be impacted in the future. West Brookfield should also verify the brownfield status of the Old Corset Factory site with the Massachusetts Department of Environmental Protection.

Various strategies to **control illegal dumping** was another important environmental action for West Brookfield. Some ideas were focused on public education such as creating signage on how to report dumping and exploring creative ways to reuse common and difficult to recycle items like tires (ex. plant pots, curb bump outs, etc.). Others focused on actions the town could take to facilitate better waste management, including creating a town-wide trash management plan, and potentially establishing collection dates for large items like mattresses.





# TOP RECOMMENDATIONS

Following the three-day virtual workshop, CMRPC placed these actions in an online survey so that participants could prioritize their top recommendations. Some priority actions were grouped with similar ideas to streamline the survey process. A total of five workshop participants answered survey questions on:

- What hazards they were most concerned with
- Whether an action was high, medium, or low priority
- Whether an action was a short, long, or ongoing project
- Which actions they would like to see West Brookfield complete.

Readers can find a copy of the survey questions and the survey results in the Appendix at the end of this document.

Respondents were relatively evenly divided on the hazard of most concern for West Brookfield. Participants ranked flooding and winter storms equally as the town's top hazard, following by wind events, and lastly drought/heat/wildfire.

Participants elected that the following actions are the top priority actions for West Brookfield:

#### Infrastructure

- Re-write stormwater bylaw to include special considerations for solar arrays AND/OR develop a conservation bylaw AND/OR conduct detailed assessment of stormwater drainage across town to inform bylaw updates, determine needs for new stormwater system and develop ideas for future nature-based projects to improve drainage.
- Conduct education and outreach program to private road owners around lake to address maintenance issues and stormwater runoff issues leading to sedimentation and pollution of lake.
- Conduct assessment of existing condition of town drinking water supply as well as future system capacity needs based on climate impacts and future development scenarios AND/OR upgrade treatment plant AND/OR resolve town well #2 issues with contaminants, water supply/drought, flood, and pollution issues.





#### Societal

 Improve town communication through: improving town website AND/OR adding an information board near town common (similar to N. Brookfield's) AND/OR improving transparency between boards AND/OR pursuing funding for town radio system upgrades AND/OR fix CodeRed link on town's website AND/OR fix cable access for residents without a cell phone or computer.

Improving town communications was the top societal priority action according to 100% of respondents. One comment included in a survey response reiterated the importance of this action item, saying:

"Success of resilience development will be contingent on communication and transparency between committees and boards, and timely outreach from those Board[s] to Town members...."

#### Environmental

- Mitigate stormwater run-off and water quality issues in lake with education program for lake residents on runoff issues AND/OR demonstration rain garden on town land AND/OR education program best practices for shoreline landscaping AND/OR promote alternative fertilizer solutions that don't lead to pollution.
- Develop a holistic solid waste management plan to mitigate dumping, litter, road damage from trash pick-up, and dumping AND/OR educate town residents/create posters on how to report dumping issues AND/OR organize town collection days for large waste to prevent dumping AND/OR explore creative recycling options (like using tires for plant pots or curb bump outs.
- Study impacts of erosion from solar arrays AND/OR update bylaws to address erosion and unwanted chemicals caused by solar projects AND/OR strengthen solar bylaws to increase regulation of solar projects.
- Partner with local organizations/land trusts to educate residents about conservation restrictions and best forest management practices AND/OR find ways to better support the work that local land trusts/conservation organizations are already doing AND/OR provide town website space to highlight land trusts/conservation organization work.





# **REFERENCES**

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- Worcester Regional Chamber of Commerce. (2018). Southern Worcester County Comprehensive Economic Development Strategy. Worcester: Worcester Regional Chamber of Commerce





# APPENDIX:

- I. Agendas and Sign-In Sheets
- II. Workshop Meeting Materials
  - a. Invitation
  - b. Maps
  - c. Table Matrix
  - d. Survey
- III. Workshop Presentation
- IV. Listening Session Presentation







#### West Brookfield Municipal Vulnerability Preparedness (MVP) Meeting #1

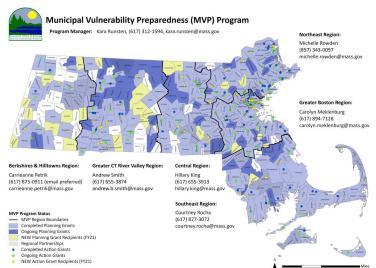
Date/Time:November 20, 2020 12PMLocation :ZOOM

https://us02web.zoom.us/j/82599379693?pwd=OFhDc3VxcjZTOC85aHRDbS96WGppdz09

Meeting ID: 825 9937 9693 Passcode: 998024 Dial in number 1-646-558-8656

#### <u>AGENDA</u>

- Introductions
- MVP Program Background
- Roles & Responsibilities
  - o Town
    - Assemble Core Team (participates in prep meetings (approximately 3), workshop and listening session)
    - Identify stakeholders to invite to workshop and lead invitation/RSVP process
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    - Provide feedback on summary of findings report
    - Grant reporting and documentation of in-kind match
  - o CMRPC
    - Organize and lead Core Team meetings
    - Organize and lead workshop, including preparation of presentations and other materials (maps, handouts, etc.)
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    - Prepare and submit summary of findings report
- Core Team Timeline
  - Core Team Meetings (three-four total)
  - Pre-Workshop meeting/Call
  - o CRB Workshop
  - Listening Session (Must be held before May 31<sup>st</sup>)
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  - Welcome speaker(s) (Town)
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  - Table facilitators (generally Town or other local stakeholders; CMRPC will assist)
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Updated: September 2020

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- Prepare materials for workshop including:
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  - Climate change data relevant to the town and summary of potential impacts
  - Relevant planning documents and other existing town information about current hazards
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Executive Office of Energy and Environmental Affairs Municipal Vulnerability Preparedness Program, 2018

# Common Pitfalls to Avoid

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  - Please ensure that the workshop is appropriately staffed with enough table facilitators and pre-appointed scribes for each table

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			Admin. Secretary			
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			Agricultural Committee		_	
			Animal Shelter			
			Army Corp. Engineering			
			Board of Health Member			
			Board of Selectmen Member		-	
			Boys and Girls Club			
			Building Inspector CERT Teams			
			Chamber of Commerce			
			Conservation Commission			
			Council on Aging			
			Cultural Council			
			DCR			
			Department of Dam Safety			
			Diversity Group			
	1	1	Economic Development	1	1	
		1	Emergency Management Director			
			EOEEA- MVP Regional Coordinators			
		1	Fire Chief			
		1	Golf Course			
			Housing Authority			
			Lake/River Association			
			Land Trust Members			
			Library			
			Local business			
			Local Construction Co.			
			Local Engineering Firms			
			Local Farmers			
			Local Non-Profits			
			Local Realtors Associations			
			MA Fish & Wildlife			
			Mass Audubon			
			Mass Dot			
			MBTA/WRTA			
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			Neighboring Town MVP Core Team Member			
			Other Muni. Employees			
			Planning Board Member			
			Police Chief			
			Power Company			
			Rail Road			
			Rail Trail			
			Recreation Committee			
			School Superintendent			
			Senior Center			
			Sewer Department			
			State Rep.			
			Storm Water Committee			
			Sudbury Valley Trusties			
			Sustainable Group			
			Town Manager			
			Utility Company			
			Veterans Rep.			
			Waste Transfer Provider			
			Water Dept.			
			Youth Commission			

# Community Resilience Building Risk Matrix 🛛 🚔 👺 🏟



### www.CommunityResilienceBuilding.org

<u>H</u> - <u>M</u> -L priority for action over the <u>S</u> ho <u>V</u> = Vulnerability <u>S</u> = Strength	rt or <u>L</u> ong term (and <u>U</u>	ngoing)				Priority	Time
$\underline{\mathbf{V}}$ = Vulnerability $\underline{\mathbf{S}}$ = Strength						<u>H</u> - <u>M</u> - <u>L</u>	
Features	Locat	ion Owners	hip V or S				<u>S</u> hort <u>L</u> ong <u>O</u> ngoing
Infrastructural				-	-		
Societal							
Environmental							
Liivii oliileltui							

# FY21 Awarded MVP Action Grants

The following communities were awarded Action Grants:

Applicant	Project Title	Grant Award		
Agawam	Agawam Stormwater Master Plan	\$216,750		
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Athol & North Quabbin Community Coalition				
Auburn	Leesville Pond Water Quality Protection and Community-Wide Resiliency Improvements	\$209,895		
Belchertown	Enhancing Water Supply Reliability: Resilient Water Storage and Water Conservation – Design & Implementation	\$698,356		
Blandford	Resilient Community-Driven Master Plan + Resilient Regulatory Work	\$102,824		
Bolton, Harvard, & Devens	Apple Country Ecological Climate Resiliency and Carbon Planning Assessment	\$250,000		
Boston	City of Boston Heat Resilience Planning Study	\$280,070		
Braintree	Monatiquot River Restoration – Construction	\$750,000		
Cambridge & Metro Mayors	Building Resilience to Climate Driven Heat in Metro Boston	\$268,820		
Chelsea	Urban Heat Island Mitigation Project	\$262,996		
East Longmeadow	Comprehensive Master Plan	\$84,833		
Easthampton	Green Infrastructure Planning and Resiliency Design for Cherry Street	\$175,957		
Fall River, Dighton, Somerset, & Swansea	Regional Emergency Water System Interconnectivity Analysis	\$100,650		
Fitchburg	John Fitch Highway – A Resilient Road Corridor	\$271,787		
Granby	Resilient Regulatory Work and Refocusing on Climate Resilience Pathway in Master Plan	\$34,272		
Great Barrington	Climate Action, Resilience, and Equity Great Barrington (CARE GB)	\$70,400		
Haverhill	Little River Dam Removal Feasibility Study	\$129,693		
Holyoke	Holyoke Urban Forest Equity Plan	\$135,032		
Lakeville, Middleborough, Freetown, Rochester, Taunton, & New Bedford	Assawompset Ponds Complex Watershed Management and Climate Action Plan	\$93,236		
Lawrence	Flood Study and DPW Yard Adaptation Plan	\$213,418		
Leominster	Monoosnoc Brook Bank Stabilization Project	\$200,661		
Lexington & Resilient Mystic Collaborative	Upper Mystic River Watershed Regional Stormwater Wetlands	\$670,000		
Littleton	Watershed Protection for Climate Resiliency- Brown's Woods Acquisition	\$763,050		
Lowell				
Lynn	Strawberry Brook Green Infrastructure Implementation	\$199,090		

Malden	Malden River Works	\$150,015		
Medford	Conceptualization and Community Building for Equitable, Community-Driven Resilience Hubs in Medford			
Milford	Green Stormwater Infrastructure in Milford Town Park	\$419,123		
Millbury	Armory Village Green Infrastructure Project - Phase II	\$125,600		
Natick & Charles River Watershed	Building Resilience Across the Charles River Watershed	\$264,171		
Newburyport	Resilient Critical Infrastructure: Adapting a Wastewater Treatment Facility, Underground Electric Lines, and Public Rail Trail to Future Sea Level Rise and Storm Surge			
Plympton	Building a Municipal Resilience Portfolio: Assessment of Critical Land in the Winnetuxet River Corridor			
Provincetown	Permit Level Design of the Ryder Street Outfall Relocation and Drainage Improvements			
Revere	Coastal Resilience Feasibility Study for the Point of Pines and Riverside Area	\$210,689		
Salisbury	Resilient Rings Island: Preventing a Neighborhood from Being Stranded by Flooding	\$250,000		
South Hadley	Climate Resilient South Hadley	\$105,000		
Springfield	People-Focused Resilient Redesign and Retrofits for Community/Civic Infrastructure and Critical Facilities	\$210,422		
Stow & Hudson				
Williamstown & Mohawk Trail Woodlands Partnership	Mohawk Trail Woodland Partnership Forest Stewardship, Resilience, and Climate Adaptation	\$164,575		
Windsor	River Road Site 1 Culvert	\$460,000		
Total (41)		\$10,452,224		



Meeting Name	e: MVP Kickoff Con Date: November 20, 2020	nmunity: West Brookfield Meeting	Location: ZOOM Time: 12PM
Participant Name	Organization	Title	E-Mail
Peter Peloquin	CMRPC	Associate Planner	ppeloquin@cmrpc.org
Barbara Portal	West Brookfield	Resident/Core Team Leader	bjlportal@gmail.com
David Brown	West Brookfield	Resident/Core Team Leader	dwb01720@aol.com



### <u>West Brookfield Municipal Vulnerability Preparedness (MVP)</u> <u>Core Team Meeting #1</u>

Date/Time: December 3, 2020 7PM Location : ZOOM:

https://us02web.zoom.us/j/88484991229?pwd=SkhOM1VjamNDWG8xN3QvU2lyUlJhQT09

Meeting ID: 884 8499 1229 Passcode: 186434 Dial in number 1 646 558 8656

### <u>AGENDA</u>

- Introductions
- MVP Program Background
- Roles & Responsibilities
  - o Town
    - Assemble Core Team (participates in prep meetings (approximately 3), workshop and listening session)
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- In-Kind Match/Other/next meeting



### **Municipal Vulnerability Preparedness (MVP)**

**Program Information** 



In September 2016, Governor Charlie Baker signed Executive Order 569, instructing state government to provide assistance to cities and towns in Massachusetts to complete climate change vulnerability assessments and resiliency planning.

The Municipal Vulnerability Preparedness grant program (MVP) provides support for cities and towns to begin the process of planning for resiliency. The MVP program provides support for communities to address the challenges of climate change, and to prioritize climate adaptation practices actions at the local level in order to create a safer and more resilient future.

The state awards communities with funding to complete vulnerability assessments and develop action-oriented resiliency plans. MVP-certified providers across the state have been trained to provide technical assistance in completing the assessments and resiliency plan using the Community Resilience Building Framework. Municipalities work with a MVP-certified provider through a community-led process to identify key climate-related hazards, vulnerabilities and strengths, develop adaptation actions, and prioritize next steps.

The MVP Program is led by a Project Coordinator from the community with a Core Team of town staff and volunteers representing town planning departments, emergency managers, conservation commissioners, economic councils, the business community, and other key stakeholders who care about the future health and resilience of the community.

The MVP program helps communities to:

- Define extreme weather and natural and climate related hazards
- Identify existing and future vulnerabilities and strengths
- Develop and prioritize actions for the community
- Identify opportunities to build resiliency and reduce risk

Results of the workshops and planning efforts will be incorporated into existing local plans, grant applications, budgets, and policies in order to ensure that resilience is a community priority. One area of focus will be using the findings to inform Master Plans, Hazard Mitigation Plans, Open Space Plans, and other comprehensive planning processes.

Upon successful completion of the program, communities will be designated as a "*Municipal Vulnerability Preparedness (MVP) Program Community*" and are eligible for MVP Action Grant funding and other opportunities.

All MVP-certified communities will acquire priority status for follow-up state grant funding.

### Flip page to learn more about MVP grant opportunities $\rightarrow$

State and local partnership to build resiliency to climate change





### **Municipal Vulnerability Preparedness (MVP)**

**Program Information** 



The MVP Program offers two grant programs for municipalities or groups of municipalities to either
 1) conduct community resilience-building workshops and develop resiliency plans, <u>OR</u>
 2) for communities that have already completed the MVP process, to implement priority projects.

### **MVP PLANNING GRANTS**

**To participate in the MVP program, communities first apply for Planning Grants,** which are used to complete a community-based workshop and prioritize next steps to address climate change impacts. Applications may be for single communities or may be regional, with a single community serving as the fiscal agent. Municipalities with no current local hazard mitigation plan (HMP), or those with plans expiring in 2019 or 2020 are eligible for additional funding to complete or update a full draft of the HMP for MEMA review. Please note that an in-kind match is required for the MVP Planning Grant. All projects are required to provide quarterly reporting as well as a Final Report. All proposals must provide the following:

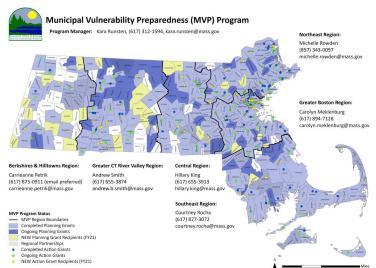
- A signed letter of support from the chair of the board of selectmen, mayor, a town administrator, or similar city or town official
- A short statement of the community's commitment to taking on this grant and planning for the impacts of climate change in the city or town
- The name of a qualified employee of the municipality, committee member or volunteer who can serve as the local project manager and point of contact for the grant
- A summary of community support and any project partners and letters of support from all relevant local boards, departments, commissions, businesses, organizations and other partners
- A description of any ongoing planning efforts such as local hazard mitigation plans, open space plans, master plans, etc.
- A description of the community's need to address climate change, expected impacts, and any ongoing climate-change related projects within the community or region
- If the community wishes to expand the scope of the planning grant provide a description of the additional work you intend to complete.

### **MVP ACTION GRANTS**

Already a MVP Community? Apply for an Action Grant to implement priority projects identified at your community workshop and in your resiliency plan. *MVP* Action Grants are available only to designated "*MVP* Communities" to implement key priorities and projects identified through the MVP planning process. The MVP Action Grants allow municipalities to implement crucial measures to prepare for the effects of climate change while strengthening community engagement and collaboration among town departments.

Applicants may request up to \$2,000,000 in funding and awards are expected to range from \$25,000–\$2,000,000. Regional proposals may request up to \$5,000,000. Note that exceptions may be made at EEA's discretion. These projects include follow-up vulnerability assessments, design studies, local bylaws and ordinances, redesigns and retrofits, natural infrastructure and storm protection, and education and outreach. Projects should be proactive, and applicants should clearly demonstrate how the projects have been redesigned, re-evaluated, or reconsidered to better respond to changing climate conditions and to incorporate new climate change data. Projects that propose nature-based solutions or strategies that rely on green infrastructure or conservation and enhancement of natural systems to improve community resilience will receive higher scores.

Please note that a 25% in-kind/cash match is required for the MVP Action Grant.



Updated: September 2020

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# Community Resilience Building Risk Matrix 🛛 🚔 👺 🏟



### www.CommunityResilienceBuilding.org

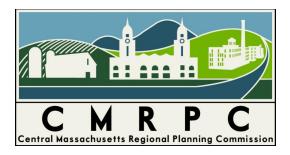
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$\underline{\mathbf{V}}$ = Vulnerability $\underline{\mathbf{S}}$ = Strength						<u>H</u> - <u>M</u> - <u>L</u>	
Features	Locat	ion Owners	hip V or S				<u>S</u> hort <u>L</u> ong <u>O</u> ngoing
Infrastructural				-	-		
Societal							
Environmental							
Liivii oliileltui							

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Easthampton	Green Infrastructure Planning and Resiliency Design for Cherry Street	\$175,957		
Fall River, Dighton, Somerset, & Swansea	Regional Emergency Water System Interconnectivity Analysis	\$100,650		
Fitchburg	John Fitch Highway – A Resilient Road Corridor	\$271,787		
Granby	Resilient Regulatory Work and Refocusing on Climate Resilience Pathway in Master Plan	\$34,272		
Great Barrington	Climate Action, Resilience, and Equity Great Barrington (CARE GB)	\$70,400		
Haverhill	Little River Dam Removal Feasibility Study	\$129,693		
Holyoke	Holyoke Urban Forest Equity Plan	\$135,032		
Lakeville, Middleborough, Freetown, Rochester, Taunton, & New Bedford	Assawompset Ponds Complex Watershed Management and Climate Action Plan	\$93,236		
Lawrence	Flood Study and DPW Yard Adaptation Plan	\$213,418		
Leominster	Monoosnoc Brook Bank Stabilization Project	\$200,661		
Lexington & Resilient Mystic Collaborative	Upper Mystic River Watershed Regional Stormwater Wetlands	\$670,000		
Littleton	Watershed Protection for Climate Resiliency- Brown's Woods Acquisition	\$763,050		
Lowell				
Lynn	Strawberry Brook Green Infrastructure Implementation	\$199,090		

Malden	Malden River Works	\$150,015		
Medford	Conceptualization and Community Building for Equitable, Community-Driven Resilience Hubs in Medford			
Milford	Green Stormwater Infrastructure in Milford Town Park	\$419,123		
Millbury	Armory Village Green Infrastructure Project - Phase II	\$125,600		
Natick & Charles River Watershed	Building Resilience Across the Charles River Watershed	\$264,171		
Newburyport	Resilient Critical Infrastructure: Adapting a Wastewater Treatment Facility, Underground Electric Lines, and Public Rail Trail to Future Sea Level Rise and Storm Surge			
Plympton	Building a Municipal Resilience Portfolio: Assessment of Critical Land in the Winnetuxet River Corridor			
Provincetown	Permit Level Design of the Ryder Street Outfall Relocation and Drainage Improvements			
Revere	Coastal Resilience Feasibility Study for the Point of Pines and Riverside Area	\$210,689		
Salisbury	Resilient Rings Island: Preventing a Neighborhood from Being Stranded by Flooding	\$250,000		
South Hadley	Climate Resilient South Hadley	\$105,000		
Springfield	People-Focused Resilient Redesign and Retrofits for Community/Civic Infrastructure and Critical Facilities	\$210,422		
Stow & Hudson				
Williamstown & Mohawk Trail Woodlands Partnership	Mohawk Trail Woodland Partnership Forest Stewardship, Resilience, and Climate Adaptation	\$164,575		
Windsor	River Road Site 1 Culvert	\$460,000		
Total (41)		\$10,452,224		



### <u>West Brookfield Municipal Vulnerability Preparedness (MVP)</u> <u>Core Team Meeting #2</u>

Date/Time: January 14, 2021 7PM Location : ZOOM:

https://us02web.zoom.us/j/86906571722?pwd=TUdkUzVmdDA2NVRVa0RuUIRIQzdsdz09

Meeting ID: 869 0657 1722 Passcode: 500425 Dial in number 1 312 626 6799

### AGENDA

- CMRPC Introductions
- Selection of Workshop Sessions
  - Splitting up the workshop into sessions (3, 2hr sessions or 2, 3hr sessions)
  - o Dates for each session
  - $\circ$   $\;$  How to select the times the sessions will occur
- Discussion on Workshop Invitations
  - Initial identification of stakeholders
  - How to invite the stakeholders
  - How to go about compiling the list of invitees (to avoid duplicates)
- Next Steps
  - o What needs to be done next
  - Next Core Team meeting date and time

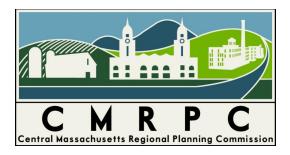
#### CMRPC Project Leaders

Ian McElwee, Associate Planner

- Assisted West Brookfield in becoming a designated Green Community and leads the town's Green Communities Designation Grant
- Manages a community development grant program in a neighboring town featuring an infrastructure project
- Certified MVP provider
- Worked on approximately 9 MVP planning projects, including workshop facilitation in almost all of them.

Andrew Loew, Project Manager

- Lead for facilities/services chapter of the 2017 West Brookfield Master Plan
- Lead for 2017 West Brookfield Hazard Mitigation Plan
- Certified MVP provider
- Worked on aspects of approximately 10 other MVP planning projects



### <u>West Brookfield Municipal Vulnerability Preparedness (MVP)</u> <u>Core Team Meeting #3</u>

Date/Time:February 04, 2021 7PMLocation :ZOOM:

https://us02web.zoom.us/j/83640745350?pwd=MmdCcnBVTS9iS0VFZndUVk1Za1UwUT09

Meeting ID: 836 4074 5350 Passcode: 343939

Dial in number 1 301 715 8592

### <u>AGENDA</u>

- CMRPC Updates
  - Status of presentations
  - List of staff set to attend
  - o Other
- Finalizing the List of Invitees
  - $\circ \quad \text{Who is already on the list?}$
  - Where are the gaps that can be filled?
  - Any additional groups or people to include?
  - Sending out invites
- Break-Out Groups
  - How many groups should we have at the workshop?
  - How many people per group?
- Workshop Content
  - What will the structure of the workshop look like?
  - What has been done historically?
  - What will be accomplished in each session?
- > Scribes
  - Will we recruit townsfolk or use CMRPC staff?
- Next Steps
  - Keeping on top of the attendance list
  - Preparations for the workshops
  - o CMRPC tasks vs. Core Team tasks
  - Any additional information



# Community Resiliency Building Workshop

### **Town of West Brookfield**

Municipal Vulnerability Preparedness Day 1- Thursday, March 4, 2021 7:00 pm – 9:00 pm; Check-in at 6:45 pm

Meeting Link (Click to Join):

https://us02web.zoom.us/j/81130254637?pwd=bmYrRXpnU0ord21HaTNmOE41Yy8wZz09

Meeting ID: 811 3025 4637

Passcode: 931480

Call in Number (if unable to join online): (646) 558-8656

Workshop Materials:

www.dropbox.com/sh/abv0kn82lbawof7/AAAqSJQO8BQbUGUEdetrAIuda?dl=0

### Workshop Agenda

### 6:45 pm – 7:00 pm:

- Login & Familiarize with Zoom
- 7:00 pm 7:15 pm:
  - Welcome & Overview
  - Questions & Answers

7:15 pm – 8:40 pm:

- Breakout Groups
  - Identify Hazards & Local Features
  - o Discuss Strengths & Vulnerabilities

### 8:40 pm – 9:00 pm:

- Reconvene as Large Group
- Quick Table Summary
- Closing Remarks & Wrap Up

### **Day 1: Workshop Objectives**

- Define extreme weather and climate related hazards;
- Identify current and future vulnerabilities and strengths;
- Edit online map with important hazards and features

### Homework

- Review hazards, vulnerabilities, and strengths in matrix
- Brainstorm actions to address vulnerabilities

Thank you for participating in West Brookfield's Virtual Community Resilience Building







# Community Resiliency Building Workshop

### **Town of West Brookfield**

Municipal Vulnerability Preparedness Day 2- Thursday, March 11, 2021 7:00 pm – 9:00 pm; Check-in at 6:45 pm

Meeting Link (Click to Join):

https://us02web.zoom.us/j/87924087283?pwd=TkFQMTltTm5wb08zVGRrejBlblpmZz09

Meeting ID: ID: 879 2408 7283

Passcode: 997413

Call in Number (if unable to join online): (646) 558-8656

Workshop Materials:

https://www.dropbox.com/sh/abv0kn82lbawof7/AAAqSJQO8BQbUGUEdetrAIuda?dl=0

### Workshop Agenda

6:45 pm – 7:00 pm:

- Login & Familiarize with Zoom
- 7:00 pm 7:15 pm:
  - Welcome & Recap from Day 1
  - Questions & Answers

### 7:15 pm – 8:40 pm:

- Breakout Groups
  - Identify Actions to Reduce Risks and Build Resilience
  - Prioritize Actions by Urgency and Timing

### 8:40 pm – 9:00 pm

- Reconvene as Large Group
- Table Reports
- Closing Remarks & Wrap Up

### **Day 2: Workshop Objectives**

- Review vulnerabilities and strengths identified on Day 1
- Develop and prioritize actions;
- Identify opportunities for the Town to advance actions and reduce risks to build resilience

### Homework

- Review actions to reduce risks and build resilience
- Brainstorm additional actions to address vulnerabilities
- Attend Day 3 Workshop

### Thank you for participating in West Brookfield's Virtual Community Resilience Building Workshop!







# Community Resiliency Building Workshop

Town of West Brookfield

Municipal Vulnerability Preparedness Day 3- Thursday, March 18, 2021 7:00 pm – 9:00 pm; Check-in at 6:45 pm

Meeting Link (Click to Join):

https://us02web.zoom.us/j/81049742554?pwd=Q2xtMzVUZmk0bTZ0ZUhBSWZ6L1VmUT09

Meeting ID: 810 4974 2554

Passcode: 730291

Call in Number (if unable to join online): (646) 558-8656

Workshop Materials:

https://www.dropbox.com/sh/abv0kn82lbawof7/AAAqSJQO8BQbUGUEdetrAIuda?dl=0

### Workshop Agenda

### 6:45 pm – 7:00 pm:

- Login & Familiarize with Zoom 7:00 pm 7:15 pm:
  - Welcome & Recap from Day 1 & 2
  - Questions & Answers
- 7:15 pm 8:40 pm:
  - Breakout Groups
    - Identify Additional Strengths & Vulnerabilities
    - Identify Additional Actions to Reduce Risks and Build Resilience
- 8:40 pm 9:00 pm:
  - Reconvene as Large Group
  - Table Remarks
  - Closing Remarks & Wrap Up

### **Day 3: Workshop Objectives**

- Review vulnerabilities and strengths identified on Day 1
- Review potential actions identified on Day 2-3
- Develop and prioritize additional opportunities for the Town to reduce risks

### Homework

- Review actions to reduce risks and build resilience
- Vote for top priority actions via survey (link to be emailed)
- Attend Listening Session

### Thank you for participating in West Brookfield's Virtual Community Resilience Building





Name	Organization	<u>Attending?</u> <u>Y/N</u>	Group	
Anne Gobi	MA State Senator	Y	N/A (intro speak	<u>(er)</u>
Jim Daley	Core Team/Highway	Y	1	
Barbara Portal	Core Team/LWPA	Y	1	
MJ Haesche	Core Team/Architect/Health Dept/Planning Dept	Y	1	
James McFarland	Brookhaven Lake	Y	1	
Brett Kustigian	Superintendant, Quaboag Regional School District	Y	1	
Alexandra McNitt	Dir South Central Chamber of Commerce	Y	1	
MaryBeth Czaja	LWPA & Manufacturing Co Owner	Y	1	From 3
Rachel O'Donnell	Safe Routes to School	Y	1	From 3
Dave Brown	Core Team/LWPA	Ŷ	2	
Tom O'Donnell	Core Team/Police Chief	Ŷ	2	
Al Collings	LWPA	Y	2	
Abigail Birch	Brookhaven Lake	Y	2	
Melvin Dorman	Earth Removal/ BOH Chair	Y	2	
Marc Astrella	Quaboag Regional Schools Head of Facilities	Y	2	
Jim DiMaio	Tree Worden	Y	2	
Karen Phillips	Senior Center Director	Y	2	From 3
Louise Garwood	Landscape Designer, Farmer's Market	Y	2	
Becky Acerra	Core Team/Executive Secretary	Y	<u>3 (fire station)</u>	
Rich Lapierre	Fire Captain	Y	<u>3 (fire station)</u>	From 2
Danny Santos	Sportsman Club/Fire Department	Y	<u>3 (fire station)</u>	From 1
Clayton Edwards	Fire Chief	Y	<u>3 (fire station)</u>	
Mark O'Donnell	Boat Club	Y	<u>3 (fire station)</u>	
Matt Koziol	Agricultural Commission	Y	<u>3 (fire station)</u>	From 1
Wes Cassavant/Andy Tombar	Water Department	Y	<u>3 (fire station)</u>	
Donald Berthiaume	MA House Rep	Y	3 (fire station)	New



# Participate in West Brookfield's Virtual Municipal Vulnerability Preparedness (MVP) Program

Given events like the Springfield tornado in 2011, the snowstorms of 2015, the severe drought of 2020 and recent Hurricanes Harvey and Irma, we find ourselves in a new era of more unpredictable and severe weather that can potentially cause damage to our community.

To be as proactive as possible, I would like to personally invite you to participate in a three-part virtual Community Resilience Building Workshops focused on preparing and protecting the Town of West Brookfield.

The MA Executive Office of Energy and Environmental Affairs' (EOEEA) **Municipal Vulnerability Preparedness (MVP) Program Workshops** Thursday, March 4<sup>th</sup> Thursday, March 11<sup>th</sup> Thursday, March 18<sup>th</sup> All meeting will be held virtually on ZOOM from 7-9pm

The Town of West Brookfield is collaborating with EOEEA and CMRPC to offer this timely virtual workshop which will bring together community members to comprehensively identify and prioritize steps to reduce risk and improve resilience across Sturbridge. This workshop will help develop and advance comprehensive community resilience planning, hazard mitigation, and adaptation efforts.

The workshops objectives are to:

- Define extreme weather and climate related hazards;
- Identify current and future vulnerabilities and strengths;
- Develop and prioritize actions; and
- Identify opportunities for the Town to advance actions and reduce risks to build resilience

To learn more about the workshop, please visit the following websites:

- Community Resilience Building: <u>https://www.communityresiliencebuilding.com/crbworkshopguide</u>
- Municipal Vulnerability Program: <u>https://www.mass.gov/guides/home-mvp</u>
- Resilient MA, Climate Change Clearinghouse for the Commonwealth: <u>https://www.resilientma.org/</u>

Log-in information and meeting material's for West Brookfield's MVP workshop will be sent out on

xxx to those who RSVP. We would appreciate your participation in this timely workshop.

### Please RSVP by xxx, 2021

If you have any questions about the program, please contact Ian McElwee, CMRPC, <u>imcelwee@cmrpc.org</u> We look forward to seeing you or a designee at our virtual workshop. Thank you for your assistance with this important project!

Sincerely, Name, Title



### Thank You for Your Participation in West Brookfield's Municipal Vulnerability Preparedness (MVP) Program!



The Town of West Brookfield is collaborating with EOEEA and CMRPC to offer a three-day virtual workshop on <u>March 4<sup>th</sup>, 11<sup>th</sup>, and 18<sup>th</sup></u> which will bring together community members to comprehensively identify and prioritize steps to reduce risk and improve resilience across West Brookfield. Follow the instructions below in order to help make your community more climate resilient! If you have any questions about the program, please contact Ian McElwee at imcelwee@cmrpc.org. We look forward to seeing you virtually at our workshop!

### Step 1. Review the Program Overview

The following document will give you an overview of the MVP program. MVP Program Overview: <u>Click Here</u> Resilient MA Website: <u>Click Here</u>

### Step 2. Watch the MVP Presentations Prior to Workshop

The following link contains pre-recorded presentations that will help you be better prepared for the MVP workshop. The presentations include an overview of the program and the MVP process, climate projections and hazards that West Brookfield may face in the future, and instructions on how to use the online mapping tool. Please take some time to **review each of these presentations before the first workshop**. **Presentations:** <u>Click Here</u>

### Step 3. Familiarize Yourself with the Matrix and Maps

During the virtual workshop, we will divide up into breakout groups to discuss strengths, vulnerabilities, and possible actions that the town can take. During this process, we will be filling out a matrix. The following two documents will show you an example of a completed matrix and will give you a set of pre-made maps that already display various features, hazards, and resources in West Brookfield.

### Complete Matrix Example: Click Here

Maps: Click Here

### Step 4. Discover West Brookfield's MVP Dropbox

The resources included in this invitation will help you learn more about the MVP program and prepare you for the upcoming workshop. All of these resources and more can be found in the following Dropbox link. If possible, you will want to have this Dropbox link open during the workshop so that you can easily access this information. **Workshop Dropbox:** <u>Click Here</u>

### Step 5. Attend the Workshop!

The 3-day workshop will be held on *March 4<sup>th</sup>, 11<sup>th</sup>, and 18<sup>th</sup>*. The agenda for each day as well as the Zoom meeting links are listed below. Please review the agenda for each day and use the meeting links to join the Zoom.

### Agenda Day 1: Click Here

Zoom Link Day 1: <a href="https://us02web.zoom.us/j/81130254637?pwd=bmYrRXpnU0ord21HaTNmOE41Yy8wZz09">https://us02web.zoom.us/j/81130254637?pwd=bmYrRXpnU0ord21HaTNmOE41Yy8wZz09</a>

Agenda Day 2: <u>Click Here</u> Zoom Link Day 2: <u>https://us02web.zoom.us/j/87924087283?pwd=TkFQMTltTm5wb08zVGRrejBlblpmZz09</u>

### Agenda Day 3: Click Here

Zoom Link Day 3: https://us02web.zoom.us/j/81049742554?pwd=Q2xtMzVUZmk0bTZ0ZUhBSWZ6L1VmUT09

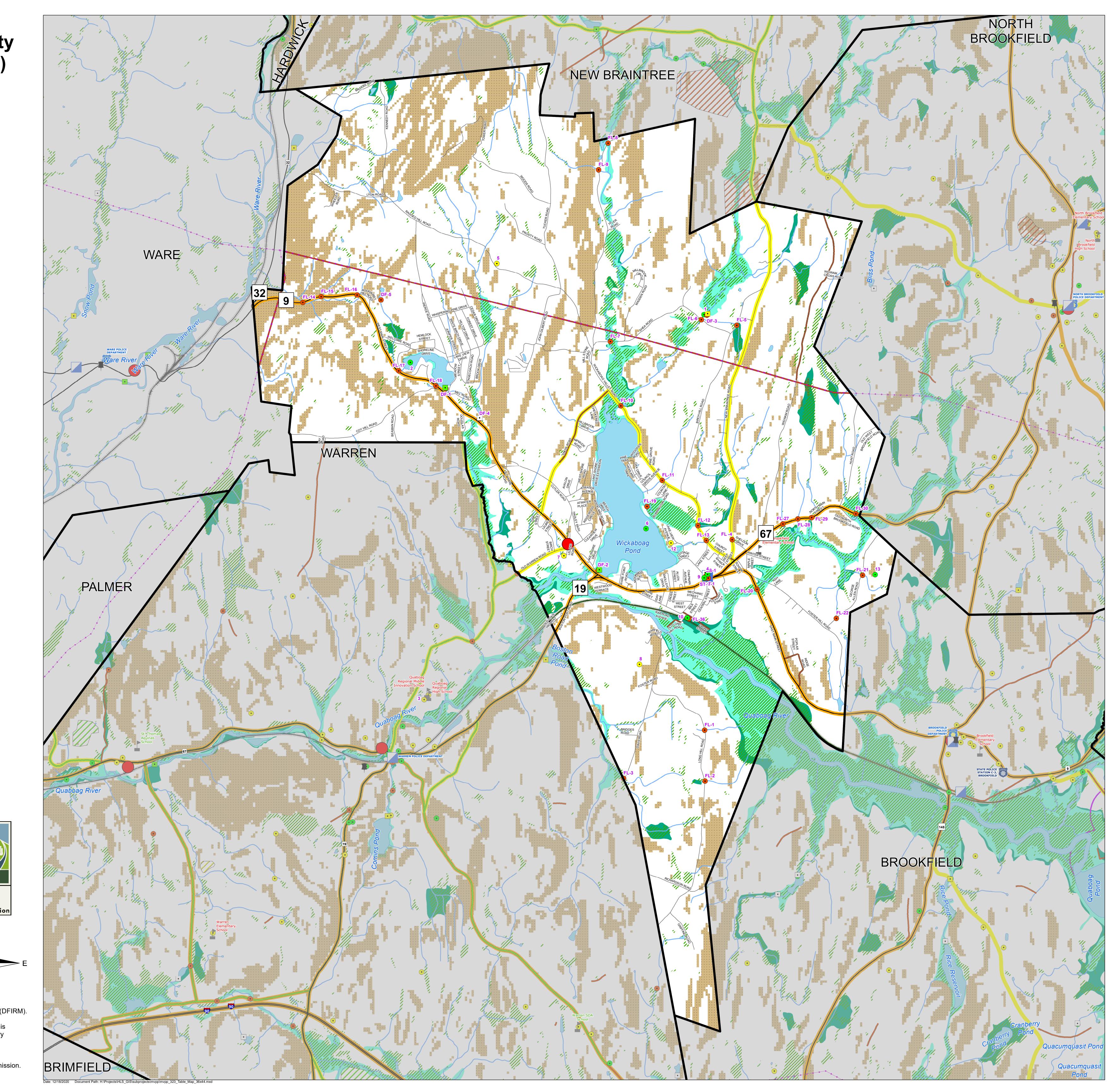
# Municipal Vulnerability Preparedness (MVP) Workshop: West Brookfield <u>Reference Map:</u> Table Map

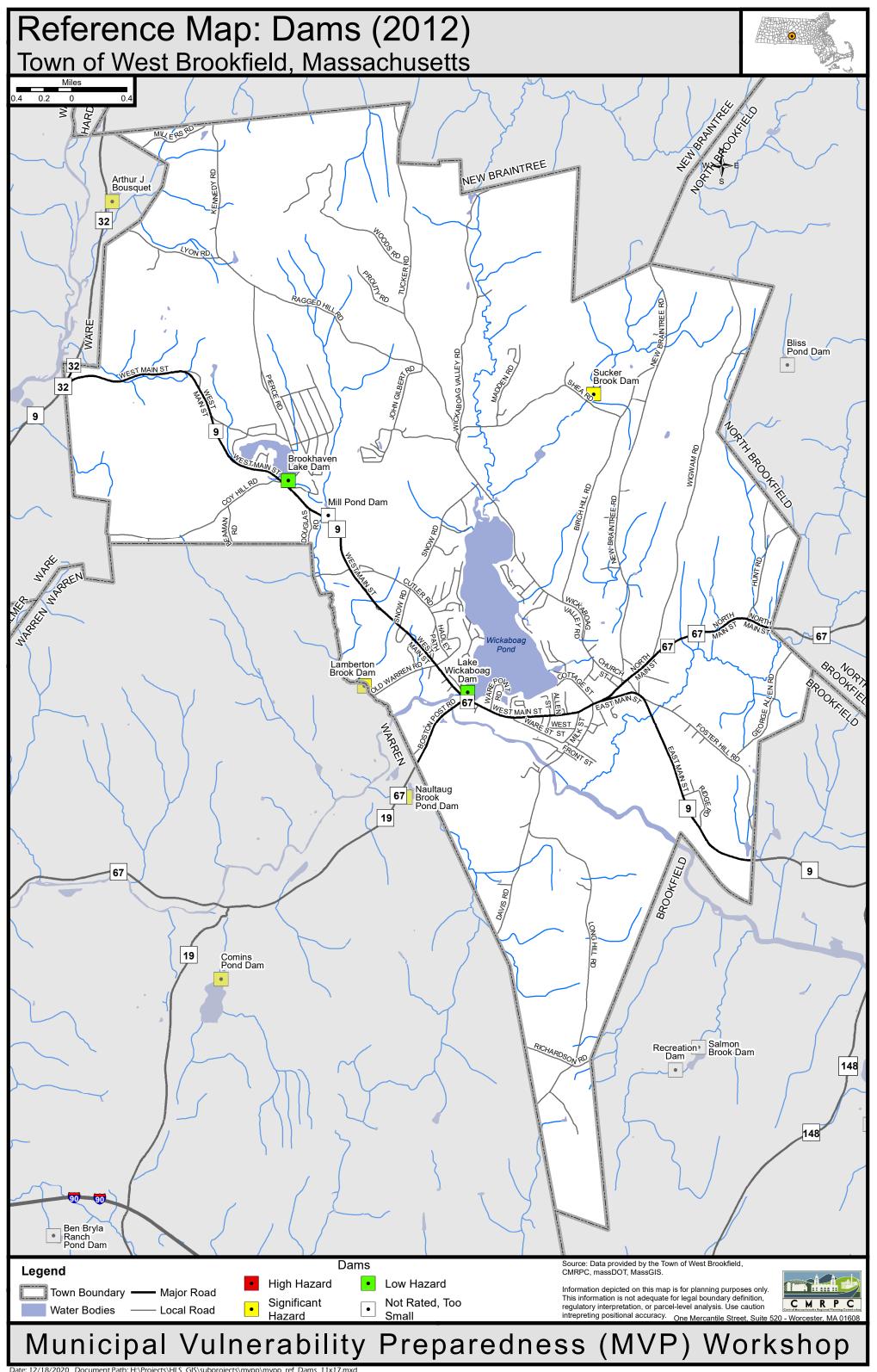


Legend	
	Town Boundary
Ŧ	Town Halls
	EOC
olice	Local Police
OLLC	State Police
6	County Sheriff
	Fire Station
	Schools (Pre-K through High School)
Dams	
•	Significant Hazard
•	Low Hazard
•	N/A
	Major Road
	Local Road
+++++++++++++++++++++++++++++++++++++++	Active Service Railroads
	Water Bodies
	Streams
	MassDEP Wetlands
	High Slope (15% and above)
FEMA Na	ational Flood Hazard Layer (DFIRM)
	100-year Flood Area
	500-year Flood Area
CIH (Poir	
•	Vulnerable Critical Infrastructure
•	Non-vulnerable Critical Infrastructure
•	Hazard
	Vulnerable Critical Infrastructure
	Hazard
	Vulnerable Critical Infrastructure
	Non-vulnerable Critical Infrastructure
	Hazard
	C M R P C
Centro	al Massachusetts Regional Planning Commission
0.125.25 -+-+	0.5 0.75 1 Miles

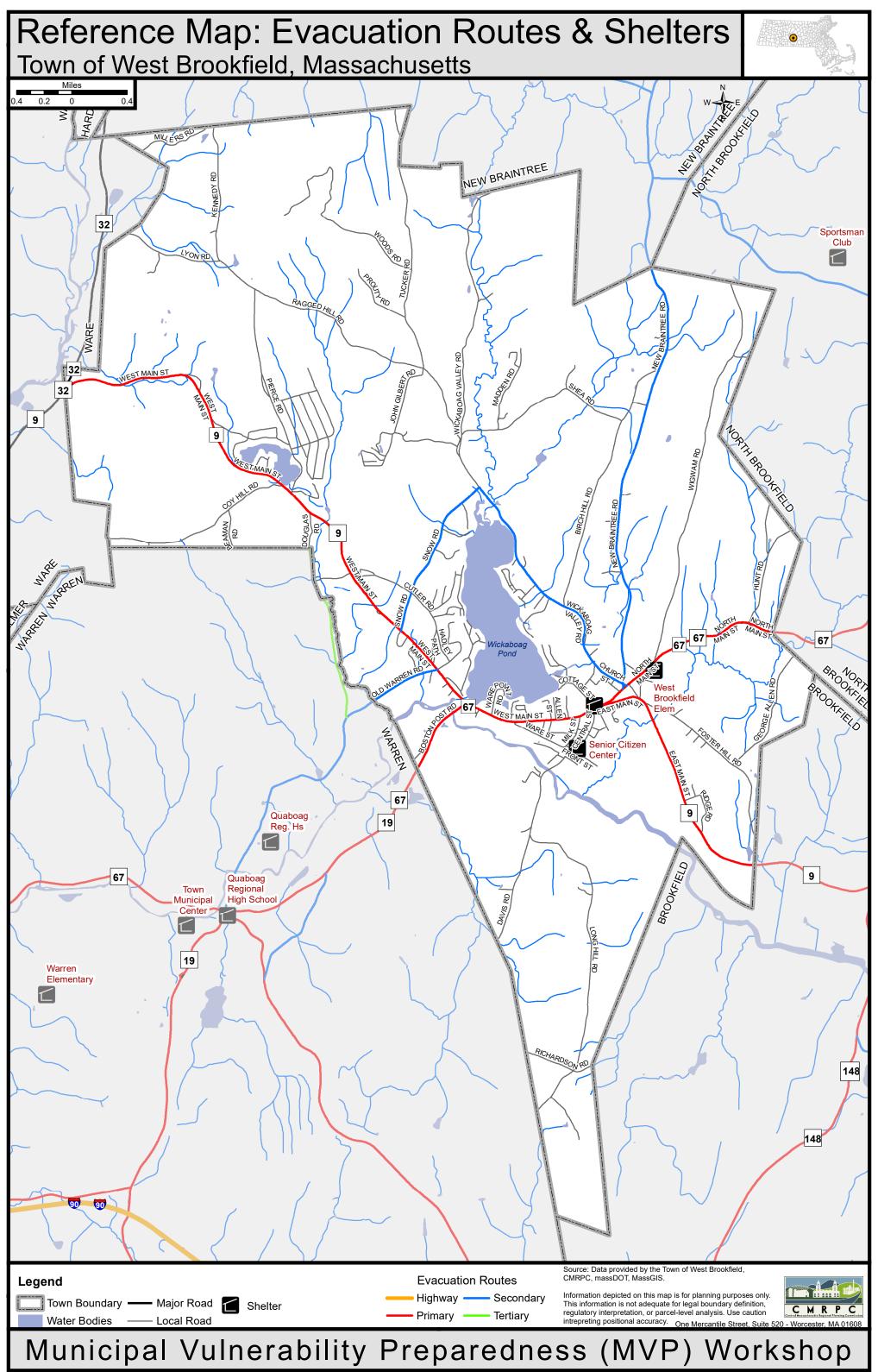
Flooding data source: FEMA's Digital Flood Insurance Rate maps(DFIRM). Other data sources include: MassGIS, MassDOT, and CMRPC Information depicted on this map is for planning purposes only. This information is not adequate for legal boundary definition, regulatory interpretation, or parcel-level analysis. Use caution intrepreting positional accuracy.

Produced by the Central Massachusetts Regional Planning Commission. 1 Mercantile Street, Suite 520, Worcester, MA 01608

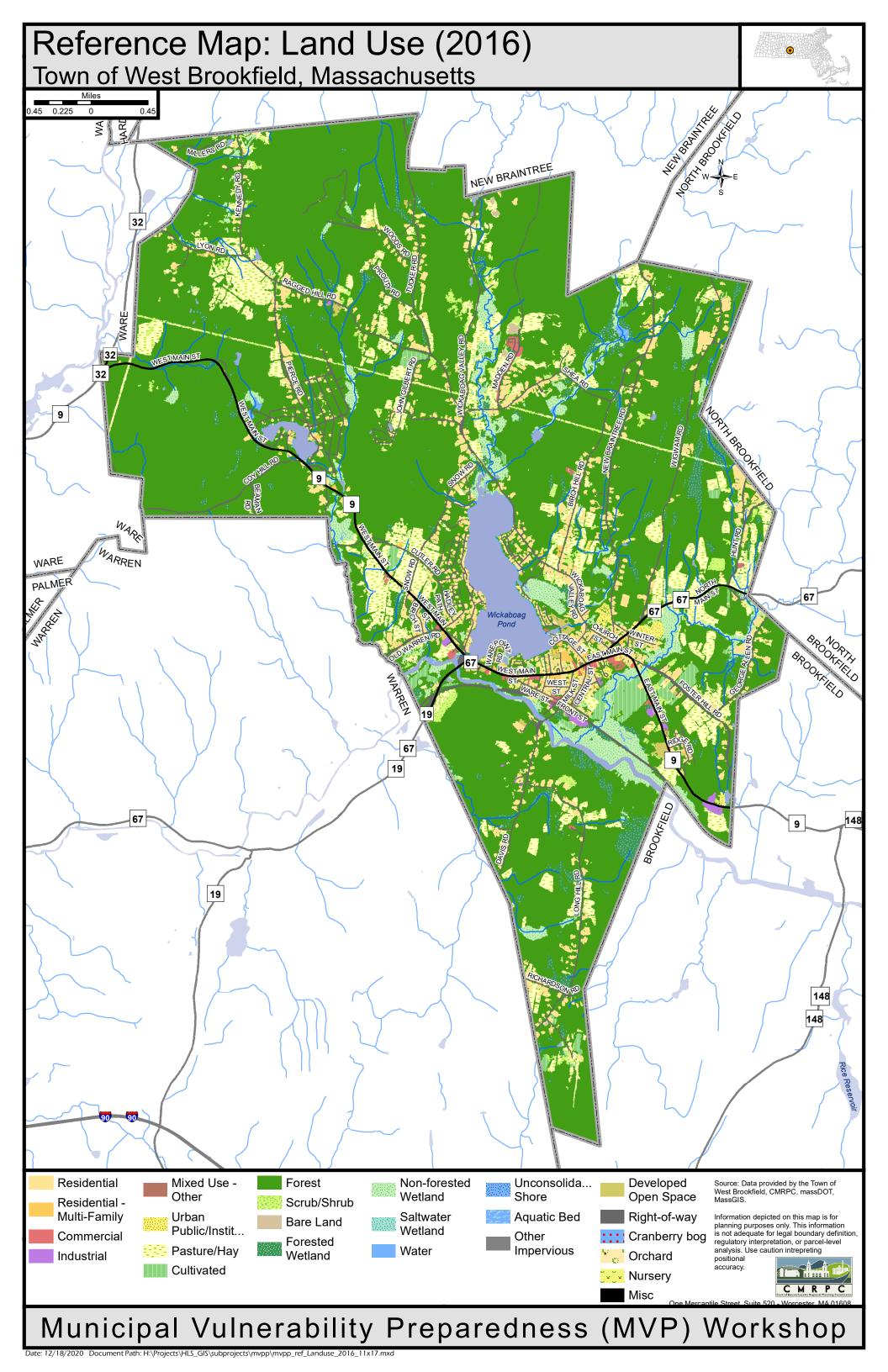


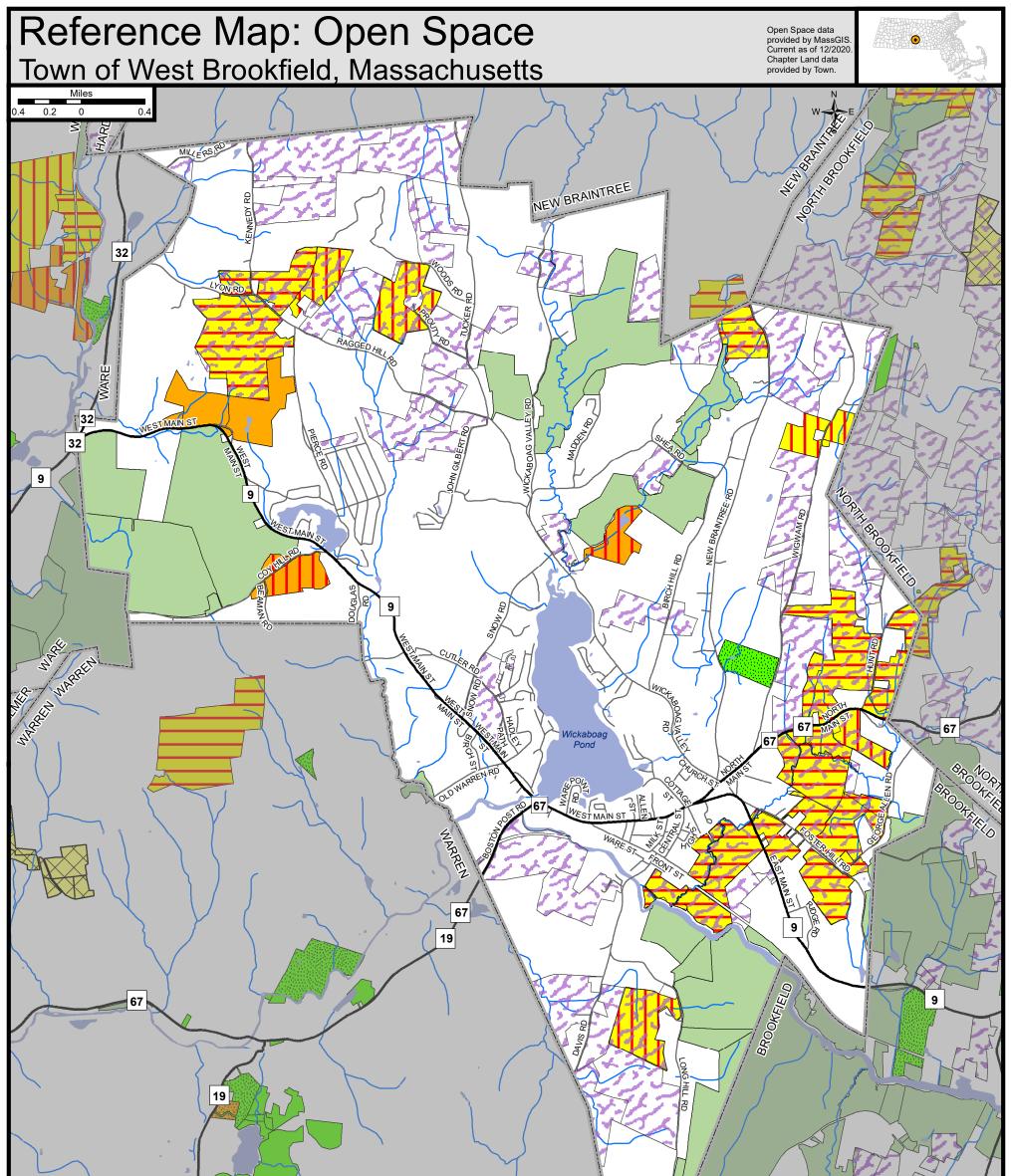


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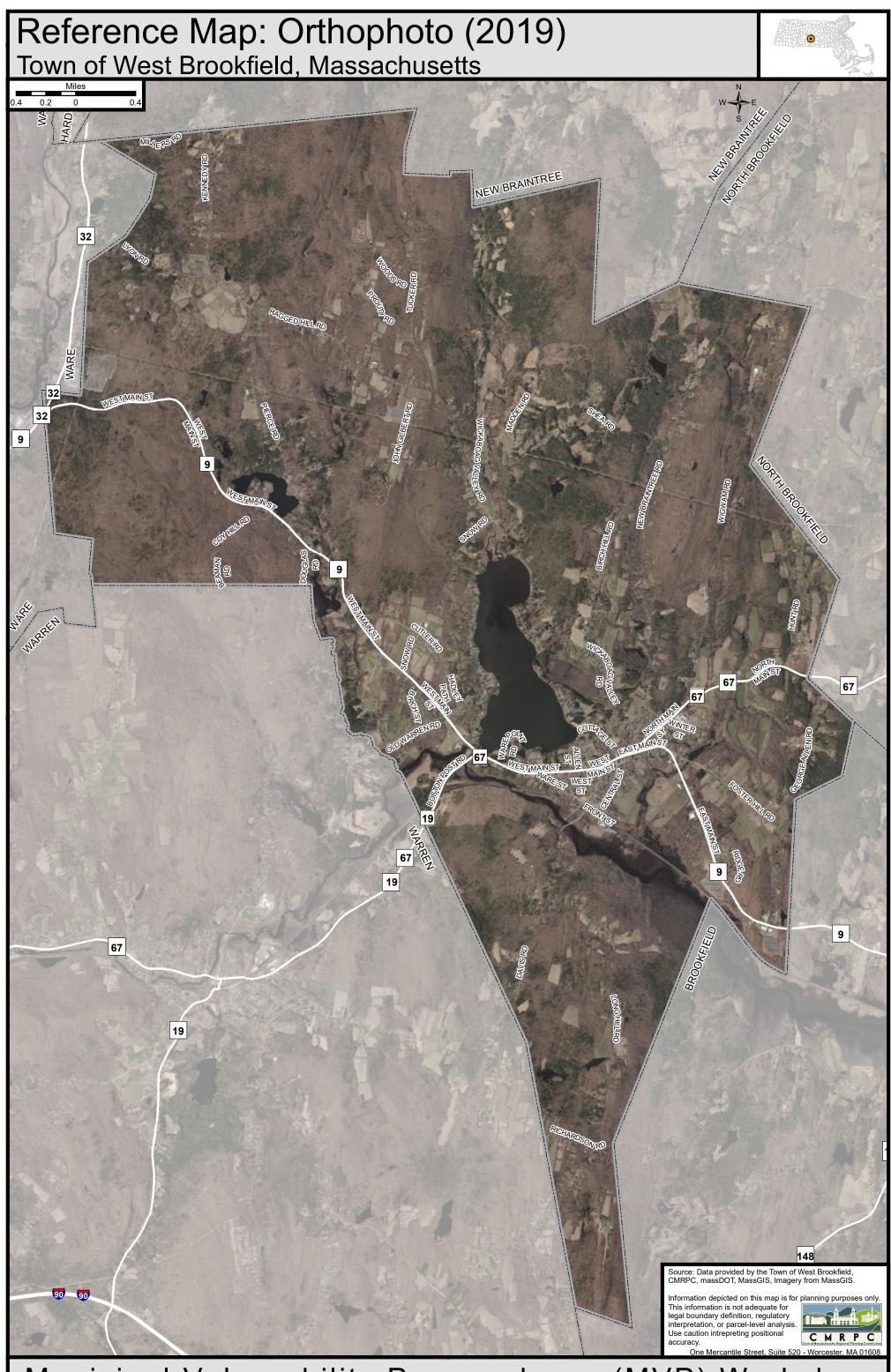


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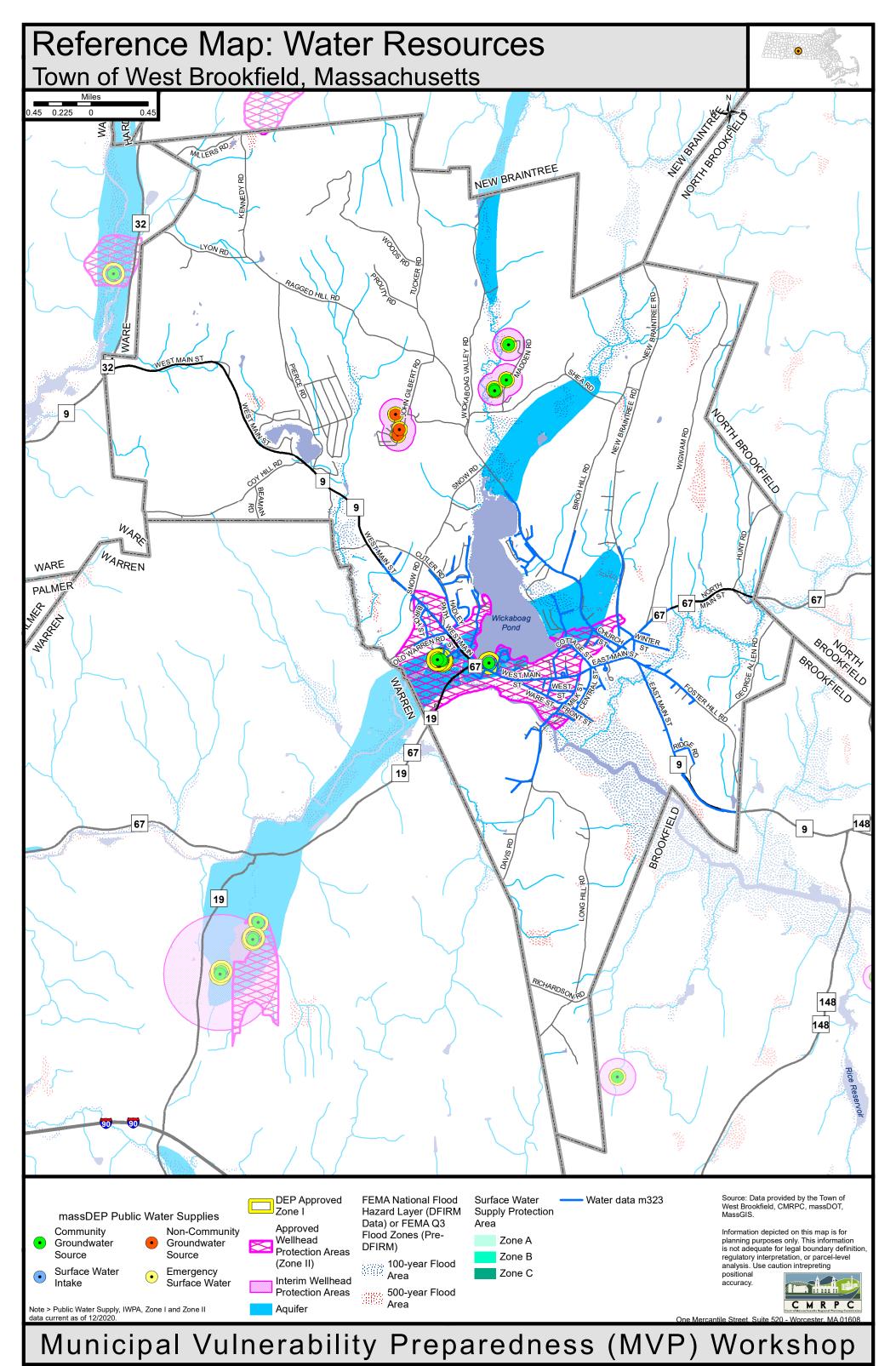


	RICHARDSONS	148
Town Boundary       Open Space Ownership       Level of Protection         Water Bodies       Federal       Private         Major Road       State       Non-Profit         Local Road       Municipal	Chapter Land (61, 61A, 61B) Conservation Restriction Agricultural Preservation Restriction	Source: Data provided by the Town of West Brookfield, CMRPC, massDOT, MassGIS. Information depicted on this map is for planning purposes only. This information is not adequate for legal boundary definition, regulatory interpretation, or parcel-level analysis. Use caution intrepreting positional accuracy. One Mercantile Street, Suite 520 - Worcester, MA 01608
Municipal Vulnerability Pr		

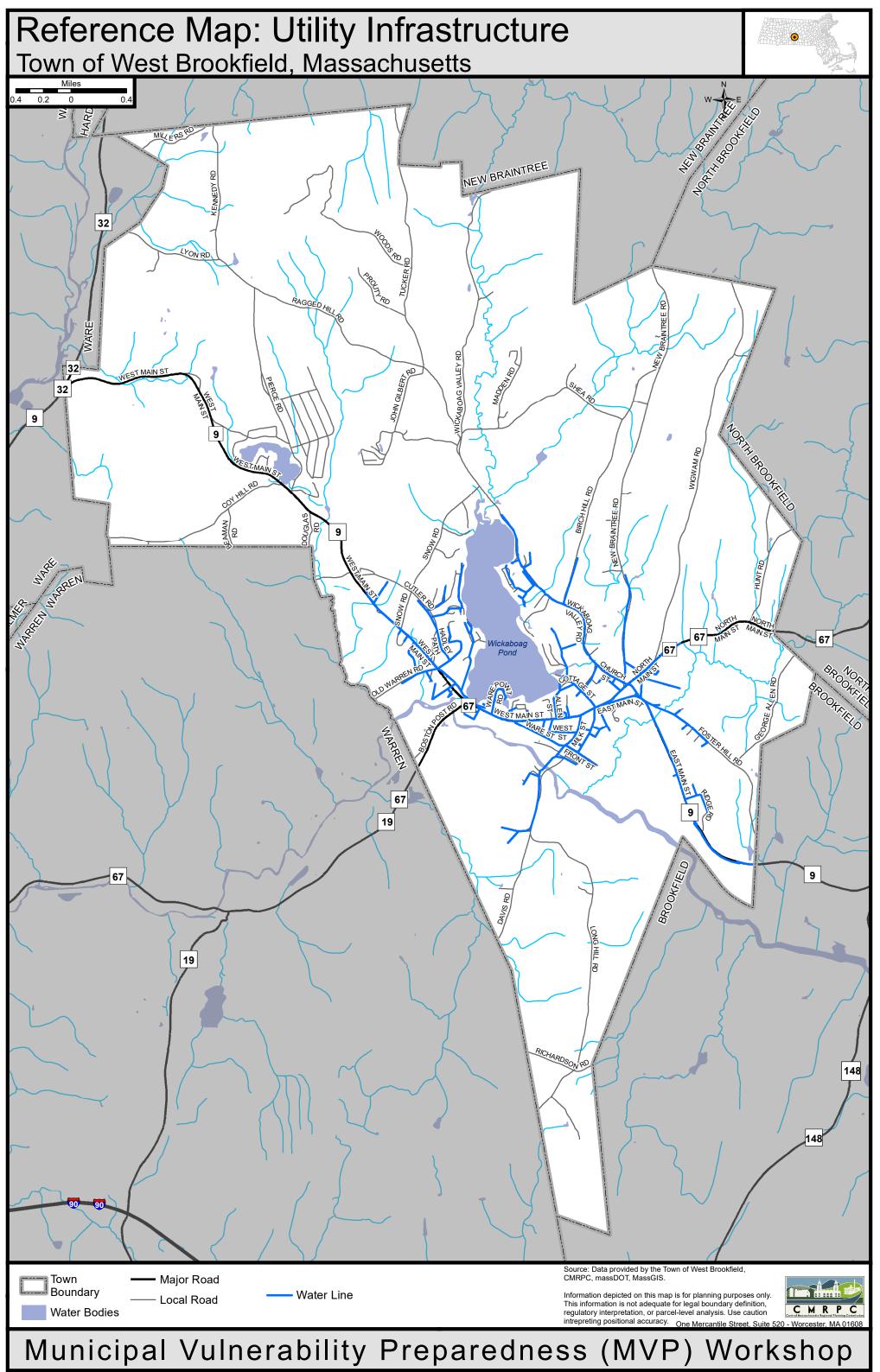


# Municipal Vulnerability Preparedness (MVP) Workshop

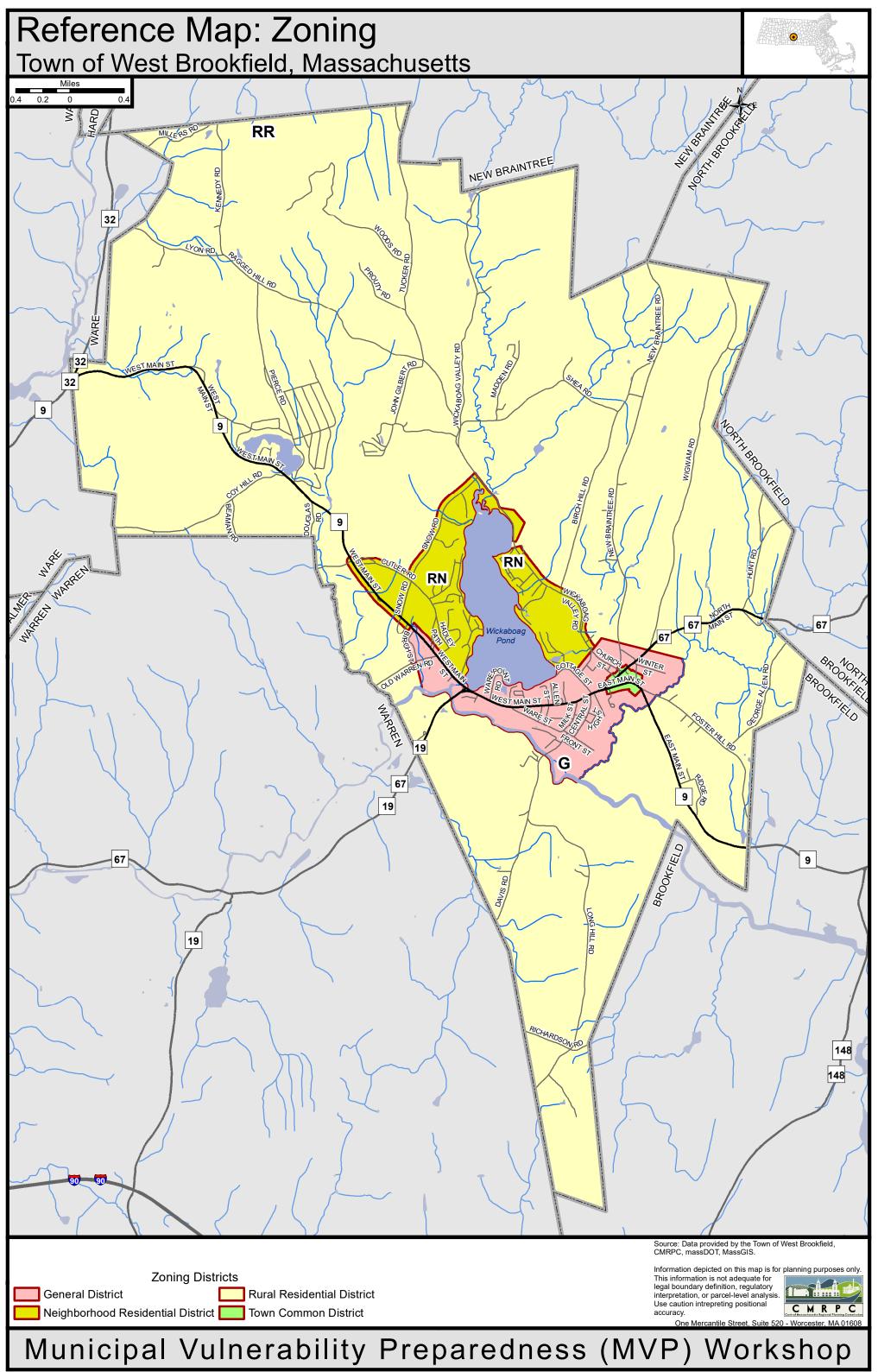
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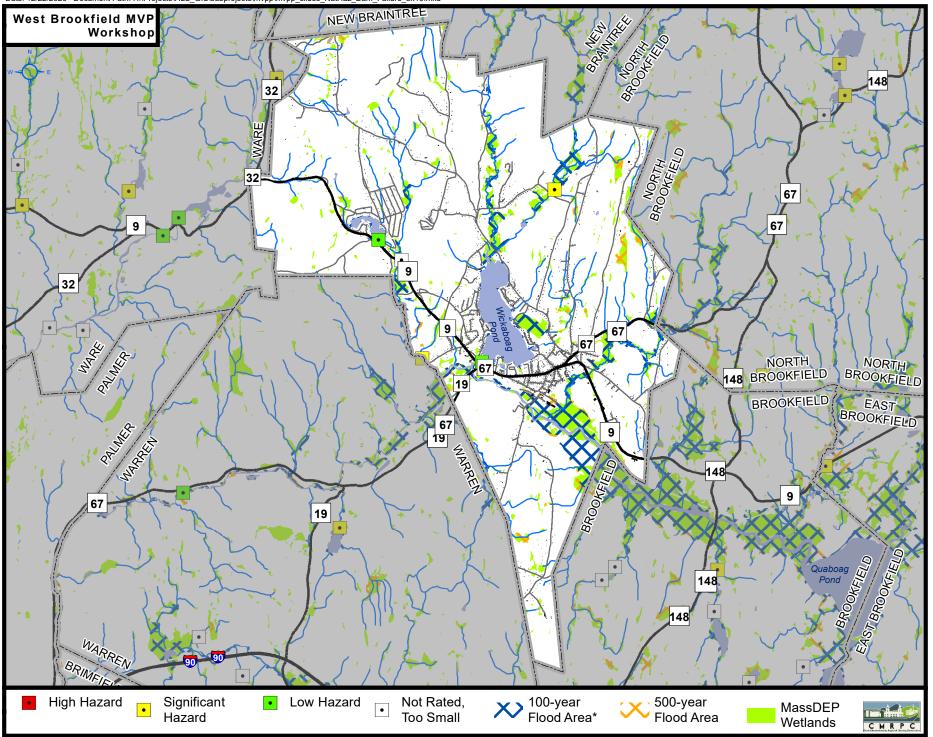


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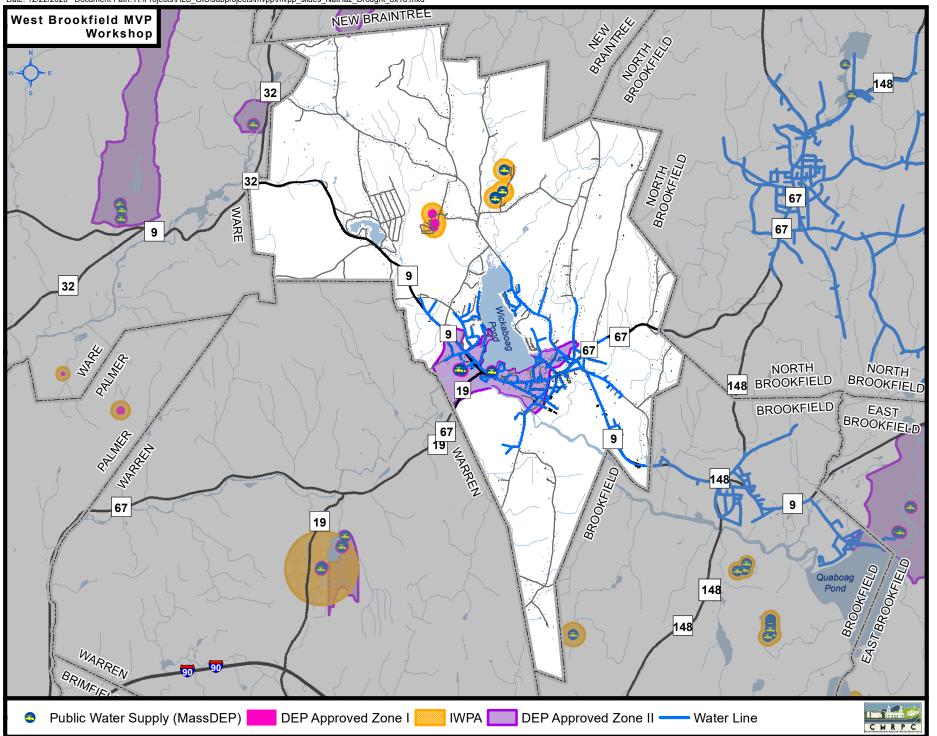
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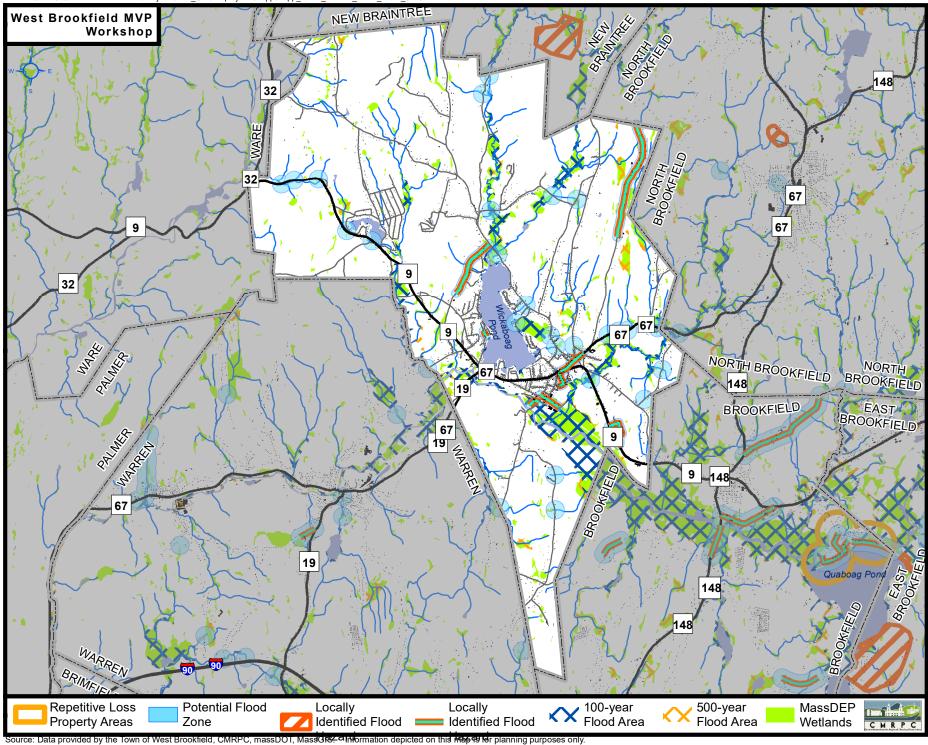


Source: Data provided by the Town of West Brookfield, CMRPC, massDOT, MassGIS. Information depicted on this map is for planning purposes only.

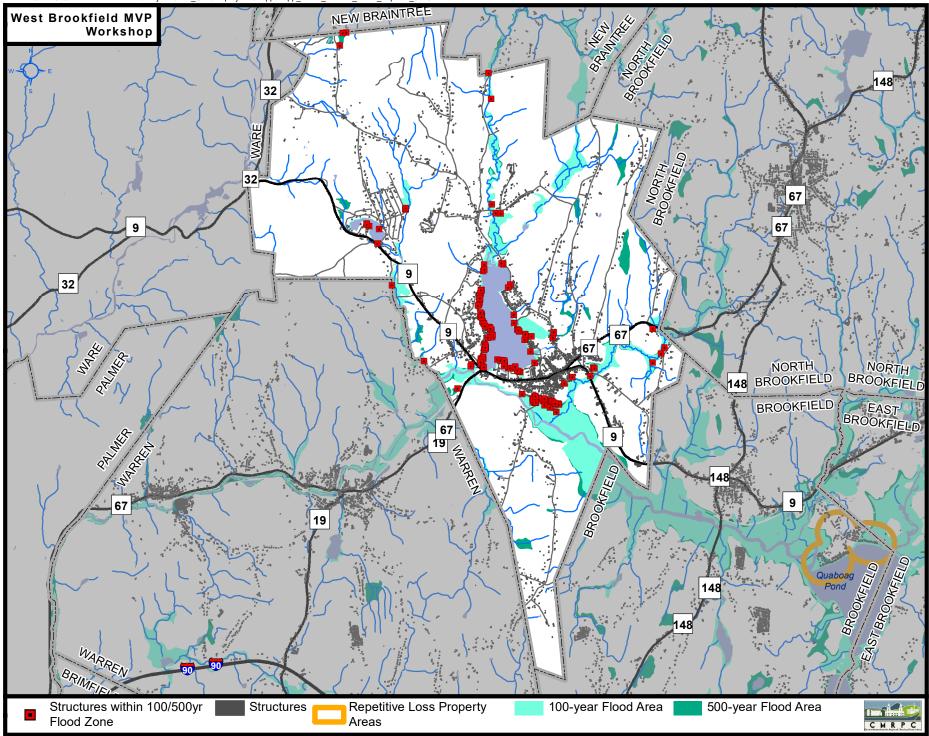
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Date: 12/22/2020 Document Path: H:\Projects\HLS\_GIS\subprojects\mvpp\mvpp\_slides\_NatHaz\_Flood\_Risks\_8x10.mxd

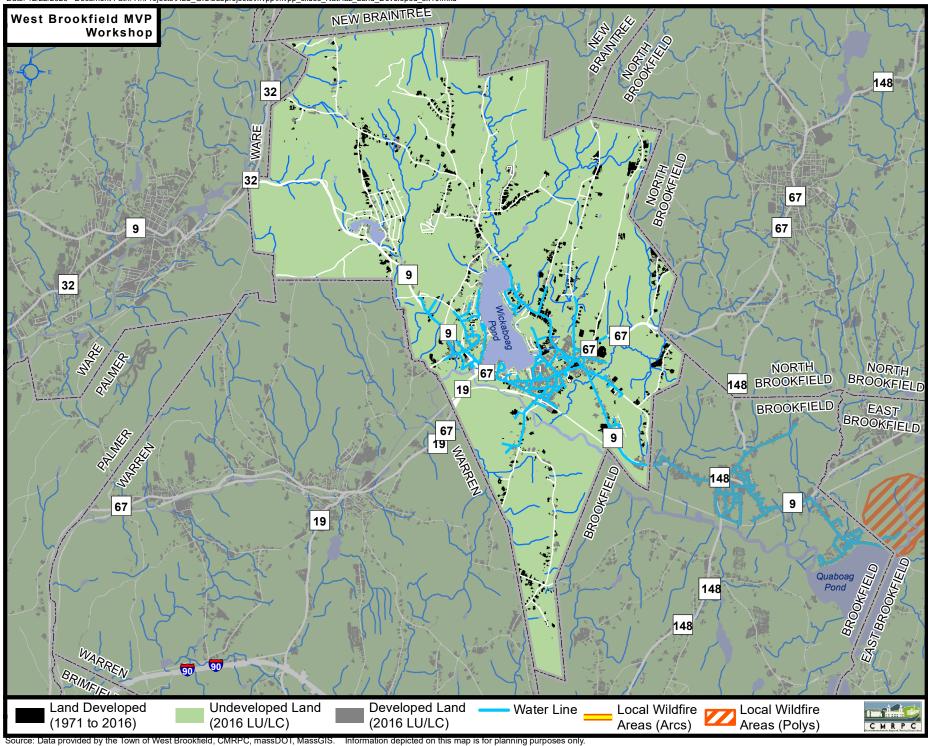


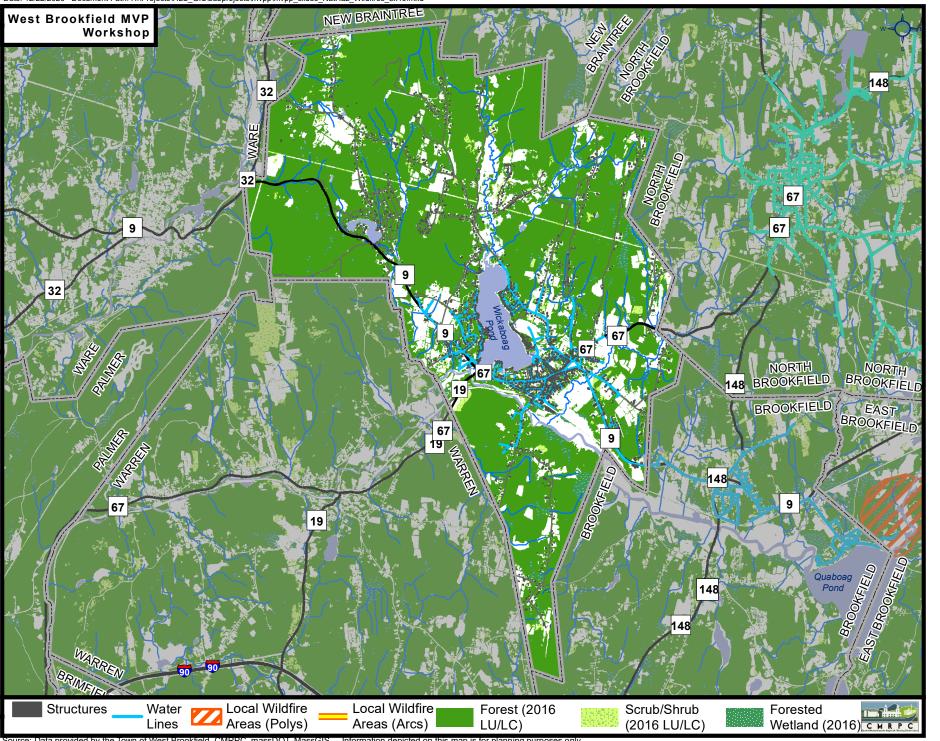
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Source: Data provided by the Town of West Brookfield, CMRPC, massDOT, MassGIS. Information depicted on this map is for planning purposes only.

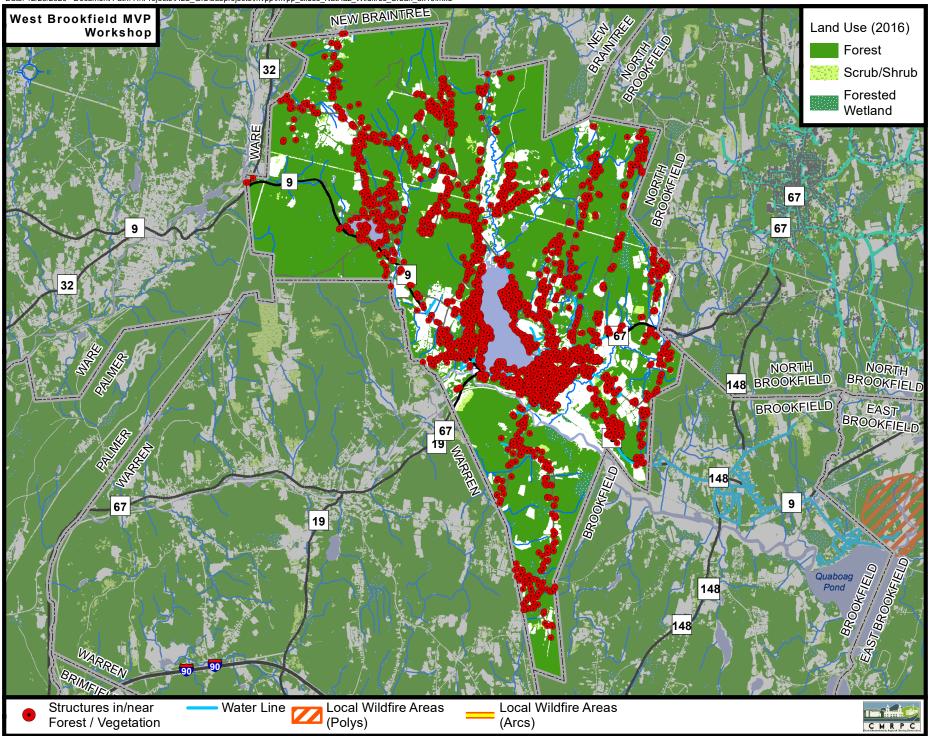
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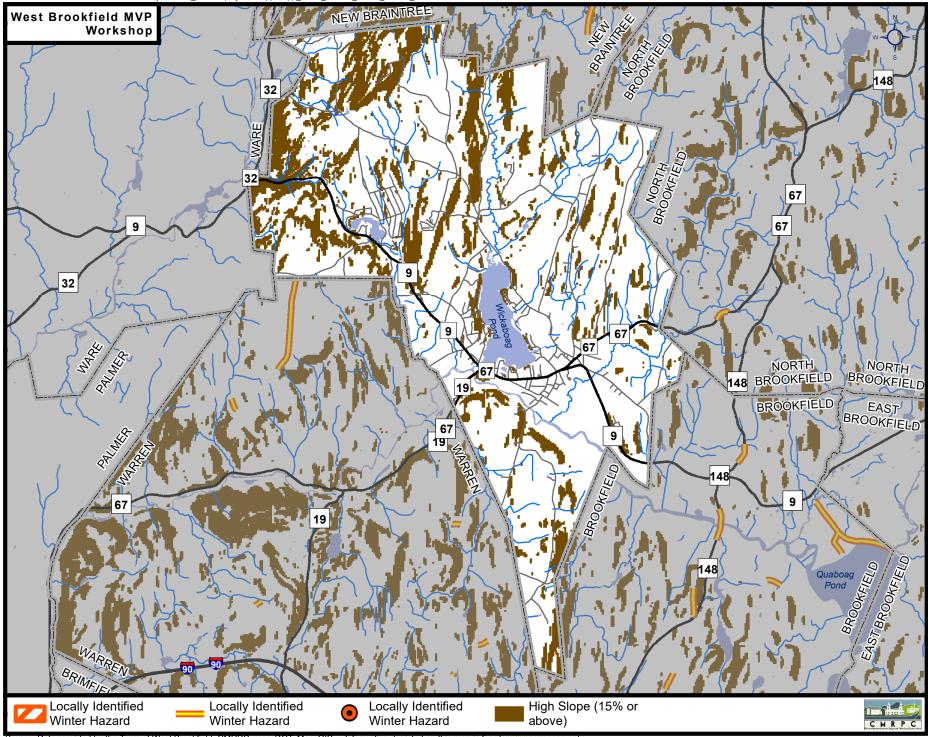
Source: Data provided by the Town of West Broo nis map is for planning purposes only. on depicted on

Date: 12/23/2020 Document Path: H:\Projects\HLS\_GIS\subprojects\mvpp\mvpp\_slides\_NatHaz\_Wildfires\_Urban\_8x10.mxd



Source: Data provided by the Town of West Brookfield, CMRPC, Mass Audubon, massDOT, MassGIS. Information depicted on this map is for planning purposes only.

Date: 12/23/2020 Document Path: H:\Projects\HLS\_GIS\subprojects\mvpp\mvpp\_slides\_NatHaz\_Winter\_Storms\_8x10.mxd



Source: Data provided by the Town of West Brookfield, CMRPC, massDOT, MassGIS. Information depicted on this map is for planning purposes only.

Community Resilience	Building Risk M	latrix			TABLE # 2		www.Com	nmunityResilie	enceBuil	ding.org
<u>Town Table #</u>					Top Priority Hazar	<b>ds</b> (tornado, floods, w	ildfire, hurricanes, e	earthquake, drought, s	sea level rise	e, etc.)
<u><b>H</b>-<b>M</b>-<u><b>L</b></u> priority for action over the <u><b>S</b></u> <u><b>V</b></u> = Vulnerability <u><b>S</b></u> = Strength</u>	hort or <u>L</u> ong term (and	<u>O</u> ngoing)			Flooding	Drought/Heat/ Wildlfire	Wind Events	Winter Storms	Priority H-M-L	Time Short Long
Features	Location	Ownership	V or S	Description					<u> </u>	<u><b>O</b></u> ngoing
Infrastructural		-			•	•		-		
Dam on Wickaboag		federal?	S	possible high hazard classification, strength	i key is to continue to mai	intain the dam, routine ins	pection,		м	0
Dams	Lake Wickaboag Dam	Town-owned	v	Ongoing maintenance needed. Upgrade controls if possible.	F: 1) ongoing maintenance needed, 2-a) Update the manual control system 2-b) coordinate with owner of mill and ways to adjust. (company: MDP, hudson new hampshire. Contact: Tony Marcotte)			м	Ongoing	
Dams	On Brookhaven Lake & Lake									
	Brookhaven Dam	Private-owned	v	Whether the town has recently acquire the property??	Coordinate with the owner			L	Long	
	Sucker Brook Dam	DCR-owned	v		F: Coordinate with DC.				L	Long
	Wright Mill Brook Dam	Mill owned	v	Inoperable mill dam downstream in Warren. Limits options for release of water from Wickabag Dam due to its fixed elevation.	F: Coordinate with the owner and army corp's reports.			н	Long	
Dikes near Rt 9		federal	S	contain water, requires minimal maintenand	continue with maintener	nce,			L	0
Stormwater issues		town/private	V/S	high amounts of runoff, concern with pollut	residents with some info	nay be education and buyir ormational mailings, newslo ch education/information (	etter; Townwide, visible		М-Н	S-L
Drainage	Around the Lakes, Shea Road and Route 57 flood most often	Public/Private/U nknown	v	Drainage (especailly under roads) are very old and degraded and replacing them is very expensive.	Town needs to develop a runoff issues and assess	Rewrite stormwater (conservation) bylaw - was written before solar arrays were thought about. Town needs to develop a conservation bylaw. May need to conduct a study in town that have runoff issues and assess which would be the best fit for a new drainage system, which need to be replaced with a more natural system, and to inform bylaw update.			н	
Drainage Infrastructure	Shea Road, Front Street, Milk St, Ware St, 200s Long Hill Rd, 197 New Braintree Rd	Town-owned	v	Several streets with poor drainage infrastructure/repeated flooding. Cross checked against 2017 Hazard Mitigation Plan. Several items in plan have been fixed and aren't listed here.	S: need fundings for design and project costs.		н	Ongoing		
Culverts	Brookhaven Lake (esp towards	Public/Private/U nknown	v	Culverts drain all parts of town and get clogged and it causes flooding. Can flood	Replace culverts on Wice drainage systems.	cabog Valley and Chruch St	reet, Shea Road and Ke	ennedy Road with natural		
Well #1/Well #2	(	water departmen	v	Well #1 may be prone to flooding; Well #2 n	Get the well back online	(Well #2)			н	S
private wells		private	v	west side of town, issues with drought and p	vulnerability assessment of any issues concerning point based pollution and wells			nd wells	м/н	
Wells	Around Lake Wickabaog		v	Some residents have very shallow wells and						

Drinking Water System (Distribution)	Front St*, School St(S), Main St(along the common), Leland Rd Treatment plan.	Town-owned	S	Some of the pipes were too small. Increase of salt in discharge.	development. Benefits for the future new developments. 2) Treatment plan upgrade. ( 1.5 million new water project?)		Short
private septic		private	S/v	concern with outdated septic tanks that can	assessment of the health of the private system that could possibly be used to provide n replacements, funding to provide assistance to those who cannot afford replacement; assessment to see if any private sewers are "high hazard" areas		L
Sewer interest				Potential regional collaboration? (Waren, North Brookfield)	1)Pursue fundings for feasibility study.	L	Short
Sucker Brook		town	v	nothing to filter water coming from New Bra	Point testing that may turn into larger grant funded project,	М/Н	S
Mill Brook		town	v	larger brook heading in wickaboag near wick	Same as Sucker Brook, go together	м/н	S
Wickaboag Valley Rd		town	v	experiences some flooding	raise the road?	L	L
Front Street and Senior Center		town	v	in a low lying flood plain	create better drainage around area to prevent water from gathering, funding explored through other grants (already looking)	н	S/L
Railroad		private	v	derailment is a concern, goes through wetla	possibly form some kind of coalition with other towns along rail line	L	L
Rail		CSX	V	Hazards.	1) Engage railroad company on this issue.	М	Ongoing
Town Shelter shared with Warren, high school		town	s	has a backup generator, holds close to 200 p			
town hall and senior center		town	v/s	used as warming spaces, cannot be used as	15 years old and may need some upgrades		
Generators	Fire Dept, Police Dept. School?	Town-owned	v	Lack of modern backup generators except for Water Department.	1) Pursue fundings for the backup generator. 2) FEMA grant possibility	н	Short
High school - Warren		regional - Warrer	v/s	possibility of flooding but unlikely due to lar			
Powerlines, other utility lines		town/private	S/v	Tree warden has done a great job of marking			
private roads around lake		private	v	who owns them? Prone to wash out, concer	Possibly explore some natural solutions, encourage homeowners to act, possibly trainings or advice		
Private roads	Around Lake Wicabog and	Private	v	Town can't influence construction of private roads. Lack of drainage systems under	Drainage on private roads needs to be improved. Need to identify private roads with significant environmental or public safety impacts to prioritize which should be addresses first. Named the		
Private Road				Culverts on the private roads.	F: Working with the private owners to subsidize the plan and recapitalize the funds. (Stormwater authority)	н	Ongoing
private bridges	near river leading	private	v	concern with heavy rains causing wash outs	possible assessment of bridges		
website		town	v	designed poorly on certain hardware, difficu	potential to assign someone in the town to deal with		
Town communication infrastructure			v	Town has a significant older population and this disproportionately impacts them.	School system may already have this communication infrastructure - assess how the town could utlize this infrastructure more broadly. Improve citizen knowledge of shelter locations and	н	

NomePipelshNomeReveree different toor regartment. a waring for any correct regartment. b waring for any correct regartment. a waring for any correct regartment. b waring for any corr								
Instruction       Field Control       V       Delive are replocing to planes.       Section Control       V       Instruction Control       Instruction Control       Instruction	Communications			v		1) Continue to pursue fundings for radio upgrades.	н	Short
Name         Name <th< td=""><td>Town whistle</td><td></td><td>town</td><td>s</td><td>warning for any concerns/emergency, backu</td><td></td><td></td><td></td></th<>	Town whistle		town	s	warning for any concerns/emergency, backu			
IncludingName of the set of t	Utility Lines (cable lines)			v	-	-		
operNormNormNormal of mode to the start of mode to the start of mode to the start of mode and	Electrical System			v	Tree trimming program in place,		н	Ongoing
intermediation       Name       Nam       Name       Name </td <td>Solar</td> <td></td> <td></td> <td>S (maybe V)</td> <td>Important part of moving town toward</td> <td></td> <td></td> <td>0</td>	Solar			S (maybe V)	Important part of moving town toward			0
lease DamsNoth Book Night BookNNoth Book Noth BookNNNoth Book Noth BookNNNoth Book Noth BookNNNoth Book Noth BookNNNoth Book Noth BookNNNNoth Book Noth BookNNNNNoth Book Noth BookNNNNNoth Book Noth BookNNNNNNoth Book Noth BookNN </td <td>Elementary School</td> <td></td> <td>Public</td> <td></td> <td></td> <td>Consider installing solar over parking area.</td> <td></td> <td></td>	Elementary School		Public			Consider installing solar over parking area.		
unrul Fire Fighting       One of, late besch, She add besch, She add besch, She add besch, She add besch, She add       V       Locations identified for additional draw besch, She add besch, She add besch, She add       File Add new dry hydrants.       File	Beaver Dams	North Brook		v	From 2017 Hazard Mitigation Plan	F: Keep an eye and trapping on the Beaver Dams.	М	Ongoing
own Buildings       Department, Itsication, society.       Town-owned       V       Located in the flood zone.       I) Develop a capitol plan. 2) Pursue funding support. 3) explore public safety complex options.       H       I         Indiges       Shee RAG Nuckep Signed Route 9 ?       Shee RAG Nuckep Signed Route 9 ?       V       Indiges Complex Signed Signed Signed Route 9 ?       Indiges Complex Signed Signed Signed Route 9 ?       Indiges Complex Signed Signed Signed Signed Route 9 ?       Indiges Complex Signed Signed Signed Signed Signed Signed Signed Signed Signed Signed Signed Signed	Rural Fire Fighting	Pond, Lake Wickaboag,Lake- beach, Shea Rd	Town-owned	v	points, dry hydrants, etc. Need to add new	DHF: Add new dry hydrants.	н	Short
hindges house point house point house pointNoNoIndex1 (beck out the Mass Highway Department's reports.LLonghumpwigwan RdWigwan RdVNo in service, having toxic discharge.I) Brächis Brook (within containmination area): assessment on the lake. 2) Widen the assessmentHOrgonghud Corset factoryBottom Pleasal st.LowSurvePossible Brownfield Site.I) Verify the status with Mass DEP.Interventional context and the service point of	Town Buildings	Department, Senior Center, Historical	Town-owned	v	Located in the flood zone.	1) Develop a capitol plan. 2) Pursue funding support. 3) explore public safety complex options.	н	
Jump       Wigwam Rd       V       Not in service, having toxic discharge.       area to the surrounding wells.       Image: Antipage and the surrounding wells.       Image: Antipage antipage antipage and the surrounding wells.       Image: Antipage	Bridges	Wickaboag Road bridge, Bridge on		v		1) Check out the Mass Highway Department's reports.	L	Long
Jid Corset factory       St.       Image: St.	Dump	Wigwam Rd		v	Not in service, having toxic discharge.		н	Ongoing
Societal       Image: Control of the common public       S20 bed, possibly in floodplain, wastewater       open a dialouge about what the nursing home needs from the town, providing assistance, strengthe       Image: Control of the common public         iseniors living in town       0       v       40-50 beds, assisted living facility, mental he       Continue to foster relationship with town       Image: Contin town	Old Corset factory			v	Possible Brownfield Site.	1) Verify the status with Mass DEP.		
yuaboag nursing home       mixite/nonprofit       20 bed, possibly in floodplain, wastewater       open a dialouge about what the nursing home needs from the town, providing assistance, strength       mixite         prookhaven rest home       mixite       viate       40-50 beds, assisted living facility, mental he       Continue to foster relationship with town       mixite       mixite         seniors living in town       Mixite       viate       lack of communication, major concern when       keep list of seniors up to date, "storm list", fix CodeRed link on town's webisite, ongoing communic       mixite         seniors Housing/Nursing Home       Off the common       Public       S       Lock       Lock <td>Sidewalks</td> <td></td> <td></td> <td>S</td> <td>Appreciate the grass buffer between road ar</td> <td></td> <td></td> <td></td>	Sidewalks			S	Appreciate the grass buffer between road ar			
And a	Societal							
ieniors living in town 0 ff the common Public S. I see the second of the common of the common Public S. I see the second of the common Public S. I see the second of the common Public S. I see the second of the common Public S. I see the second of the common Public S. I see the second of the common Public S. I see the second of the common Public S. I see the second of the common Public S. I see the second of the common Public S. I see the second of the common Public S. I see the second of the common Public S. I see the second of the common Public S. I see the second of the common Public S. I see the second of the common Public S. I see the second of the second of the common Public S. I see the second of the	quaboag nursing home		private/nonprofit	v	320 bed, possibly in floodplain, wastewater	open a dialouge about what the nursing home needs from the town, providing assistance, strengthe		
Senior Housing Alursing Home Off the common Public S	brookhaven rest home		priviate	v	40-50 beds, assisted living facility, mental he	Continue to foster relationship with town		
Senior Housing/Nursing Home Off the common	Seniors living in town			v	lack of communication, major concern when	keep list of seniors up to date, "storm list", fix CodeRed link on town's webisite, ongoing communic		
	Senior Housing/Nursing Home	Off the common		S				

Senior Housing	Brook Haven Assisted Care; Quaboag on the Common;	Private	V/S		1) coordinate with owners on generatiors 2) verify on emergency plans. CERT.	M-H	Ongoing
senior center		town	s	voting place, warming place, community	look at infrastructure section,		
Senior Center		Town	S	Serves as a community hub and played a key role in the roll out of the vaccine.			
Mobile homes		private	v		possibly assess evac plan, public outreach of residents about an emergency plans,		
CodeRED		town	S/V	slow to catch on, issue with sign-up link, pos	fix the link on the website and make easier to find, use the message board to display alerts		
Social media		town	S	able to get messages out quickly, also a mes	continue to use town, police and lake social media accounts, post fixed CodeRED link on accounts		
word of mouth		town	s	word gets out quickly	create a more formal network, "point people" to share messages, phone tree		
Website			v		Update website.		
Low income persons		town	v	limited resources to make repairs, minimal a	coordinate efforts through food pantry, possibly explore zoning solutions such as accessory dwellin		
elementary school		town	s/v	meeting place, community built up around t	generator using gas hookup to add another safe place, explore green alternatives?		
high school	Warren	regional?	s	strong volunteer base			
town hall		town	s/v	houses everything but the fire dept, under-p	Explore options, and develop campaign, to create new area for fire and police dept, explore adoptir		
nonprofit/community orgs		regional/state	s	East Quabbin Land Trust, TTOR, sportsman's	develop stronger network to foster open communication		
Public safety		town	v/s	police and fire have limited space to functior	Explore options, and develop campaign, to create new area for fire and police dept,		
Vulnerable populations			V & S	Town's population is aging - provides town with knowledge/experience but not all have	Add a neighborhood monitor system to have someone to check on folks during an emergency - ex. ,		
Local Businesses			S	Conerns about what insurance will cover in regards to future extreme weather. Many			
Blue Trail/Recreational Tourist oppurtunites			S	Tourist Attraction			
Agricultural community			S	Farmers need more resources to fall back on. How do we better protect our local food	Partner with Central Mass Grown & Agricultural Commission to provie information about town farn		
Migration from shoreline communities?			v	What role will this have in the future? Will this put development pressure on			
Litter/Trash			v	Highway dept sweeps thousands of ciggarette buts off the roads in the spring.	Create a wholistic trash management plan.		
Bylaws			v	Public works/drainage doesn't have to go through Stormwater	Can we write the bylaws to require public works projects to be approved by Stormwater?		
Housing Authority	East Main St.	Housing Authorit	V/S	Senior/disabled housing	1) coordinate with owners on generatiors 2) verify on emergency plans. CERT.		
New Braintree Road Neighborhood			V	Power outrages, could use tree trimming.	1) Coordinate with National Grid and Highway Department's involvement.	н	Ongoing
Ragged Hill			V	Power outrages, could use tree trimming.	1) Coordinate with National Grid and Highway Department's involvement.	н	Ongoing
Shelter Planning	Warren (Quaboag Regional HS)	School District		Regional High School-shelter.	1) CERT 2) Update regional shelter plan as needed.		
	Town Hall		S	Warming Center-if need be the town hall	<ol> <li>Get a better generator for emergency situations. 2) Try to pursue the federal funding 3)</li> <li>Elementary scholl as an alternative warming center?</li> </ol>	M-H	Short

Evacuation Plan	Town wide	Town	v	Needs update. (Police Chief)	1) Update the evacuation plan for the town. 2) CMRPC help with the process.	High	Ongoing
Non-profit EMS	West Main St.	Private		Separate from Town, generally strong. Local hospital just shut down (Ware) leading to longer response times. ALS training needed.	1) Continue to partner and coordinate.	М	Ongoing
Community awareness of hazards/climate				Shelter Planning Needed. People was unable to bring their pet with them.	1) Try to operate the program and educate the residents on what to bring during the emergency.	Н	Short
Zoning/Comprehensive bylaw review (already got grants)			V	Zoning, stormwater by-laws need staff to help keep things up to date and in compliance with state regs. Site Plan Review should be mandatory and start from earlier. Lack of coordination among boards and commissions. Vulnerable to litigation.	1) Implement the plan reviews. 2) Education program for the board members on their duty and resources.	Η	Ongoing
guidebook for board/commission members and							
secretaries Environmental		I	I				
Invasive maples replaced			s	replace/removal tree program, maintaining	Encourage the use of native species through bylaw review to prevent future issues		
Lake Wickaboag			s/v	high bioversity, signs of improvement, conce	greater education, infrastructure, do some testing and monitoring of the lake to get specifics on		
invasive weeds in lake wickaboag			v		issues and what can be done, continue to test and perfrom weed control (weed treatment program during summer, more comprehensive testing and monitoring, solutions to prevent future		
lawn runoff into lake			v	would like to host workshops, fertilizers,	fertilizers into lake, cotinued education on why these programs are important, creation or find best examples of "best practice" areas on Lake		
Runoff	Around lakes,		V	Largely due to antiquated/non-existent	Can we channel rainwater off large buildings for irrigation? Or runoff into a rention area/park - coul		
Lake Wickabog		Public	S	#1 most valuable natural resource the town has. Is impacted by the stormwater management systems of the town and the aquifer that some of the town drinking water comes from is partially under the lake. Has some wetland and wildlife habitat around it.			

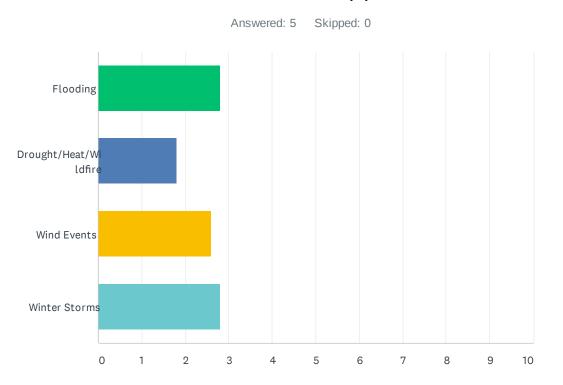
Wickaboag Lake	See map	Mixed	V	Sedimentation on the north end, seasonal algal blooms, septage in the lake. Attention on sedimentations especially on the north end of the lake. Concern about toxic edals and sediments.	1) Stormwater and septic assessment 2) Regulatory changes	
pesticide in quaboag river			v	possible issue with orchards (East of Rt 9, Co	start with testing and sampling of water to begin "investigation" if there is a possible issue	
unmainttained forests		private land	v	unmantained forests have high amounts of i		
large areas of protected land			s	large areas have been protected by land trus		
solar farms			v/s	need to address the long term effects, conce	explore possible regulations and update bylaws to protect town, improve enforcement,	
Quaboag River			v	pesticides, concerns with lake also deal with	explore regional opprotunities to coordinate river work, explore larger watershed resources	
large flood plain			s/v	large area to flood, river could overflow into	bylaw review? Updated building codes should consider areas within floodplains?	
wetlands		town	s	currently strong conservation effort to prote	education on importance of wetlands for flood control, responsibility of homeowners	
Forested land		State/ private	s	wildlife area near shea road, rt 9 (state and p	Covered above	
Wildfire			v	always concern due to recent droughts (late	forward looking zoning about requiring cisterns near future developments	
Mosquitos, ticks			v	Spray in 2019 (State) due to FFF growing co	continue to maintain wetlands, look for altnerative forms of mitagation, eliminate unnatural forms of nesting areas, communication and outreach, build bat houses near wetlands	

v

Habitiat

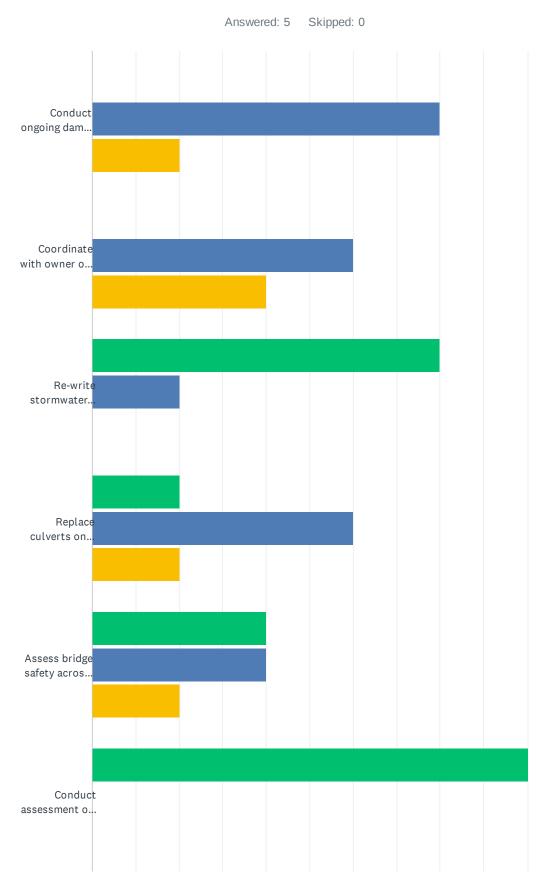
threats (oxygenation, pH) to water quality quantify and qualify the problem, continue to perform mitagation

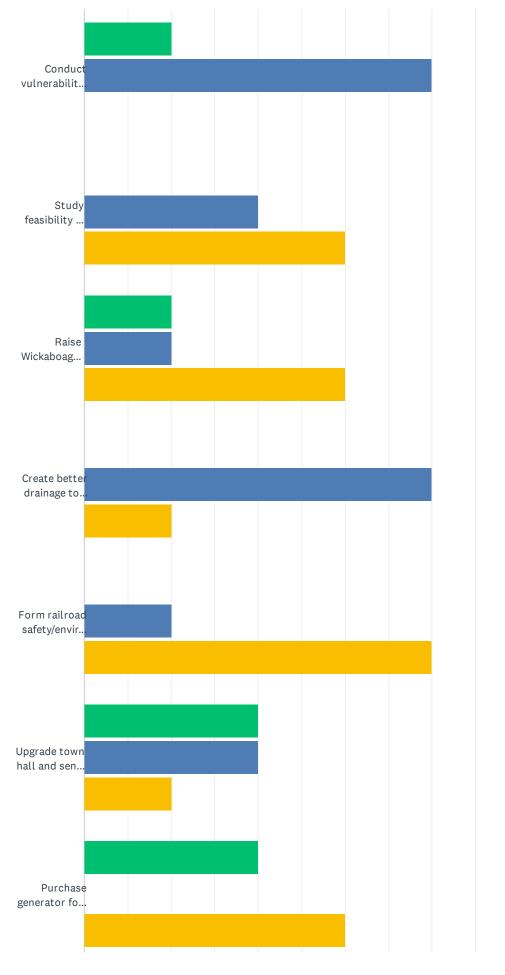
# Q1 Please rank the following hazards in order from most concern (1) to least concern (4):

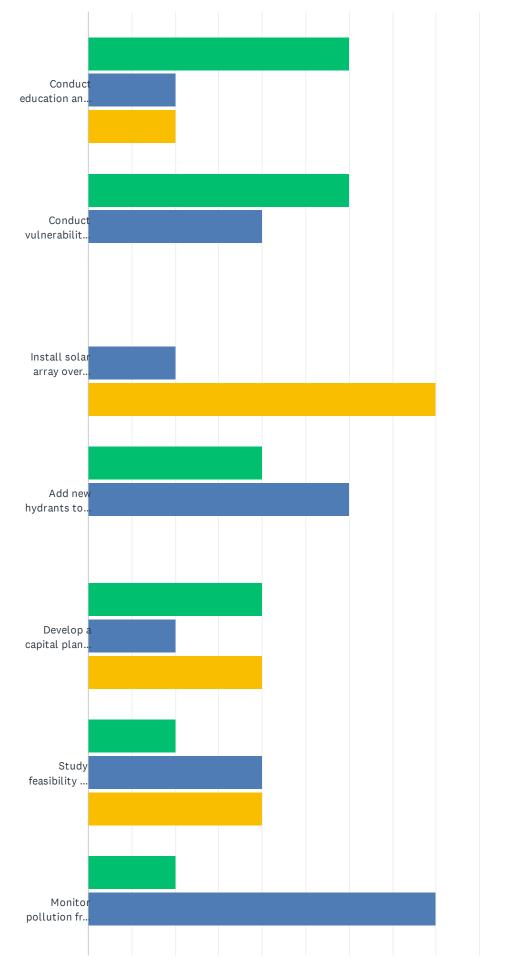


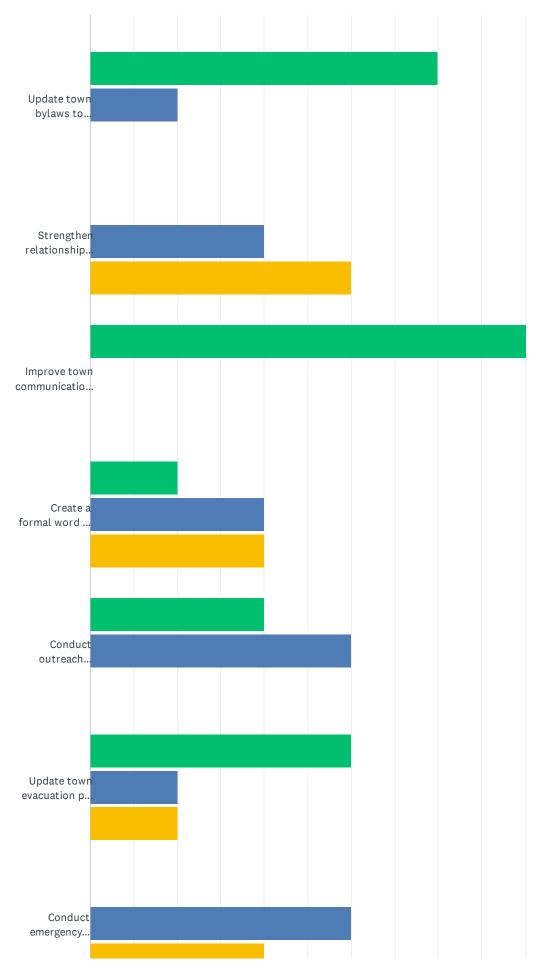
	1	2	3	4	TOTAL	SCORE
Flooding	40.00% 2	20.00% 1	20.00% 1	20.00% 1	5	2.80
Drought/Heat/Wildfire	0.00% 0	20.00% 1	40.00% 2	40.00% 2	5	1.80
Wind Events	20.00% 1	40.00% 2	20.00% 1	20.00% 1	5	2.60
Winter Storms	40.00% 2	20.00% 1	20.00% 1	20.00% 1	5	2.80

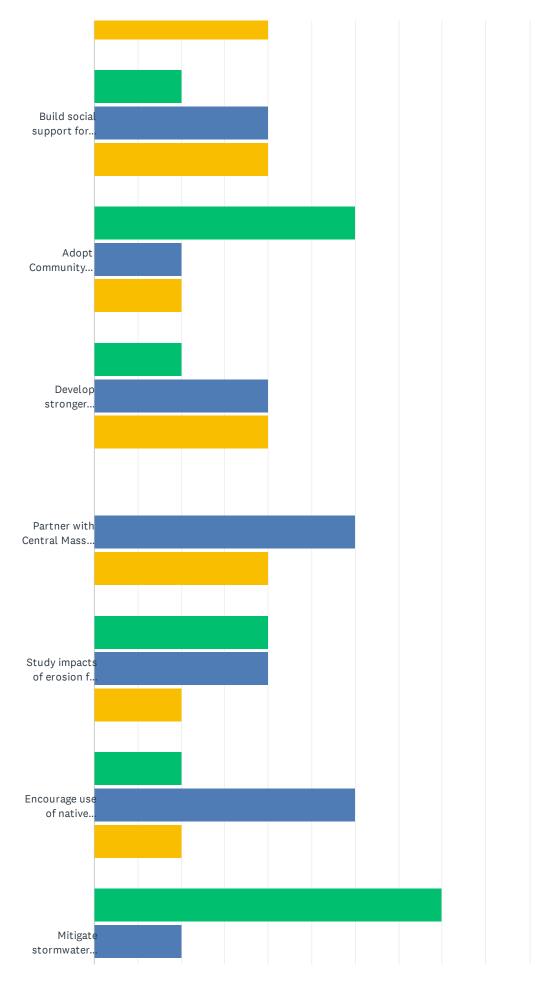
# Q2 Please vote on whether the following actions should be High, Medium, or Low priorities for the town.



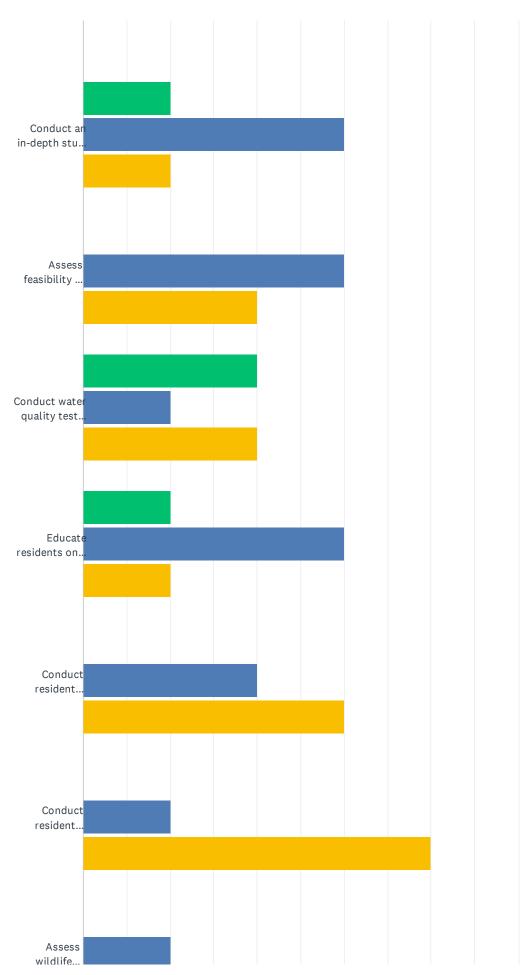


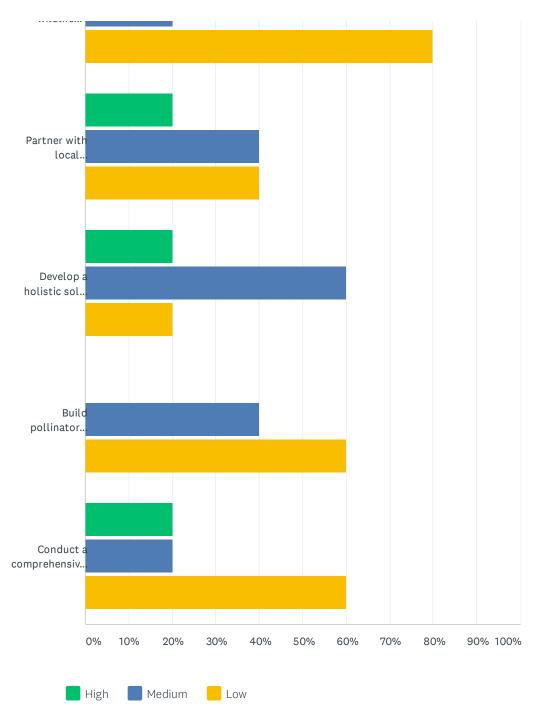






West Brookfield Municipal Vulnerability Preparedness Program



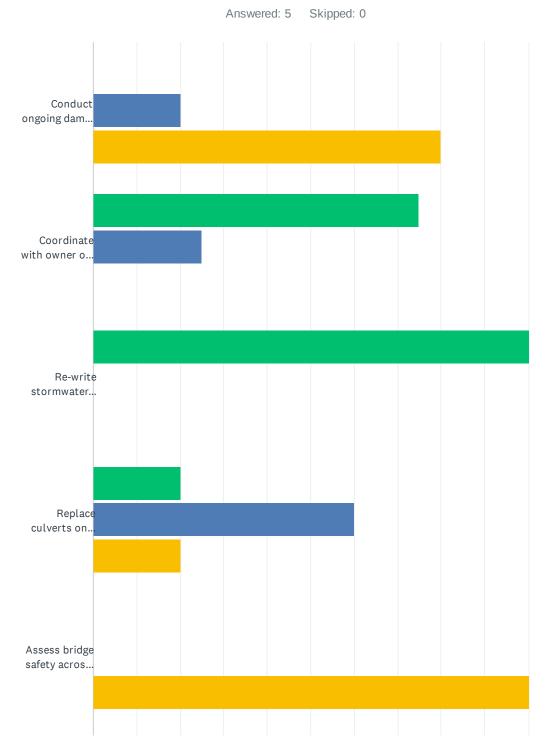


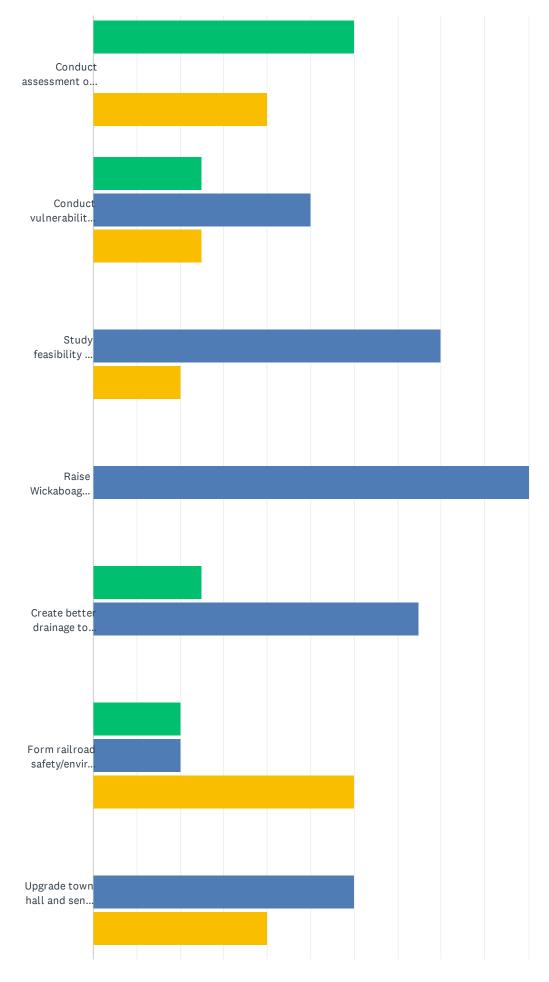
	HIGH	MEDIUM	LOW	TOTAL
Conduct ongoing dam maintenance at Lake Wickaboag AND/OR update dam controls	0.00% 0	80.00% 4	20.00% 1	5
Coordinate with owner of inoperable Wright Mill Brook dam downstream from Wickaboag dam in Warren, which currently limits water release from lake	0.00% 0	60.00% 3	40.00% 2	5
Re-write stormwater bylaw to include special considerations for solar arrays AND/OR develop a conservation bylaw AND/OR conduct detailed assessment of stormwater drainage across town to inform bylaw updates, determine needs for new stormwater system and develop ideas for future nature-based projects to improve drainage	80.00% 4	20.00% 1	0.00% 0	5
Replace culverts on Wickaboag Valley and Church Street, Shea Road and Kennedy Road with natural drainage systems	20.00% 1	60.00% 3	20.00% 1	5
Assess bridge safety across town	40.00% 2	40.00% 2	20.00% 1	5
Conduct assessment of existing condition of town drinking water supply as well as future system capacity needs based on climate impacts and future development scenarios AND/OR upgrade treatment plant AND/OR resolve town well #2 issues with contaminants, water supply/drought, flood, and pollution issues	100.00% 5	0.00% 0	0.00% 0	5
Conduct vulnerability assessment of any issues concerning point-based pollution and private wells	20.00% 1	80.00% 4	0.00% 0	5
Study feasibility of connecting homes with private septic tanks to shared system AND/OR set aside funding to aid homeowners unable to replace private septic tanks AND/OR study whether any private sewer systems are in "high hazard" areas AND/OR Explore feasibility and funding opportunities for joining West Brookfield with a neighboring town's sewage system (like Warren or North Brookfield)	0.00% 0	40.00% 2	60.00% 3	5
Raise Wickaboag Valley Road to alleviate flooding	20.00% 1	20.00% 1	60.00% 3	5
Create better drainage to alleviate flooding around Front St and Senior Center	0.00% 0	80.00% 4	20.00% 1	5
Form railroad safety/environment coalition with nearby towns along rail line AND/OR engage with railroad company directly about safety concerns	0.00% 0	20.00% 1	80.00% 4	5
Upgrade town hall and senior center buildings to use buildings as warming centers AND/OR explore feasibility of using elementary school as an alternate site AND/OR pursue funding and purchase back-up generators for critical facilities	40.00% 2	40.00% 2	20.00% 1	5
Purchase generator for elementary school to improve use as a shelter site AND/OR explore green alternatives like a solar powered battery backup system for elementary school	40.00% 2	0.00% 0	60.00% 3	5
Conduct education and outreach program to to private road owners around lake to address maintenance issues and stormwater runoff issues leading to sedimentation and pollution of lake	60.00% 3	20.00% 1	20.00% 1	5
Conduct vulnerability assessment of power grid and cable lines to identify high risk areas for outages to inform need for backup generators or shelters AND/OR continue to work with utility companies AND/OR develop a street tree inventory to help prevent downed lines	60.00% 3	40.00% 2	0.00% 0	5
Install solar array over elementary school parking area	0.00% 0	20.00% 1	80.00% 4	5
Add new hydrants to improve rural firefighting capabilities AND/OR update subdivision bylaws to require cisterns or fire water sources near future developments	40.00% 2	60.00% 3	0.00% 0	5
Develop a capital plan and pursue funding to support major updates to town-owned buildings	40.00% 2	20.00% 1	40.00% 2	5
Study feasibility and options for new public safety complex and build public campaign to support building new complex	20.00% 1	40.00% 2	40.00% 2	5

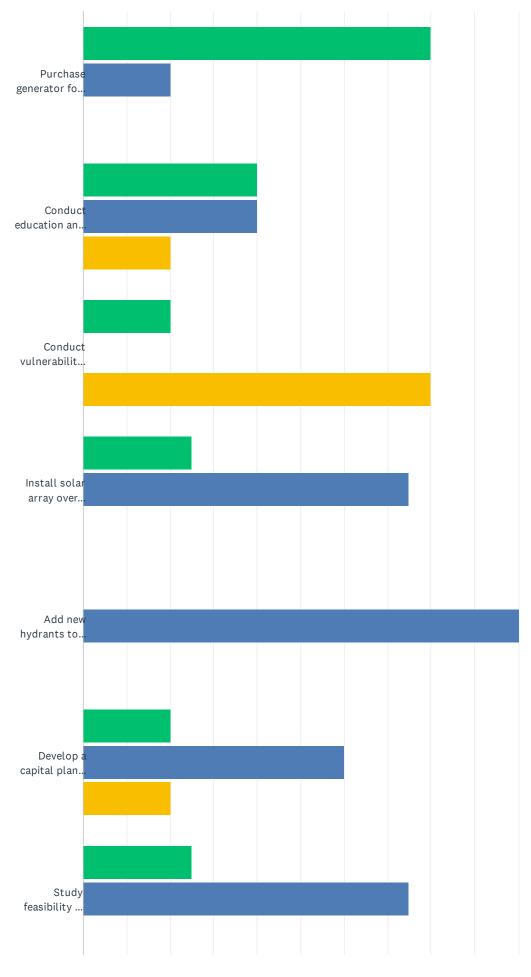
Monitor pollution from dump site along Bradish Brook, the lake and wells surrounding existing contamination area AND/OR verify brownfield status of Old Corset factory with Mass DEP	20.00% 1	80.00% 4	0.00% 0	5
Update town bylaws to require public works projects to comply with Stormwater Management bylaws	80.00% 4	20.00% 1	0.00% 0	5
Strengthen relationship with Quaboag nursing home administration to better understand their emergency plan and assistance needed from the town AND/OR foster town relationship with Brookhaven rest home	0.00% 0	40.00% 2	60.00% 3	5
Improve town communication through: improving town website AND/OR adding an information board near town common (similar to N. Brookfield's) AND/OR improving transparency between boards AND/OR pursuing funding for town radio system upgrades AND/OR fix CodeRed link on town's website AND/OR fix cable access for residents without a cell phone or computer	100.00% 5	0.00% 0	0.00% 0	5
Create a formal word of mouth network or "phone tree" to share important messages AND/OR use a neighbor-to-neighbor monitoring system to check on town residents during emergencies (potential service opportunity for high-school seniors)	20.00% 1	40.00% 2	40.00% 2	5
Conduct outreach campaign to improve citizen knowledge of shelter locations and emergency systems in preparation for future, and potentially new, types of emergencies (i.e., tornados) AND/OR educate residents on what they can and cannot bring to emergency shelters (i.e., pets)	40.00% 2	60.00% 3	0.00% 0	5
Update town evacuation plan and ensure adequate shelters are available for residents	60.00% 3	20.00% 1	20.00% 1	5
Conduct emergency planning and awareness outreach to mobile homeowners and residents AND/OR ensure mobile home parks have an emergency evacuation plan	0.00% 0	60.00% 3	40.00% 2	5
Build social support for low-income residents AND/OR explore zoning solutions to expand affordable housing options	20.00% 1	40.00% 2	40.00% 2	5
Adopt Community Preservation Act to open new funding opportunities for upkeep of historic town hall	60.00% 3	20.00% 1	20.00% 1	5
Develop stronger network among local non-profits to foster open communication	20.00% 1	40.00% 2	40.00% 2	5
Partner with Central Mass Grown & Agricultural Commission to provide information about town farms on town website AND/OR shift Wednesday market to Saturday or find a way to better highlight farming community	0.00% 0	60.00% 3	40.00% 2	5
Study impacts of erosion from solar arrays AND/OR update bylaws to address erosion and unwanted chemicals caused by solar projects AND/OR strengthen solar bylaws to increase regulation of solar projects	40.00% 2	40.00% 2	20.00% 1	5
Encourage use of native species in town bylaws to prevent future invasive species and tree health problems	20.00% 1	60.00% 3	20.00% 1	5
Mitigate stormwater run-off and water quality issues in lake with education program for lake residents on runoff issues AND/OR demonstration rain garden on town land AND/OR education program best practices for shoreline landscaping AND/OR promote alternative fertilizer solutions that don't lead to pollution	80.00% 4	20.00% 1	0.00% 0	5
Conduct an in-depth study of lake water quality to identify specific pollution sources	20.00% 1	60.00% 3	20.00% 1	5
Assess feasibility of utilizing roof runoff of large town buildings as a storable water source for landscaping AND/OR channel building run-off water into landscaping features designed to flood as way to prevent damaging flooding of roadways or buildings	0.00% 0	60.00% 3	40.00% 2	5
Conduct water quality testing in Quaboag river to check for potential agricultural runoff problem AND/OR explore opportunities to coordinate on river work at watershed level	40.00% 2	20.00% 1	40.00% 2	5
Educate residents on the importance of wetlands for flood control and the responsibility of homeowners to maintain wetland health	20.00% 1	60.00% 3	20.00% 1	5

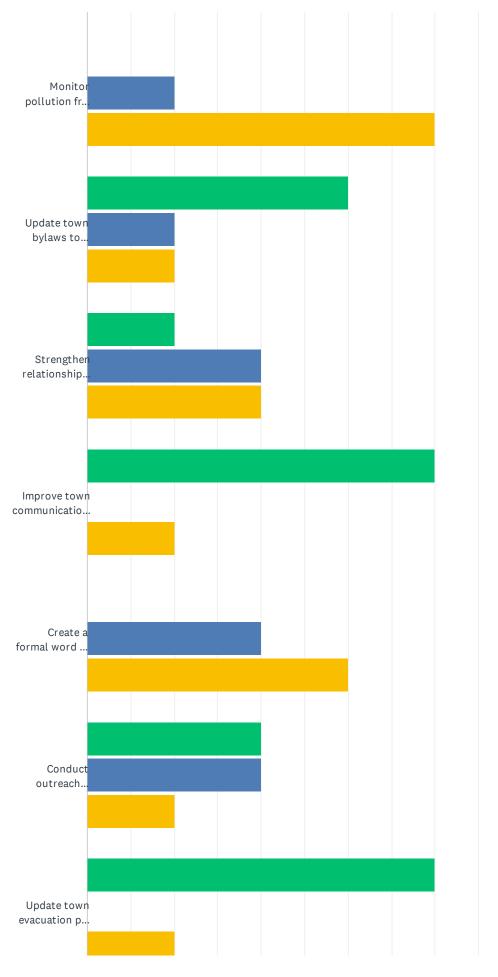
Conduct resident outreach about mosquito/tick control AND/OR explore alternative forms of mitigation AND/OR build bat houses near wetlands AND/OR work to eliminate unnatural nesting areas (i.e. stagnant water in buckets)	0.00% 0	40.00% 2	60.00% 3	5
Conduct resident outreach about normal vs abnormal wildlife interactions to prevent unnecessary animal control issues	0.00% 0	20.00% 1	80.00% 4	5
Assess wildlife corridors to better understand ecological value of those areas and plan for ways to protect wildlife (ex. Turkey Road across Route 9)	0.00% 0	20.00% 1	80.00% 4	5
Partner with local organizations/land trusts to educate residents about conservation restrictions and best forest management practices AND/OR find ways to better support the work that local land trusts/conservation organizations are already doing AND/OR provide town website space to highlight land trusts/conservation organization organization work	20.00% 1	40.00% 2	40.00% 2	5
Develop a holistic solid waste management plan to mitigate dumping, litter, road damage from trash pick-up, and dumping AND/OR educate town residents/create posters on how to report dumping issues AND/OR organize town collection days for large waste to prevent dumping AND/OR explore creative recycling options (like using tires for plant pots or curb bump outs	20.00% 1	60.00% 3	20.00% 1	5
Build pollinator gardens AND/OR do selective mowing (mow with sheep) in public green spaces AND/OR provide informational content on pollinator benefits and ways to encourage pollinator health	0.00% 0	40.00% 2	60.00% 3	5
Conduct a comprehensive assessment of wetland in West Brookfield State forest, its ecological functions, and water quality (toxic sediments level)	20.00% 1	20.00% 1	60.00% 3	5

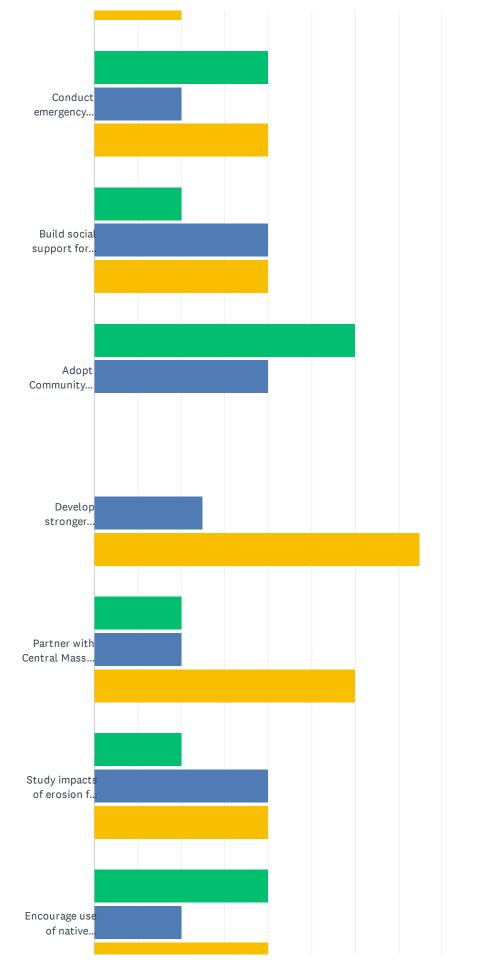
Q3 Please vote on whether the following actions are Short, Long, or Ongoing projects. Short-term projects are straightforward and can be completed within two years. Long-term projects take a longer time to complete, may require initial studies or public engagement strategies, and tend to be more complex. Ongoing projects are never truly completed. They require continuous action from year to year in order to maintain resilience.

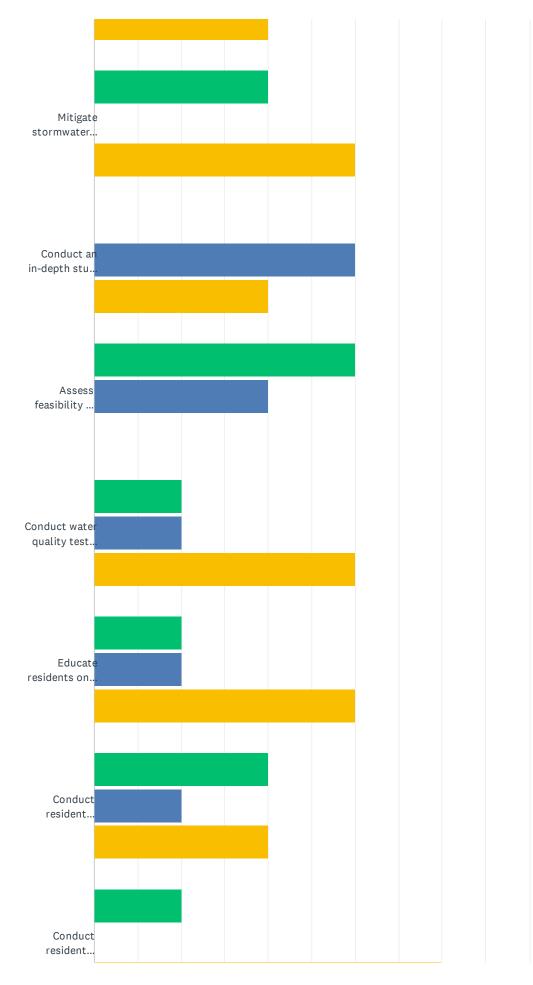


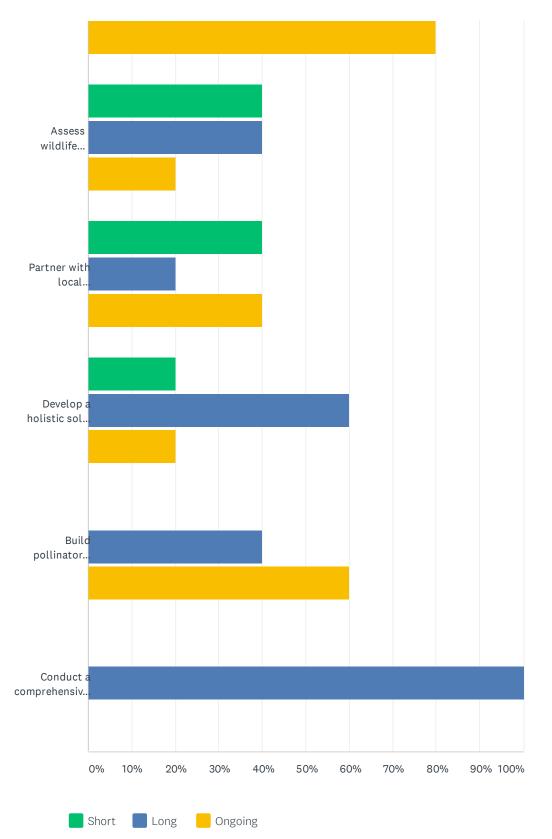












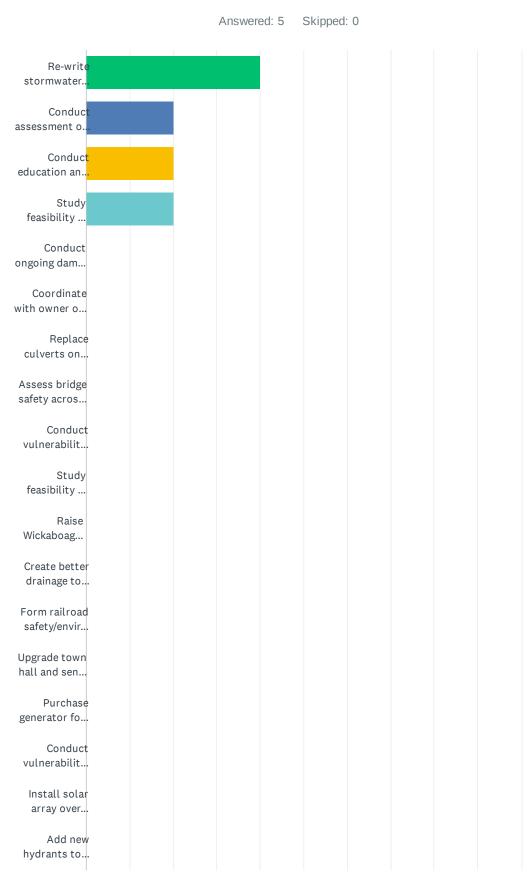
West Brookfield Municipal Vulnerability Preparedness Program

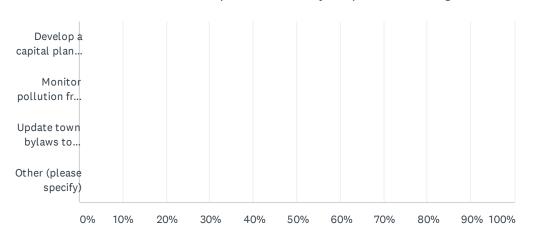
	SHORT	LONG	ONGOING	TOTAL
Or a dust survive dans an internet at Labe Mislackers AND/OD undets dans controls				TOTAL
Conduct ongoing dam maintenance at Lake Wickaboag AND/OR update dam controls	0.00% 0	20.00% 1	80.00% 4	5
Coordinate with owner of inoperable Wright Mill Brook dam downstream from Wickaboag dam in Warren, which currently limits water release from lake	75.00% 3	25.00% 1	0.00% 0	4
Re-write stormwater bylaw to include special considerations for solar arrays AND/OR develop a conservation bylaw AND/OR conduct detailed assessment of stormwater drainage across town to inform bylaw updates, determine needs for new stormwater system and develop ideas for future nature-based projects to improve drainage	100.00% 5	0.00%	0.00% 0	5
Replace culverts on Wickaboag Valley and Church Street, Shea Road and Kennedy Road with natural drainage systems	20.00% 1	60.00% 3	20.00% 1	5
Assess bridge safety across town	0.00% 0	0.00% 0	100.00% 5	5
Conduct assessment of existing condition of town drinking water supply as well as future system capacity needs based on climate impacts and future development scenarios AND/OR upgrade treatment plant AND/OR resolve town well #2 issues with contaminants, water supply/drought, flood, and pollution issues	60.00% 3	0.00%	40.00% 2	5
Conduct vulnerability assessment of any issues concerning point-based pollution and private wells	25.00% 1	50.00% 2	25.00% 1	4
Study feasibility of connecting homes with private septic tanks to shared system AND/OR set aside funding to aid homeowners unable to replace private septic tanks AND/OR study whether any private sewer systems are in "high hazard" areas AND/OR Explore feasibility and funding opportunities for joining West Brookfield with a neighboring town's sewage system (like Warren or North Brookfield)	0.00%	80.00% 4	20.00% 1	5
Raise Wickaboag Valley Road to alleviate flooding	0.00% 0	100.00% 4	0.00% 0	4
Create better drainage to alleviate flooding around Front St and Senior Center	25.00% 1	75.00% 3	0.00% 0	4
Form railroad safety/environment coalition with nearby towns along rail line AND/OR engage with railroad company directly about safety concerns	20.00% 1	20.00% 1	60.00% 3	5
Upgrade town hall and senior center buildings to use buildings as warming centers AND/OR explore feasibility of using elementary school as an alternate site AND/OR pursue funding and purchase back-up generators for critical facilities	0.00% 0	60.00% 3	40.00% 2	5
Purchase generator for elementary school to improve use as a shelter site AND/OR explore green alternatives like a solar powered battery backup system for elementary school	80.00% 4	20.00% 1	0.00% 0	5
Conduct education and outreach program to to private road owners around lake to address maintenance issues and stormwater runoff issues leading to sedimentation and pollution of lake	40.00% 2	40.00% 2	20.00% 1	5
Conduct vulnerability assessment of power grid and cable lines to identify high risk areas for outages to inform need for backup generators or shelters AND/OR continue to work with utility companies AND/OR develop a street tree inventory to help prevent downed lines	20.00% 1	0.00% 0	80.00% 4	5
Install solar array over elementary school parking area	25.00% 1	75.00% 3	0.00% 0	4
Add new hydrants to improve rural firefighting capabilities AND/OR update subdivision bylaws to require cisterns or fire water sources near future developments	0.00% 0	100.00% 5	0.00% 0	5
Develop a capital plan and pursue funding to support major updates to town-owned buildings	20.00% 1	60.00% 3	20.00% 1	5
Study feasibility and options for new public safety complex and build public campaign to support building new complex	25.00% 1	75.00% 3	0.00% 0	4

Monitor pollution from dump site along Bradish Brook, the lake and wells surrounding existing contamination area AND/OR verify brownfield status of Old Corset factory with Mass DEP	0.00% 0	20.00% 1	80.00% 4	5
Update town bylaws to require public works projects to comply with Stormwater Management bylaws	60.00% 3	20.00% 1	20.00% 1	5
Strengthen relationship with Quaboag nursing home administration to better understand their emergency plan and assistance needed from the town AND/OR foster town relationship with Brookhaven rest home	20.00% 1	40.00% 2	40.00% 2	5
Improve town communication through: improving town website AND/OR adding an information board near town common (similar to N. Brookfield's) AND/OR improving transparency between boards AND/OR pursuing funding for town radio system upgrades AND/OR fix CodeRed link on town's website AND/OR fix cable access for residents without a cell phone or computer	80.00% 4	0.00%	20.00% 1	5
Create a formal word of mouth network or "phone tree" to share important messages AND/OR use a neighbor-to-neighbor monitoring system to check on town residents during emergencies (potential service opportunity for high-school seniors)	0.00% 0	40.00% 2	60.00% 3	5
Conduct outreach campaign to improve citizen knowledge of shelter locations and emergency systems in preparation for future, and potentially new, types of emergencies (i.e., tornados) AND/OR educate residents on what they can and cannot bring to emergency shelters (i.e., pets)	40.00% 2	40.00% 2	20.00% 1	5
Update town evacuation plan and ensure adequate shelters are available for residents	80.00% 4	0.00% 0	20.00% 1	5
Conduct emergency planning and awareness outreach to mobile homeowners and residents AND/OR ensure mobile home parks have an emergency evacuation plan	40.00% 2	20.00% 1	40.00% 2	5
Build social support for low-income residents AND/OR explore zoning solutions to expand affordable housing options	20.00% 1	40.00% 2	40.00% 2	5
Adopt Community Preservation Act to open new funding opportunities for upkeep of historic town hall	60.00% 3	40.00% 2	0.00% 0	5
Develop stronger network among local non-profits to foster open communication	0.00% 0	25.00% 1	75.00% 3	4
Partner with Central Mass Grown & Agricultural Commission to provide information about town farms on town website AND/OR shift Wednesday market to Saturday or find a way to better highlight farming community	20.00% 1	20.00% 1	60.00% 3	5
Study impacts of erosion from solar arrays AND/OR update bylaws to address erosion and unwanted chemicals caused by solar projects AND/OR strengthen solar bylaws to increase regulation of solar projects	20.00% 1	40.00% 2	40.00% 2	5
Encourage use of native species in town bylaws to prevent future invasive species and tree health problems	40.00% 2	20.00% 1	40.00% 2	5
Mitigate stormwater run-off and water quality issues in lake with education program for lake residents on runoff issues AND/OR demonstration rain garden on town land AND/OR education program best practices for shoreline landscaping AND/OR promote alternative fertilizer solutions that don't lead to pollution	40.00% 2	0.00% 0	60.00% 3	5
Conduct an in-depth study of lake water quality to identify specific pollution sources	0.00% 0	60.00% 3	40.00% 2	5
Assess feasibility of utilizing roof runoff of large town buildings as a storable water source for landscaping AND/OR channel building run-off water into landscaping features designed to flood as way to prevent damaging flooding of roadways or buildings	60.00% 3	40.00% 2	0.00% 0	5
Conduct water quality testing in Quaboag river to check for potential agricultural runoff problem AND/OR explore opportunities to coordinate on river work at watershed level	20.00% 1	20.00% 1	60.00% 3	5
Educate residents on the importance of wetlands for flood control and the responsibility of homeowners to maintain wetland health	20.00% 1	20.00% 1	60.00% 3	5

Conduct resident outreach about mosquito/tick control AND/OR explore alternative forms of mitigation AND/OR build bat houses near wetlands AND/OR work to eliminate unnatural nesting areas (i.e. stagnant water in buckets)	40.00% 2	20.00% 1	40.00% 2	5
Conduct resident outreach about normal vs abnormal wildlife interactions to prevent unnecessary animal control issues	20.00% 1	0.00% 0	80.00% 4	5
Assess wildlife corridors to better understand ecological value of those areas and plan for ways to protect wildlife (ex. Turkey Road across Route 9)	40.00% 2	40.00% 2	20.00% 1	5
Partner with local organizations/land trusts to educate residents about conservation restrictions and best forest management practices AND/OR find ways to better support the work that local land trusts/conservation organizations are already doing AND/OR provide town website space to highlight land trusts/conservation organization organization work	40.00% 2	20.00% 1	40.00% 2	5
Develop a holistic solid waste management plan to mitigate dumping, litter, road damage from trash pick-up, and dumping AND/OR educate town residents/create posters on how to report dumping issues AND/OR organize town collection days for large waste to prevent dumping AND/OR explore creative recycling options (like using tires for plant pots or curb bump outs	20.00% 1	60.00% 3	20.00% 1	5
Build pollinator gardens AND/OR do selective mowing (mow with sheep) in public green spaces AND/OR provide informational content on pollinator benefits and ways to encourage pollinator health	0.00% 0	40.00% 2	60.00% 3	5
Conduct a comprehensive assessment of wetland in West Brookfield State forest, its ecological functions, and water quality (toxic sediments level)	0.00% 0	100.00% 5	0.00% 0	5

# Q4 Please vote for what you believe is the top priority INFRASTRUCTURAL action from the list below.

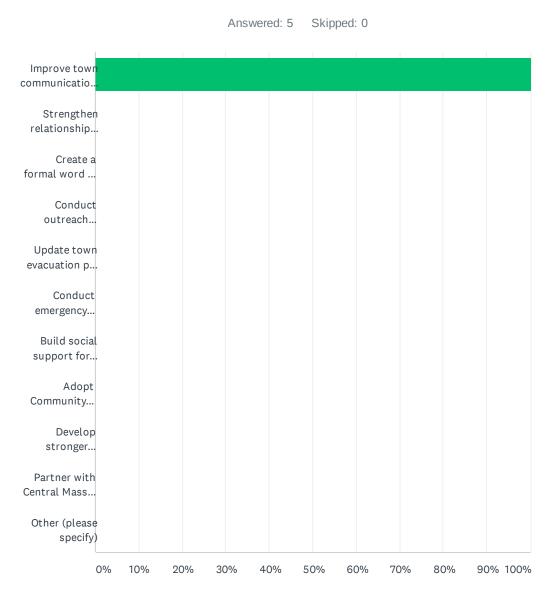




ANSWER CHOICES	RESPON	SES
Re-write stormwater bylaw to include special considerations for solar arrays AND/OR develop a conservation bylaw AND/OR conduct detailed assessment of stormwater drainage across town to inform bylaw updates, determine needs for new stormwater system and develop ideas for future nature-based projects to improve drainage	40.00%	2
Conduct assessment of existing condition of town drinking water supply as well as future system capacity needs based on climate impacts and future development scenarios AND/OR upgrade treatment plant AND/OR resolve town well #2 issues with contaminants, water supply/drought, flood, and pollution issues	20.00%	1
Conduct education and outreach program to to private road owners around lake to address maintenance issues and stormwater runoff issues leading to sedimentation and pollution of lake	20.00%	1
Study feasibility and options for new public safety complex and build public campaign to support building new complex	20.00%	1
Conduct ongoing dam maintenance at Lake Wickaboag AND/OR update dam controls	0.00%	0
Coordinate with owner of inoperable Wright Mill Brook dam downstream from Wickaboag dam in Warren, which currently limits water release from lake	0.00%	0
Replace culverts on Wickaboag Valley and Church Street, Shea Road and Kennedy Road with natural drainage systems	0.00%	0
Assess bridge safety across town	0.00%	0
Conduct vulnerability assessment of any issues concerning point-based pollution and private wells	0.00%	0
Study feasibility of connecting homes with private septic tanks to shared system AND/OR set aside funding to aid homeowners unable to replace private septic tanks AND/OR study whether any private sewer systems are in "high hazard" areas AND/OR Explore feasibility and funding opportunities for joining West Brookfield with a neighboring town's sewage system (like Warren or North Brookfield)	0.00%	0
Raise Wickaboag Valley Road to alleviate flooding	0.00%	0
Create better drainage to alleviate flooding around Front St and Senior Center	0.00%	0
Form railroad safety/environment coalition with nearby towns along rail line AND/OR engage with railroad company directly about safety concerns	0.00%	0
Upgrade town hall and senior center buildings to use buildings as warming centers AND/OR explore feasibility of using elementary school as an alternate site AND/OR pursue funding and purchase back-up generators for critical facilities	0.00%	0
Purchase generator for elementary school to improve use as a shelter site AND/OR explore green alternatives like a solar powered battery backup system for elementary school	0.00%	0
Conduct vulnerability assessment of power grid and cable lines to identify high risk areas for outages to inform need for backup generators or shelters AND/OR continue to work with utility companies AND/OR develop a street tree inventory to help prevent downed lines	0.00%	0
Install solar array over elementary school parking area	0.00%	0
Add new hydrants to improve rural firefighting capabilities AND/OR update subdivision bylaws to require cisterns or fire water sources near future developments	0.00%	0
Develop a capital plan and pursue funding to support major updates to town-owned buildings	0.00%	0
Monitor pollution from dump site along Bradish Brook, the lake and wells surrounding existing contamination area AND/OR verify brownfield status of Old Corset factory with Mass DEP	0.00%	0
Update town bylaws to require public works projects to comply with Stormwater Management bylaws	0.00%	0
Other (please specify)	0.00%	0
TOTAL		5

#	OTHER (PLEASE SPECIFY)	DATE
	There are no responses.	

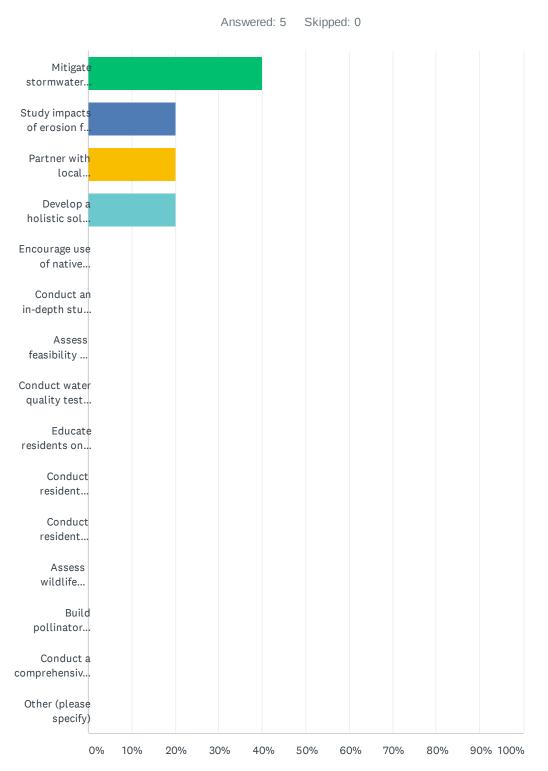
## Q5 Please vote for what you believe is the top priority SOCIETAL action from the list below:



ANSWER CHOICES		RESPONS	ES
Improve town communication through: improving town website AND/OR adding an information board near town c (similar to N. Brookfield's) AND/OR improving transparency between boards AND/OR pursuing funding for town r system upgrades AND/OR fix CodeRed link on town's website AND/OR fix cable access for residents without a phone or computer	adio	100.00%	5
Strengthen relationship with Quaboag nursing home administration to better understand their emergency plan and assistance needed from the town AND/OR foster town relationship with Brookhaven rest home	d	0.00%	0
Create a formal word of mouth network or "phone tree" to share important messages AND/OR use a neighbor-to- neighbor monitoring system to check on town residents during emergencies (potential service opportunity for hig school seniors)		0.00%	0
Conduct outreach campaign to improve citizen knowledge of shelter locations and emergency systems in prepar for future, and potentially new, types of emergencies (i.e., tornados) AND/OR educate residents on what they ca cannot bring to emergency shelters (i.e., pets)		0.00%	0
Update town evacuation plan and ensure adequate shelters are available for residents		0.00%	0
Conduct emergency planning and awareness outreach to mobile homeowners and residents AND/OR ensure mo home parks have an emergency evacuation plan	bile	0.00%	0
Build social support for low-income residents AND/OR explore zoning solutions to expand affordable housing opti	tions	0.00%	0
Adopt Community Preservation Act to open new funding opportunities for upkeep of historic town hall		0.00%	0
Develop stronger network among local non-profits to foster open communication		0.00%	0
Partner with Central Mass Grown & Agricultural Commission to provide information about town farms on town we AND/OR shift Wednesday market to Saturday or find a way to better highlight farming community	ebsite	0.00%	0
Other (please specify)		0.00%	0
TOTAL			5
# OTHER (PLEASE SPECIFY)	DATE		
# VINER (FLEASE SPECIFI)	DATE		

There are no responses.

## Q6 Please vote for what you believe is the top priority ENVIRONMENTAL action from the list below:

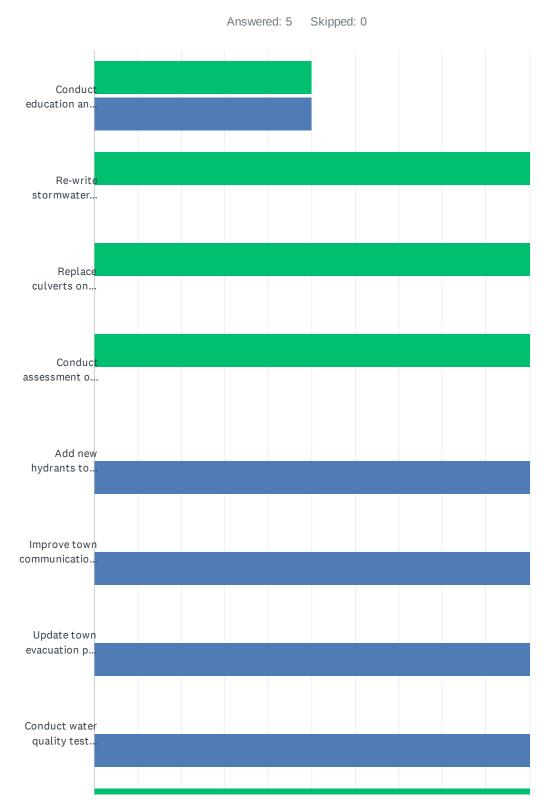


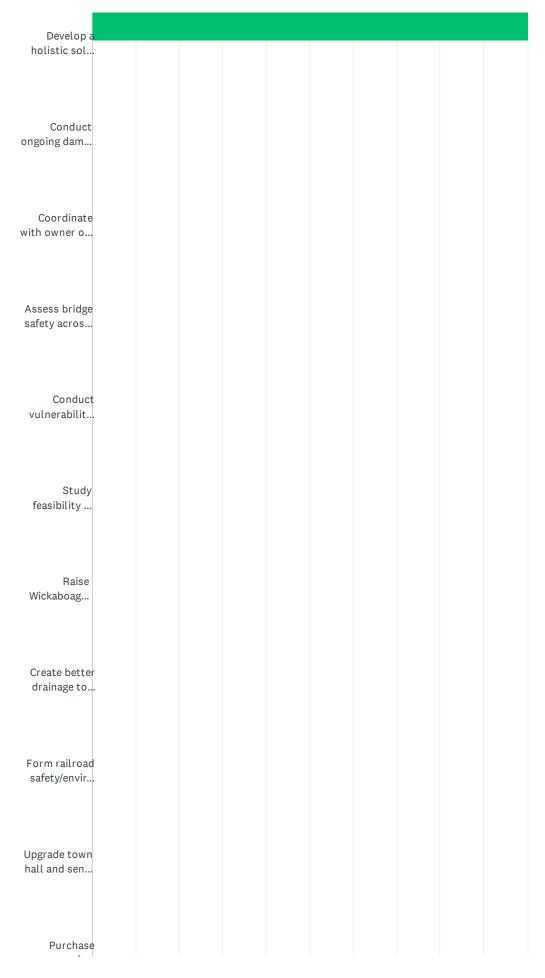
ANSWER CH	IOICES		RESPONS	ES
AND/OR dem	nwater run-off and water quality issues in lake with education program for lake residents on runoff i ionstration rain garden on town land AND/OR education program best practices for shoreline landso note alternative fertilizer solutions that don't lead to pollution		40.00%	2
	s of erosion from solar arrays AND/OR update bylaws to address erosion and unwanted chemicals cts AND/OR strengthen solar bylaws to increase regulation of solar projects	caused	20.00%	1
management	ocal organizations/land trusts to educate residents about conservation restrictions and best forest practices AND/OR find ways to better support the work that local land trusts/conservation organiza- bing AND/OR provide town website space to highlight land trusts/conservation organization work	ations	20.00%	1
dumping ANE	listic solid waste management plan to mitigate dumping, litter, road damage from trash pick-up, and D/OR educate town residents/create posters on how to report dumping issues AND/OR organize tow rs for large waste to prevent dumping AND/OR explore creative recycling options (like using tires for pump outs	wn	20.00%	1
Encourage us	se of native species in town bylaws to prevent future invasive species and tree health problems		0.00%	0
Conduct an ir	n-depth study of lake water quality to identify specific pollution sources		0.00%	0
	bility of utilizing roof runoff of large town buildings as a storable water source for landscaping AND/ ing run-off water into landscaping features designed to flood as way to prevent damaging flooding o buildings		0.00%	0
	er quality testing in Quaboag river to check for potential agricultural runoff problem AND/OR explore to coordinate on river work at watershed level	9	0.00%	0
Educate resid wetland healt	lents on the importance of wetlands for flood control and the responsibility of homeowners to main h	ain	0.00%	0
	dent outreach about mosquito/tick control AND/OR explore alternative forms of mitigation AND/OR ear wetlands AND/OR work to eliminate unnatural nesting areas (i.e. stagnant water in buckets)	build	0.00%	0
Conduct resid	lent outreach about normal vs abnormal wildlife interactions to prevent unnecessary animal control	issues	0.00%	0
	fe corridors to better understand ecological value of those areas and plan for ways to protect wildlif across Route 9)	e (ex.	0.00%	0
	or gardens AND/OR do selective mowing (mow with sheep) in public green spaces AND/OR provide content on pollinator benefits and ways to encourage pollinator health	e	0.00%	0
	mprehensive assessment of wetland in West Brookfield State forest, its ecological functions, and sediments level)	water	0.00%	0
Other (please	specify)		0.00%	0
TOTAL				5
#	OTHER (PLEASE SPECIFY)	DATE		

There are no responses.

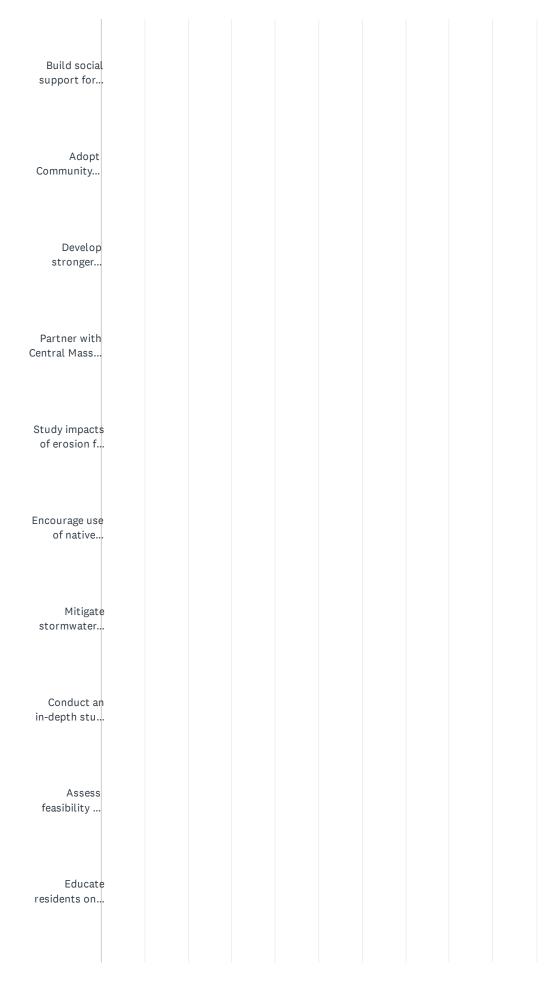
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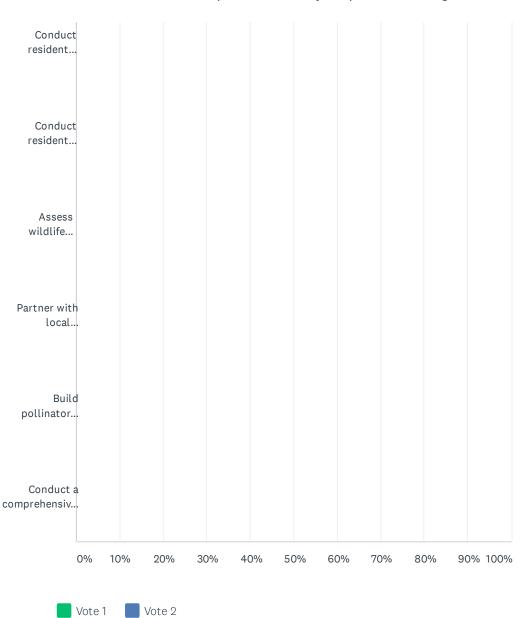
Q7 Please vote for TWO additional top priority actions that you believe West Brookfield should complete in order to build resilience. You may select actions from any category (Infrastructural, Societal, and Environmental), but do not select any actions that you already selected in the previous questions.





## generator fo... Conduct vulnerabilit... Install solar array over... Develop a capital plan... Study feasibility ... Monitor pollution fr... Update town bylaws to... Strengthen relationship... Create a formal word ... Conduct outreach... Conduct emergency...





	VOTE 1	VOTE 2	TOTAL
Conduct education and outreach program to to private road owners around lake to address maintenance issues and stormwater runoff issues leading to sedimentation and pollution of lake	50.00% 1	50.00% 1	2
Re-write stormwater bylaw to include special considerations for solar arrays AND/OR develop a conservation bylaw AND/OR conduct detailed assessment of stormwater drainage across town to inform bylaw updates, determine needs for new stormwater system and develop ideas for future nature-based projects to improve drainage	100.00% 1	0.00% 0	1
Replace culverts on Wickaboag Valley and Church Street, Shea Road and Kennedy Road with natural drainage systems	100.00% 1	0.00% 0	1
Conduct assessment of existing condition of town drinking water supply as well as future system capacity needs based on climate impacts and future development scenarios AND/OR upgrade treatment plant AND/OR resolve town well #2 issues with contaminants, water supply/drought, flood, and pollution issues	100.00% 1	0.00% 0	1
Add new hydrants to improve rural firefighting capabilities AND/OR update subdivision bylaws to require cisterns or fire water sources near future developments	0.00% 0	100.00% 1	1
Improve town communication through: improving town website AND/OR adding an information board near town common (similar to N. Brookfield's) AND/OR improving transparency between boards AND/OR pursuing funding for town radio system upgrades AND/OR fix CodeRed link on town's website AND/OR fix cable access for residents without a cell phone or computer	0.00% 0	100.00% 1	1
Update town evacuation plan and ensure adequate shelters are available for residents	0.00% 0	100.00% 1	1
Conduct water quality testing in Quaboag river to check for potential agricultural runoff problem AND/OR explore opportunities to coordinate on river work at watershed level	0.00% 0	100.00% 1	1
Develop a holistic solid waste management plan to mitigate dumping, litter, road damage from trash pick-up, and dumping AND/OR educate town residents/create posters on how to report dumping issues AND/OR organize town collection days for large waste to prevent dumping AND/OR explore creative recycling options (like using tires for plant pots or curb bump outs	100.00% 1	0.00% 0	1
Conduct ongoing dam maintenance at Lake Wickaboag AND/OR update dam controls	0.00% 0	0.00% 0	0
Coordinate with owner of inoperable Wright Mill Brook dam downstream from Wickaboag dam in Warren, which currently limits water release from lake	0.00% 0	0.00% 0	0
Assess bridge safety across town	0.00% 0	0.00% 0	0
Conduct vulnerability assessment of any issues concerning point-based pollution and private wells	0.00% 0	0.00% 0	0
Study feasibility of connecting homes with private septic tanks to shared system AND/OR set aside funding to aid homeowners unable to replace private septic tanks AND/OR study whether any private sewer systems are in "high hazard" areas AND/OR Explore feasibility and funding opportunities for joining West Brookfield with a neighboring town's sewage system (like Warren or North Brookfield)	0.00% 0	0.00% 0	0
Raise Wickaboag Valley Road to alleviate flooding	0.00% 0	0.00% 0	0
Create better drainage to alleviate flooding around Front St and Senior Center	0.00% 0	0.00% 0	0
Form railroad safety/environment coalition with nearby towns along rail line AND/OR engage with railroad company directly about safety concerns	0.00% 0	0.00% 0	0
Upgrade town hall and senior center buildings to use buildings as warming centers AND/OR explore feasibility of using elementary school as an alternate site AND/OR pursue funding and purchase back-up generators for critical facilities	0.00% 0	0.00% 0	0
Purchase generator for elementary school to improve use as a shelter site AND/OR explore green alternatives like a solar powered battery backup system for elementary school	0.00% 0	0.00% 0	0

Conduct vulnerability assessment of power grid and cable lines to identify high risk areas for outages to inform need for backup generators or shelters AND/OR continue to work with utility companies AND/OR develop a street tree inventory to help prevent downed lines	0.00% 0	0.00% 0	0
Install solar array over elementary school parking area	0.00% 0	0.00%	0
Develop a capital plan and pursue funding to support major updates to town-owned buildings	0.00%	0.00%	0
Study feasibility and options for new public safety complex and build public campaign to support building new complex	0.00% 0	0.00%	0
Monitor pollution from dump site along Bradish Brook, the lake and wells surrounding existing contamination area AND/OR verify brownfield status of Old Corset factory with Mass DEP	0.00%	0.00%	0
Update town bylaws to require public works projects to comply with Stormwater Management bylaws	0.00%	0.00%	0
Strengthen relationship with Quaboag nursing home administration to better understand their emergency plan and assistance needed from the town AND/OR foster town relationship with Brookhaven rest home	0.00% 0	0.00% 0	0
Create a formal word of mouth network or "phone tree" to share important messages AND/OR use a neighbor-to-neighbor monitoring system to check on town residents during emergencies (potential service opportunity for high-school seniors)	0.00% 0	0.00% 0	0
Conduct outreach campaign to improve citizen knowledge of shelter locations and emergency systems in preparation for future, and potentially new, types of emergencies (i.e., tornados) AND/OR educate residents on what they can and cannot bring to emergency shelters (i.e., pets)	0.00% 0	0.00% 0	0
Conduct emergency planning and awareness outreach to mobile homeowners and residents AND/OR ensure mobile home parks have an emergency evacuation plan	0.00% 0	0.00%	0
Build social support for low-income residents AND/OR explore zoning solutions to expand affordable housing options	0.00% 0	0.00%	0
Adopt Community Preservation Act to open new funding opportunities for upkeep of historic town hall	0.00% 0	0.00%	0
Develop stronger network among local non-profits to foster open communication	0.00%	0.00%	0
Partner with Central Mass Grown & Agricultural Commission to provide information about town farms on town website AND/OR shift Wednesday market to Saturday or find a way to better highlight farming community	0.00% 0	0.00% 0	0
Study impacts of erosion from solar arrays AND/OR update bylaws to address erosion and unwanted chemicals caused by solar projects AND/OR strengthen solar bylaws to increase regulation of solar projects	0.00% 0	0.00% 0	0
Encourage use of native species in town bylaws to prevent future invasive species and tree health problems	0.00% 0	0.00%	0
Mitigate stormwater run-off and water quality issues in lake with education program for lake residents on runoff issues AND/OR demonstration rain garden on town land AND/OR education program best practices for shoreline landscaping AND/OR promote alternative fertilizer solutions that don't lead to pollution	0.00% 0	0.00% 0	0
Conduct an in-depth study of lake water quality to identify specific pollution sources	0.00% 0	0.00%	0
Assess feasibility of utilizing roof runoff of large town buildings as a storable water source for landscaping AND/OR channel building run-off water into landscaping features designed to flood as way to prevent damaging flooding of roadways or buildings	0.00% 0	0.00% 0	0
Educate residents on the importance of wetlands for flood control and the responsibility of homeowners to maintain wetland health	0.00% 0	0.00% 0	0
Conduct resident outreach about mosquito/tick control AND/OR explore alternative forms of mitigation AND/OR build bat houses near wetlands AND/OR work to eliminate unnatural nesting areas (i.e.	0.00% 0	0.00% 0	0

stagnant water in buckets)

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## Q8 Please describe any other actions that were not listed in this survey that the town should take to improve resilience.

Answered: 1 Skipped: 4

#	RESPONSES	DATE
1	Success of resilience development will be contingent on communication and transparency between committees and boards, and timely outreach from those Board to Town members. Seasonally timed outreach events could be a way to involve townsfolk to participate in public life.	4/5/2021 2:54 PM

## **TOWN OF WEST BROOKFIELD**

## Municipal Vulnerability Preparedness (MVP)

## Virtual Community Resilience Building Workshop

March 4, 11 and 18, 2021

Day I March 4th





### Thank You for Your Participation in West Brookfield's Municipal Vulnerability Preparedness (MVP) Program!



The Town of West Brookfield is collaborating with EOEEA and CMRPC to offer a three-day virtual workshop on <u>March 4<sup>th</sup></u>, <u>11<sup>th</sup></u>, <u>and 18<sup>th</sup></u> which will bring together community members to comprehensively identify and prioritize steps to reduce risk and improve resilience across West Brookfield. Follow the instructions below in order to help make your community more climate resilient! If you have any questions about the program, please contact lan McElwee at imcelwee@cmrpc.org. We look forward to seeing you virtually at our workshop!

Step 1. Review the Program Overview

The following document will give you an overview of the MVP program. MVP Program Overview: <u>Click Here</u> Resilient MA Website: <u>Click Here</u>

### Step 2. Watch the MVP Presentations Prior to Workshop

The following link contains pre-recorded presentations that will help you be better prepared for the MVP workshop. The presentations include an overview of the program and the MVP process, climate projections and hazards that West Brookfield may face in the future, and instructions on how to use the online mapping tool. Please take some time to <u>review each of these presentations before the first workshop</u>. Presentations: <u>Click Here</u>

#### Step 3. Familiarize Yourself with the Matrix and Maps

During the virtual workshop, we will divide up into breakout groups to discuss strengths, vulnerabilities, and possible actions that the town can take. During this process, we will be filling out a matrix. The following two documents will show you an example of a completed matrix and will give you a set of pre-made maps that already display various features, hazards, and resources in West Brookfield. Complete Matrix Example: <u>Click Here</u> Maps: <u>Click Here</u>

### Step 4. Discover West Brookfield's MVP Dropbox

The resources included in this invitation will help you learn more about the MVP program and prepare you for the upcoming workshop. All of these resources and more can be found in the following Dropbox link. If possible, you will want to have this Dropbox link open during the workshop so that you can easily access this information. Workshop Dropbox: <u>Click Here</u>

### Step 5. Attend the Workshop!

The 3-day workshop will be held on <u>March 4<sup>th</sup>, 11<sup>th</sup>, and 18<sup>th</sup></u>. The agenda for each day as well as the Zoom meeting links are listed below. Please review the agenda for each day and use the meeting links to join the Zoom.

Agenda Day 1: <u>Click Here</u> Zoom Link Day 1: <u>https://us02web.zoom.us/i/81130254637?pwd=bmYrRXpnU0ord21HaTNmOE41Yy8wZz09</u>

Agenda Day 2: <u>Click Here</u> Zoom Link Day 2: <u>https://us02web.zoom.us/i/87924087283?pwd=TkFQMTltTm5wb08zVGRrejBlblpm7z09</u>

Agenda Day 3: <u>Click Here</u> Zoom Link Day 3: <u>https://us02web.zoom.us/j/81049742554?pwd=Q2xtMzVUZmk0bTZ0ZUhBSWZ6L1VmUT09</u>





## Community Resiliency Building Workshop

Town of West Brookfield Municipal Vulnerability Preparedness Day 1- Thursday, March 4, 2021 7:00 pm – 9:00 pm; Check-in at 6:45 pm

#### Meeting Link (Click to Join):

https://us02web.zoom.us/j/81130254637?pwd=bmYrRXpnU0ord21HaTNmOE41Yy8wZz09

Meeting ID: 811 3025 4637

Passcode: 931480

Call in Number (if unable to join online): (646) 558-8656

Workshop Materials:

www.dropbox.com/sh/abv0kn82lbawof7/AAAqSJQO8BQbUGUEdetrAluda?dl=0

### Workshop Agenda

### 6:45 pm - 7:00 pm:

Login & Familiarize with Zoom

7:00 pm - 7:15 pm:

- Welcome & Overview
- Questions & Answers
- 7:15 pm 8:40 pm:
- Breakout Groups
  - Identify Hazards & Local Features
    - o Discuss Strengths & Vulnerabilities

8:40 pm – 9:00 pm:

- Reconvene as Large Group
- Quick Table Summary
- Closing Remarks & Wrap Up

### Day 1: Workshop Objectives

- Define extreme weather and climate related hazards;
- Identify current and future vulnerabilities and strengths;
- Edit online map with important hazards and features

#### Homework

- Review hazards, vulnerabilities, and strengths in matrix
- Brainstorm actions to address vulnerabilities

Thank you for participating in West Brookfield's Virtual Community Resilience Building







# MUNICIPAL VULNERABILITY PREPAREDNESS (MVP)

- State grant program to support cities and towns to begin the process of planning for climate resiliency.
- MVP Planning Process includes CRB Workshop, Report, Listening Session and Annual Reporting
- Communities who complete the MVP Planning Process become certified as an MVP Community
- Designated communities become eligible for MVP Action Grant funding



## CLIMATE RESILIENCE

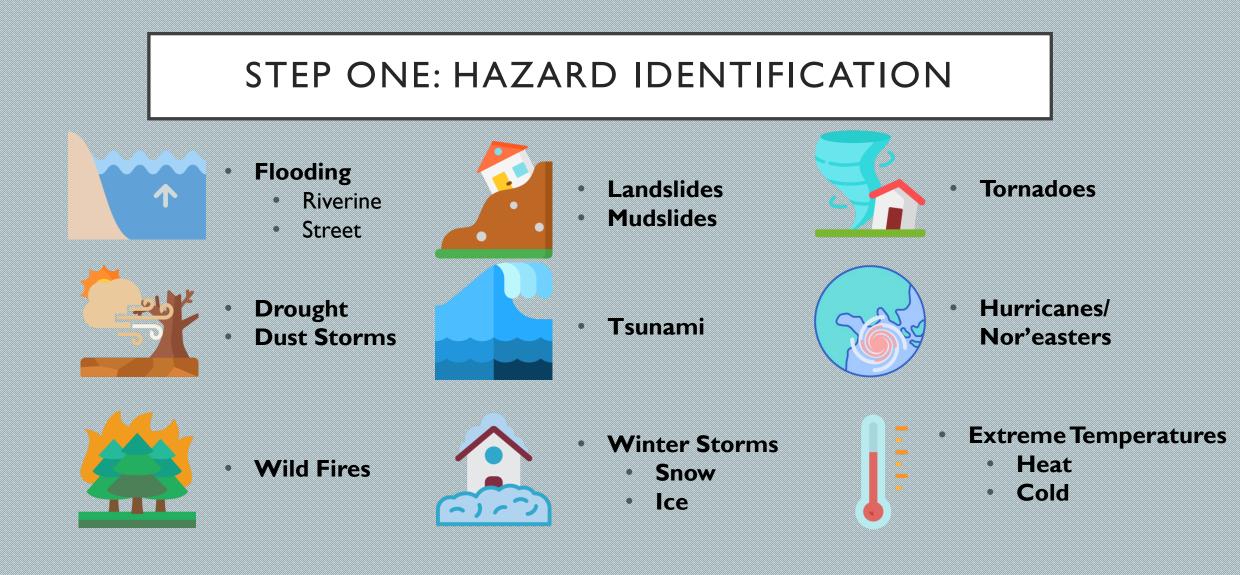
is defined as the ability of a community to address the needs of its built, social, and natural environment in order to anticipate, cope with, and rebound stronger from events and trends related to climate change hazards, including temperature changes, extreme weather, sea level rise, coastal and inland flooding, changes in precipitation, and other impacts.



## THE MATRIX

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Community Resilience Building Ri	sk Matrix	- 84	# (Ģ	)		www.Commun	ityResilienceBu	ilding.co	m
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Environmental									



## PRIMARY TOPIC AREAS





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## TABLE ROLES AND RESPONSIBILITIES

- Table Facilitator directs the discussion and keeps the dialogue moving
- Scribes filling in matrix
- Participants- All of you
- CMRPC resource person
- Table spokesperson for Report Out



## **BREAK OUT GROUP: FIRST MEETING**

- Step I Fill in top 4 Natural Hazards
  - Drought/Wind Events/ Flooding/Winter Storms
- Step 2- Identify key features
  - Infrastructure- Dams
  - Societal- Senior Housing
  - Environmental-Wetlands
  - Where is the Feature Located
  - Identify ownership (Public, Private...)
  - Identify vulnerability, strength or both



## QUESTIONS



# TIME TO GET TO WORK



# **NEXT STEPS**





## Community Resiliency Building Workshop



Town of Berlin Municipal Vulnerability Preparedness Day 2- Wednesday, June 24, 2020 3:30 pm – 5:30 pm; Check-in at 3:15 pm

Meeting Link (Click to Join): https://us02web.zoom.us/i/84864864845

Meeting ID: 848 6486 4845

Call in Number (if unable to join online): 1-646-558-8656

Workshop Materials: https://www.dropbox.com/sh/id004dnleca6l22/AADwYyfr8gXZmcNtTf03aHNJa?dl=0

### Workshop Agenda

### 3:15 pm – 3:30 pm:

- Login & Familiarize with Zoom 3:30 pm – 3:45 pm:
  - Welcome & Recap from Day 1
  - Questions & Answers
- 3:45 pm 5:10 pm:
  - Breakout Groups
    - Identify Actions to Reduce Risks and Build Resilience
    - Prioritize Actions by Urgency and Timing

### 5:10 pm – 5:30 pm

- Reconvene as Large Group
- Table Reports
- Closing Remarks & Wrap Up

### Day 2: Workshop Objectives

- Review vulnerabilities and strengths identified on Day 1
- Develop and prioritize actions;
- Identify opportunities for the Town to advance actions and reduce risks to build resilience

### Homework

- Review actions to reduce risks and build resilience
- Brainstorm additional actions to address vulnerabilities
- Attend Day 3 Workshop

Thank you for participating in Berlin's Virtual Community Resilience Building Workshop!







## QUESTIONS

- Ian McElwee, <u>imcelwee@cmrpc.org</u>
- Pete Peloquin, ppeloquin@cmrpc.org



## **TOWN OF WEST BROOKFIELD**

## **Municipal Vulnerability Preparedness (MVP)**

## Virtual Community Resilience Building Workshop

March 4, 11 and 18, 2021

Day 2 March 11th





#### Community Resiliency Building Workshop

Town of West Brookfield Municipal Vulnerability Preparedness Day 2- Thursday, March 11, 2021 7:00 pm – 9:00 pm; Check-in at 6:45 pm

#### Meeting Link (Click to Join):

https://us02web.zoom.us/j/87924087283?pwd=TkFQMTltTm5wb08zVGRrejBlblpmZz09

Meeting ID: ID: 879 2408 7283

Passcode: 997413

Call in Number (if unable to join online): (646) 558-8656

Workshop Materials:

https://www.dropbox.com/sh/abv0kn82lbawof7/AAAqSJQO8BQbUGUEdetrAluda?dl=0

#### Workshop Agenda

#### 6:45 pm - 7:00 pm:

Login & Familiarize with Zoom

7:00 pm – 7:15 pm:

- Welcome & Recap from Day 1
- Questions & Answers
- 7:15 pm 8:40 pm:
  - Breakout Groups
    - Identify Actions to Reduce Risks and Build Resilience
    - Prioritize Actions by Urgency and Timing

#### 8:40 pm – 9:00 pm

- Reconvene as Large Group
- Table Reports
- Closing Remarks & Wrap Up

#### Day 2: Workshop Objectives

- Review vulnerabilities and strengths identified on Day 1
- Develop and prioritize actions;
- Identify opportunities for the Town to advance actions and reduce risks to build resilience

#### Homework

- Review actions to reduce risks and build resilience
- Brainstorm additional actions to address vulnerabilities
- Attend Day 3 Workshop

Thank you for participating in West Brookfield's Virtual Community Resilience Building Workshop!







## THE MATRIX

				<b>Top Priority Hazards</b>	(tornado, floods, wildfire	e, hurricanes, earthqua	ike, drought, sea level	rise, heat wa	ive, etc.)
<u>M-L</u> priority for action over the <u>Short or Lon</u> = Vulnerability <u>S</u> = Strength	ig term (and <u>O</u> ngoir	·8)						Priority	Time
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## NATURE BASED SOLUTIONS

- Make use of natural systems
- Mimic the natural processes
- Actions to protect, sustainably manage and restore ecosystems
- Simultaneously providing well-being and biodiversity

International Union for Conservation of Nature (IUCN)



## NATURE BASED SOLUTIONS (LID)

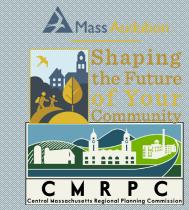
- Natural systems mimic natural processes to absorb and slow runoff and stormwater, and also reduce heat islands.
- Low impact development (LID) designs can be integrated into new development at neighborhood scales and work with traditional approaches





Bioswale between sidewalk and street

**Contained bioswale or planter box** 



### MORE EXAMPLES OF LOW IMPACT DEVELOPMENT AND GREEN INFRASTRUCTURE



**Green Parking Lots** 

**Permeable Paving** 



### **Example Action Grant Projects**

Nature-Based Flood Protection, Drought Mitigation, Water Quality, and Water Infiltration Techniques

## Belchertown



Designing and permitting for a replacement water storage tank that would increase storage capacity and resiliency to drought, and completing a feasibility/ concept design of a rainwater harvesting system at Belchertown High School to irrigate the athletic fields.





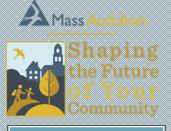
## INFRASTRUCTURE PROJECTS

#### **Traditional Culvert**

#### Nature Based Culvert









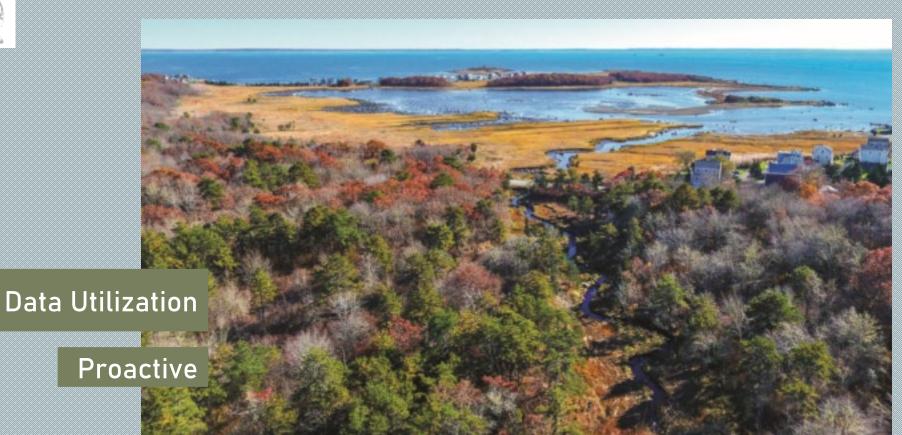
## **Example Action Grant Projects**

Land Acquisition for Resilience

## Mattapoisett



Purchasing 120 acres of forest, streams, freshwater wetlands and coastal salt marsh as conservation land to prevent development in vulnerable areas





## BENEFITS OF GREEN INFRASTRUCTURE AND LID

- Cost Savings
  - Reduced development costs for infrastructure and maintenance
  - Reduced energy costs for residents
- Public Safety
  - Reduced flooding
  - Improved water quality
  - Increased climate change resiliency
  - Reduced urban heat island effect

- Quality of Life
  - Protect and restore natural features for improved aesthetics
- Value
  - Increased property values
- Regulatory
  - Assistance in meeting regulatory requirements



Community Resilience Building R <u>H-M-L</u> priority for action over the <u>Short or Long ter</u> $\underline{V} = Vulnerability \underline{S} = Strength$	m (and <u>O</u> ngoing)	To riority Hazards	to do, floods, wildfire Top 4 H	·	ilding.co rise, heat wa Priority <u>H-M-L</u>	
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Community Resilience Building Risk Matrix       Provide State         H-M-L priority for action over the Short or Long term (and Ongoing)       Provide State         Y = Vulnerability S = Strength       Location         Features       Location       Ownership	Www.communityResin_ceBui com To triority Hazards (to ido, floods, wildfire, hurri es, earthquake, drought a jevel r wave, etc.) Top 4 Hazards
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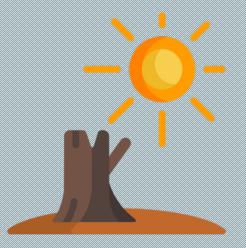


Community Resilience Building Risk Matrix       Part Priority for action over the Short or Long term (and Ongoing)         Y = Vulnerability S = Strength	Top 4 Hazards (1 H-M-L
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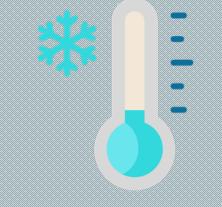


## QUESTIONS











## TIME TO GET TO WORK



# THANK YOU



## **TOWN OF WEST BROOKFIELD**

Municipal Vulnerability Preparedness (MVP)

Virtual Community Resilience Building Workshop

March 4, 11 and 18, 2021

Day 3 March 18th





#### Community Resiliency Building Workshop



Town of Berlin Municipal Vulnerability Preparedness Day 1- Thursday, June 18, 2020 3:30 pm – 5:30 pm; Check-in at 3:15 pm

Meeting Link (Click to Join): https://us02web.zoom.us/i/81367168512

Meeting ID: 813 6716 8512

Call in Number (if unable to join online): 1-646-558-8656

Workshop Materials:

https://www.dropbox.com/sh/id004dnleca6l22/AADwYyfr8gXZmcNtTf03aHNJa?dl=0

#### Workshop Agenda

#### 3:15 pm – 3:30 pm:

Login & Familiarize with Zoom
 3:30 pm - 3:45 pm:

- Welcome & Overview
- Questions & Answers
- 3:45 pm 5:10 pm:
  - Breakout Groups
    - Identify Hazards & Local Features
    - Discuss Strengths & Vulnerabilities

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- Closing Remarks & Wrap Up

#### Day 1: Workshop Objectives

- Define extreme weather and climate related hazards;
- Identify current and future vulnerabilities and strengths;
- Edit online map with important hazards and features

#### Homework

- Review hazards, vulnerabilities, and strengths in matrix
- Brainstorm actions to address vulnerabilities

Thank you for participating in Berlin's Virtual Community Resilience Building Workshop!







## **REPORT OUTS**

# What did your table find?



## **SUMMARY DISCUSSION**

Areas of agreementAreas of unique perspectives



## TIME TO VOTE

A survey will be created after this meeting
Vote for your top five projects
Prioritize Project



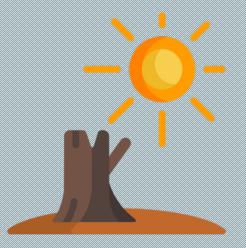
## NEXT STEPS

- Vote in survey
- Report development
- Public "Listening" session with Members of the Public and Board of Selectmen Date TBD
- Develop resources and Implement actions through Action Grants

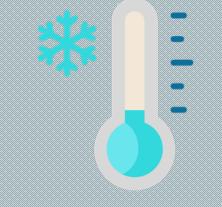


## QUESTIONS











## **CONTACT US**

- West Brookfield Core Team Leaders -
  - David Brown, <u>dwb01720@aol.com</u>
  - Barbara Portal, <u>bilportal@gmail.com</u> CMRPC Project Leaders –
  - Ian McElwee, imcelwee@cmrpc.org
  - Andrew Loew, <u>aloew@cmrpc.org</u>
- Mass. Executive Office of Energy and Environmental Affairs
  - Andrew Smith, andrew.b.smith@state.ma.us



# THANK YOU



## **TOWN OF WEST BROOKFIELD**

Municipal Vulnerability Preparedness (MVP)

**Community Resilience Building** 

**Virtual Workshop** 

March 4<sup>th</sup>, 11<sup>th</sup>, and 18<sup>th</sup>

7:00 – 9:00 PM



## MUNICIPAL VULNERABILITY PREPAREDNESS (MVP)

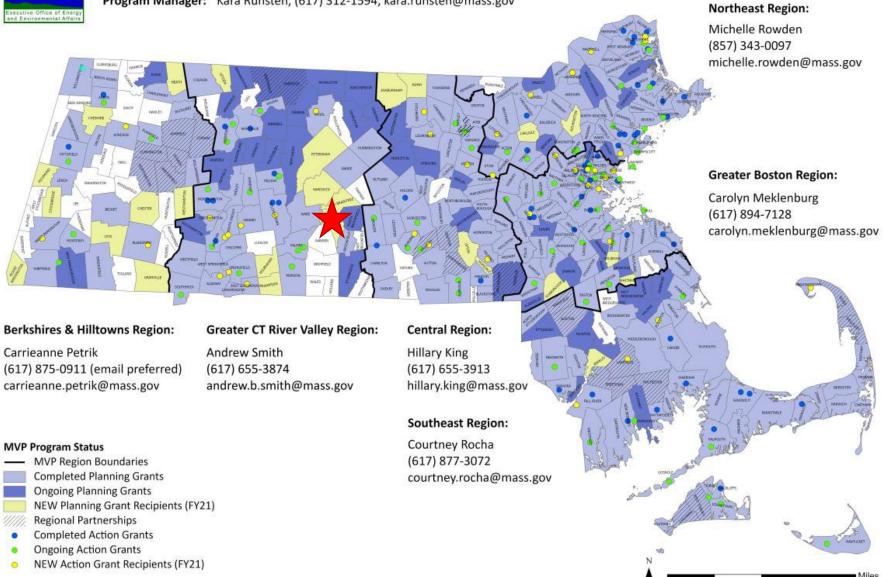
- State grant program to support cities and towns to begin the process of planning for climate resiliency.
- MVP Planning Process includes CRB Workshop, Report, Listening Session and Annual Reporting
- Communities who complete the MVP Planning Process become certified as an MVP Community
- Designated communities become eligible for MVP Action Grant funding





#### Municipal Vulnerability Preparedness (MVP) Program

Program Manager: Kara Runsten, (617) 312-1594, kara.runsten@mass.gov



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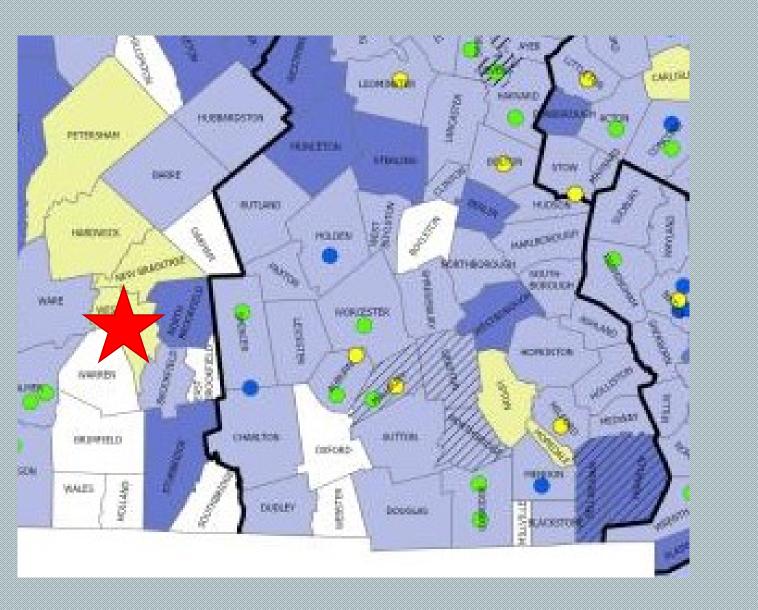
С MR Central Massachusetts Regional Planning Commission



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#### **MVP Program Status**

MVP Region Boundaries
 Completed Planning Grants
 Ongoing Planning Grants
 NEW Planning Grant Recipients (FY21)
 Regional Partnerships
 Completed Action Grants
 Ongoing Action Grants
 NEW Action Grant Recipients (FY21)

Updated: September 2020



## **HOW THE TOWN GOT HERE?**

- Awarded Planning Grant
- Core Team Meeting
- COVID-19 Adaptation
- Invitation from Core Team





## COMMUNITY RESILIENCE BUILDING WORKSHOP OBJECTIVES

- Define extreme weather and climate-related hazards
- Identify current and future vulnerabilities and strengths
- Develop and prioritize actions for the community and broader stakeholder networks, and
- Identify opportunities for the community to advance actions to reduce risks and build resilience



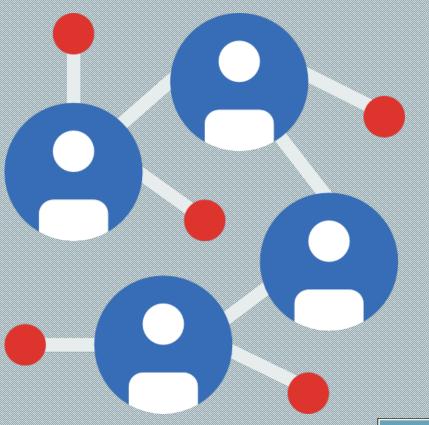
## THE MATRIX

Community Resilience B	uilding Risk Matrix	<b></b>	www.CommunityResilienceBuilding.com					
			<b>Top Priority Hazards</b>	(tornado, floods, wildfire	, hurricanes, earthqua	ike, drought, sea level	rise, heat wa	ive, etc.)
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eatures	Location	Ownership V or S	ł				H-M-L	Short Long
Infrastructural	Location	ownersmp vor s						
Societal								
Environmental								



## **BREAKOUT GROUPS**

- 3-4 tables of 6 to 8 individuals
- Each table will discuss
  - Societal,
  - Infrastructure, and
  - Environmental
- Tools and Resources
  - Matrix, Maps, & Each Other

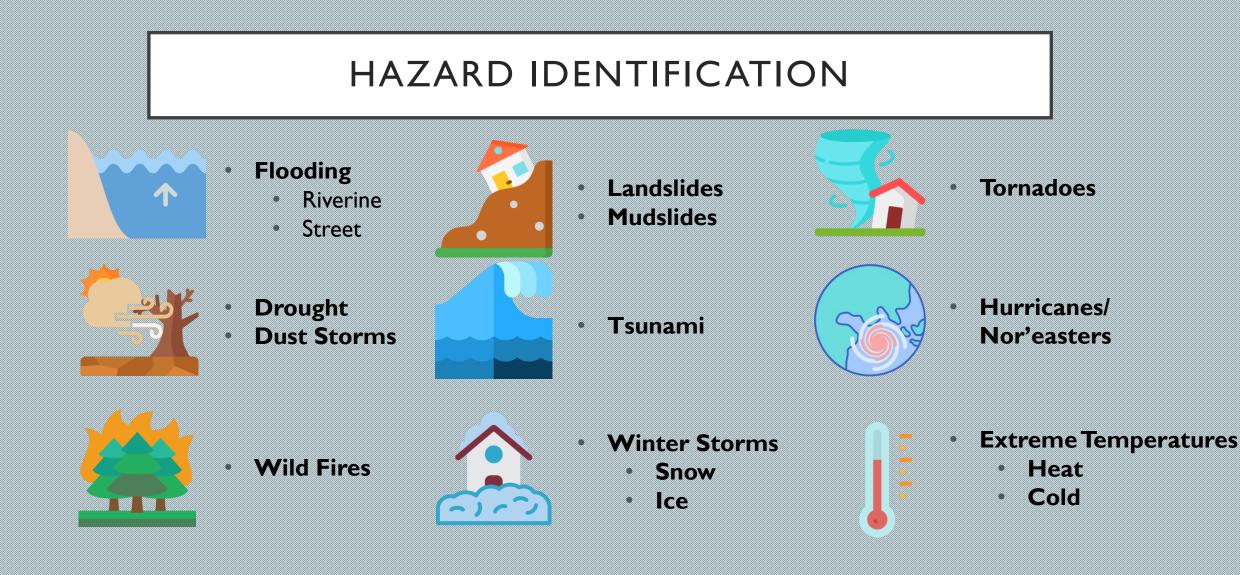




## TABLE ROLES AND RESPONSIBILITIES

- Table Facilitator directs the discussion and keeps the dialogue moving
- Scribes filling in matrix
- Participants- All of you
- CMRPC resource person
- Table spokesperson for Report Out (Day 3)







## PRIMARY TOPIC AREAS





# NEXT STEPS

- Complete the survey
- Report development
- Public "Listening" session with Members of the Public and Board of Selectmen Spring 2021
- Develop resources and Implement actions.



#### ACTION GRANTS

Next round expected in spring 2021
Up to \$2 million for an individual community
Up to \$5 million for regional projects
One year grant cycle (typically) July 1<sup>st</sup>- June 30<sup>th</sup>
25% Match - Cash or In-kind (Non-State Funds)

www.mass.gov/municipal-vulnerability-preparedness-mvp-program

www.communityresiliencebuilding.com



# **CONTACT US**

- West Brookfield Core Team Leaders
  - David Brown, <u>dwb01720@aol.com</u>
  - Barbara Portal, <u>Bjlportal@gmail.com</u>
- CMRPC Project Leader
  - Ian McElwee, imcelwee@cmrpc.org
- Executive Office of Energy and Environmental Affairs
  - Andrew Smith, and rew.b.smith@state.ma.us



# THANK YOU



# CLIMATE PROJECTIONS AND IMPACTS FOR THE TOWN OF WEST BROOKFIELD

I. Engage Community 2. Identify CC Impacts & Hazards 3. Complete Assessment of Vulnerabilities & Strengths

4. Develop & Prioritize Actions

5. Take Action

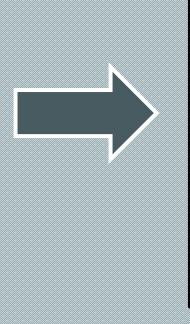
Municipal Vulnerability Preparedness Community Resilience Building Workshop – March 4, 11 and 18, 2021



# **CLIMATE CHANGE PROJECTIONS**

#### **Climate projections**

- Precipitation
  - Annual
  - Large events
  - Changes in "\_\_\_\_ year storms"
  - Consecutive dry days
- Temperature



#### **Natural Hazards**

- Winter Storms
- Heavy Rainfall and Flooding
- Drought, Wildfire, and Heat

# EXAMPLES OF IMPACTS OF CLIMATE CHANGE

#### Infrastructure

- **Transportation** Increased precipitation and flooding can disrupt traffic, delay construction, and wash out soil and culverts that support roads, tunnels, and bridges.
- Energy Increase in summer peak electricity demand in most regions of the United States.

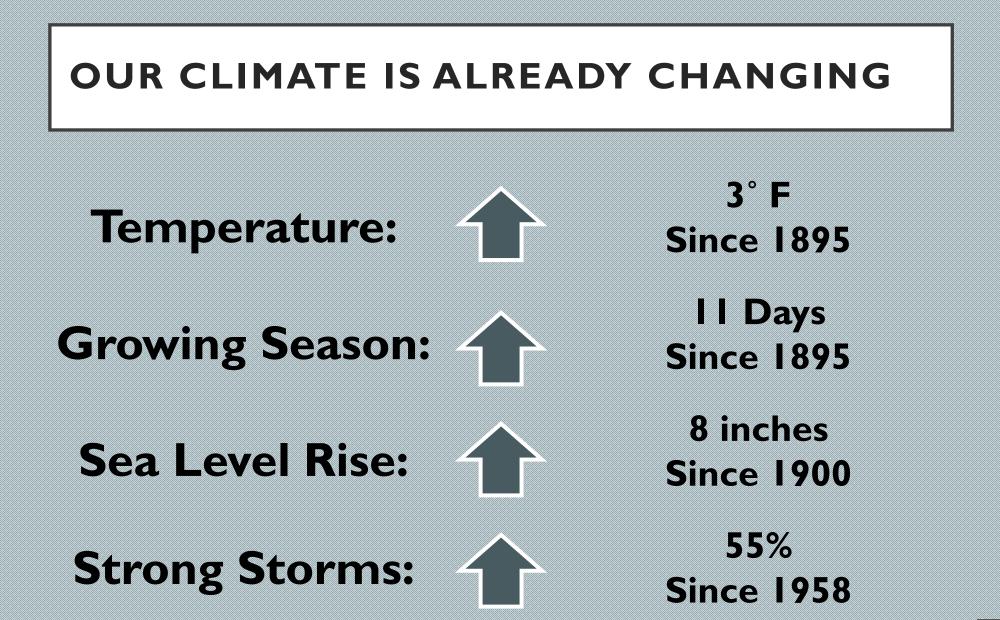
#### Societal

- Agriculture Impact on crops from more extreme temperature and precipitation
- Human Health More frequent, extreme and longer heat waves will impact vulnerable populations.

#### Environment

• Ecosystems - Impacts such as range shifts, habitat loss, more pests and more invasive species







# NORTHEAST CLIMATE SCIENCE CENTER UMASS AMHERST

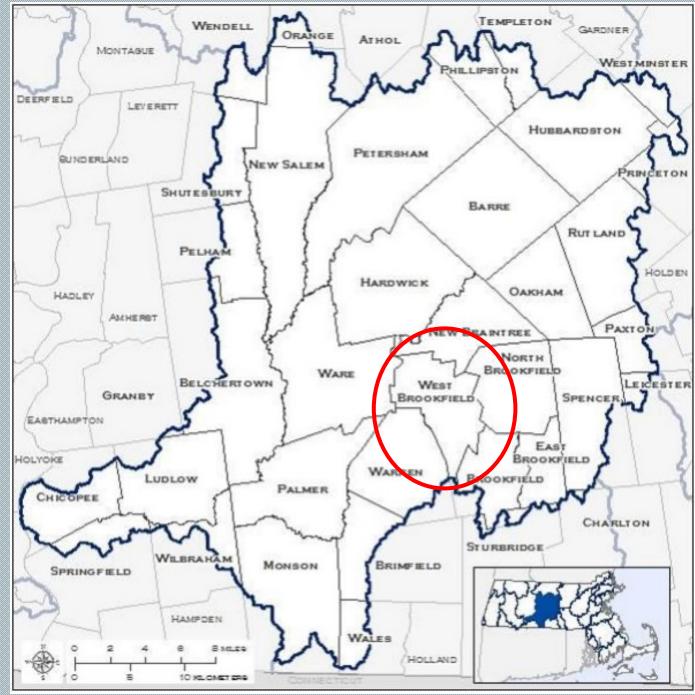


- NECASC downscaled climate projections for major drainage basins
- Climate Models from the IPCC Fifth
   Assessment Report
- Historical Data 1971-2000
- Medium and High Emission Scenarios were Chosen (RCP 4.5 and 8.5)
  - Medium Scenario Assumes Emissions Peak at Mid-Century
  - High Scenario Assumes a Continuing Emission Trajectory



C4rivers.org

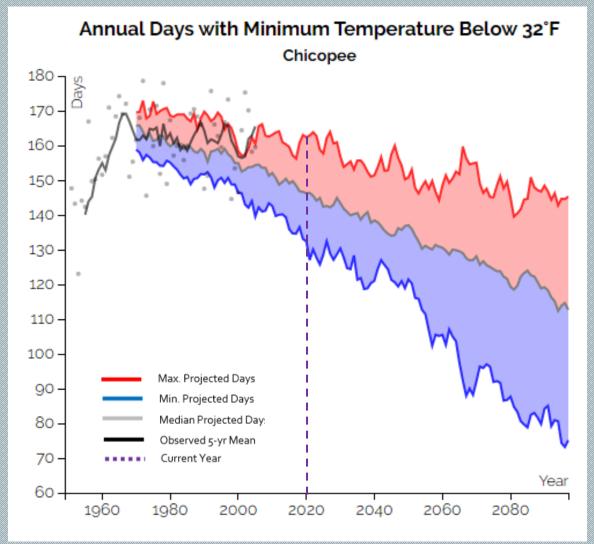
# CHICOPEE RIVER BASIN





## WINTER STORMS

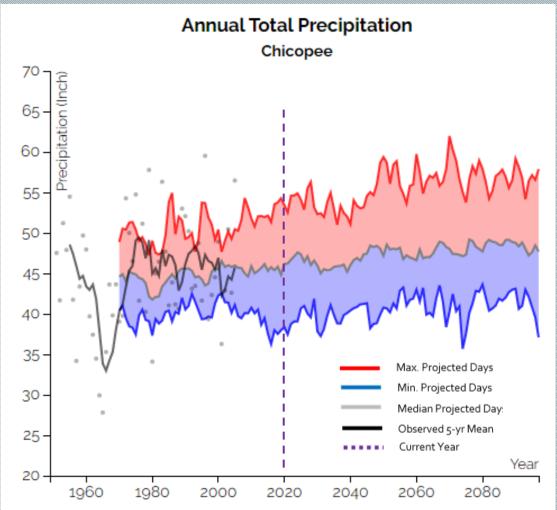
- Annual days below freezing will decrease
- Rising temps → more winter precipitation to fall as rain or freezing rain
- Lower snowfall accumulation
- Winter Highest projected increase in precipitation
- Storms that do occur may be worse
   proximity to Atlantic Ocean
   increases risk of large storm events





#### <u>Seasonal</u>

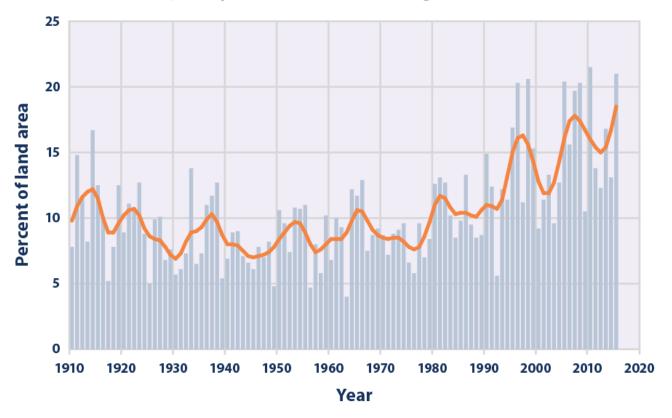
- Winter Largest increase expected, up to .6 to 3.9 inches by end of century
- Spring Expected increase of .2 to
   2.8 inches by end of century
- Summer Possible <u>decrease</u> of 1.2 inches to increase of 2.0 inches by end of century
- Fall Possible <u>decrease</u> of 1.7 inches to increase of 1.5 inches by end of century





- Precipitation will increase across all seasons
- Total annual rainfall will increase
- Heavy rainfall events will become more frequent
  - Overbank flooding from rainfall and snowmelt
  - Piped Infrastructure backup and or failure
- Water quality impact from flooding
  - Erosion
  - Nonpoint source pollution

Extreme One-Day Precipitation Events in the Contiguous 48 States, 1910–2015

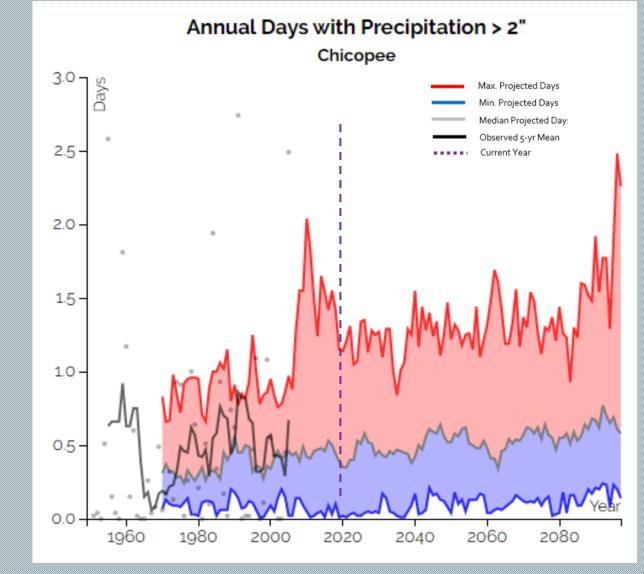


Data source: NOAA (National Oceanic and Atmospheric Administration). 2016. U.S. Climate Extremes Index. Accessed January 2016. www.ncdc.noaa.gov/extremes/cei.

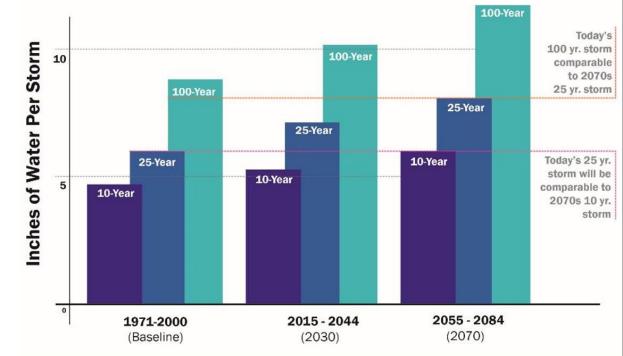
For more information, visit U.S. EPA's "Climate Change Indicators in the United States" at www.epa.gov/climate-indicators.

#### **Extreme Precipitation**

• The number of days each year with more than 2 inches of precipitation will increase.







Source: Design storm projections for the Boston metro area based on Kleinfelder/ATMOS projections, Nov.2015, Kleinfelder for City of Cambridge.





Icon made by photo3idea\_studio from Flaticon.com

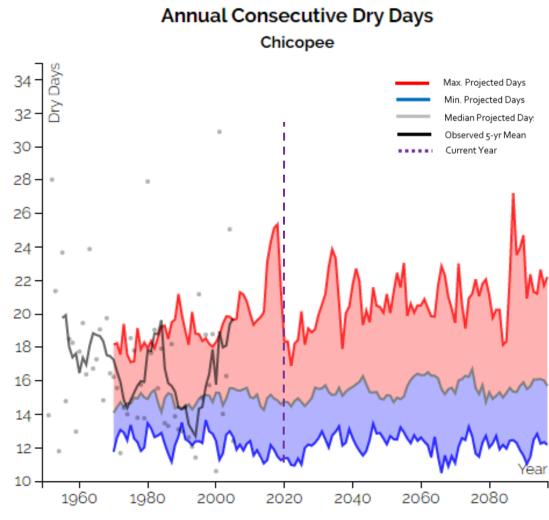
#### IMPACTS OF INCREASED PRECIPITATION

- More disruptive flooding events, especially with undersize stormwater infrastructure
  - Increased inland flooding
  - Soils become saturated
  - River flows rise
  - Capacity of urban SW infrastructure is exceeded
  - Impacts to property and critical infrastructure
- Increased non-point source pollution
  - Ecological damage to nearby waterbodies



## **DROUGHT IMPACTS**

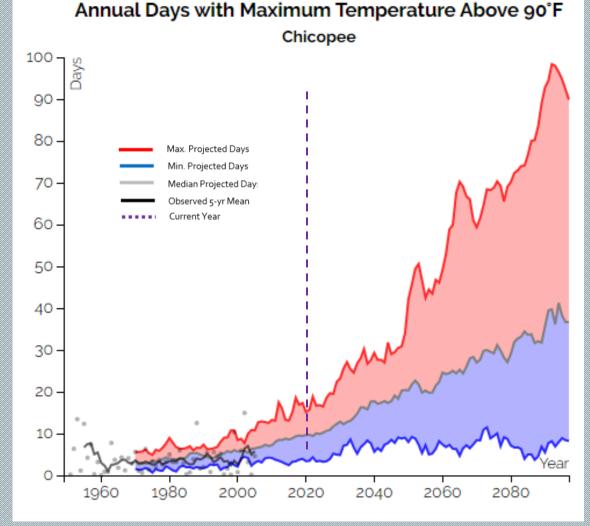
- More consecutive dry days
- Highest number of consecutive dry days in summer and fall.
- Increase of up to 3 additional consecutive dry days by the end of the century





# **HEAT PROJECTIONS**

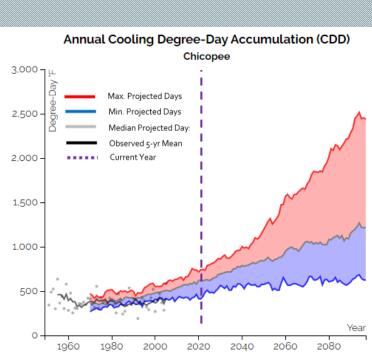
- Projected increase of 8 to 29 days annually over 90°F by mid century
- Projected increase of 11 to 69 days annually over 90°F by end of century

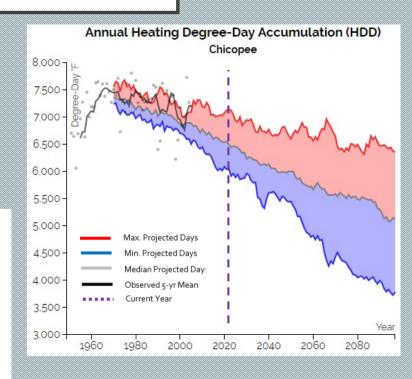




# **HEAT PROJECTIONS**

- Projected decrease in heating degreedays and increase in cooling-degree days
- More days above 65°F means fewer days needed to heat buildings and more days needed to cool buildings.
- Winter
  - 7-19% decrease in HDD by mid century
- Spring
  - I0-24% decrease in HDD by mid century
- Fall
  - 20-33% decrease in HDD by mid century



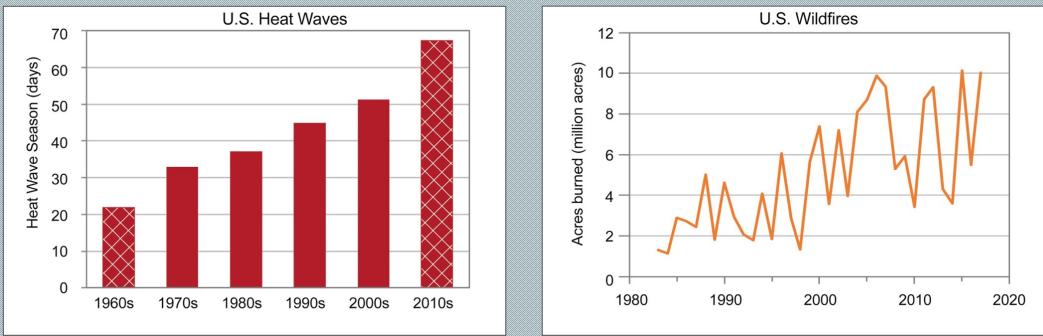




# HEAT AND WILDFIRE

#### Nation-Wide Data

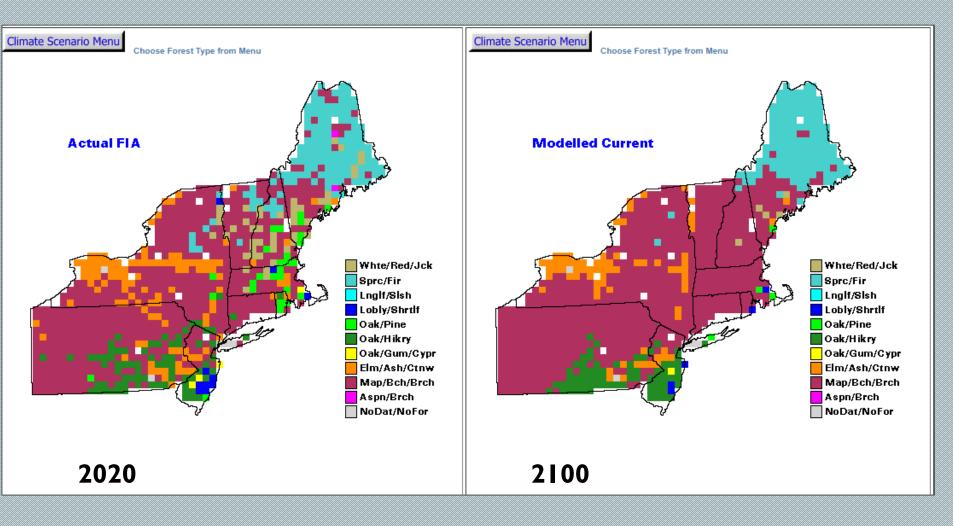
As the number and length of heat waves increase, so will the incidence of wildfires.





#### HEAT IMPACTS ON THE ENVIRONMENT

- Ranges of tree species are expected to move north
- Diversity of species will decrease
- Increases of invasive species are likely





#### HEAT IMPACTS ON SOCIETY

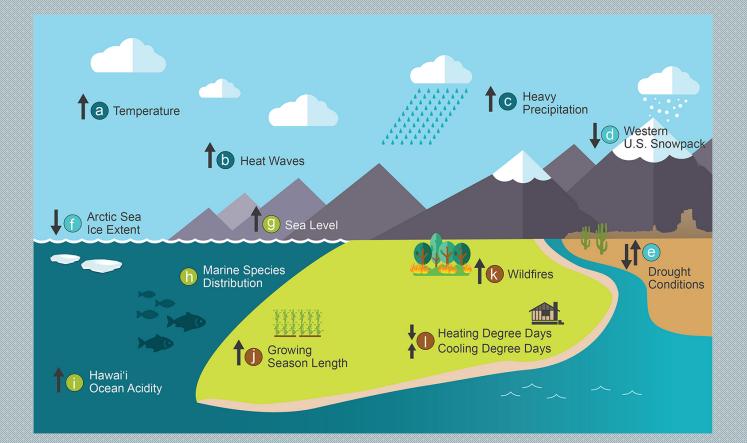
#### **Impact of Climate Change on Human Health**





https://www.cdc.gov/climateandhealth/effects/default.htm

# **QUESTIONS OR COMMENTS?**



# mkaplan@cmprc.org



# **TOWN OF WEST BROOKFIELD**

Municipal Vulnerability Preparedness (MVP)

**Community Resilience Building Workshop** 

March 04, 11, 18 2021



## HAZARD MITIGATION PLANNING

- Overlaps somewhat with Hazard Mitigation Planning, but MVP is more focused on climate change in the long term
- West Brookfield's Hazard Mitigation received Final FEMA Approval in February 2017.
- 5-year plans



#### West Brookfield Hazard Mitigation Plan



Quaboag River from Long Hill Road (CMRPC photo

#### Adopted by the Board of Selectmen January 5, 2017

Prepared by the Central Massachusetts Regional Planning Commission 2 Washington Square, Union Station Worcester, MA 01604 www.cmrpc.org

&

Local Hazard Mitigation Team Town of West Brookfield, Massachusetts



# **BE PREPARED, MITIGATE THE COSTS**

# US Natural Disasters in 2017 cost \$306 Billion, the most expensive year since NOAA started keeping track in 1980

		National Benefit-Cost Ratio Per Peril *BCR numbers in this study have been rounded Overall Hazard Benefit-Cost Ratio Savings (\$billion)	Exceed common code requirements 4:1 \$16/year	Meet common code requirements 11:1 \$13/year	Utilities and transportation 4:1 \$2.5	Federally funded 6:1 \$160
	<b>Riverine Flo</b>	od	5:1	6:1	8:1	7:1
	Hurricane S	urge	7:1	Not applicable	Not applicable	Too few grants
1	Wind		5:1	10:1	7:1	5:1
	Earthquake		4:1	12:1	3:1	3:1
1	Wildland-Ur	ban Interface Fire	4:1	Not applicable	Not applicable	3:1

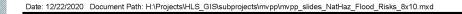


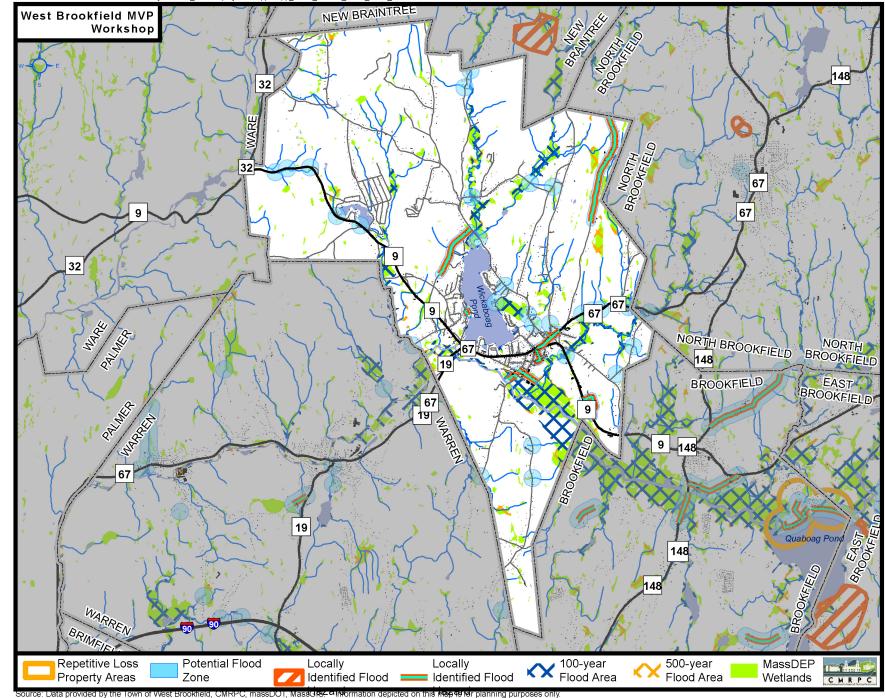
#### NATURAL HAZARDS

- Flooding (all types)
- Droughts and wildfires
- Winter storms
- Severe thunderstorms
- Hurricanes
- Wind and tornadoes
- Extreme temperatures
- Landslides
- Earthquakes



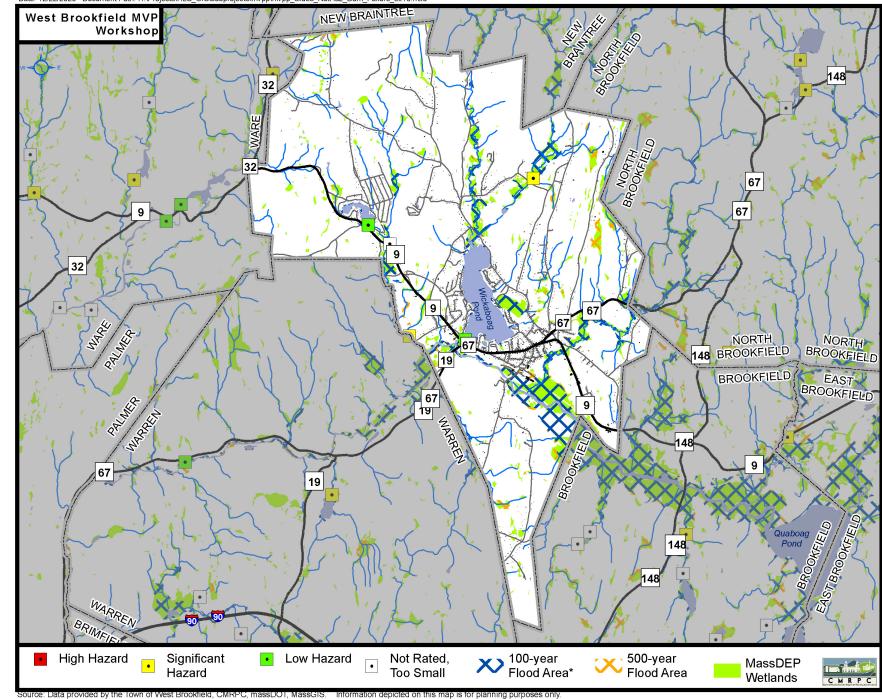




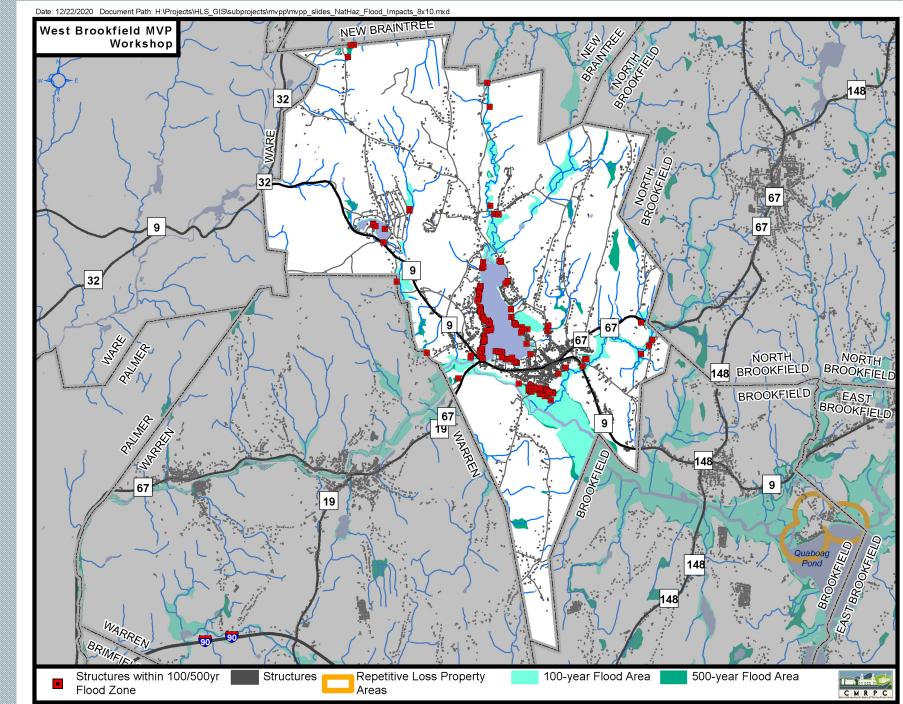










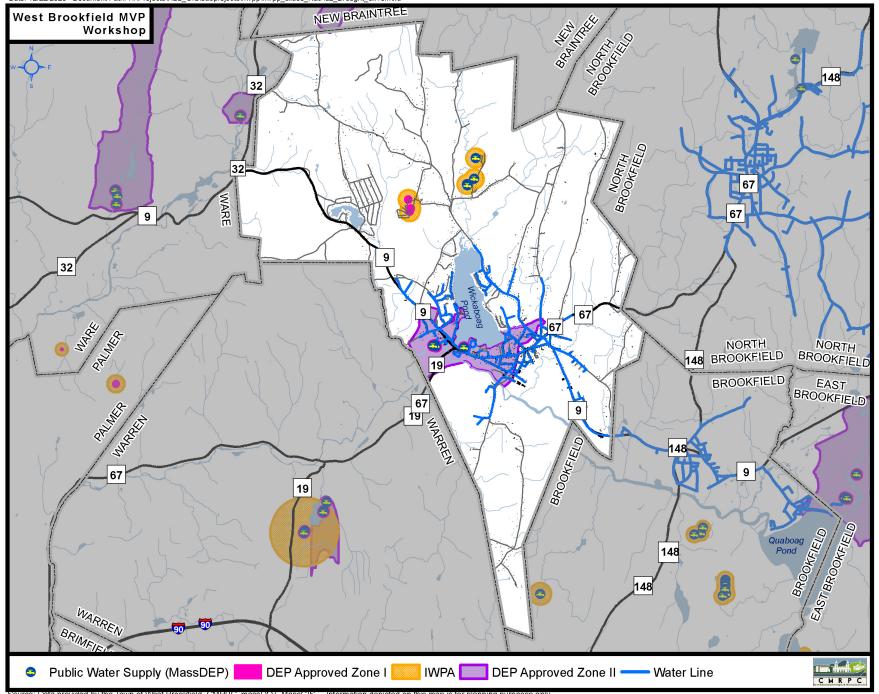




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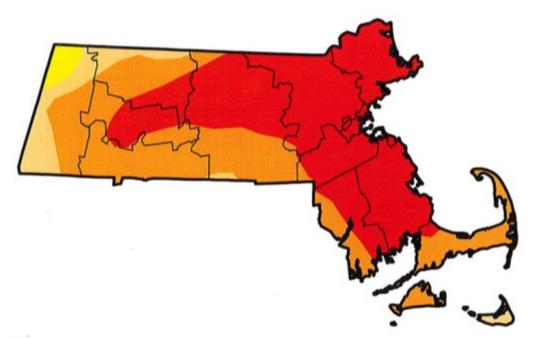
Source: Data provided by the Town of West Brookfield, CMRPC, massDOT, MassGIS. Information depicted on this map is for planning purposes only







#### U.S. Drought Monitor Massachusetts



#### September 13, 2016

(Released Thursday, Sep. 15, 2016) Valid 8 a.m. EDT

#### Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	0.00	100.00	98.15	89.95	52.13	0.00
Last Week 9/6/2016	0.00	100.00	94.38	77.38	22.67	0.00
3 Months Ago 6/14/2016	20.09	79.91	13.56	0.00	0.00	0.00
Start of Calendar Year 12/29/2015	22.85	77.15	26.34	0.00	0.00	0.00
Start of Water Year 9/29/2015	12.90	87.10	30.43	0.00	0.00	0.00
One Year Ago 9/15/2015	34.81	65.19	0.23	0.00	0.00	0.00

#### Intensity:



The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

#### Author: Eric Luebehusen

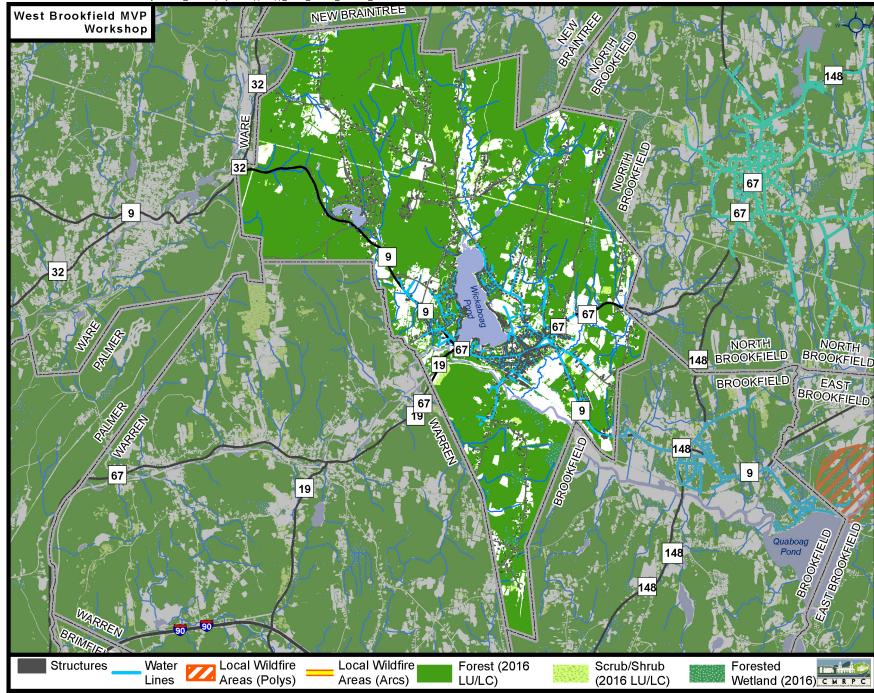
U.S. Department of Agriculture



#### http://droughtmonitor.unl.edu/



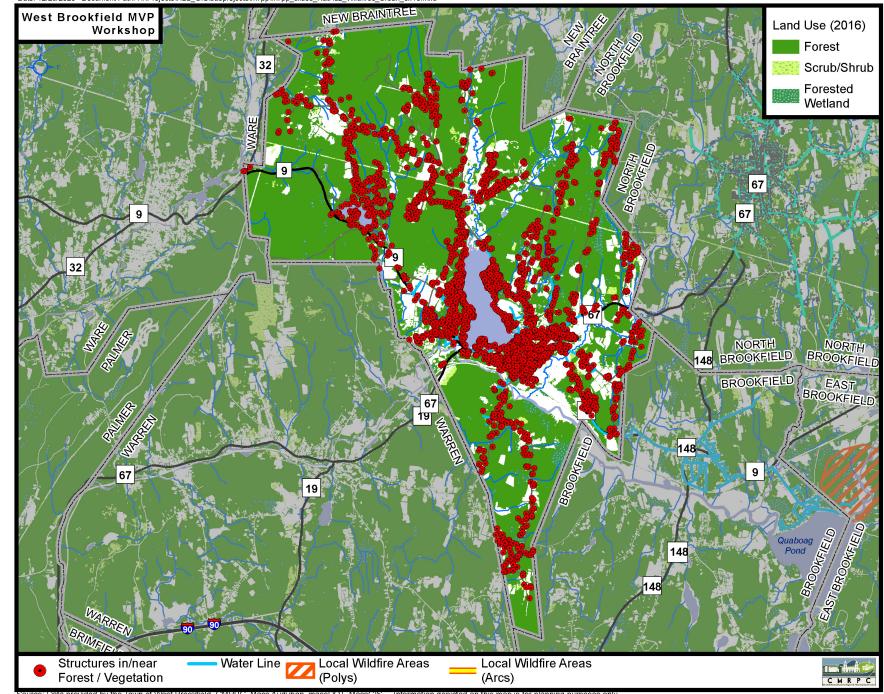
Date: 12/22/2020 Document Path: H:\Projects\HLS\_GIS\subprojects\mvpp\mvpp\_slides\_NatHaz\_Wildfires\_8x10.mxd





Source: Data provided by the Town of West Brookfield, CMRPC, massDOT, MassGIS. Information depicted on this map is for planning purposes only

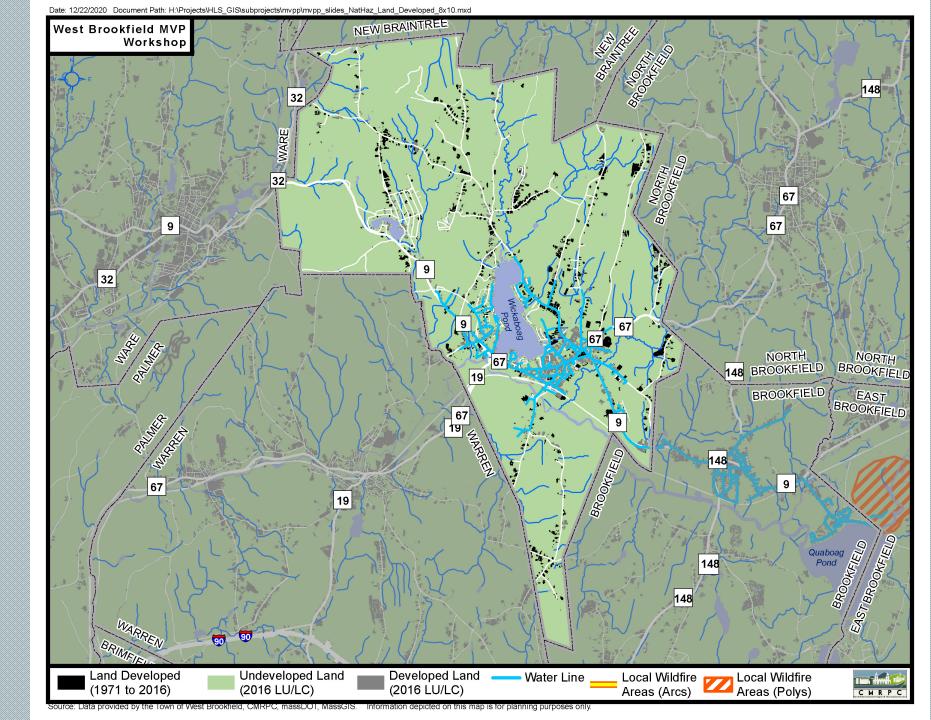
Date: 12/23/2020 Document Path: H:\Projects\HLS\_GIS\subprojects\mvpp\mvpp\_slides\_NatHaz\_Wildfires\_Urban\_8x10.mxd





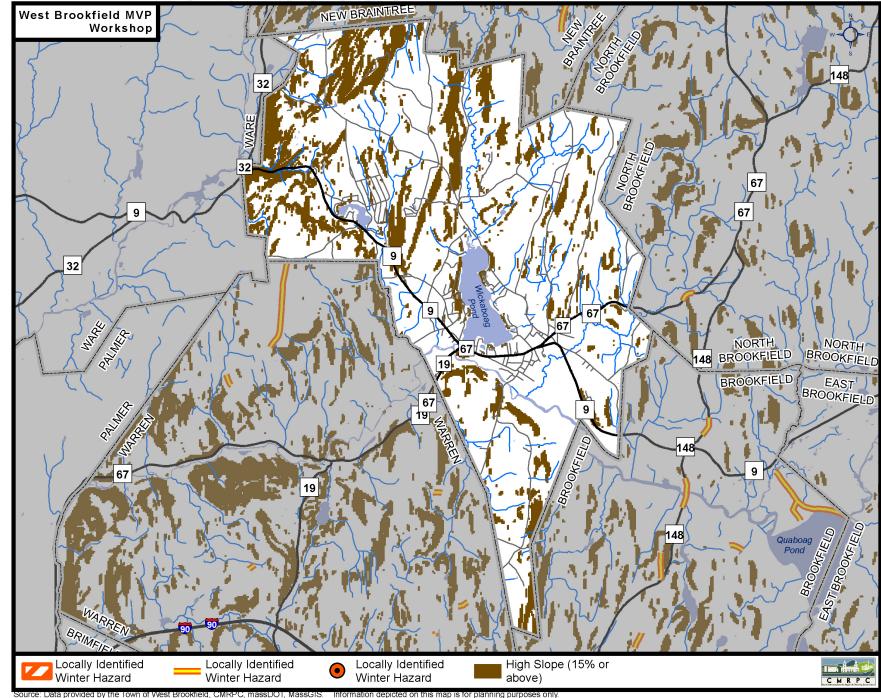
Source: Lata provided by the Town of West Brookfield, CMRPC, Mass Audubon, massLOT, MassGIS. Information depicted on this map is for planning purposes only





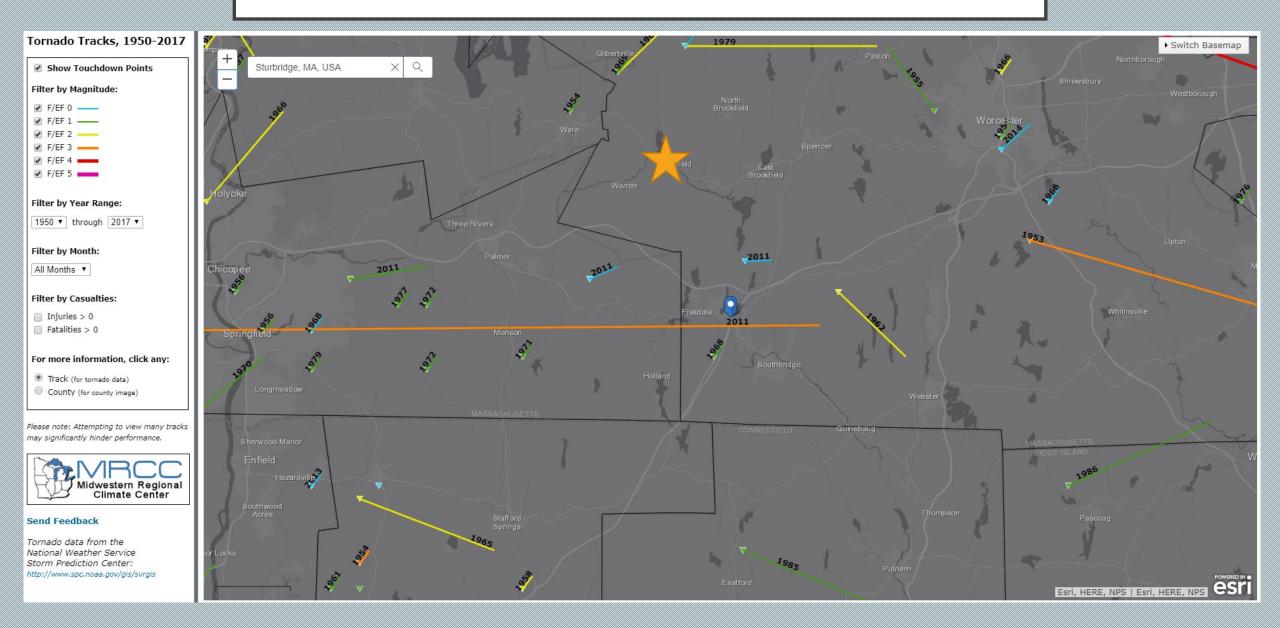








#### **EXTREME STORMS**



### CRITICAL INFRASTRUCTURE & FACILITIES

• What infrastructure and facilities are critical to the region and its residents? Which do we most <u>need</u> or <u>desire</u> to protect from hazards?

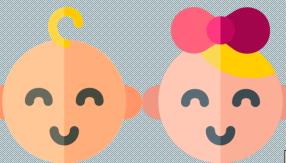
- Those needed to respond to hazard events or which would exacerbate hazard scenarios, if affected
- Those needed to perform day-to-day municipal operations and to support basic services and economic activity
- Major employers and institutions, natural and cultural resources, recreational and historic sites, etc...



## **VULNERABLE POPULATIONS**

- Vulnerability is not just about utilities, facilities, or businesses
  - Disproportionate populations of potentially vulnerable demographic groups (elderly, children, etc.) or socioeconomic groups (low income households, etc.) living/working in high-risk areas
  - Can be on neighborhood scale, or at specific locations
  - Cultural vulnerability (cultural or language isolation)
  - These will evolve over time, as climate and populations change

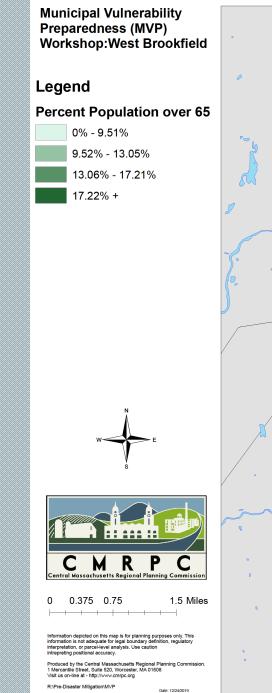


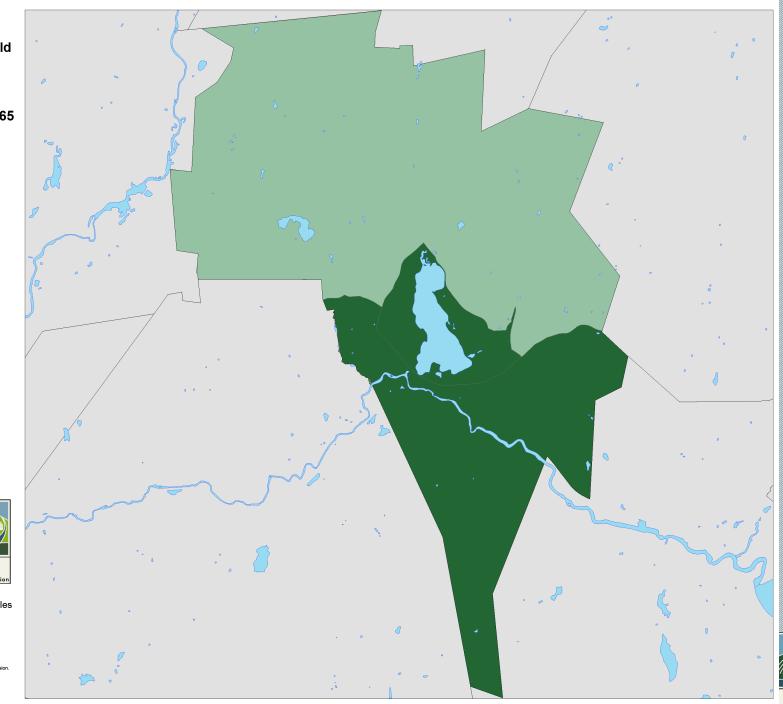




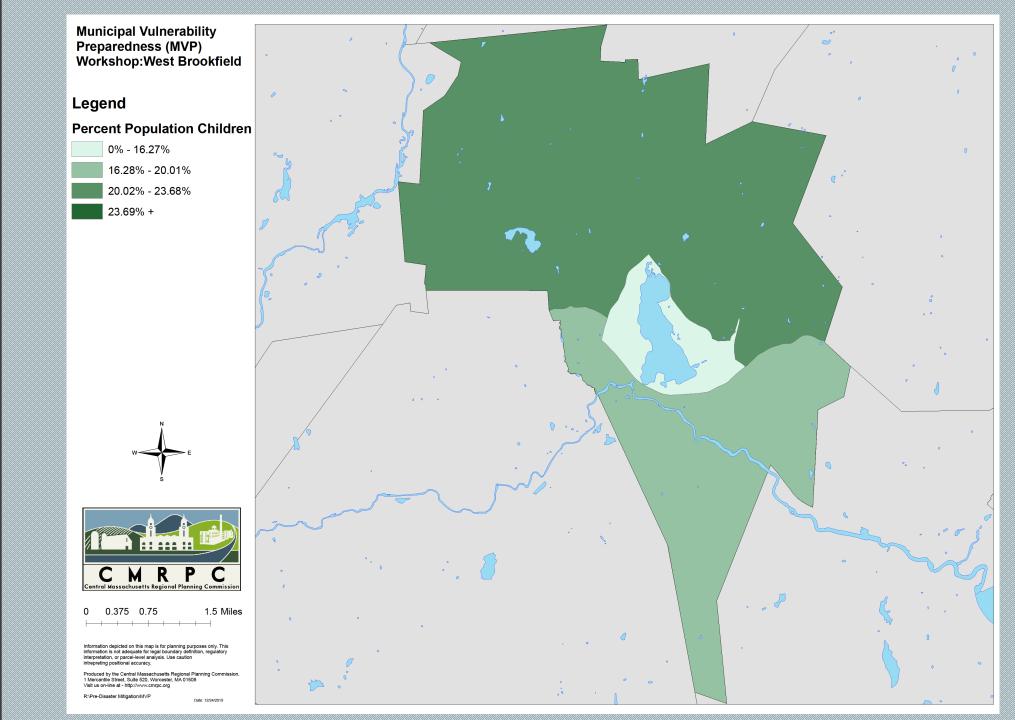
Icons made by freepik from Flaticon.com

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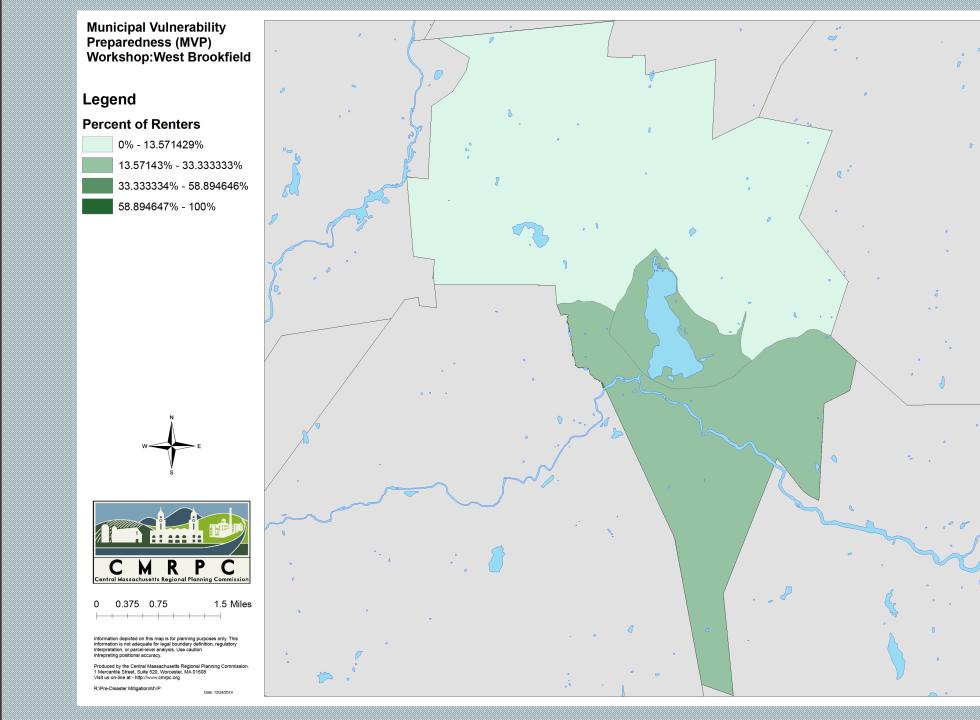






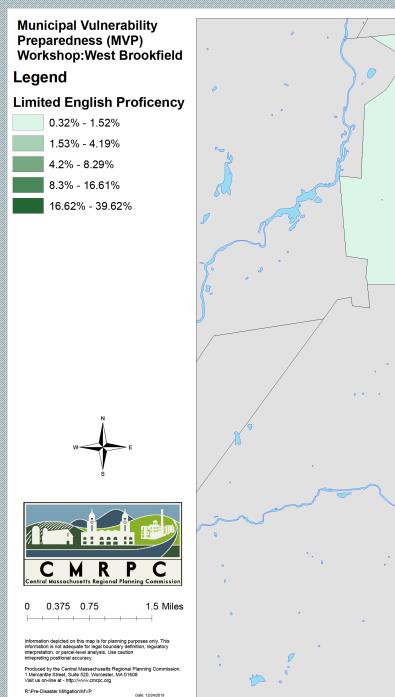


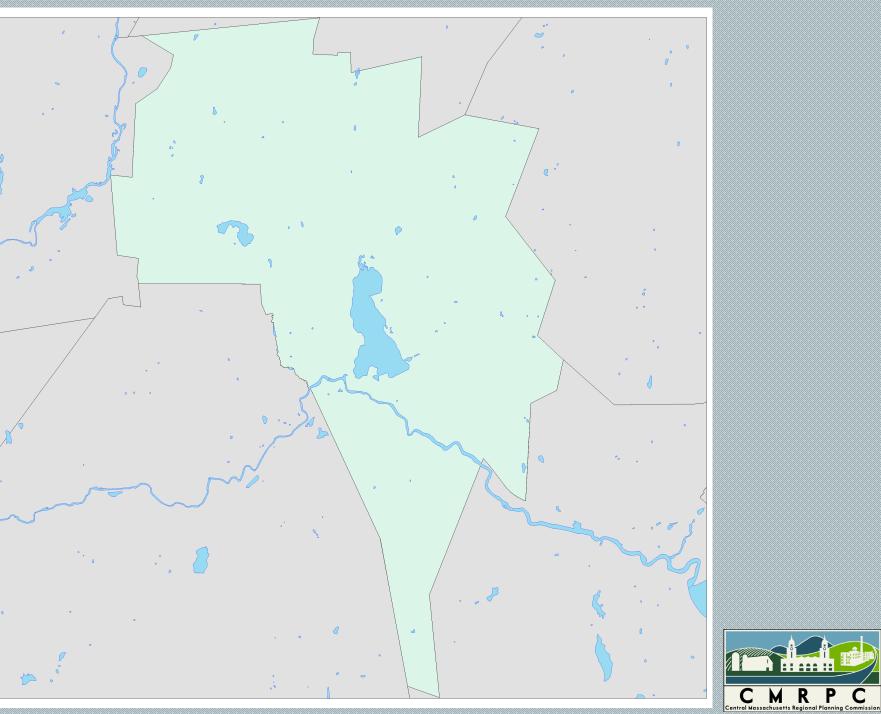






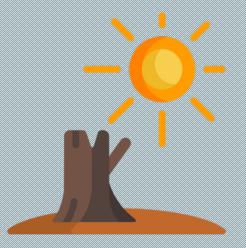




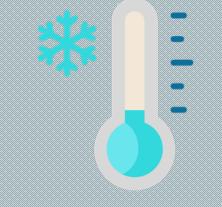


## QUESTIONS











## **TOWN OF WEST BROOKFIELD**

Municipal Vulnerability Preparedness (MVP)

**Community Resilience Building Workshop** 

March 4<sup>th</sup>, 11<sup>th</sup>, and 18<sup>th</sup>

7:00 – 9:00 PM



### THE MATRIX

Community Resilience B	uilding Risk Matrix	<b></b>	)		www.Commun	ityResilienceBu	ilding.co	m
			<b>Top Priority Hazards</b>	(tornado, floods, wildfire	, hurricanes, earthqua	ike, drought, sea level	rise, heat wa	ive, etc.)
- <u>M</u> - <u>L</u> priority for action over the <u>Sho</u> = Vulnerability <u>S</u> = Strength	ert or <u>L</u> ong term (and <u>O</u> ngoing	D.					Priority	Time
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Environmental								



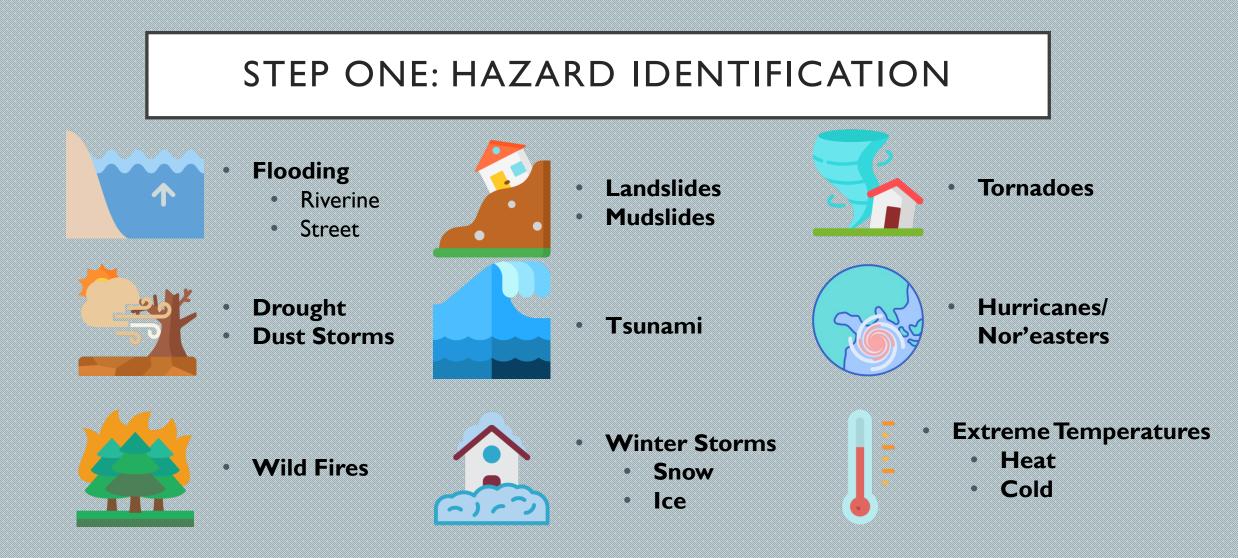
## **STEP ONE: HAZARD IDENTIFICATION**

# What are the <u>Top Four</u> Natural Hazards in West Brookfield?

I. Engage Community 2. Identify CC Impacts & Hazards 3. Complete Assessment of Vulnerabilities & Strengths

4. Develop & Prioritize Actions

5.Take Action





Community Resilience Building R	isk Matrix	<ul> <li>P-1</li> </ul>	e G				ityResilienceBu		
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#### PRIMARY TOPIC AREAS





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# DAY I COMPLETE



### **STEP TWO: COMPLETED**

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#### STEP THREE: ACTIONS, PRIORITY AND TIMELINE

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## NATURE BASED SOLUTIONS

- Make use of natural systems
- Mimic the natural processes
- Actions to protect, sustainably manage and restore ecosystems
- Simultaneously providing well-being and biodiversity

International Union for Conservation of Nature (IUCN)



## NATURE BASED SOLUTIONS (LID)

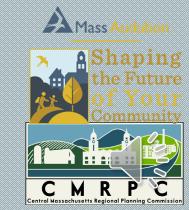
- Natural systems mimic natural processes to absorb and slow runoff and stormwater, and also reduce heat islands.
- Low impact development (LID) designs can be integrated into new development at neighborhood scales and work with traditional approaches





Bioswale between sidewalk and street

Contained bioswale or planter box



#### **Example Action Grant Projects**

Nature-Based Flood Protection, Drought Prevention, Water Quality, and Water Infiltration Techniques

Millbury

Designing green infrastructure like stormwater planters, bioretention bump outs, rain gardens, and other measures like porous pavers and pervious pavement to reduce heat island effects and stormwater runoff into the Blackstone River.

Nature-based solutions



#### MORE EXAMPLES OF LOW IMPACT DEVELOPMENT AND GREEN INFRASTRUCTURE



**Green Parking Lots** 

**Permeable Paving** 



#### **Example Action Grant Projects**

Nature-Based Flood Protection, Drought Mitigation, Water Quality, and Water Infiltration Techniques

## Belchertown



Designing and permitting for a replacement water storage tank that would increase storage capacity and resiliency to drought, and completing a feasibility/ concept design of a rainwater harvesting system at Belchertown High School to irrigate the athletic fields.





#### ECONOMIC BENEFITS OF LID AND GREEN INFRASTRUCTURE PROJECTS

Aquatic restoration projects in MA, like these natural culverts, are contributing to a growing "restoration economy" by providing jobs and economic output.

#### **Traditional Culvert**



#### Nature Based Culvert







#### **Example Action Grant Projects**

Land Acquisition for Resilience

## Mattapoisett



Purchasing 120 acres of forest, streams, freshwater wetlands and coastal salt marsh as conservation land to prevent development in vulnerable areas





Data Utilization

## BENEFITS OF GREEN INFRASTRUCTURE AND LID

- Cost Savings
  - Reduced development costs for infrastructure and maintenance
  - Reduced energy costs for residents
- Public Safety
  - Reduced flooding
  - Improved water quality
  - Increased climate change resiliency
  - Reduced urban heat island effect

- Quality of Life
  - Protect and restore natural features for improved aesthetics
- Value
  - Increased property values
- Regulatory
  - Assistance in meeting regulatory requirements



#### **STEP THREE: ACTIONS**

	Community Resilience Building Risk Matrix       Resilience Building Risk Matrix       Resilience Building Risk Matrix       Resilience Building Risk Matrix	
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### **STEP THREE: PRIORITIES**

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#### **STEP THREE: TIMELINE**

Community Resilience Building Risk Matrix	www.CommunityResilienceBuilding.com
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# **REPORT OUTS**

# What did your table find?



## **SUMMARY DISCUSSION**

Areas of agreementAreas of unique perspectives



## NEXT STEPS

- Complete the survey
- Report development
- Public "Listening" session with Members of the Public and Board of Selectmen Spring 2021
- Develop resources and Implement actions
- Apply for Action Grants



## **CONTACT US**

- West Brookfield Core Team Leaders
  - David Brown, <u>dwb01720@aol.com</u>
  - Barbara Portal, <u>Bjlportal@gmail.com</u>
- CMRPC Project Leader
  - Ian McElwee, imcelwee@cmrpc.org
- Executive Office of Energy and Environmental Affairs
  - Andrew Smith, and rew.b.smith@state.ma.us



# THANK YOU



## **PUBLIC LISTENING SESSION** West Brookfield's Municipal Vulnerability Preparedness Program

#### Wednesday, June 09, 2021 6:15pm West Brookfield Town Hall, Lower Room 2 East Main Street

Learn more and provide comments regarding West Brookfield's outcomes from the recently held Community Resilience Building Workshop under the Massachusetts Municipal Vulnerability Preparedness (MVP) Program

MVP provides support for communities to begin the process of planning for climate resilience and prioritizing adaptation and hazard mitigation actions. Communities that complete the MVP certification program are eligible for Action Grant funding and other opportunities.

For more information, contact the West Brookfield Board of Selectmen at (508) 867-1421 racerra@wbrookfield.com or the Central Massachusetts Regional Planning Commission at imcelwee@cmrpc.org





This event is funded through a grant from the Massachusetts Executive Office of Energy and Environmental Affairs

## MUNICIPAL VULNERABILITY PREPAREDNESS (MVP) PROGRAM

## Public Listening Session West Brookfield, MA June 09, 2021 6:15 - 7:15PM





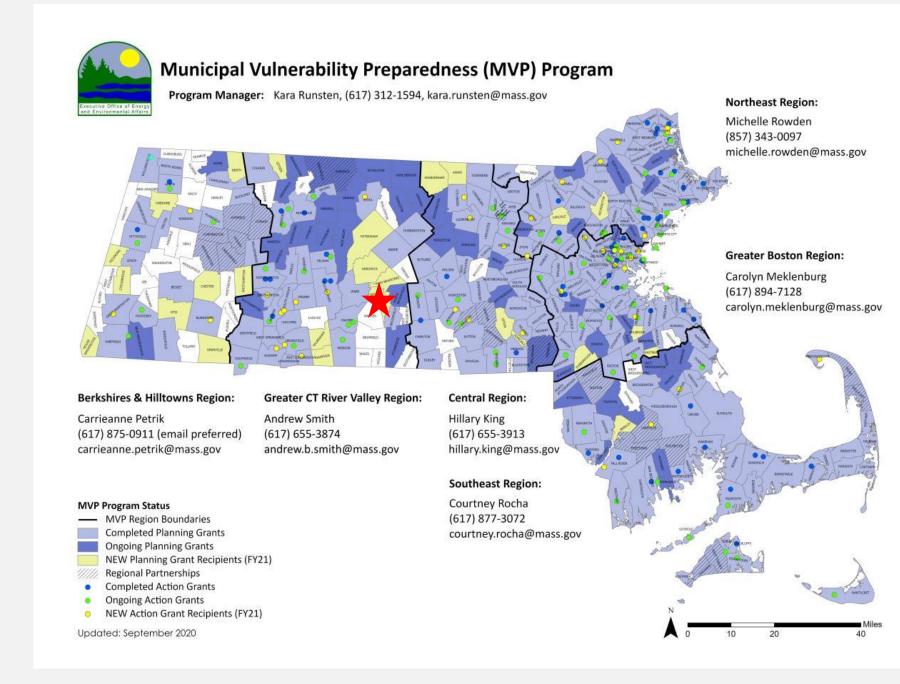




## MUNICIPAL VULNERABILITY PREPAREDNESS (MVP)

- State grant program to support cities and towns to begin the process of planning for climate resiliency.
- MVP Planning Process includes CRB Workshop, Report, Listening Session and Annual Reporting
- Communities who complete the MVP Planning Process become certified as an MVP Community
- Designated communities become eligible for MVP Action Grant funding







#### COMMUNITY RESILIENCE BUILDING (CRB) PROCESS

- Community-driven process led by the project coordinators (David Brown and Barbara Portal) with a core team of Town officials and Department Heads
- West Brookfield's 6 member Core Team met 3 times, December 2020, January and February 2021
- Invitation-only workshop was held virtually on March 4, 11, 18
   2021
- 21 attendees, including local officials, board and committee members, business, schools and non-profit groups
- Listening session (today) is open to the public



### CRB WORKSHOP OBJECTIVES

- Define extreme weather and climate-related hazards
- Identify current and future vulnerabilities and strengths
- Develop and prioritize actions for the community and broader stakeholder networks, and
- Identify opportunities for the community to advance actions to reduce risks and build resilience



#### PRIMARY TOPIC AREAS





#### STEP ONE: IDENTIFY TOP 4 HAZARDS

#### DROUGHT/HEAT





#### FLOODING



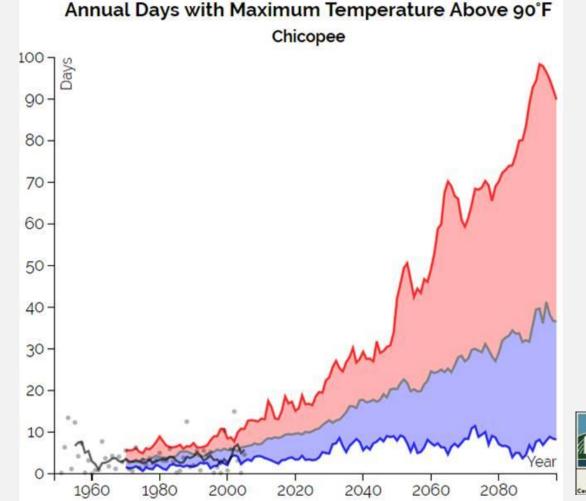
HIGH WIND EVENTS





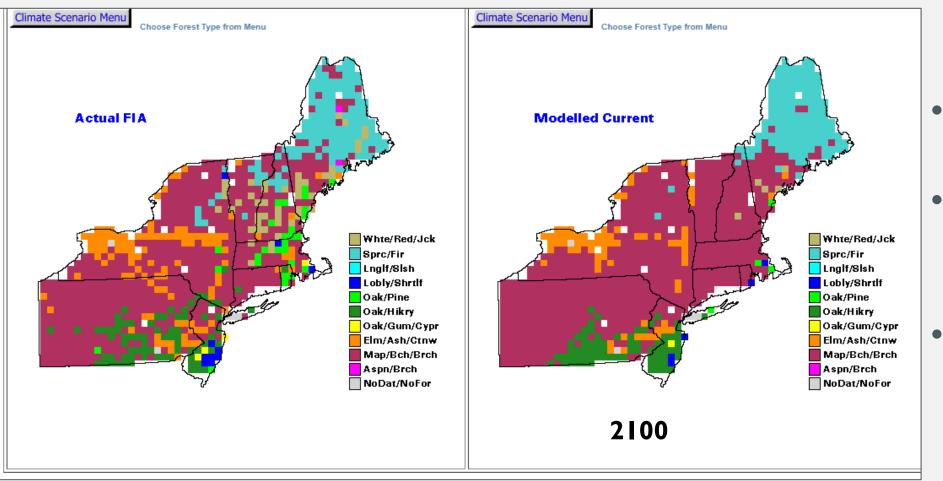
## **HEAT PROJECTIONS**

- Projected increase of 8 to 29 days annually over 90°F by mid century
- Projected increase of 11 to 69 days annually over 90°F by end of century





#### HEAT IMPACTS ON THE ENVIRONMENT



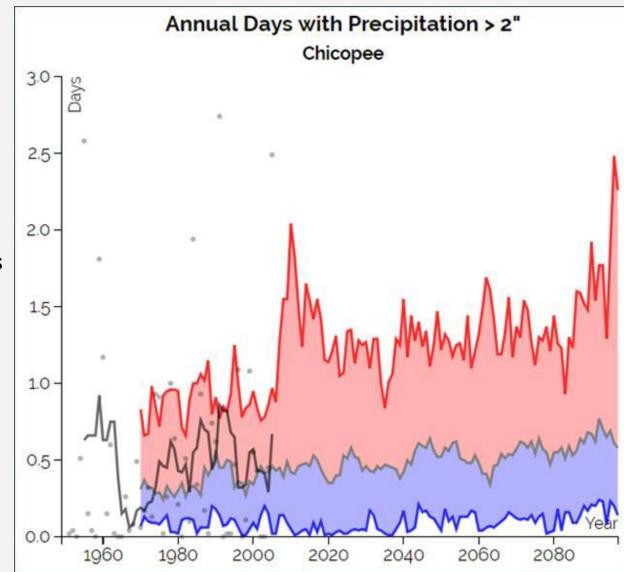
- Expected to move north
  - Diversity of species will likely decrease
- Likely increase in invasive species



## HEAVY RAINFALL AND FLOODING

#### **Extreme Precipitation**

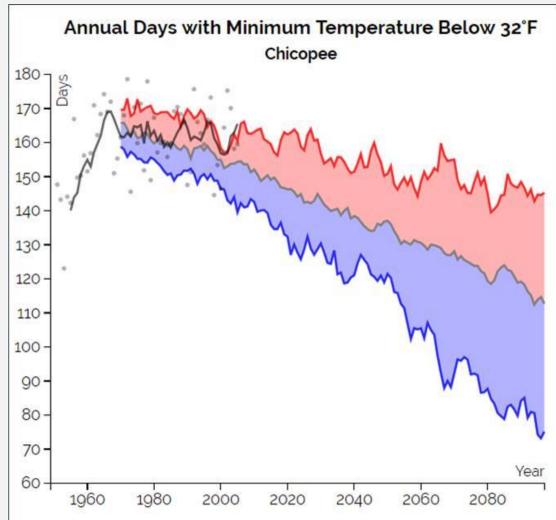
• The number of days each year with more than 2 inches of precipitation will increase.





## WINTER STORMS

- Annual days below freezing will decrease
- Rising temps → more winter precipitation to fall as rain or freezing rain
- Lower snowfall accumulation
- Winter Highest projected increase in precipitation
- Storms that do occur may be worse
   proximity to Atlantic Ocean
   increases risk of large storm events



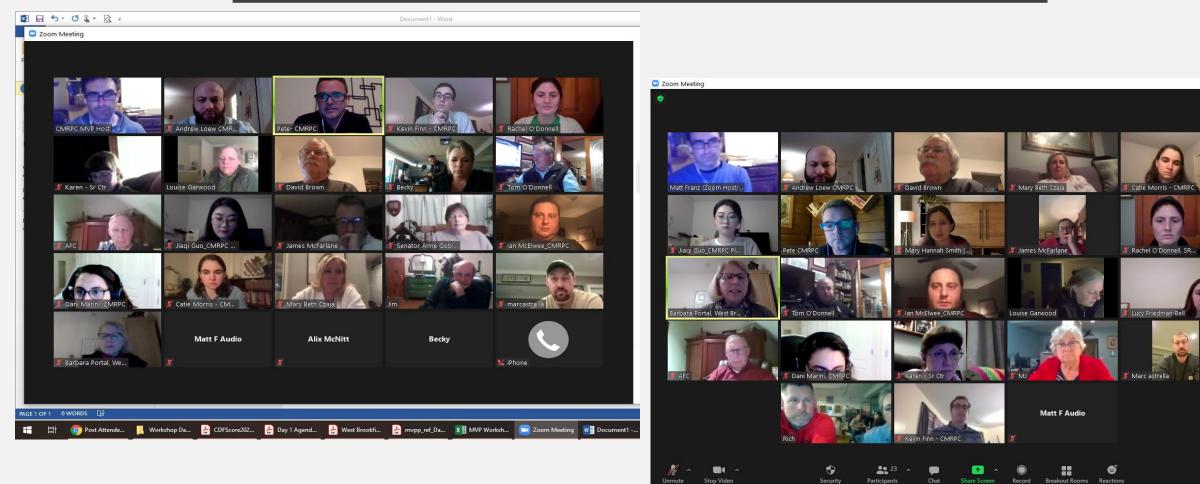


#### THE MATRIX

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#### TABLE SUMMARIES



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### INFRASTRUCTURE CONCERNS





### INFRASTRUCTURE STRENGTHS



Tree trimming

Public Water System

**Public Buildings** 



#### INFRASTRUCTURE ACTIONS

**HIGH PRIORITY** 

## Stormwater Drainage

Private Roadway Flooding

## Protect Water Supply



#### SOCIETAL CONCERNS



At-risk populations

Communications

Hospital Access



#### SOCIETAL STRENGTHS





#### SOCIETAL ACTIONS

**HIGH PRIORITY** 

Improve Town Communication









### ENVIRONMENTAL STRENGTHS





#### ENVIRONMENTAL ACTIONS

**HIGH PRIORITY** 

Prevent pollution from runoff

## Improve solid waste management

## Address solar impacts

Assist local conservation groups



## NEXT STEPS FOR WEST BROOKFIELD

- Finalize draft report with assistance from CMRPC
- Final report submitted to EOEEA by June 30, 2021
- West Brookfield receives "MVP Community" certification
- Annual reporting by Core Team
- Develop and apply for MVP Action Grants



#### ACTION GRANTS

- Next round expected in spring 2022
- Up to \$2 million for an individual community
- Up to \$5 million for regional projects
- One year grant cycle (typically) July 1<sup>st</sup>- June 30<sup>th</sup>
- 25% Match Cash or In-kind (Non-State Funds)

www.mass.gov/municipal-vulnerability-preparedness-mvp-program

www.communityresiliencebuilding.com



## **Questions and Comments**



## **CONTACT US**

- West Brookfield's Project Managers,
  - David Brown dwb01720@gmail.com
  - Barbara Portal bjlportal@gmail.com
- <u>CMRPC Project Leader</u>,
  - Ian McElwee, imcelwee@cmrpc.org
- <u>Regional Coordinator, Executive Office of Energy and</u> <u>Environmental Affairs</u>
  - Andrew Smith, Andrew.Smith@mass.gov







## Phillips hopes to bring experience to Leicester Select Board



Photo Courtesy

Allen Phillips is running for a seat on the Leicester Select Board.

#### BY KEVIN FLANDERS STAFF WRITER

LEICESTER – Having served as a selectman for ten years in his previous community, Allen Phillips brings a depth of experience rarely seen in board candidates.

During his decade-long Select Board tenure in West Boylston, Phillips served

as chairman four times. In addition, he worked for 20 years as a firefighter/ EMT, as well as his community's deputy emergency management director.

After moving to Leicester three years ago, Phillips wasted no time in getting involved in his new community, serving as the resident liaison for the Waite Pond Dam project. He also took the opportunity to familiarize himself with the town's many projects and challenges.

"About a year or so after moving to town, I was asked if I would consider running for the Select Board. I felt I needed to learn more about the town and some of the issues before I ran for the seat," Phillips told the New Leader. "I decided to run now because I feel I can make a positive impact and contribute to the future of our town. I have a few new ideas, as well as things that worked well in my previous community that I will work with the other Board members to see if we can implement in our town."

Phillips is hoping to bring a new perspective to the Board that can help identify ways to address and solve issues. His career experience also provides helpful insights; for the past 16 years, he has worked full-time for the Massachusetts Emergency Management Agency. Additionally, he holds a Master's degree in homeland security and emergency management, plus a degree in business.

"Due to my previous municipal leadership, I am familiar with budgets, contract negotiations, and general town functions," Phillips said.

In addition to his municipal service, Phillips has also coached Pop Warner football for eight years and assisted at the high school for another three years with the varsity team. Looking ahead, he is eager to continue solidifying his roots in Leicester and meet new residents and business owners.

"Leicester is a good town with good people. I would like to be an advocate for the community and bring issues forward that the taxpayers feel is important," Phillips said. "I would like to keep our taxes low and services high."

Over the last few years, prior to cementing his campaign for the Select Board, Phillips has been paying close attention to major issues affecting the town.

"One issue of note is the school. That has been a hot-button issue for the past few years, and it has caused some division in town that does not need to be there," Phillips said. "Town Meeting turned down the School Committee's request for a \$97 million school. That could have had a huge impact on our taxes if it had passed at that price. The town wanted more than one option to choose from, such as one that was not the full 'gold' option. Recently, many people have asked the town to look at Becker College. I had an opportunity to tour the full campus and buildings with the Select Board and School Committee. If the price is right, and in the neighborhood I am thinking, Becker may offer it to the town. Then it may be the 'gold' option for the 'brass' price, which may solve the problem."

Phillips has also stressed the importance of accessibility, accountability, and strong communications at all levels of town government.

"I plan to bring issues forward, as well as a possible solution. My goal is to make sure people understand that I am accessible and ready to assist them by bringing their issues forward," Phillips said. Outside of work, Phillips enjoys boating and fishing with his wife.

He has also done acting roles on 25-30 movies and many commercials.

"Most of all, I enjoy just spending time with my wife, children, and grandchildren," Phillips said.



## West Brookfield residents invited to presentation on MVP Program

#### BY KEVIN FLANDERS STAFF WRITER

WEST BROOKFIELD – Residents are invited to attend a public presentation and discussion next week to learn about the Massachusetts M u n i c i p a l V u l n e r a b i l i t y Preparedness (MVP) Program.

The presentation is scheduled for

So Class

Wednesday, June 9. The MVP Program is a state-funded effort to allow municipalities to plan for climate resiliency to protect residents and infrastructure against changing natural hazards. Once a town has completed the MVP planning program and become a certified MVP community, it is eligible to seek action grants to design and implement resiliency projects.

West Brookfield partnered with the Central Massachusetts Regional Planning Commission (CMRPC) to complete its MVP plan. The planning process included a threepart virtual workshop hosted by the West Brookfield project team and CMRPC leaders this past spring. The program also featured other community stakeholders, who worked with officials to identify current and future risks from natural hazards. These include risks to infrastructure, as well as environmental and societal assets.

"Some issues noted at the workshop include stormwater drains that are increasingly inadequate in the face of more intense rainstorms; more frequent droughts that threaten the drinking water supply; and changing forests that are impacted by heat, drought, and invasive plants and pests," read a statement released by the CMRPC.

A summary of the workshop's key findings and recommendations will be presented at the June 9 forum. Barbara Portal, West Brookfield's local co-project manager for climate change, and it gives town residents a chance to shape how we go forward."

Interested residents may attend the presentation on Wednesday, June 9, at 6:15 p.m. in the selectmen's meeting room at West Brookfield Town Hall (2 East Main St.). The presentation will be part of a special meeting of the Board of Selectmen starting at 6 p.m.

Attendees of the presentation are encouraged to ask questions and provide comments and feedback. The draft MVP report will be open to public review



#### Stonebridge Press Presents

#### **CONGRATULATIONS CLASS OF 2021!**

#### in the June 18 issue of all of our papers

DEADLINE FRIDAY JUNE 11 NOON (space) • Copy by Monday Noon

Run in one (your choice of 1 publication), five (Spencer New Leader, Charlton Villager, Sturbridge Villager, Southbridge News Webster Times) or all seven publications. Publications to choose from: Spencer New Leader, Auburn News, Charlton Villager, Sturbridge Villager, Webster Times, Blackstone Valley Tribune, Southbridge News

#### SPONSOR A SCHOOL GRADUATING CLASS LIST FOR \$250. Ask us what schools are available.

1. 2.4" X 2.5" block (dble blocks available at \$60/\$120/\$170 a. 1 pub = \$30 b. Five pubs = \$60	2. Full Banner (10" X 2 ) a. one pub = \$96 b. 5 pubs = \$192 c. 7 pubs = \$272	3. 1/8th page (5" X 5") a. one pub = \$120 b. 5 pubs = \$240 c. 7 pubs = \$340	4. 1/4 page (5" X 10 or 10" X 5") a. one pub = \$240 b. 5 pubs - \$480 c. 7 pubs = \$680
c. Seven pubs = \$85	Feel free to mentio		

Feel free to mention certain grads that may be working for you!

For more information or to reserve space, please contact

June Simakauskas, for the Spencer New Leader, Charlton Villager, Auburn News, Blackstone Valley Tribune at 508-909-4062, or email jsima@stonebridgepress.news

Mikaela Victor, for the Southbridge News, Webster Times, or Sturbridge Villager at 508-909-4126, or email mikaela@stonebridgepress.news

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#### COYLE

#### continued from page **A1**

voice in public education, providing citizen governance and knowledge of the community's resources and needs."

If elected, Coyle would focus on promoting several priorities. These include transparency of the budget; ensuring on-site, in-person learning for the fall; and helping to address financial and facility challenges.

"The voters have stated loud and clear they want a quality education, while renovating and utilizing the school buildings and campuses we have available, and I believe I am up to the challenge," Coyle said. "I would appreciate the opportunity to discuss these ideas as a School Committee member."

Many of Coyle's family members have also been active in community



the MVP program, will also be in attendance at the event.

"Once we host the public listening session, West Brookfield will be well on its way to joining the many other Massachusetts towns that are already MVP certified," Portal said. "This is an important step that will enable our town to secure the funds it needs to build its defenses against the long-term impacts of ahead of the June 30 deadline for submission to the state.

For more information about West Brookfield's MVP program or the June 9 event, including inquiries about potentially participating in the event remotely, please contact Ian McElwee, of the CMRPC. He may be reached at 508-459-3331, or by email at incelwee@cmrpc.org.

involvement over the years. She looks forward to having the opportunity to further serve Leicester in support of students and families, if elected.

To that end, one of her major goals for the upcoming year is to promote fullyear in-person education, beginning in the fall. Many students throughout the area struggled this past year during hybrid learning.

"Education is not a line item in a school's budget – it is the only item. Every child deserves a right to be in school, whether the child has disabilities, medical disabilities, or no disabilities," Coyle said. "By working together, we can all share in the knowledge and satisfaction that we have provided for the educational needs of all the children, and have built a district where students, parents, teachers, and staff feel they are welcomed and that they belong."

Outside of work and municipal leadership, Coyle enjoys gardening, going to the beach, reading, and exploring New England's history.



## - community -Board approves fuel storage application

Override figures determined

#### By Paula Ouimette Staff Writer

NORTH BROOKFIELD – The selectmen received an application from CMG Environmental, Inc. for a license to store underground fuel and outdoor propane storage at their May 25 meeting. There will be a total of 20,000 gallons of flammable liquids and 6,000 gallons of combustibles.

Jim Bernardino, of CMG Environmental Inc., along with the property owner of 215 North Main St., C.C.S. Realty, LLC discussed the steps they will be taking to construct this business. Bernardino said they will raze and rebuild the old buildings and construct a convenience store/gas station. He said they have gone through the permitting process with the Planning Board. Bernardino said they need to apply for the fuel storage application to continue their process.

Tripp asked Bernardino if Fire Chief Joseph Holway had reviewed the application. Holway said their application looked good and there was already a previous license to store fuel on the property in the past. Tripp said he knew the applicant would do their "due diligence." The hearing was closed, and the board approved the license application. Licensing fee

#### Administrative Assistant Ashley Barre said they need to set an annual licensing fee for the fuel storage. She said surrounding towns charge about \$100 to 150 a year. The board approved the rate of \$150 for a fuel storage licensing fees. **Override**

Board of Selectmen Chair Dale Kiley said the Town Treasurer ran the financial figures for a 2 <sup>1</sup>/<sub>2</sub> override of \$750,000. A member of the Finance Committee said it would add about \$455 per household (\$1.68 per thousand-dollar valuation for a \$270,000 home) for every year going forward. Kiley said that amount would never go down, unlike a debt exclusion, which would be paid off in a set timeframe.

Kiley said the tax increase with a debt exclusion would be.28 cents per thousand-dollar valuation, or an additional \$77 each year for 15 years for a \$275,000 home. BOS Clerk John Tripp said a lot of people in town cannot afford an override. Kiley encouraged residents to go on the town website and review the posted budget.

#### Grant funding withdrawal

Barre presented a letter to request removal of the town's sewer upgrade project from the Massachusetts Clean Water Trust grant funding list. Barre said once they are removed, they can get on the USDA grant funding list which will provide more money for the project. The board signed and approved the letter. **Chapter 90** 

Kiley said Highway Superintendent Jason Benoit is looking to spend Chapter 90 money on several road projects. They include: North Street, \$88,162; Brooks Pond Road, \$98,907; Bullard Road, \$69,752; and Brickyard Road, \$82,947. The board approved the Chapter 90 requests.

#### **One-day liquor license**

Holway had to change the date of the Fire Department's pay night supper from June 26 to June 19. The board had previously approved a one-day liquor license for the event. The board approved the amendment request.

#### **Town House support**

Barre said the Friends of Town House group is applying for a One Stop Grant and needs a letter of support from the board. The board approved the request.

#### Public comment

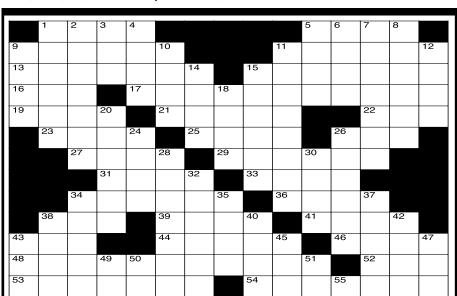
School Committee Vice Chair Tim Canada said the financial information presented tonight regarding the town budget and override versus debt exclusion was helpful. "As hard as this last month or two has been, it's getting people more engaged," he said. Kiley said the choices are not easy for anyone.

A resident asked should the school's budget is approved, will the town have to cut police, fire and transfer station budgets. Tripp and Kiley said the Fire Department currently has the station staffed with one person full-time to handle emergencies, but aside from that they were a volunteer department. Kiley said having this full-time staff person has helped their emergency response time, including when a child was brought directly to the station as they had stopped breathing.

#### Brickyard Park

Tripp said they took five weeks to clear a trail off of the Rail Trail on Brickyard Road. He said it is a nice "off the beaten path" part of the Rail Trail and is about half a mile in length. They have also installed benches down at Wolcott Pond.

The board entered executive session.



#### Joshua Hyde Public Library launches You Belong Here Campaign

Will reflect and celebrate the diversity of residents' identities

STURBRIDGE – The Joshua Hyde Public Library announced that it launched a new year-long initiative, "You Belong Here," on May 27.

Recognizing that patrons of the library and the broader community of Sturbridge come from varying backgrounds and experiences, the library is taking active steps to create an environment in which the identities and cultural backgrounds of all are valued and respected. The You Belong Here initiative includes expanding the diversity of the library's collection, its programs and its policies to promote a sense of belonging while continuing to embrace the uniqueness of individuals. In addition, the Library Board of Trustees at the JHPL approved a new Diversity, Equity, and Inclusion statement at their April, meeting. The statement can be found at sturbidgelibrary.org

Becky Plimpton, director of the Joshua Hyde Public Library, describes the initiative as an important step for the Sturbridge community. "The library staff and trustees are excited to kick-off this campaign." said Plimpton. "The message that everyone is not just welcome at the library, but that you will see yourself and your neighbors reflected in the programming and the collection, is an important one."

The YBH committee has chosen three books for a community-wide summer read: "American Street" by Ibi Zoboi for adults/young adults, "The Year I Flew Away" by Marie Arnold for middle school readers, and the picture book "My Day with the Panye" by Tami Charles. Books will be available at the Sturbridge Coffee House, Ohoodles of Doodles, Sturbridge Senior Center, and the library. The community read will conclude in August with book discussions and a story hour.

The first program planned as part of the You Belong Here initiative is the Juneteenth Paint Event scheduled to take place on June 8, at 6:30 p.m., via Zoom. To register for this program and for information on other programs planned as part of the initiative, please see sturbridgelibrary.org or the library's Facebook page.

#### West Brookfield invites residents to MVP Climate Resiliency Presentation on June 9

invites residents to attend a public presentation and discussion on the evening of Wednesday, June 9, at 6:15, to learn about the Massachusetts Municipal Vulnerability Preparedness Program and its progress in West Brookfield. The MVP Program is a state-funded effort to allow municipalities to plan for climate resiliency to protect residents, and infrastructure against changing natural hazards. Once a town has completed the MVP planning program and become a certified MVP community, it is eligible to seek MVP action grants to assess, design and implement resiliency projects highlighted in its approved plan. West Brookfield has partnered with the Central Massachusetts Regional Planning Commission to complete its MVP plan. The core of the planning process was a three-part virtual workshop hosted by the West Brookfield project team and CMRPC earlier this spring where town officials and other stakeholders worked to identify current and future risks from natural hazards to infrastructure, environmental and societal assets, and proposed local solutions. Some issues noted at the workshop include stormwater drains that are increasingly inadequate in the face of more intense rainstorms, more frequent droughts that threaten the drinking water supply and lake water quality and foster wildfires, and changing forests that are impacted by heat, drought and invasive plants and

WEST BROOKFIELD – The town pests. A summary of the workshop's key findings and recommendations will be presented at the forum.

According to Barbara Portal, West Brookfield's local co-project manager for MVP, the June 9 event is a key part of the planning process. "Once we host the public listening session, West Brookfield will be well on its way to joining the many other Massachusetts towns that are already MVP certified," Portal

said. "This is an important step that will enable our town to secure the funds it needs to build its defenses against the long-term impacts of climate change, and it gives town residents a chance to shape how we go forward."

Interested residents may attend the presentation on Wednesday, June 9, at 6:15 p.m., in the Selectmen's meeting room at West Brookfield Town Hall, 2 East Main St. The presentation will be part of a special meeting of the Board of Selectmen starting at 6 p.m. Attendees are encouraged to ask questions and provide comments and feedback. The draft MVP report will be open to public review ahead of the June 30 deadline for submission to the state.

Questions about West Brookfield's MVP program or the June 9 event, including inquiries about potentially participating in the event remotely, should be directed to Ian McElwee, Central Massachusetts Regional Planning Commission, at 508-459-3331 or imcelwee@ cmprc.org.

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15. Hawaiian island	41. Native people of	Bostonians (abbr.)	32. Runner-up				
16. Set aflame	New Mexico	4. Turn away	34. Musician				
17. Very happy	43. No seats available	5. Impersonal	35. Serious or urgent				
19. Blue dye	44. Famed "Air Music"	6. Shortly	37. Esteemed one				
21. Small terrier with	composer	<ol><li>7. Indigenous Alas-</li></ol>	38. Where rockers play				
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	Meeting Name: MVP Listening Session Date: June 9	Participant Name	Paril Bring	TI Brown	HERRICA AUMA	Kelled Sickenler	DANIEL SANTOS	Mary Beth Price	David Fitcered	DAVE CAMERON	15 man State	Rese Shalam	Rubren Liew	DAVID PLERCE	Converting Hears have	DIANE UAYDA