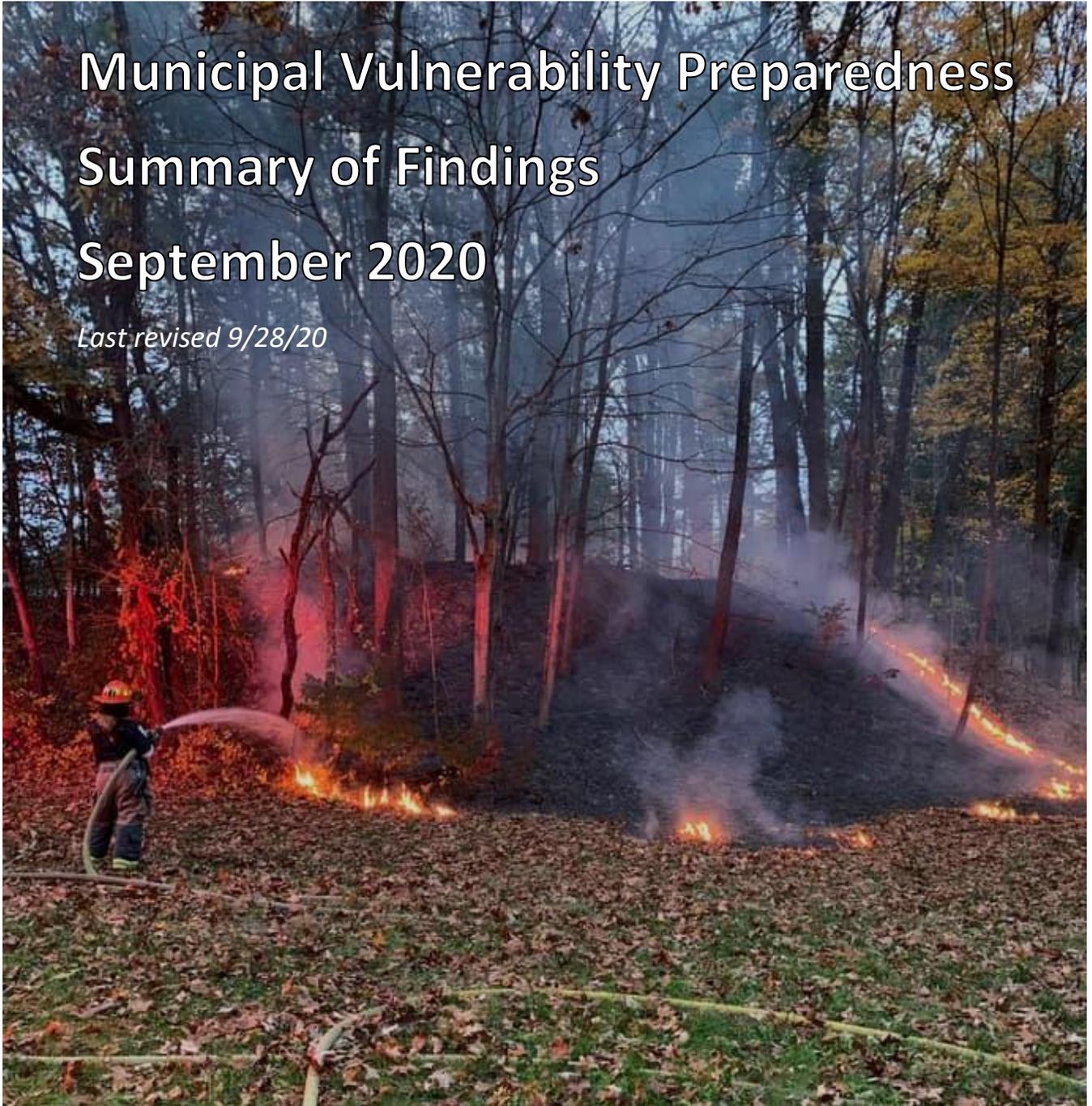


Town of Berlin



Municipal Vulnerability Preparedness Summary of Findings September 2020

Last revised 9/28/20



CMRPC MISSION

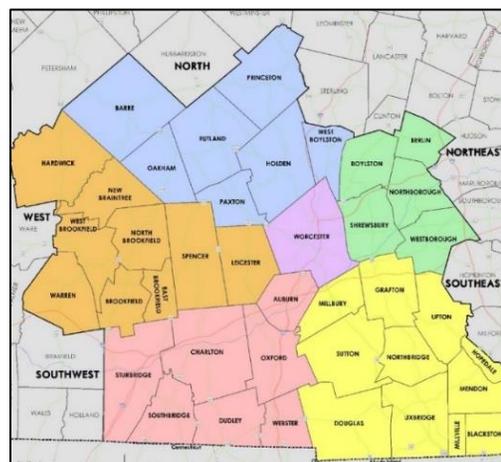
The Central Massachusetts Regional Planning Commission is a regional partnership serving the planning and development interests of 40 member communities in southern Worcester County in Massachusetts. Our primary mission is to improve the quality of life for those who live and work in our region.



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. CMRPC's programs include Transportation, Regional Services, Geographic Information Systems (GIS), and Community



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

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 Berlin 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.



<https://www.mass.gov/news/governor-baker-signs-legislation-directing-24-billion-to-climate-change-adaptation>

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 Berlin by the Central Massachusetts Regional Planning Commission (CMRPC). Support from the Berlin 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 Berlin's Core Team for their time and hard work in participating in this project. These include, but are not limited to:

Margaret Nartowicz, Town Administrator, Project lead

Mary Arata, Administrative Assistant

Dave Smith, Highway

Ken Clark, Fire Chief

Tim Wheeler, Planning Board

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

Peter Peloquin, Associate Planner, CMRPC

Danielle Marini, Assistant Environmental Planner, CMRPC

Andrew Loew, Project Manager, CMRPC

Matt Franz, GIS Analyst, CMRPC

Hillary King, Regional Coordinator, EOEEA

The Town of Berlin’s CRB workshop was scheduled to be held on March 27, 2020 at the Berlin Town Offices. On March 23, 2020, Governor Baker ordered all non-essential businesses to cease in person operation through April 7, 2020. The Core Team had a regularly scheduled meeting on March 25, 2020 and it was decided to reschedule and revisit the date as events unfolded. On March 31, 2020, Governor Baker order all non-essential businesses to remain closed and gatherings of not more than 10 people to remain in effect through May 4, 2020. On April 28, 2020 that order was extend through May 18, 2020.

During this time of uncertainty, Berlin’s Core Team continued to discuss possible alternatives in the case no extension was granted. Berlin’s Core Team and the staff at CMRPC worked diligently to create a virtual workshop. The virtual workshop would be conducted in a similar format as an in-person workshop with some slight differences. It was decided that the workshop would be held virtually on ZOOM. The workshop would take place over the course of three separate meetings. The first meeting would be held for two and a quarter hours. The first quarter hour would be dedicated to familiarizing all participants with all of ZOOM’s functions and introductions. The remaining two hours would be dedicated to a brief overview, identifying features, location, ownership and vulnerabilities and strengths. The remaining two meetings were reserved for completion of the prior meetings work and to develop actionable items to improve resiliency throughout the Town of Berlin.

The virtual workshop was held on **June 18th, 24th and 25th** from 3:15PM-5:30PM. To prepare participants for the workshop all presentations were pre-recorded by the Core Team and the staff at CMRPC. Upon completion of the Core Team intro videos, MVP program overview presentation, Climate Projections presentation, Hazards presentation and Matrix/ Nature Based solutions presentation, the invitation was put together. The invitation was complete with links to each presentation, table maps, excerpt from the Berlin Hazard Mitigation Plan, two-page MVP program overview, CRB Workbook, how to use ZOOM information, 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 prior to the workshop.

Workshop Invitees and Participants

Name	Affiliation	Attended
Mary Arata	Administrative Asst. to the TA	Y
Margaret Nartowicz	Town Administrator	Y
Lynn Sallee	Earthworks Advisory Committee	N
Laura Busky		N
Ashley Davies	Sudbury Valley Trustees	Y
Holly Kennedy-DeGruttola	Conservation Associate	Y
June Poland	Town Accountant	N
Judith Mills	Berlin Senior Citizens	N

Dennis Fearebay	Treasurer/Collector	Y
Hillary King	EOWEA MVP Regional Coordinator	Y
Lynda Nelson	Housing Partnership	N
Jodi Breidel	WHEAT/United Way	Y
Osamu Kumasaka	EEA Intern	N
Leah Foecke	EEA Intern	Y
Rose Callanan	EEA Intern	Y
Timothy Wheeler	Planning Board/CMRPC Board of Directors	Y
Kenneth Clark	Fire Chief	Y
James Royer	ZBA Vice Chair	Y
Eloise Salls	Town Clerk	Y
James Holyoak	CPA Committee	N
Fran Gill		N
Robert Blair	COA Chairmen	Y
Jessica Meltzer	Cultural Council	Y
Ernest F. Houle	Assabet Reg Tech HS Supt.	Y
Molly Reed	Assessor Director	Y
Erik von Geldern	resident/IT	Y
Temara Bedard	Nurse, NABOH	N
John Campbell	Berlin Middle School Principal	Y
James Wheeler	Ag Com & Asst Town Clerk	Y
Tom Galvin	Police Chief	Y
Sandra Lee Reardon	St Joseph's Church	Y
Jay Teich	Planning Board	N
Amy Grenie	Accounting Clerk	N
David Smith	Highway/Facilities Supt.	Y
Peter Hoffman	EDC Chair	Y
Scott Farrar	National Grid	Y
Richard Hanks	Building Commissioner	Y
Michael Ginzberg	Finance & Capital Planning Committees	Y
Paul Mikelk	Berlin Board of Health Chairman	Y
John Aney	ConsCom Chair	Y
Louise Janda	ConsCom	Y
Harold Naughton	State Rep	N
Liane Leahy	Inspector Dept Clerk	Y
Walter Bickford	Conservation Commission	Y
Barry Eager	First Parish Church, Town Moderator, Historical Commission	Y
Susan Therrien	Personnel Committee	Y

Core Team and Project Team

Name	Affiliation	Role
Margaret Nartowicz	Berlin	Town Administrator, Project Lead
Mary Arata	Berlin	Administrative Asst. to the TA, Core Team
Kenneth Clark	Berlin	Fire Chief, Core Team member
David Smith	Berlin	Highway/Facilities Supt., Core Team member
Tim Wheeler	Berlin	Planning Board
Peter Peloquin	CMRPC	Project Lead
Dani Marini	CMRPC	Project Assistant

The Workshop's goal was to identify the four top natural hazards that impact Berlin and develop strategies to enhance the town's resiliency related to climate change. Following the CRB work plan process, CMRPC facilitators and planners pre-recorded three presentations:

- Overview of the CRB process and the MVP program.
- A summary of climate change projections, impacts and mitigation strategies
- A detailed profile of natural hazards in the Town of Berlin, 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 Berlin. There was agreement between the Core Team and all participants that--in no particular order-- **flooding, wind events, winter storms** and **Drought/Heat** have the greatest effects and potential impacts on the Town. Having identified these hazards, workshop attendees were then asked to work through the CRB program's matrix and mapping exercise. Table facilitators, along with CMRPC staff guided stakeholders in four small group to examine the resources throughout the Town and to identify the town's most serious concerns regarding natural and climate-related hazards that threaten their community

The group then reconvened six days later to build upon the first day's work. The goal of the second session was to continue to identify features and begin to identify actionable items to reduce or mitigate the projected impacts of climate change. The next day, the group used the remaining time to complete the matrix. Once the group had completely filled out the matrix, the groups gave a summary of findings by the table reporters.

Upon completion of the three virtual workshop meetings, CMRPC compiled all information from the matrix into survey form. The survey was then distributed to all attendees of the workshop from July 6, 2020 through July 13, 2020. 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. Results of the survey were used to prioritize and organize the matrix and report.



Thirty-five (35) stakeholders attended the virtual CRB Workshop, including representatives from Town government, emergency services, the MVP Core team, Municipal Department Heads, Conservation Commission, Agriculture, Churches, Cybersecurity and concerned citizens of Berlin.

A public listening session to discuss MVP results and recommendations for future actions was held virtually on September 3, 2020. The listening session was properly promoted across several avenues, with a combined eleven (11) people in attendance. Between the two meetings, a total of forty-two (44) people participated in the MVP process. Immediately following the listening session, the recorded ZOOM meeting, along with the draft report was posted on the Town's website for further comment. The comment period was open from Friday, September 4th through Friday, September 18, 2020.

Top Hazards

Following the presentation at the beginning of the workshop, a full-group discussion was held for approximately fifteen minutes to determine the top four hazards for breakout groups to further assess solutions. 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/heat, winter storms, and wind events.**

In 2016, Berlin 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 caused disruption to the town, including localized flooding, power outages, and calling upon mutual aid agreements. With climate change, all of these natural events are expected to increase in severity and frequency.



EXTREME TEMPERATURES

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.



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.



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.



HIGH WIND

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.

Extreme weather in recent years demonstrates how the various hazards impact the town. There have been numerous flooding events over the years, and this threat is only going to increase as the majority of the town's developed land is along the various brooks and rivers that flow throughout the town. Specific areas with critical infrastructure have been shown to be prone to flooding, thereby creating a variety of safety concerns. Areas with frequent drainage issues include West Street and South Street.

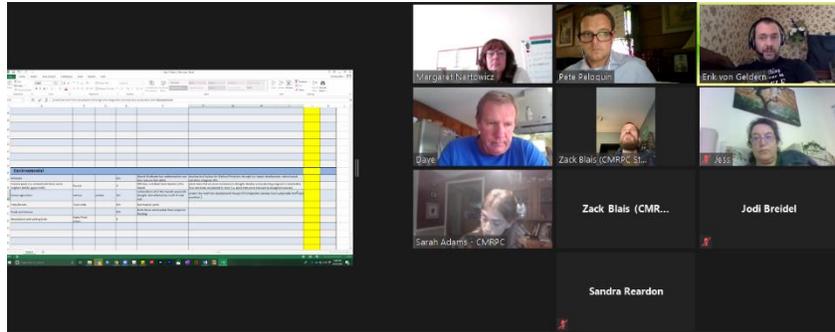
Winter Storms. Winter ice storms, a regional problem, are expected to be more intense and include more mixed precipitation which is highly damaging to trees, power lines and other infrastructure.

Extreme Temperatures. Wildfires are expected to increase due to the impact of prolonged droughts and extreme heat. Drier forests and wooded areas will be more combustible in drought conditions. Drought will also lead to water shortages that will impact the entire town whether or not residents and businesses are on town water or have wells.

High Wind. Heavy wind events are a serious concern. The town and the surrounding area have experienced a recent uptick in storms with hurricane-level winds. 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 different hazards affect the town at different times of the year. Flexibility and comprehensive response by town officials is needed to ensure the safety of the citizens in different hazard situations exacerbated by climate change.

These concerns, which are largely inter-related, are based on data provided by the Massachusetts Climate Clearinghouse as well as watershed-specific data from the Northeast Climate Adaptation Science Center at the University of Massachusetts at Amherst. For the Sudbury-Assabet-Concord River Basin, where Berlin is located, projections show an expected increase in precipitation overall, with the greatest increase during winter. The number of days with more than 2" of rainfall, potentially leading to inland flooding, is also expected to increase with the average expected to be close to 15 days by the year 2100 compared with approximately 10 days now. 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.



SUMMARY OF FINDINGS

Overall, the virtual workshop was received positively by all in attendance. Following the presentations, participants were asked if they agreed with the core team’s identification of flooding, wind events, winter storms and drought/heat as the primary hazards facing Berlin. All the participants agreed that these four hazards were the most relevant for Berlin.

The Town’s public buildings and emergency management systems were described as strengths, along with the open spaces and recreation resources. Relationships between the Town and local churches and business were considered to be an overall strength for the town, and these organizations should be used to expand engagement. High rates of development and rapid population growth were considered a vulnerability and a threat to natural resource areas. Dams, culverts, and bridges were also considered vulnerable safety hazards. Town infrastructure and services, such as the water supply, gas supply, and sewer system were considered vulnerable to a variety of hazards. The possibility of creating a Town swimming hole with trails and education signage that doubles as a fire pond was also discussed.

Another feature that was widely seen as a hazard to the Town is the amount of locations causing runoff contamination and pollution concerns. The illegal dump site at Santo Anza Farm located in Northborough was noted as having an extremely negative impact on Berlin due to the pollution risks and terrible smell. Other vulnerable areas mentioned were issues of overall tree health and tree maintenance systems, the CSX Railroad line, and the proximity to Route 495 and Route 290. There was extensive concern about the need for upgraded emergency communications and increased public engagement with the Code RED system. Recommendations included upgrading emergency communications systems and increasing cellular service throughout the Town.

There was agreement that alternative water provisions should be researched, and that the Town should hire a consultant to develop a water supply action plan. Backup generators and alternative sources of power for the private wells, private sewers, and Town facilities should be secured to maintain access to these critical services in times of inclement storm events. Many asked for greater public education regarding water use, drought, herbicide and pesticide harm, and insect-borne disease prevention.

All four tables identified specific vulnerable locations that are already in need of attention and will likely face worsening impacts due to climate change. These include forested areas, town-wide dams, the senior population, private wells and septic systems, and agricultural lands.

CURRENT CONCERNS AND CHALLENGES PRESENTED BY HAZARDS AND CLIMATE CHANGE

CMRPC, the MVP planning provider, had the unique advantage of preparing Berlin's Hazard Mitigation Plan (HMP), which was adopted by the Town's Board of Selectmen and approved by FEMA in April 2018. Meetings with the MVP Core Team prior to the workshop as well as the HMP helped to identify past climate-related events that significantly impacted the Town. Disaster events of concern included frequent major winter storms (as in 2015 and 2018), ice storms (2008), severe rain events (2005, 2010, 2016), tropical storms (Irene, Sandy), infestations of invasive and otherwise undesirable species (Asian Longhorn Beetle, gypsy moths, aquatic invasive species, ticks), and extended periods of drought (2015 to 2016). Berlin does not have a public water supply and relies on private well and sewer systems. Advisedly, it will be important for the town to secure additional water provisions and a response plan in the event that power outages prevent access to these systems, or drought damages the wells.

Prior to the workshop, CMRPC staff presented downscaled climate change data provided by Massachusetts's Executive Office of Energy and Environment Affairs (EOEEA) and the Northeast Climate Science Center at the University of Massachusetts, Amherst. Berlin lies entirely within the Sudbury-Assabet-Concord River Basin, and should projections for the watershed hold true, by mid-century, annual average temperatures will increase in the range of 3 to 6.4 degrees from the historical baseline. Hot days over 90 degrees will increase 8 to 29 days annually; days below freezing will fall 19 to 38 days annually; annual precipitation will increase 1.2 to 6.3 inches. Seasonal drought conditions will become more frequent as precipitation becomes more concentrated in extreme intensity events and winter snowpack is reduced. Some of the challenges of these projected changes – many of which are already being observed – were discussed in a presentation at the workshop focused on specific hazards in the Berlin area.

Challenges highlighted in the presentations and/or discussed as a group or in the breakout groups included:

- In general, attendees cited concerns that climate change will exacerbate problems that are already apparent and the town lacks the resources to address comprehensively – flooding and storm water management, vulnerable roads, ecological damage, and vulnerable populations, all within the context of a small community.
- An increase in hot and warm days and decrease in cold days will mean increased need for cooling and less need for heating, especially among vulnerable groups such as children and seniors. This concern was elevated because of the Town’s relatively limited formal shelter capacity and the lack of backup power at the Memorial School and Public Safety Building.
- Increased temperatures can also be expected to cause changes in the water cycle, leading to more intense rain events. Increased precipitation rates will lead to more frequent and severe flooding in areas outside of designated flood zones defined using historical data.
- Increased storm intensity will likely cause more tree damage leading to power outages and road closures, higher peak river flows requiring new approaches to storm water management, and increased erosion of river and brook banks and nearby infrastructure. Severe storms will still likely damage and impact the power lines throughout the town and especially the overhead transmission lines owned and maintained by National Grid. Tree damage will occur from intense wind storms such as recent tornadoes or from heavy snow and ice storms.
- More frequent and severe droughts will challenge water supplies and increase risks from wildfire. Increased risk of wildfire can lead to a wide-range of ecological outcomes including increased damage to human property and life, removal of suitable habitat space, and changes in ecosystem services made available by forest cover.
- Invasive plant and animal species can impact public health through increasing numbers of disease carrying pests (e.g., ticks and mosquitoes) and by damaging key ecosystems such as forests and wetlands, thereby increasing wildfire and flood risks.

As the climate continues to change and natural disasters increase in frequency and strength the need to communicate with residents, businesses, and other institutions. Changing climate will dictate the need for enhanced communications systems and related infrastructure and flexible emergency response and evacuation plans. These flexible response and evacuation plans will be particularly important for the senior citizens who live alone and do not have access to a vehicle.

VULNERABLE AREAS

The locations in Berlin identified by workshop participants during discussion as vulnerable to the hazards discussed include:

Forested areas throughout town are vulnerable to increasing pressures from heat, drought, wind events and invasive insect species. The aging tree population is of concern for the overall health of the forested area covering most of the Town. Roadside trees are also a vulnerability due to a lack of a sustainable tree trimming programs and remove and replace program.

There are over 200 standing dead trees that threaten power lines and property damage.

Town-wide Dams were of concern to many in attendance as a number of dams in town are designated as High Hazard, Significant Hazard, or are at-risk. Dams in particular to be concerned with are Old Mill Dam, Lester Ross Dam, and Wheeler Pond Dam.

The **Senior Population** was considered vulnerable by all groups during the breakout sessions. High concentrations of senior citizens living in condensed areas were viewed as a risk in the event of evacuation. The availability of transportation for, and communications with, the senior population during times of emergency is considered to be a key aspect of resiliency that needs upgrading and rethinking.

Wells and Septic Systems town-wide were of concern to participants. There is no public water supply, so the Town relies on private well and sewer systems. These systems are expensive to maintain and are vulnerable to power outages and contamination.

Farmland was considered to be both a strength and vulnerability of many participants. While Berlin prides itself on being a farming community, many farms are at risk of development pressures, drought, and contamination.

VULNERABLE AREAS

- Forested Areas
- Town-wide Dams
- Senior Population
- Wells and Septic System
- Farmland

SPECIFIC CATEGORIES OF CONCERNS AND CHALLENGES

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

Infrastructure Concerns:



Dams

Berlin has a total of nine (9) dams throughout town according to the Massachusetts Office of Dam Safety. Of these nine dams, one is categorized as a High Hazard, four are categorized as Significant Hazard, and one is categorized as Low Hazard. Dams designated as High Hazard are those where failure or improper operation will likely cause loss of life and serious damage to homes, industrial or commercial facilities, important public utilities, main highways, or railroads. Those that are designated as a Significant Hazard indicate that failure or improper operation may cause loss of life and damage to homes, industrial or commercial facilities, secondary highways or railroads, or cause interruption to use or service of relatively important facilities. Participants specifically noted Old Mill Dam, Lester Ross Dam, Wheeler Pond Dam, Brewer Brook Dam, and Gates Pond Dam as vulnerabilities that need addressing. The Wheeler Pond Dam is located in the southern part of Berlin along Wheeler Pond. This dam is privately owned and is designated as a Significant Hazard. The dam is in poor condition, has a complex tax title, and is located nearby possible old explosives and a nuclear reactor. The Lester Ross Dam is located near Linden Street and North Brook and is owned by the Department of Conservation and Recreation (DCR). The dam has been designated as a High Hazard, is in very poor condition, and the participants indicated that if the reservoir were filled completely, then the dam would cause issues and flooding nearby. The Brewer Brook Dam is located in central Berlin along the Brewer Brook area and is owned by the DCR. This dam is designated as a Significant Hazard, is in poor condition and needs to be repaired. The Highland Commons Pond Dam and Dike is located on the border of Berlin and Hudson at the Highland Commons mall. The dam is privately owned and is categorized as a Significant Hazard. Gates Pond Dam is located in the eastern part of Berlin at Gates Pond and is designated as a Low Hazard. The dam is owned by the Town of Hudson for their water supply, and the participants indicated that the town needs more information on its condition. And the Old Mill Dam is in poor condition but is not listed in the Massachusetts Office of Dam Safety database.

INFRASTRUCTURE

- Dams
- Town Infrastructure and Services
- Municipal Facilities
- Roadways and Access Points
- Culverts and Bridges

Town Infrastructure and Services

A number of Berlin's infrastructure and services are either privately owned or in vulnerable condition. There is no public water supply in Berlin. All of the wells are privately owned and are vulnerable to power outages where generators are not available. Wells could be subject to salt

contamination with increased ice storms and shallow wells could be vulnerable to drought. The Senior Housing complex's well water has been contaminated in the past by perchlorate. The town also has a private sewer system that is expensive maintain and is also vulnerable to pollution and contamination. Berlin is fortunate to have several fire ponds and dry hydrants throughout town to assist with rural firefighting efforts. However, maintenance at these ponds are very challenging as they gradually dry up or are clogged with invasive plants.

An ice storm in 2008 limited the availability of gas in town which forced residents to privately supply their gas. Electrical lines in Berlin are fed from substations in Marlboro and Clinton. These lines are vulnerable to tree falls. The emergency communication lines are copper and fiber, which are also vulnerable to downed trees. And the two tower sites are privately owned and in older condition. With increased wind and storm events, fallen trees will put these gas and electrical services will be at risk to power outages. National Grid trims the trees on a five-year cycle and Berlin's Highway Department cannot keep up with the maintenance between cycles. This has left 200 plus standing dead trees on the Town's list that could impact these services.

Municipal Facilities

Berlin is fortunate to have a number of facilities throughout town, however, many of these facilities require upgrades or improvements. The Berlin Memorial School is located at 34 South Street and houses students in pre-school through grade five. The school is the town's primary shelter but is not large enough, lacks showers, and lacks backup generators. The Berlin Public Safety building, located at 23 Linden Street, serves as an overflow shelter, but the town would benefit from seeking alternative sheltering options. Berlin Town Offices are located at 23 Linden Street, and they are also in need of generators despite being updated recently.

Roadways and Access Points

Another vulnerability identified by participants of the workshop are Berlin's roadways and major access points. While Berlin is fortunate to have several transportation options, these areas can create hazards for travelers, especially as the climate changes. Various road segments in town are vulnerable to snow drifting, and other areas across town are vulnerable to flooding. Specific areas of concern include West Street and South Street. Route 62 is another area of concern as flooding blocks access to the highway barn. Salt use during ice events can cause environmental damage. Interstate 495 and Route 290 are two other major highways that are near town. While they aid in commutability, their flooding risks and run-off can negatively affect the surrounding environment and resources. In addition, the CSX Framingham-Leominster railroad line runs through town carrying tank cars and solid waste. The railbed and bridge along this route are in poor condition, and the route runs parallel to North Brook. There is concern that hazardous materials could spill if a natural disaster impacts the railroad line.

Culverts and Bridges

There is concern about the condition of culverts and bridges town-wide. Many culverts are in poor shape and are at risk of flooding. Areas of particular concern include Corner Road, West Street, Randall Road, and North Brook. Along Randall Road, there is concern that the culverts do

not have the capacity to withstand increased rain capacity. There is similar concern that bridges in town won't be able to handle increased rain events. The bridges on River Road, along Route 62 at Five Corners, on South Street, and on Crosby Road were noted as needing upgrades to help with increased flooding.

Societal Concerns:



At-Risk Populations

While the Town of Berlin offer some options and services for at-risk populations, like senior citizens and low-income individuals, participants felt that these populations are still vulnerable to the changes in climate.

Berlin has a very high percentage of senior citizens in town. Senior citizens will feel the effects of climate change more than other citizens in town. Due to their age, they will be more vulnerable to extreme temperatures and the limited drinking water supply that will accompany drought and hot days. In addition, older residents are more susceptible to disease, particularly EEE and other insect-borne diseases, which will only increase with the changing climate. Older residents will be more vulnerable in times of emergency when evacuation is necessary due to their reduced ability to mobilize quickly. In Berlin, North Brook Village, located at 135 Pleasant Street, serves as an over 55 housing development. There are two housing developments, each with 40 units for senior living. Participants noted concern over the high concentration of this vulnerable population, especially in the event of evacuations. It has also been reported that there is a lack of communication to the residents of these developments during power outages. This puts those 80 units at risk to the heat and cold without power.

In addition to units of housing for the senior population, Berlin also has a few affordable housing developments that pose risks for low-income individuals. Riverbridge Village, located at 56 River Road, is a 40B housing development that provides a large portion of affordable housing units in Berlin. This development is dense compared to the rest of the town. And Whitney Estates, located along Alden Drive, is another high-density affordable housing development. Low-income individuals are less likely to have access to transportation. In times of evacuation, the residents of these developments could be put at even more risk and might not be able to reach the shelter.

Population Growth

Participants noted that the Town of Berlin's population has been growing very quickly in recent years. Several new developments have created a significant increase in the population, especially the new apartment complex off of River Road. This amount of population growth will have many impacts on schools and further development pressure. It will also continue to put more stress on water, sewer, gas, and electrical systems. Unchecked growth could leave Berlin's residents with fewer and fewer resources

SOCIETAL

- At-Risk Populations
- Population Growth
- Emergency Communications

Emergency Communications

The Code RED system and the Nashoba Valley Regional Dispatch District are two emergency communication services that the Town of Berlin is fortunate to have. However, both of these systems need upgrading to be more effective. The Code RED system allows the town to send emergency notification messages to all residents who are signed up for the program. It can also allow emergency responses wirelessly in the event of the loss of landlines. However, this system is only successful if a larger number of residents are signed up for the program and understand how it functions. In addition, participants noted that when they receive a call from the Code RED system, it comes up as a spam or unidentified number on their caller ID, increasing the likelihood that they will miss that call and important emergency information. Efforts should be made to increase the public knowledge of the system, and the town should attempt to change how calls are viewed on caller ID.

Environmental Concerns:



Insect-borne Disease

As the climate continues to warm, and as periods of flood and drought increase, risk of insect-borne diseases, especially EEE and Lyme disease will worsen. Mosquitos carry EEE and West Nile Virus (WMV). They tend to lay their eggs in and around standing water, so populations of mosquitos will likely increase in times of flooding. Mosquitos are also more aggressive on hot, dry days, and will feed more frequently during those periods, causing greater instances of contracting those diseases. In Massachusetts, deer tick can carry Lyme disease. Typically, deer ticks will die out during the cold winter months, controlling the deer tick population and managing the spread of Lyme disease. However, climate change will result in milder and warmer winters, causing fewer disease-carrying ticks to die out during those winter months. With fewer ticks dying, the overall tick population will increase, creating a greater change of contracting Lyme disease. Children and senior citizens are more susceptible to the effects of insect-borne diseases.

ENVIRONMENTAL

- Insect-borne Disease
- Forest and Tree Health
- Farmland
- Pollution and Runoff
- Wheeler Pond

Forest and Tree Health

Drought, wind events and invasive species can lead to increased fire load and risk of wildfires. In the year 2000, there was a large forest fire between Linden and South Street in Berlin. With an increase in temperatures and numbers of consecutive hot days, drought, and consequently more wildfires, will be an ongoing hazard. Along with drought, climate change will bring about a shift in flora and fauna for the region. Plants and animals that have adapted to warmer and drier climates will increase in Massachusetts, and native species that are better adapted to cooler weather will decrease. When a non-native species invades an area, it can often outcompete the native species. Without a predator to manage population numbers, invasive species can dominate an ecosystem quickly. This is especially detrimental to forest ecosystems. Participants

noted that gypsy moths and Asian Longhorn Beetle are invasive insect concerns. While these insects typically do not have direct harmful effects to humans, they do have disastrous effects on native tree species in Massachusetts. The gypsy moth prefers to feed on oak and birch trees, amongst other species, while the Asian Longhorn Beetle prefers hardwoods such as Ash, Birch and Elm. Trees that are impacted by invasive insects are much more vulnerable to damage during intense storm events as well as drought. Forests in Berlin have already been damaged by gypsy moths, and ALB is in neighboring towns, so it is only a matter of time before it arrives in Berlin and starts damaging the forest. Ice storms, drought, and heat have added to this pest damage, and the town has been unable to keep up with the maintenance of its trees. There more than 200 identified standing dead trees that could cause powerline or property damage.

Farmland

During the workshop, participants mentioned the large number of farms across Berlin. While farms can offer similar benefits as open space and conservation lands, they are vulnerable to drought and development pressures. Especially as the climate continues to warm and dry days become more frequent; farms could suffer with the lack of a public water system. And as flooding, warming, and intense storm events effect coastal cities, Berlin could see another surge in their population growth and be faced with more pressure to build. Privately owned farms across Berlin are susceptible to drought and can be affected by runoff of road salt. Participants expressed concern for Indian Head Farm, Balance Rock Farm, and Rainville Farms. Indian Head Farm is located in central Berlin on 228 Pleasant Street. Balance Rock Farm is located in the northern part of Berlin on 104 Highland Street. And Rainville Farms is located in the western part of Berlin on 39 Larkin Road. All three of these farms were identified in particular for food security preservation.

Pollution and Runoff

Climate change impacts will increase the frequency and volume of rain events. Aside from concerns over roadway flooding or infrastructure damage, participants also discussed worries of pollution and runoff from Gates Pond Road landfill, transfer station, auto body shops, Tolman Greenhouse, STERIS Applied Sterilization, and Santo Anza (SA) Farm. The Gates Pond Road landfill is located along Gates Pond Road in the eastern part of Berlin. This landfill has not been lined and there is no methane burn off, resulting in a high risk of leak potential. The town should consider properly capping this landfill to prevent runoff pollution to nearby resources. The Transfer Station is located on 35 Jones Road and provides waste management services for Berlin, however, participants noted that it poses a runoff pollution risk for the wetlands nearby. There are numerous auto body shops in Berlin providing sales and essential car services in town. However, attendees were concerned with the risks of spilt oil, chemicals, strippers, and solvents running into nearby water and wetland resources. The Tolman Greenhouse is located at 65 Walnut Street and serves as a garden center. Concern was expressed regarding petroleum and other hazardous waste runoff going into the upland brooks and running downstream. In Northborough, there are two runoff pollution concerns: STERIS Applied Sterilization and SA Farm. STERIS is located at 435 Whitney Street in Northborough along the border of Berlin and nearby the Riverbridge Village apartments. Risks of chemical and radiation poison and possible

spills were a concern as there is no known evacuation plan shared with the town. And SA Farms was discussed by many tables during the workshop. SA Farms is located on 25 Reservoir Street in Northborough. The farm has had a history of violations acting as an illegal dump site. Terrible smells and pollution risks are a concern of the town.

Wheeler Pond

Wheeler Pond is in the southern part of town and has many vulnerabilities associated with it. To start, the Wheeler Pond Dam is located there, is privately owned, and is categorized as a Significant Hazard. If the dam were to fail, flooding would be disastrous to the land nearby. In addition, the area surrounding the pond has been taken over by plant based invasive species, resulting in a lack of beach area. Aquatic invasive plants also occupy much of the pond. The high prevalence of invasive species in and around the pond diminished habitat quality and recreational opportunity. With the condition of the dam and invasive species, the pond functions more like a channel instead of a true pond. The property is in a complicated tax title with a dynamite storage bunker partially within its bounds furthering the complexity of the pond's issues.

CURRENT STRENGTHS AND ASSETS

Berlin has taken some steps to address natural hazards and climate change over recent years. The following topics were identified by workshop attendees as strengths or assets that will aid in Berlin's climate resilience.

Infrastructure Strengths:



Sheltering Options

While in need of upgrading, the Town of Berlin is fortunate to have multiple sheltering options. The Berlin Memorial School located at 34 South Street serves as the Town's primary shelter. When the school reaches capacity, the Berlin Public Safety located at 23 Linden Street serves as an overflow shelter. In addition, the Town Offices, also at 23 Linden Street, could be used as a warming or cooling shelter. The Homewood Suites by Hilton, located at 60 River Road could be utilized as a 100-bed efficiency style executive housing. Developing a relationship with the hotel to use as a shelter would provide improved sheltering option with showers, kitchen access, ADA accessibility and potential for long-term shelter options.

INFRASTRUCTURE

- Sheltering Options
- Town Facilities and Services
- Transportation Access

Town Facilities and Services

Town wide, facilities are generally in new or recently renovated conditions. The Highway Department barn is new, and the Highway Department itself was viewed highly for its method of pre-treating roads with liquid salt to cut down on contamination in waterways. The Berlin Memorial school was renovated about 20 years ago, along with the Town Offices and Public

Safety Building complex. The former 1950 elementary school was renovated to create the Town Offices and Public Safety complex. Bi-directional radios in the new public safety buildings help to assist communication between the police and fire departments inside and outside the buildings. In addition, the town renovated the 1870 Town Hall and created ADA accessible access to the Grand Hall on the second floor. The 1870 Town Hall is located at 12 Woodward Avenue is a historical building preserving culture and history in town and is utilized as a meeting space. The town also preserved the Old Methodist Church on 19 Carter Street as a Community Center. Again, preservation of this building provides history and a space for gathering.

Access

Berlin is fortunate to many transportation access points. Route 495 runs right through the eastern part of Berlin, and Route 290 is nearby, running directly south of Berlin. In addition, the CSX Framingham-Leominster railroad line is an active freight line running from Framingham to Leominster and Fitchburg. Having easy access to these highways will be beneficial in the event that residents need to evacuate due to a major storm event.

Societal Strengths:



Schools and Youth

The Town of Berlin has access to a number of different schools in town and nearby. As stated above, the Berlin Memorial School is in town and serves students in pre-school to grade five. In addition, Berlin residents have access to the Tahanto Berlin-Boylston Regional Middle/High School and the Assabet Regional Technical High School. The Assabet Valley Regional Technical High School is located at 215 Fitchburg Street in Marlborough. The vocational school serves students seeking instruction and training in arts, communications, business, construction, health and hospitality, manufacturing and engineering, and transportation. The school has offered to be a regional shelter in the event of emergency. They have also offered the use of their students to support resilience-related projects. The Tahanto Berlin-Boylston Regional Middle/High School is located at 1001 Main Street in Boylston and serves students in grades six through twelve. Students from the Tahanto Regional High School can also be utilized for town projects and for improving youth engagement.

SOCIETAL

- Schools and Youth
- Businesses and Community Organizations
- Emergency Management Services

Businesses and Community Organizations

Local businesses and places of commerce exist across the Town of Berlin. There are many local tradesmen working in Berlin providing housing and construction services. National Lumber aids in providing housing and construction security. Clinton Savings Bank serves as a local financial institution, offering more personalized banking experience for residents. The Berlin General Store was renovated from a privately-owned historical structure in town, to a general store, providing

food, beverages, and a place of gathering to discuss local politics. Many Hands Thrift Shoppe is a secondhand clothing store providing affordable clothing. There are numerous autobody shops in Berlin, including Roux's Garage, Wheeler's Garage, Berlin Auto Service, and Auto Station Sales. These shops provide essential services in town. Berlin Auto Service also serves as a recycling center for scrap metals. The wide variety of businesses in town is considered a strength for all of the essential services that residents can receive without having to travel far. These local businesses can be utilized for disseminating important information across the community.

Similar to local businesses, there are a number of community organizations and social services that can help strengthen public engagement in Berlin. In 2008, a few Berlin residents formed a non-profit organization to buy and renovate the Old Methodist Church into a town center. The renovated building, now called 19 Carter, opened its doors in 2017 as a community center. Participants noted that 19 Carter could be used to support outreach and assistance to the senior population. The Berlin Family Food Pantry, located on Linden Street, is another organization that can help support senior citizens and low-income individuals. They provide food security for some of Berlin's residents and could be used to spread important information to this population. Berlin's Council on Aging is another strength within the community. Not only do they provide events and fitness classes for the senior population, they also have their own van to help provide seniors with a greater regional access. They are a valuable resource to the senior population and can also be utilized as an outreach tool. First Parish Church, on Central Street, and St. Joseph's Church, on West Street, could be utilized as faith-based community partners. Both churches have a strong sense of unity and could improve community involvement. There are also opportunities to explore expanding communication through their parishioners.

Emergency Management Services

Though in need of some reworking, Berlin has valuable emergency management services. The Hazard Mitigation Plan was updated and Adopted in April 2019. Though it will need updating as the town continues to develop, it is an important resource in assessing the most vulnerable areas in town. Berlin also has a Code RED system that allows emergency information to be sent quickly to all residents in town. A public education effort should be made to gain more residents to sign onto the program, but its ability to send emergency information to cellphones and landlines makes this an important emergency management tool. The Town of Berlin is also a part of the Nashoba Valley Regional Dispatch District (NVRDD). The NVRDD offers redundancy in emergency communications through regionalized police and fire dispatch. Emerson Urgent Care, located in Highland Commons, has been a tremendous local resource for emergency healthcare.

Environmental Strengths:



Farming and Agriculture

Participants of the workshop noted that the amount of agricultural lands in town is higher compared to surrounding and more urbanized areas. They found this to be a benefit for Berlin and surrounding towns for providing access to local healthy foods. It was also noted that keeping farms as active farms helps to preserve land and habitat, instead of developing that space into housing. There are too many farms in town to name all of them, but some notable farms include Indian Head Farm on Pleasant Street, Balance Rock Farm on Highland Street, Berlin Farms on Central Street, and Berlin Orchard on Sawyer Hill Road. Other farms named during the workshop include North Brook Farm, Lilac Hedge Farm, and Golden Skep Farm. Berlin is a Right to Farm Community and should continue to maintain this status to preserve land and food security.

ENVIRONMENTAL

- Farming and Agriculture
- Water Resources
- Open Space and Recreation

Water Resources

Berlin has a number of lakes, ponds, and streams in town that are recreational and environmental assets. Wheeler Pond, Gates Pond, and numerous fire ponds are a few notable surface water bodies. North Brook and the Assabet River are notable rivers and streams that provide flowing water through the town. Each of the mentioned bodies of water provide cooling off points on hot days, as well as tourism opportunities and important habitat for aquatic species. Wetlands in town were also noted as an asset for their flood storage capabilities. Berlin also has adopted the Wetlands Protection Act. This Act provides additional protections to water and wetland resources, and the Conservation Commission is currently in the process of strengthening those protections. Continuing to strengthen and protect its water resources will help Berlin maintain a healthy environment for its residents.

Open Space and Recreation

The Town of Berlin is full of forested areas and water resources. Each of these areas provide the town with a number of different recreational opportunities. The land surrounding Gates Pond includes the Gates Pond Reservoir Loop Trail. Though the trail is owned by the Town of Hudson, it is located within Berlin and provides residents with a recreational opportunity. Much of the town is considered Chapter 61A open space land, and forestry and hunting are allowed on these conservation lands. This helps to manage animal populations and forest health in general. The large number of trails and amount of conservation lands aids in flood mitigation, drought affects, and erosion control. The Lyman School is a 110-acre parcel in need of conservation that could provide the town with a large recreational use area. Efforts should be made to preserve this property as open space. A new outdoor recreational ropes course, called Boundless Adventures, was built on the edge of the Riverbridge mixed-use development village. This course provides a unique recreational opportunity for residents and serves as a tourism point for the town.

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



Securing alternate power and backup generators for critical facilities in town will be important to ensure that Berlin stays resilient. Either a backup generator or solar arrays should be constructed so that the Memorial School has access to alternative power. This action will make the school a more viable shelter. Installing a backup generator or alternative source of power at the Town Offices and Public Safety Building complex is also recommended. It was also suggested to install Electric Vehicle (EV) charging stations at the Town Offices complex as well. The Highway Barn would benefit from installing a solar array on the roof. This could maintain access to equipment and services in the event of power outages. Gas supply pumps are vulnerable to storm events and power outages. It is recommended to secure backup generators or other alternative power for gas supply pumps to maintain access in the event of power outages.

INFRASTRUCTURE

- Alternative Power Sources
- Town-wide Dam Assessment
- Expand Water Supply
- Improve Sheltering Options

Evaluating dams and bridges in Berlin will help the town be more prepared for the expected increases in flooding and rain events. While the town should perform an assessment of all dams in Berlin, special attention should be paid to Old Mill Dam, Lester Ross Dam, Wheeler Pond Dam, and Gates Pond Dam. The Old Mill Dam should be assessed and repaired in order to improve flooding risks. It was recommended that the town continue to coordinate with the State to confirm that the Lester Ross Dam is properly maintained. The town should consider acquiring the Wheeler Pond Dam to study the possibility of removing the dam. Berlin should continue coordinating with the Town of Hudson to ensure that the Gates Pond Dam is properly managed. Limited and vulnerable water provision was a concern of multiple tables during the workshop and will only become more of a concern as drought increases, so it is important to **expand and improve the water supply**. Performing a Town-wide inventory of all wells and sewer/septic systems with GPS tracking will aid in the monitoring and management of these systems. Monitoring levels of perchlorate and sediment in water wells throughout Town will also help strengthen the water system. The Town should research alternate water supplies in the event of long-term outage and should hire a consultant to formulate a Water Supply action plan. In the short term, the Town could install rain barrels around Berlin and encourage residents to purchase rain barrels for their homes to help conserve water. To expand firefighting efforts, multiple Town

Departments should coordinate with one another to maximize resources. Cisterns or fire ponds could be created to allow for additional water supply and firefighting efforts.

Aside from installing backup generators or alternative power, participants listed other suggestions to **improve sheltering options**. Berlin could partner with nearby hotels, specifically the Homewood Suites by Hilton. This would guarantee more beds and showers for those in need during inclement weather. The Autism Behavior Center should be explored as another temporary sheltering option. The Town should discuss partnering with the Assabet Valley Regional Technical High School for a long-term sheltering option.

Societal Actions



Information sharing and engagement with Town project was discussed as needing bolstering, and participants named a few strategies to **expand community outreach and engagement efforts**. First and foremost, the Town should develop a “New Resident” Handbook to help educate new residents on Town-wide services, organizations, and other key information. In addition, a coalition of existing networks and community groups should be developed to maintain consistent public outreach and support, especially to the senior and low-income populations. The coalition should utilize various groups, organizations, and platforms to help spread information and encourage public engagement. It was noted that youth engagement in Town activities was low, so it was suggested that the Town coordinate with the Berlin/Boylston Regional School District and the Assabet Valley Regional Technical High School to improve youth involvement.

SOCIETAL

- Community Outreach and Engagement
- Improve Emergency Services
- Support Senior Population

Attendees of the workshop felt that **emergency services could be improved**, despite viewing this feature as an overall strength. As engagement with the Code RED system is low, the Town should develop a public education initiative to increase awareness of and participation with the Code RED system. It was also recommended that the Town update the Code RED system to be clearly identified on caller ID so that important alerts are not missed or ignored by residents. And the Town should coordinate with the Nashoba Associate Boards of Health to provide information during emergencies. Development has been on the rise in recent years, so the Town should ensure its emergency services are prepared for the population growth. The growth rate should be identified and electrical development, sheltering, and emergency evacuation plans should be adjusted accordingly. The Hazard Mitigation Plan should also be updated every five years to stay current and as the population increases and development changes.

Support of the senior population was also viewed as a key action for the Town to take. A contact list for all seniors in Town and a “Life Saver Registry” should be organized for use in case of emergency. Both lists should be optional, though education and outreach initiatives should be utilized to improve participation with the lists. The Town should continue to coordinate with the Senior Housing facility operators to ensure that they have necessary resources and evacuation plans in the event disaster. And access to both the Berlin Food Pantry and community gardens should be maintained for food security.

Environmental Actions



Tree and forest health management was discussed across all tables. Hiring a forester to develop Forestry Management Plans across Berlin was discussed to improve forest health and reduce fire loads. In addition, it was suggested that the Town develop a tree removal and replacement program utilizing understory, low-growth, and drought resistant trees. These fortified trees should not cause as much of an issue or be as detrimental to powerlines during high wind events. Planting undersized trees and bushes could also help to prevent snow drifting and to provide habitat for pollinators.

ENVIRONMENTAL

- Tree Health Management
- Environmental Education Initiative
- Invasive Species Control
- Prioritize Conservation And Recreation

Establishing an **education initiative for a variety of environmental concerns** was also recommended to improve public knowledge and interest in preserving Berlin’s natural resources. The Town should explore public education and outreach programs regarding water conservation and lawn care alternatives. As a part of these programs, public notices about drought and water usage should be released every summer to reduce water use. Information on the impacts of herbicides, pesticides, and fertilizers to lawns, well systems, and sewer systems should also be included in these programs. As temperatures rise and flooding increases, mosquitoes and ticks will become more and more prevalent, increasing the occurrence of insect-borne illness. It was also suggested to educate the public on risks and prevention of these insect-borne illness, and special attention should be paid to educating the senior and youth populations as they will be most susceptible to these diseases. Developing an education campaign to increase support of a Wetlands Protection Bylaw was discussed as providing stronger protection of the Towns water resources could improve water supply health, water retention, and improve flooding conditions. Creating “Resilience Hubs” in community centers and libraries was also mentioned to help spread climate preparedness information.

Invasive species control in both forests and waterways was discussed by participants to reduce fire loads and improve habitat quality. The Town should work with the Sudbury, Assabet, and Concord (SuAsCo) watershed Cooperative Invasive Species Management Area (CISMA) program

to acquire grant funds for invasive species control. Natural Resources Conservation Service (NRCS) grant programs could also be utilized for these efforts. A unique idea discussed during the workshop was to research the use of goats for invasive species and poison ivy control. Coordination with the Mosquito Control District was recommended to help control mosquito populations.

As a farming community that values its open spaces, **prioritizing conservation and creating recreational resources** was highly viewed during the workshop. Acquiring and preserving farmland throughout Berlin to maintain agricultural strength is of great importance to the Town. Purchasing development rights for agricultural farms and developing a local sustainable farm “best practices” and a “right-to-farm 101” registration document could help maintain this strength. Protecting and expanding open spaces in Berlin was also discussed. The Ball Hill Road property, near Mt. Pisgah, should be conserved, and the inactive land at the Berlin Broken Stone quarry property near Highland Street should be preserved. Maintaining a list of priority conservation lands was also discussed. Aside from just preserving lands, participants discussed taking action to create more recreational opportunities in Town. Installing bike racks at the Town Offices complex could provide and encourage biking activities in Town. Linking existing trails to create one cohesive trail network and developing a strategy to build a rail trail with community input was suggested. And it was recommended that if the Town acquires the Wheeler Pond Dam and can remove that dam, a Town swimming hole should be constructed in that area. The swimming hole could double as a fire pond with ADA complaint trails and educational signage, offering a multi-use resource.

Top Recommendations

Following the three-day virtual workshop, these actions were placed in a survey on Survey Monkey so that participants could prioritize their top recommendations. Participants answered survey questions on: 1) what hazards they were most concerned with; 2) whether an action was high, medium, or low priority; 3) whether an action was a short, long, or ongoing project; and 4) which actions they would like to see Berlin complete. A copy of the survey questions and the survey results can be found in the Appendix at the end of this document.

TOP RECOMMENDATIONS

- Town-wide Tree Inventory Assessment
- Enact a Wetlands Protection Bylaw
- Improve Highway Department’s Tree Removal Capacity
- Town-wide Drainage Assessment of Culverts

The majority of participants, about 42.11%, indicated that they were most concerned with the possibility of increased winter storm events as the climate changes. Increases in winter storms will likely result in more frequent high wind and ice events and could increase the chances of tree damage and power outages. Consequently, as tree health was discussed at all tables during the

workshop, the top priority recommendation with a total of nine votes was to **perform a Town-wide tree inventory assessment** to prioritize high risk trees for removal. Removal of these trees should be done in coordination with National Grid. The next priority action with seven total votes was to **enact a Wetlands Protection Bylaw** to strengthen regulations around wetland and water resources. Other highly favored actions include **improving the Highway Department's capacity to remove trees** and to **perform a Town-wide inventory and drainage assessment of culverts** – these actions receiving six and five votes, respectively.

At the end of the three-day virtual workshop, Peter Peloquin thanked attendees for giving their time and attention, and commended the town for their willingness and flexibility to utilize a virtual platform giving the current public health conditions. The top recommendations on the following page were compiled based on those actions reported out voted on by participants. Actions are organized by priority and project type.

PUBLIC COMMENTS

During the September 3, 2020 public listening session, the below comments were received:

- Berlin is currently working on materials for new residents and will try to integrate hazards/climate adaptation content where appropriate
- The Council on Aging (COA) is also working on an informational package for seniors
- There is concern that the Town should look at pursuing a forestry plan and hire a forester to deal with the climate/forest issues (drought, fire, invasive trees and pests, dead trees). Along with giving the Town a base line of what the current conditions are and to develop a plan to move forward. Questions of who's responsible for which trees i.e. Town/utility/resident. Is the ConCom doing anything? Same for town wide dams – dams are in need of assessment of conditions. The Town should look for ways to try and integrate everything all together into a unified plan. MVP is a good start.
- Comments on draft MVP report to be accepted until September 18, 2020.

townofberlin.com/home/news/tonight-virtual-public-listening-session-thur-sept-3rd-630-730-pm

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TONIGHT!! VIRTUAL PUBLIC LISTENING SESSION - Thur Sept. 3rd
from 6:30-7:30 PM
 YOUR FEEDBACK REQUESTED --> Berlin's Municipal Vulnerability Preparedness DRAFT REPORT
 POSTED ON: AUGUST 13, 2020 - 6:41PM

YOUR FEEDBACK WANTED TONIGHT, September 3rd - ZOOM MEETING ONLINE

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

JOIN US PLEASE! WE WANT TO HEAR FROM YOU BEFORE WE FINALIZE THIS REPORT!!

NOW AVAILABLE
 80% "Draft" report on volunteer findings on areas of Municipal Vulnerability for the Town of Berlin with regard to climate/community resiliency.

VIRTUAL PUBLIC LISTENING SESSION

Berlin's Municipal Vulnerability Preparedness Program

Comments and question below were received electronically during the public comment period from Friday, September 4, 2020 through Friday, September 18, 2020:

- Trees - we all know dead tree removal is an issue and comes up quite often on Berlin Neighbor's Connect, or is discussed by our Highway department. As noted, this is not solely a Berlin issue. My question - what are other towns doing in response to this? are there grants/alternate funding options that can be provided to the town? are there opportunities as Highway has tried, to work with other towns to share equipment/manpower to resolve this issue?
- Senior population - what plans are in place or in discussion with COA/Fire/Police/EMS in the event of power outages, snow/ice storms. Though the town offices (lower section), BMS and local hotels are options to provide temporary housing in such event, what is the plan to get the seniors there and have them taken care of specific periods of time. Curious as to what other towns with a high senior population have in place
- Roadways and access points - do we know at all times what is being hauled through town by CSX? are there recent renovations to the tracks complete? do these improvements meet any standards set by MVP or suggested by them to avoid the issues pointed out in the study? What about the debris left by CSX? any potential hazard besides safety?
- Farming - are there any opportunities for the state/farming agencies to provide funding to provide resources to Balance Rock Farm, Indian Head or Rainville Farms to grow items specifically for Berlin and have them stored in a case of drought, etc.
- Businesses - what opportunities are there for additional assistance to determine what buildings may be modified/revised for potential new business in town? What

grants/alternate funding pointers can be provided to assist growth of small business, minority owned business or women owned business to come to town and "open up shop"?

- Alternate power - would like to see what other towns/municipalities are doing for alternate power options? Wind, water, solar?

The screenshot shows a web browser window displaying the Town of Berlin website. The page title is "Berlin's Municipal Vulnerability Preparedness". The content includes a call for feedback, contact information for Peter Peloquin, a link to a listening session recording, and a link to a draft report. The footer contains the town's name, address, and contact information, along with a disclaimer and login options.

Home

Berlin's Municipal Vulnerability Preparedness

Still seeking your feedback!
POSTED ON: SEPTEMBER 4, 2020 - 3:01PM

Your feedback still wanted! Please send your comments to the draft *Municipal Vulnerability Preparedness (MVP) Report* to:

Peter Peloquin at Central Massachusetts Regional Planning Commission
ppeloquin@cmrpc.org

We had a well-attended listening session on Thursday, September 3rd. You can see that recording here: <https://www.dropbox.com/s/trd1pid8qr6mq23/Berlin%20Listen%20Session%20Recording%209-3-20.mp4?dl=0>

Click here to see the: 80% "Draft" report on volunteer findings on areas of Municipal Vulnerability for the Town of Berlin with regard to climate/community resiliency.

ABOUT MVP

The MVP Program 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:

- Berlin Board of Selectmen at (978) 838-2442 or selectmen@townofberlin.com
- Central Massachusetts Regional Planning Commission at ppeloquin@cmrpc.org

Town of Berlin, Massachusetts
23 Linden Street, Berlin, MA 01503
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[Town Official Toolbox](#)

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APPENDIX

- Agendas and Sign-in Sheets
- Workshop Meeting Materials
 - Table Matrix
 - Maps
 - Notes
- Workshop Presentation
- Listening Session Presentation



Meeting Name: MVP Meeting #1

Community: Berlin

Location: Town Offices, Room 218

Date: February 20, 2020

Meeting Time: 9AM

Participant Name	Organization <u>Berlin</u>	Title	E-Mail
Tim Wysocki	Energy Comm.		timothy.wysocki@gmail.com
Tim Wheeler	Planning Board		twheeler@indianheadfarm.com
Amy Grenier	Accounting Clerk		acctclerk@townofberlin.com
June Poland	Accountant		Accountant@TownofBerlin.com
David Smith	Highway / Facilities	Superintendent	highway@townofberlin.com
Marjorie Kartowicz	Town Admin	Town Admin	townadmin@townofberlin.com
MARY ARATA	Admin. Sec		selectmen@townofberlin.com
Ken Clark	Fire & EMS	Fire Chief/EMD	firechief@townofberlin.com



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Berlin Municipal Vulnerability Preparedness (MVP)
Meeting #1

Date/Time: February 20, 2020, 9AM
Location: Berlin Town Offices, 23 Linden St, Berlin, MA 01503

AGENDA

- Introductions
- MVP Program Background
- Roles & Responsibilities
 - Town
 - Assemble Core Team (participates in prep meetings, workshop and listening session)
 - Identify stakeholders to invite to workshop and lead invitation/RSVP process
 - Lead outreach for public listening session
 - Provide feedback on summary of findings report
 - Grant reporting and documentation of in-kind match
 - CMRPC
 - Organize and lead Core Team meetings
 - Organize and lead workshop, including preparation of presentations and other materials (maps, handouts, etc.)
 - Organize and lead public listening session; assist with outreach
 - Prepare and submit summary of findings report
- Core Team Timeline
 - Core Team Meetings (three total)
 - Pre-Workshop meeting/Call
 - CRB Workshop
 - Listening Session (Must be held before May 31st)
- Workshop Agenda/Structure
 - Welcome speaker(s) (Town)
 - Content speakers (CMRPC)
 - Table facilitators (generally Town or other local stakeholders; CMRPC will assist)
 - Table reporters (Town or other local stakeholders)
 - Scribes (generally students/seniors)
 - Food (can be funded through grant)
- Nuts and bolts
 - Workshop location options
 - Estimated date
- Other/next meeting



Meeting Name: MVP Meeting #2

Community: Berlin

Location: Town Offices, Room 218

Date: March 5, 2020

Meeting Time: 11AM

Participant Name	Organization	Title	E-Mail
DANI MARINI	CMRPC	ASSISTANT PLANNER	dmarini@cmrpc.org
Tim Wysocki	TOWN of BERLIN		timothy.wysocki@gmail.com
Dave Smith	Town of Berlin	highway Superintendent	highway@townofberlin.com
Marapret Nartowicz	Town of Berlin	Town Admin	townadmin@townofberlin.com
Hillary King	EEA MVP	Central Regional Coord.	hillary.king@mass.gov
MARY ARATA	Town of Berlin	Admin Asst.	selectmen@townofberlin.com
Amy Grenier	Town of Berlin	Accounting Clerk	acctclerk@townofberlin.com
Ken Clark	Berlin Fire & EMS	Fire Chief	firechief@townofberlin.com
Jane Poland	Berlin	Accountant	Accountant@Townofberlin.com



1 Mercantile Street – Suite 520
Worcester, MA 01608
508.756.7717 P
508.792.6818 F
www.cmrpc.org

Berlin Municipal Vulnerability Preparedness (MVP)
Meeting #2

Date/Time: March 5, 2020, 11AM
Location: Berlin Town Offices, 23 Linden St, Berlin, MA 01503

AGENDA

- Introductions
- MVP Program Background
- Core Team Timeline
 - Core Team Meeting #2 (Today) #3 **March 11, 2020 1PM**
 - Pre-Workshop meeting/Call **March 19th or 26th**
 - CRB Workshop **3/20, 3/27, 3/27-3/28**
 - Listening Session **April 16th**
- Climate Concerns and Priorities
 - Identify four (4) focus hazards
- Workshop Agenda/Structure
- Workshop roles & responsibilities for CMRPC & Town
 - Welcome speaker(s) (Town)
 - Content speakers (CMRPC)
 - Table facilitators (Town w/ CMRPC support)
 - Table reporters (Town)
 - Scribes (Town)
- Workshop Nuts and bolts
 - Location-
 - Outreach plan(s)
 - Invitations
 - Confirmed guests
 - Logistics and IT situation
 - Table set up
 - Food vendor
- Presentations and maps to be developed
 - MVP Program; Climate Change Data; Profile of Local Hazards
 - Base Map; potential reference maps
 - Zoning, Dams, Evacuation Routes and Shelters, Land Use, Water/Sewer Systems, other
- Match Documentation
- Other/next meeting



1 Mercantile Street – Suite 520
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Berlin Municipal Vulnerability Preparedness (MVP)
Meeting #3

Date/Time: Thursday, March 19, 2020, 10AM
Location: Conference Call, Berlin Town Offices, 23 Linden St, Berlin, MA 01503

AGENDA

- Introductions
- COVID19 rescheduling/update
- Core Team Timeline
 - Core Team Meeting #3 (Today)
 - Pre-Workshop meeting/Call, ~~March 25, 2020 1PM~~ **Need to reschedule**
 - CRB Workshop ~~March 27, 2020 8AM-4:30PM~~ **Need to reschedule**
 - Listening Session **May 21, 2020 6:30PM (Backup Date)**
- Climate Concerns and Priorities
 - Identify four (4) focus hazards
 - *Drought/ Wind Events/ Flooding/Winter Storms*
- Workshop Agenda/Structure
- Workshop roles & responsibilities for CMRPC & Town
 - Welcome speaker(s) (*Town Department Heads*)
 - Content speakers (CMRPC)
 - Table facilitators (Town w/ CMRPC support)
 - Table reporters (Town)
 - Scribes (Town)
- Workshop Nuts and bolts
 - Location- **Town Offices, Hearing Room, 2nd floor**
 - Outreach plan(s)
 - Invitations
 - Confirmed guests
 - Logistics and IT situation
 - Table set up
 - Food vendor
- Presentations and maps to be developed
 - MVP Program; Climate Change Data; Profile of Local Hazards
 - Base Map; potential reference maps
 - Zoning, Dams, Evacuation Routes and Shelters, Land Use, Water/Sewer Systems, other
- Match Documentation
- Other/next meeting

MVP planning meeting - Thursday, March 19, 2020

Due to COVID-9, this was a teleconference call scheduled to start at 11AM, but started at 11:15AM

{NONE are direct quotes, but significantly the sentiment of the speakers, as noted by M. Arata}

PARTICIPANTS:

Attendees included at various times, but not all online at the same time:

1. Peter Peloquin. CMRPC
2. Town Administrator Margaret Nartowicz
3. Fire/EMS Chief Kenneth Clark
4. Police Chief Thomas Galvin
5. Dani Marini, CMRPC
6. Hilary King, EOEC
7. At times, Town Accountant June Poland and Accounting Asst. Amy Grenier
8. Mary Arata, Admin. Assist to the TA

NOT IN ATTENDANCE FOR THIS MEETING:

Highway/Facilitates Supt. David Smith

Planning Board Vice Chair Tim Wheeler

Energy Committee Chair Tim Wysocki

Teleconference starts at 11:15 AM

Margaret- Q: Has the State explained how this MVP will work going forward in light of COVID 19?

Hillary – We’re still waiting on State mgt to say, though they’re meeting daily.

Lots of towns are trying to first set-up to work from home so this is still TBD

Regarding meeting year-end deadlines for grant programming... we’re hoping to hear next week but there’s been no final directions yet

I know everything has been cancelled for the next couple weeks

There’s only so much we can do at this point

Thank you, Berlin, for meeting today

Margaret- Honestly, we're really overwhelmed with the hourly updates on COVID 19

And trying to maintain operations

Ironically, we're trying to plan for vulnerability

The COVID crisis makes it more difficult to keep up on this MVP planning

Hillary – It is fair for towns to decide if they want to 'hold' on this at this time

I'm hoping there's – my own thinking – that there's some state level decision

But I've only been in this program for 6 months

I hope to have more info in the next week or two

But we're trying to go forward for towns who will push forward virtually

But a lot of cities and towns in the state don't have great internet access ability

So we're holding tight

Not sure if you have the capacity now or if you want to wait

Margaret – I appreciate that

One of my concerns is our humans & staff capacity to be able to deal with this

MARGARET KNOCKED OFF THE PHONE CALL and could not reconnect

MARY KNOCKED OFF THE PHONE CALL and could not reconnect

Margaret states to Mary that she'll email Peter and Hillary with this thought:

We'll leave it with Hillary to attain clarification from the state at this time

As it sits, we're "paused" on this work

Respectfully submitted,

Mary Arata, Admin Assist to the TA



1 Mercantile Street – Suite 520
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508.792.6818 F
www.cmrpc.org

Berlin Municipal Vulnerability Preparedness (MVP)
Meeting #4

Date/Time: Tuesday, May 19, 2020, 1PM

Location: Join Zoom Meeting

<https://us02web.zoom.us/j/85072777813?pwd=R3RFbVZwQzZSOCS3citPZ3IDYnV0dz09>

Meeting ID: 850 7277 7813 Password: 376003 One tap mobile +1-646-558-8656 US (New York)

AGENDA

- Roll Call
- COVID19 rescheduling/update
- Core Team Timeline
 - Core Team Meeting #4 (Today)
 - Pre-Workshop meeting/Call,
 - CRB Virtual Workshop dates
 - Listening Session structure/date
- Workshop Agenda/Structure
 - ZOOM Platform
 - Workshop roles & responsibilities for CMRPC & Town
 - Welcome speaker(s) (*Town*)
 - Content speakers (CMRPC)
 - Table facilitators (Town w/ CMRPC support)
 - Scribes (CMRPC)
 - Virtual Table set up
- Climate Concerns and Priorities
 - Identify four (4) focus hazards
 - *Drought/ Wind Events/ Flooding/Winter Storms*
- Workshop Nuts and bolts
 - Outreach plan(s)
 - Invitations
 - Confirmed guests/ guest list
- Presentations and maps to be developed
 - MVP Program; Climate Change Data; Profile of Local Hazards, Town Intros
 - Base Maps- ARC GIS Online
- Match Documentation
- Other/next meeting



You are Invited to Participate in Berlin's Municipal Vulnerability Preparedness (MVP) Program!

The Town of Berlin is collaborating with EOEEA and CMRPC to offer a three-day virtual workshop on **June 18th, June 24th, and June 25th** which will bring together community members to comprehensively identify and prioritize steps to reduce risk and improve resilience across Berlin. Follow the instructions below in order to help make your community more climate resilient! If you have any questions about the program, please contact Mary Arata, Administrative Assistant to the Town Administrator, at selectmen@townofberlin.com. We look forward to seeing you virtually at our workshop!

Step 1. RSVP by June 11

To participate in the virtual workshop, please RSVP by emailing selectmen@townofberlin.com before **June 11th**.

Step 2. Discover Berlin'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.

Berlin MVP Workshop Dropbox: <https://www.dropbox.com/sh/id004dnleca6l22/AADwYyfr8gXZmcNtTf03aHNJa?dl=0>

Step 3. Review the Program Overview and Workshop Guide

The following two documents will give you an overview of the MVP program and will describe a typical Community Resiliency Building (CRB) workshop.

MVP Program Overview: <https://www.dropbox.com/s/341s6o5yyft1fz3/MVP%20Program%20Overview.pdf?dl=0>

CRB Workbook: <https://www.dropbox.com/s/sf782o3m8mhevy9/CRB%20Workbook.pdf?dl=0>

Step 4. Watch the MVP Presentations

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 Berlin 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 June 18th**.

Presentations: https://www.dropbox.com/sh/28ukm39qkmi85n4/AADPC2LyQByJ_eFG6_FYyrlca?dl=0

Step 5. Familiarize Yourself with the Matrix and Mapping Tools

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 and marking up an online map with our ideas. The following three documents will show you an example of a completed matrix, will guide you through using the online mapping tool, and will give you a set of pre-made maps that already display various features, hazards, and resources in Berlin.

Complete Matrix Example: <https://www.dropbox.com/s/nbyqic2fm4davry/Complete%20Matrix%20Example.pdf?dl=0>

Online Mapping Tool: Coming soon!

Maps: https://www.dropbox.com/sh/z9v3n63xgrg6tqk/AAC_qWkMIGsiirHun6_p9EbAa?dl=0

Step 6. Learn How to Zoom

New to Zoom? The following document contains a series of instructional videos to help guide you through Zoom from downloading the app to joining a meeting for the first time.

<https://www.dropbox.com/s/z7sks13hjk0rz84/How%20To%20Zoom.pdf?dl=0>

Step 7. Attend the Workshop!

The 3-day workshop will be held on **June 18th, June 24th, and June 25th**. 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: <https://www.dropbox.com/s/ssy31gkqn37a3ti/Workshop%20Agenda%3A%20Day%201.pdf?dl=0>

Zoom Link Day 1: <https://us02web.zoom.us/j/81367168512>

Agenda Day 2: <https://www.dropbox.com/s/wcs24oif0wsylnk/Workshop%20Agenda%3A%20Day%202.pdf?dl=0>

Zoom Link Day 2: <https://us02web.zoom.us/j/84864864845>

Agenda Day 3: <https://www.dropbox.com/s/x0ggaudn3xq7dfd/Workshop%20Agenda%3A%20Day%203.pdf?dl=0>

Zoom Link Day 3: <https://us02web.zoom.us/j/84292771208>



Poll "MVP Participation RSVPs"

<https://doodle.com/poll/mpp9n2cwywndyu5c>

	I will participate	Not participating	Attended
Mary Arata, Administrative Asst. to the TA	OK		Y
Margaret Nartowicz, Town Administrator	OK		Y
Lynn Sallee, Earthworks Advisory Committee	OK		Y
Laura Busky		OK	
Ashley Davies, Sudbury Valley Trustees	OK		Y
Holly Kennedy-DeGruttola - Conservation Associate non-voting	OK		Y
June Poland, Town Accountant		OK	
Judith Mills, Berlin Senior Citizens		OK	
Dennis Fearebay, Treasurer/Collector	OK		Y
Hillary King (EEA)	OK		Y
Lynda Nelson, Housing Partnership		OK	
Jodi Breidel, WHEAT/United Way	OK		Y
Osamu Kumasaka, EEA Intern	OK		
Leah Foecke, EEA Intern	OK		
Rose Callanan, EEA Intern	OK		
Timothy Wheeler, Planning Board/CMRPC	OK		Y
Fire/EMS Chief Kenneth Clark	OK		Y
James Royer, ZBA Vice Chair	OK		Y
Eloise Salls, Town Clerk	OK		Y
James Holyoak, CPA Committee	OK		
fran gilll		OK	
Robert Blair, COA Chairman	OK		Y
Jessica Meltzer, Cultural Council	OK		Y
Ernest F. Houle, Assabet Reg Tech HS Supt.	OK		Y
Molly Reed, Assessor Director	OK		Y
Andrew Loew CMRPC	OK		Y
Erik von Geldern, resident/IT	OK		Y
Temara Bedard, Nurse, NABOH		OK	
John Campbell, BMS Principal	OK		
James Wheeler, Ag Com & Asst Town Clerk	OK		Y
Police Chief Tom Galvin	OK		Y
Michael Ginzberg, Finance Committee	OK		Y
Sandra Lee Reardon, St Joseph's Church	OK		Y
Jay Teich, Planning Board		OK	
Amy Grenier, Accounting Clerk		OK	
David Smith, Highway/Facilities Supt.	OK		Y
Peter Hoffman, EDC Chair	OK		Y
Scott Farrar/NGRID for day 1 only	OK		Y
Walter Bickford			Y
Liane Leahy, Land Use Clerk			Y
Barry Eager, First Parish Church, Town Moderator			Y
Sue Therrien	OK		Y
Richard Hanks, Building Commissioner	OK		Y
Count	35	8	30

[Comments](#)



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/j/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

5:10 pm – 5:30 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 Berlin's Virtual Community Resilience Building Workshop!





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/j/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!





Community Resiliency Building Workshop



Town of Berlin

Municipal Vulnerability Preparedness

Day 3- Thursday, June 25, 2020

3:30 pm – 5:30 pm; Check-in at 3:15 pm

Meeting Link (Click to Join): <https://us02web.zoom.us/j/84292771208>

Meeting ID: 842 9277 1208

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 & 2
- Questions & Answers

3:45 pm – 5:10 pm:

- Breakout Groups
 - Identify Additional Strengths & Vulnerabilities
 - Identify Additional Actions to Reduce Risks and Build Resilience

5:10 pm – 5:30 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
- 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 Berlin's Virtual Community Resilience Building Workshop!



VIRTUAL PUBLIC LISTENING SESSION

Berlin's Municipal Vulnerability Preparedness Program

Thursday, August, 27, 2020 6:30-7:30PM

ZOOM Log-in

<https://us02web.zoom.us/j/89763899492?pwd=SmdLdHRCTjZmbDIHdmllckNHdjVPUT09>

Dial in Info

Phone number: 1 646 558 8656

Meeting ID: 897 6389 9492 Passcode: 889548

Learn more and provide comments regarding Berlin'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 Berlin Board of Selectmen at (978) 838-2442 selectmen@townofberlin.com or the Central Massachusetts Regional Planning Commission at ppeloquin@cmrpc.org



Home



VIRTUAL PUBLIC LISTENING SESSION - Thur Aug. 27th from 6:30-7:30PM

Berlin's Municipal Vulnerability Preparedness Program

POSTED ON: AUGUST 13, 2020 - 8:41PM

Learn more and provide comments regarding Berlin'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

- Berlin Board of Selectmen at (978) 838-2442 or selectmen@townofberlin.com
- Central Massachusetts Regional Planning Commission at ppeloquin@cmrpc.org

This will be a virtual meeting on Zoom!

VIRTUAL PUBLIC LISTENING SESSION

Berlin's Municipal Vulnerability Preparedness Program

Thursday, August, 27, 2020

6:30-7:30PM

ZOOM Log-in <https://us02web.zoom.us/j/89763899492?pwd=SmdLdHRCTjZmbDIHdmlldkNHdjVPUT09>

Zoom dial in phone number: 1 646 558 8656 Meeting ID: 897 6389 9492 Passcode: 889548



VIRTUAL PUBLIC LISTENING SESSION

Berlin's Municipal Vulnerability Preparedness Program

Thursday, August, 27, 2020 6:30-7:30PM

ZOOM Log-in

<https://us02web.zoom.us/j/89763899492?pwd=SmdLdHRCTjZmbDIHdmlldkNHdjVPUT09>

Dial in Info

Phone number: 1 646 558 8656

Meeting ID: 897 6389 9492 Passcode: 889548

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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 Berlin Board of Selectmen at (978) 838-2442 selectmen@townofberlin.com or the Central Massachusetts Regional Planning Commission at ppeloquin@cmrpc.org



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

Municipal Vulnerability Session meeting flier regarding August 27th Zoom meeting - all welcome!



Berlin Hazard Mitigation Plan Update



Berlin, Massachusetts

Adopted by the Board of Selectmen April 9, 2018

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 Berlin, Massachusetts

droughts. According to the Massachusetts Multi-Hazard Mitigation Plan, droughts are expected to increase in frequency, severity and length. The Massachusetts Climate Change Adaptation Report finds that by the end of the century, under a high carbon emissions scenario, the occurrence of droughts lasting one to three months could go up by as much as 75% over existing conditions. Secondary to drought, wildfire risk can be expected to rise. Overall, the risk from drought to people and property can be expected to increase.

Extreme Temperatures

According to records of the US Historical Climatology Network, average temperatures have increased about 0.2 degrees C (0.5°F) per decade since 1970. These higher average temperatures have primarily been the result of warmer winters (December through March), during which there has been an increase of 1.3°F per decade since 1970. In addition to average temperature increases, the number of extremely hot and record heat days has also increased: the number of days with temperatures of 90°F and higher throughout the Northeast has doubled during the past 45 years. As noted in the table elsewhere in this section, the number of days exceeding 90 degrees is expected to surge several times over, presenting a health risk to young children, the elderly, and to persons with various health conditions. Overall, the risk from extreme temperatures to people and property can be expected to increase.

5.0 CRITICAL FACILITIES & VULNERABLE POPULATIONS

A Critical Facility is defined as a building, structure, or location which:

- Is vital to the hazard response effort.
- Maintains an existing level of protection from hazards for the community.
- Would create a secondary disaster if a hazard were to impact it.

5.1 Critical Facilities within Berlin

The Critical Facilities List for the Town of Berlin has been identified utilizing several sources, and the knowledge and expertise of the team:

- Berlin's Comprehensive Emergency Management Plan
- Mass GIS data
- Critical infrastructure mapping undertaken by CMRPC under contract with the Central Region Homeland Security Advisory Council, which is charged by the Executive Office of Public Safety and Security to administer and coordinate the State Homeland Security Grant for central Massachusetts.

Berlin's Hazard Mitigation Team has broken up this list of facilities into four categories:

- Emergency Response Facilities needed in the event of a disaster
- Non-Emergency Response Facilities that have been identified by the Team as non-essential. These are not required in an emergency response event, but are considered essential for the everyday operation of Berlin
- Dams
- Facilities/Populations that the Team wishes to protect in the event of a disaster

Critical infrastructure and facilities are mapped in Appendix A.

Category 1 – Emergency Response Facilities

The Town has identified the Emergency Response Facilities and Services as the highest priority in regards to protection from natural and man-made hazards.

1. Emergency Operations Center/Police Station

Police Station 23 Linden Street

2. Fire Station

Fire Headquarters 23 Linden Street

Cistern 1 Whitney Road

Cistern 135R Pleasant Street

Cistern 69 Brook Lane

Cistern 1 Parker Road

Cistern 1 Village Lane

Dry Hydrant 77 Carter Street

Dry Hydrant 34 South Street

Dry Hydrant 2 Peach Hill Road

Dry Hydrant 116 Highland Street

Dry Hydrant 91 River Road W

Dry Hydrant 157 Pleasant Street

Dry Hydrant 33 Sawyer Hill Road

Dry Hydrant 72 Central Street

Dry Hydrant 135 Lancaster Road

Dry Hydrant 170 Linden Street

Dry Hydrant 76 Ball Hill Road

Dry Hydrant 60 Brook Lane

3. Communications Facilities

Berlin Municipal Office, 23 Linden Street
Repeater Site, Taylor Road
Repeater Site 76 Coburn Road

4. Highway Department

DPW Headquarters, 112 West Street

5. Primary Evacuation Routes

I-495
MA-62
Pleasant St./South St./ River Road West

Category 2 – Non-Emergency Response Facilities

The Town has identified these facilities as non-emergency facilities; however, they are considered essential for the everyday operation of Berlin.

1. Water Supply

Wastewater Pump Station, 172 Gated Pond Road

2. Town Facilities

Berlin Public Library 23 Carter Street
Transfer Station, 35 Jones Road

3. Utilities

Verizon Central Office Highland Street
Gas Pipeline
CSX Railroad runs through town North -South
National Grid
MWRA Pipeline

Category 3 – Dams

The third category is a listing of dams in Berlin.

Table 27

National ID	Dam Name	Owner Type	Hazard Potential
MA01229	Lester G. Ross Dam	DCR - Dept. of Conservation & Recreation	High Hazard
MA02738	Storage Pond Dam	DCR - Dept. of Conservation & Recreation	N/A
MA00458	Wheeler Pond Dam	Private	Significant Hazard
MA00958	Gates Pond Dam	Town of Hudson	Low Hazard
MA02568	Storage Pond Dam / At Berlin	DCR - Dept. of Conservation & Recreation	N/A
MA02739	Fahey Dam	Private	N/A
MA01230	Brewer Brook Dam	DCR - Dept. of Conservation & Recreation	Significant Hazard
MA03377	Highland Commons Pond B Dam & Dike	Private	Significant Hazard
MA00459	Wheeler Pond Dam	Private	Significant Hazard

For additional information on dams and the dam failure hazard in Berlin, also see Chapter 4.

Category 4 – Facilities/Populations to Protect

1. Special Needs Population/Elderly Housing/Assisted Living

Sandalwood Nursing Home, 3 Pine Street
 Colonial Valley Apts./ Elderly and handicapped housing, Liberty Lane
 Huguenot Arms Elderly Housing, 23 Wheelock Street
 Group Home, Larkin Road

2. Public Buildings/Areas

Carter Community Center, 19 Carter Road

Schools/Daycare

(Please note: The EMD has a list of current daycare facilities but these can change locations and addresses frequently, so this list should be revisited periodically.)

Berlin Memorial School, 34 South Street
 Rodgers, Amanda, 12 Lancaster Road
 The Growing Room of Berlin, 71 River Road West

3. Historic Buildings/Sites

According to the Massachusetts Cultural Resources Information System (MACRIS) online database accessed in July 2016, there are 7 Areas, 103 Buildings, 3 Burial Grounds, 1 Objects, and Structures listed for Berlin. The Local Team did not specifically identify any of these sites as Critical Facilities or Infrastructure. The local team noted the 1870 Town Hall, a building of historical note and important infrastructure.

4. Employment Centers

Based on data obtained from the Massachusetts Executive Office of Labor and Workforce Development (EOLWD), the following table shows the largest employers in Berlin:

Table 28

Largest Employers in Berlin - April 2017		
Company	Location	No. of Employees
Berlin Memorial School	South Street	50-99
Berlin Country Club	Carr Road	20-49
Berlin Town Fire Department	Linden Street #6	20-49
Growing Room Child Development Center	River Road W.	20-49
Kitchen Views	Central Street	20-49
National Lumber Co.	Central Street	20-49
Berlin Golf Course	Carr Road	10-19
Berlin Police Department	Linden Street	10-19
Donahue Corry Assoc. Inc.	Central Street #5	10-19
Dunkin Donuts	River Road W.	10-19

Source: EOLWD website:

http://lmi2.detma.org/lmi/Top_employer_list.asp?gstfips=25&areatype=05&gCountyCode=000485

5. Environmental Justice and Vulnerable Populations

The US Environmental Protection Agency defines Environmental Justice (EJ) as the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Within the context of natural hazards and their mitigation, potential EJ concerns may arise from income-related factors, discrimination (overt or institutional), cultural isolation and barriers, language isolation, lack of transportation access, and disability (especially among the elderly).

In 2015, as part of its Mobility 2040 long range transportation plan, CMRPC identified disproportionate concentrations of EJ and other vulnerable populations at the US Census block group level throughout Central Massachusetts. Thresholds used in this identification process included various metrics from the 2010 Census and 2013 American Community Survey:

- Lower income households (median income below \$50,259/year); or
- Minority residents (20.3% or more of population); or
- Hispanic or Latino residents (14.0% or more of population); or
- Language isolated households (9.45% or more of population); or
- Zero vehicle households (12.75% or more of population); or
- Households with persons 75+ years of age (18.8% or more of population);

There are not any Environmental Justice populations in Berlin.

More information regarding the identification of Environmental Justice and Vulnerable populations in the Central Massachusetts region can be found online at www.cmrpc.org/mobility2040.

6. Development

Growth and development in Berlin is ongoing, there have been a number of new business and residences built and under development. Among these include the Highland Commons shopping area and Riverbridge, which is a mixed-use development, consisting of a restaurant, hotel and residences. Riverbridge development is planning more build outs including, 204 unit apartments, and an elevated adventure park. There is also a large 55 and over duplex development project. These developments are expected increase the population and the added traffic will have impacts in the Town. Mitigation of these and any other developments occurs through the regulatory process of the Town's boards and through Massachusetts State laws. Suggested actions to mitigate risks and hazards include updating the Open Space and Recreation Plan which will expire in 2018 and

to revise the Master Plan to incorporate mitigation strategies into the plan. Future developments are limited in hazard prone areas through Berlin's Zoning Bylaws, the Wetlands Policy and the Subdivision Control Bylaws. No new hazards were linked to new developments that were identified by the Local Hazard Mitigation Team.

6.0 EXISTING PROTECTION

The Town of Berlin currently makes use of most available locally-controlled tools to mitigate the consequences of natural hazards: zoning regulations, planning, and physical improvements. The Town does not participate in any federal programs such as StormReady certification or Firewise community certification, but it does plan to research the utility of public awareness and education programs as a result of this planning process.

Berlin has most of the no-cost or low-cost hazard mitigation capabilities in place. Land use zoning, subdivision regulations and an array of specific policies and regulations that include hazard mitigation best practices, such as limitations on development in floodplains, stormwater management, tree maintenance, etc.... Berlin also has appropriate staff dedicated to hazard mitigation-related work for a community of its size, including an Emergency Management Director, a professionally run Highway Department, and a Tree Warden. Berlin has several relevant plans in place, including a Comprehensive Emergency Management Plan, and it updated its Master Plan in 2013. Not only does Berlin have these capabilities in place, but they are also deployed for hazard mitigation, as appropriate. The Town also has very committed and dedicated volunteers who serve on Boards, Commissions and Committees and in other volunteer positions. The Town collaborates closely with surrounding communities through its Regional Emergency Planning Committee (Nashua Valley) and has opted in to fire protection mutual aid agreements through MEMA. Berlin is also an active member community of the Central Massachusetts Regional Planning Commission (CMRPC) and can take advantage of no cost local technical assistance as needed provided by the professional planning staff at CMRPC.

Growth and development in Berlin is ongoing, there have been a number of new business and residences built and under development. Among these include the Highland Commons shopping area and Riverbridge which is a mixed-use development. Mitigation of these and any other developments occurs through the regulatory process of the Town's boards and through Massachusetts State laws. Suggested actions to mitigate risks and hazards include updating the Open Space and Recreation Plan which will expire in 2018 and to revise the Master Plan to incorporate mitigation strategies into the plan. Future developments are limited in hazard prone

areas through zoning bylaws. No new hazards were linked to new developments that were identified by the Local Hazard Mitigation Team.

The table below describes existing mitigation protections in Berlin. It includes a brief description of each activity as well as a subjective evaluation of its effectiveness and of any need for modifications.

6.1 Existing Protection Matrix

Table 29

Existing Measure	Description	Action	Effectiveness & Recommendations
Participation in National Flood Insurance Program (NFIP)	Provides flood insurance for structures located in flood-prone areas. Also, communities participating in the NFIP have adopted and enforce ordinances, bylaws and regulations that meet or exceed FEMA requirements to reduce the risk of flooding.	Berlin monitors building activity within the flood plain to ensure compliance with provisions of state building code.	Effective There are no repetitive loss properties in Berlin. Berlin should seek to further limit development in the 100-year flood zones. It should work to join the Community Rating System (CRS) under NFIP to enable its residents to obtain lower flood insurance rates. Berlin should educate its residents about NFIP.
Floodplain Zoning District bylaw in place	Requires all development to be in compliance with state building code requirements for construction in floodplains	Berlin has a Flood Plain District (Article 410) in its Zoning Bylaw.	Very effective No changes recommended
Stormwater Management policy and regulations in place	Planning Boards or Conservation Commissions review projects for consistency with MA DEP standards. This helps ensure adequate on site retention and recharge.	Berlin does not have a Stormwater Management and Erosion Control Bylaw.	Effective The town should enact a Stormwater bylaw, this would reduce the risk of uncontrolled storm runoff. Also, consider joining the Central Mass. Regional Stormwater Coalition.

Existing Measure	Description	Action	Effectiveness & Recommendations
Local Open Space and Recreation Plan	<p>Local plan identifying significant natural resources and identifying mechanisms to ensure their protection. Following Mass. Department of Conservation and Recreation guidance for development of OSRPs, this document does not focus on specific hazards.</p> <p>Open Space Plans can provide many tools. Towns must commit to making the land acquisitions and regulatory changes, giving increased attention to preserving undeveloped flood-prone areas and associated lands</p>	Berlin's Open Space and Recreation Plan was issued in 2011	<p>Effective</p> <p>Plan will expire in 2018. Berlin should prepare plan update as per Mass. DCR guidance. Where allowable, Berlin should use the update to integrate hazard mitigation activities and recommendations.</p>
Local wetlands protection bylaw and regulations in place (Mass. Assoc. of Conservation Commissions, 2006 data)	Local bylaws building upon the State's Wetlands Protection Act and Regulations. These add regulatory oversight provisions for development within the jurisdictional buffer zone, adding increased attention to alteration of wetlands and the opportunity to preserve capacity and quality.	Berlin does not have a local town-wide wetland bylaw in place; however, the Town implemented the Wetlands Setback Policy to regulate development around water bodies.	<p>Effective</p> <p>Berlin should examine enhanced development controls at other wetlands to sustain natural barriers to flooding</p>

Existing Measure	Description	Action	Effectiveness & Recommendations
Drainage system maintenance and repair program	Plan to keep municipal drainage facilities (storm drains, culverts, etc.) in good order	Berlin performs street sweeping and catch basin cleaning from April to November.	Effective Berlin should examine a public education program for residents on storm drain clearance and other best practices
Tree Trimming	Plan to ensure routine maintenance of trees to reduce likelihood of vegetative debris in response to storm events	Berlin conducts roadside mowing from April-November to remove juvenile trees. Tree trimming (take-downs and clearing dead branches) takes place as needed.	Effective
Culvert Maintenance and Replacement	Maintain existing culverts through regular maintenance and (in some cases) beaver controls; replace/expand culverts where needed to allow for adequate stormwater flow.	The Town has historically maintained and replaced other problem culverts when needed and as funding allows.	Effective Berlin currently cleans and maintains culverts and cleans drainage infrastructure twice a year.

Town of Berlin Mitigation Strategies

OVERALL GOAL: Facilitate activity within the Town of Berlin that reduces the loss, and risk of loss, to persons and property

Mitigation Strategy	Hazard(s) Addressed	Who?	Potential Funding Sources	Priority	Impact	Estimated Cost	Timeline
Description		Agencies involved		Political & economic viability: High/Med/Low	Mitigation impact: High/Med/Low	High (\$100k+)/ Med (\$50k-100k)/ Low (<\$50k)	Time needed to complete
Purchase a Utility Vehicle(UTV) for the purpose of monitoring forested area with limited accessibility.	WF, DR	Fire	Federal, State Local	Medium	Medium	Low	1 Year
Dredge fire ponds which are currently too shallow and dry out quickly during the summer months. This would also help with stormwater collection and help prevent flooding in the area of the ponds	WF, FL, ST	Fire, Highway, State	Federal, State Local	Low	Medium	High	2-3 Years
Repair or remove Wheeler Pond Dam, the dam is in failure per the MA Office of Dam Safety	DF, ST, FL	State	Federal, State	Medium	Medium	High	2-3 Years
Maintain Snow fences, install and when necessary replace damaged fencing along Barnes Hill Road, Linden Street and Mendon Street	SS	Highway	Federal, State, Local	High	high	Low	1 year

B. Preparedness, Coordination & Response Action Strategies							
Maintain and expand on vegetative debris program and thereby mitigate risk of stormwater flooding, riverine flooding, winter storm damage, etc., such as through the Central Massachusetts Mosquito Control Project	ST, SS, FL, HU	Highway	State, Local	High	High	Low	Ongoing
Sweep streets at least once per year to increase stormwater management capacity.	ST, SS, FL	Highway, DOT	Local, State	High	High	Low	Ongoing
Properly clean, at least annually, or more often as required, all stormwater structures and basins.	ST, SS, FL	Highway	Local	High	High	Low	Ongoing
Evaluate and repair dams as identified by the Office of Dam Safety	DF, ST, FL	State	State	High	High	Low	Ongoing
Continue building a strong relationship with utilities, In the event of an emergency allocate space in the municipal building for the utilities use for coordination of disaster response.	All	Local, State, Utilities	State, Local	Medium	High	Low	Ongoing
Improve hazard warning system and notifications by fully utilizing social media, town webpages, Swift Reach 911 and other communication methods. Maintain internal instant messaging system, allowing for rapid response of emergency personnel	All	Local	Local	High	High	Low	Ongoing
Actively enforce and comply with the state building codes, promote successful working relationship between Fire Marshall and Building Inspector	All	Building Dept., Fire, PB, CC, ZBA	Local	High	High	Low	Ongoing
Actively enforce and comply with the Massachusetts Wetlands Protection Act. Seek to implement a local wetlands bylaw.	FL, ST, HU	CC	Local	High	High	Low	Ongoing

C. Education & Awareness Strategies							
Educate all segments of the community about hazard mitigation and the impacts disasters can have on the community. Also, on water conservation methods.	All	Fire, Police	Local, State, Federal	Medium	High	Low	Yearly
Promote available educational material (state/federal) especially to students, regarding disasters at measures they can take to limit risks.	All	Fire, Police, School	Local, State, Federal	Medium	High	Low	Yearly
D. Local Planning & Regulatory Strategies							
Develop a means for sharing information on a regional basis about successful hazard mitigation planning and programs. Create a feedback loop to improve pre-disaster planning by establishing a formal post-disaster assessment process.	All	EMD, REPC, State	Local, State, Federal	Medium	Low	Low	1-2 Years
Monitor implementation of the Hazard Mitigation Plan and update five years after approval of plan	All	EMD	Local, Federal	High	High	Low	1 Year
Incorporate hazard mitigation into local and regional plans such as, Master Plan, land use, transportation, Open Space and Recreation Plan and Capital Improvement Plans	All	All Town Departments, REPC, PDA	Local, State	High	High	Low-Med	Ongoing
Expand the use of the Capital Improvement Program. Encourage new Committee to look at hazard mitigation in their long-term planning for improvements.	All	Capital Improvement Committee	Local, State, Federal	High	High	Low-Med	Ongoing
Investigate acquiring and preserving properties which will result in mitigation of flooding and other hazards.	FL, ST	CC	Local, State, Federal, Nonprofit Agencies	Low	Medium	High	Ongoing
Encourage the adoption of underground utility requirements in local subdivision regulations and retrofitting of existing infrastructure.	All	Planning Department	Local, State	Medium	Medium	Low	1 Year

Integrate hazard mitigation into subdivision site plan review, 40B review and all other zoning reviews. In particular, consider impacts caused by new developments on flooding and downstream flooding, including possible effects across town lines.	FL, ST, HU	Planning Department	Local, State	Medium	Medium	Low	1 Year
Maintain Unified Incident Command program, continue training local officials in ICS	All	All Town Departments	Local, State, Federal	Medium	Medium	Low	Ongoing
Inventory shelter supplies and emergency resources, identify resources that are available at any shelters and if the shelters would be impacted by an emergency. This would help ensure suitable shelters are available for different types of natural hazards.	All	EMD	Local, State, Federal	Low	Low	Low	Yearly
Study the possibility of creating a regional shelter with a neighboring town. This would help limit the expense of maintaining separate shelters when towns have a limited budget.	All	EMD, neighboring towns	Local, State	Medium	Medium	Low	1--2 Years
Create a Road Bylaw, ensuring new development will have roads able to handle emergency vehicles and proper drainage infrastructure is built	SS, ST, FL	Planning Department	Local	High	High	Low	1 Year

'Hazards Addressed' abbreviations:

DF	Dam Failure	DR	Drought
EQ	Earthquake	FL	Flooding
HU	Hurricane	OT	Other
SS	Severe Snowstorm/Ice storm/Nor'easter	ST	Severe Thunderstorm/Wind/Tornado
WF	Wildfire/Brushfire	XT	Extreme Temperatures

Berlin MVP Program Online Mapping Tool

Our team has developed an online mapping tool so that you can mark down important features and hazards in Berlin. Use the links below and follow the step-by-step guide for instructions on how to access and mark up the map.

Team 1 (Table 1): <https://bit.ly/2Sic9Ci>

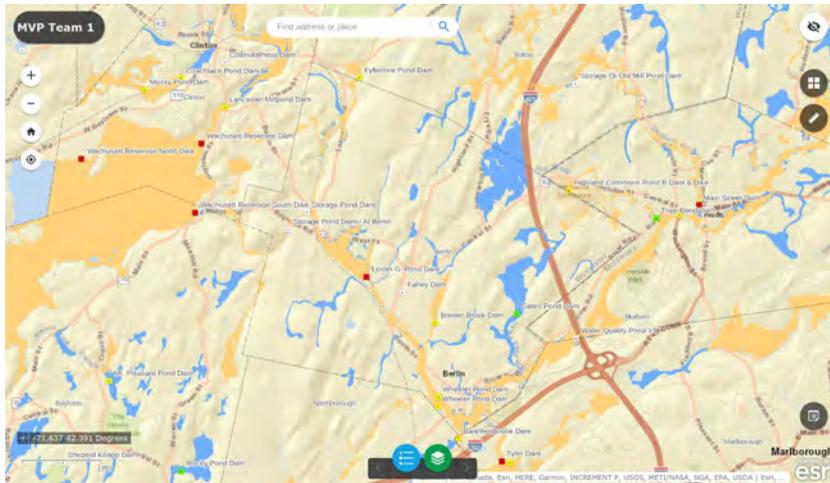
Team 2 (Table 2): <https://bit.ly/3f5oJ1R>

Team 3 (Table 3): <https://bit.ly/2SaOQKP>

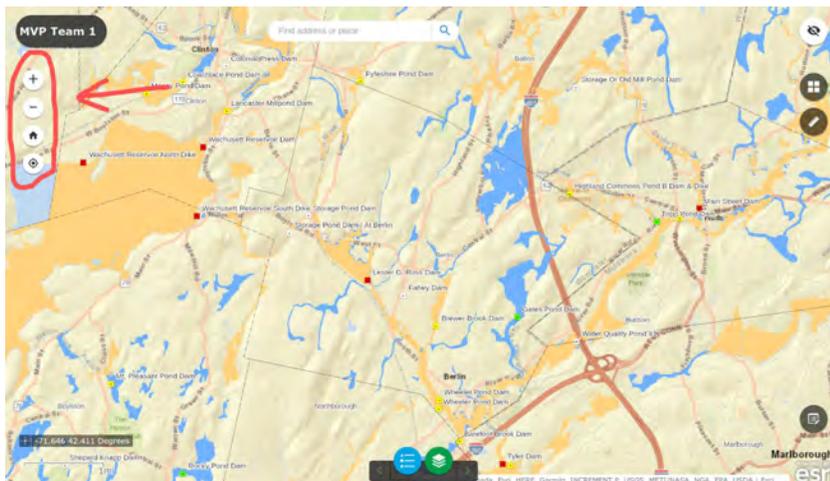
Team 4 (Table 4): <https://bit.ly/3bNnAtv>

To use the online mapping tool:

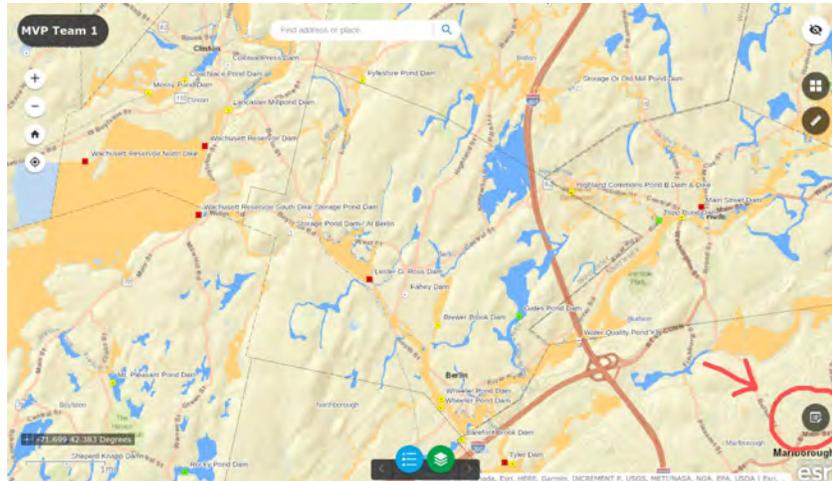
1. Open the link to your table's corresponding map. (Example - if you are in Table 2, click on the Team 2 map link).
2. Once the map is loaded, click and drag your cursor to move around the town (map).



3. In the top left corner, you will have the option to zoom in (+), zoom out (-), return to the default view (house icon), and find your location (target icon).

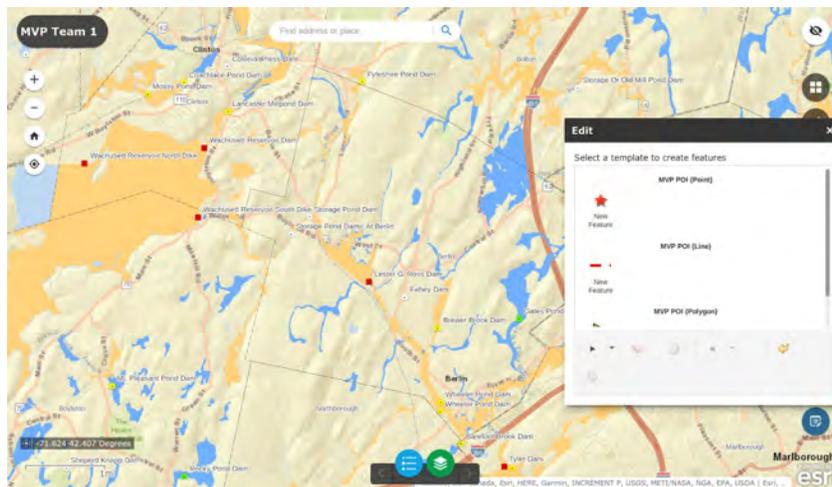


4. In the lower right corner, you will find a button that allows you to edit the map.

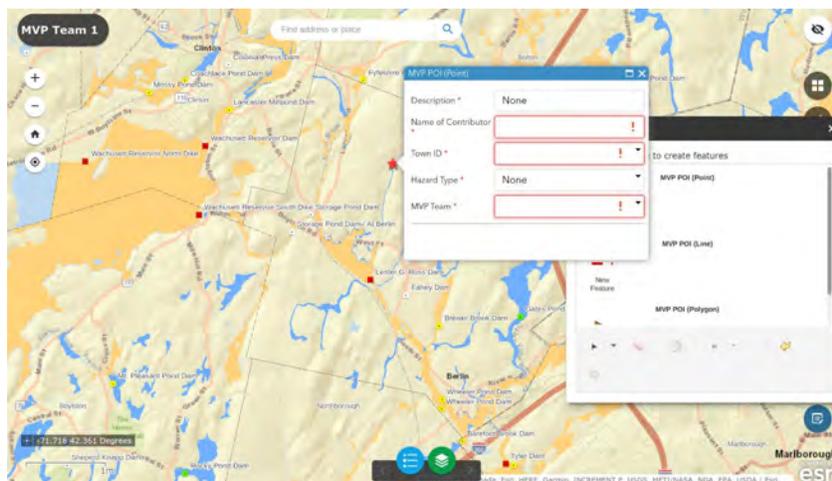


5. You can create a point, line, or polygon with this button. To mark a new feature on the map, you will:

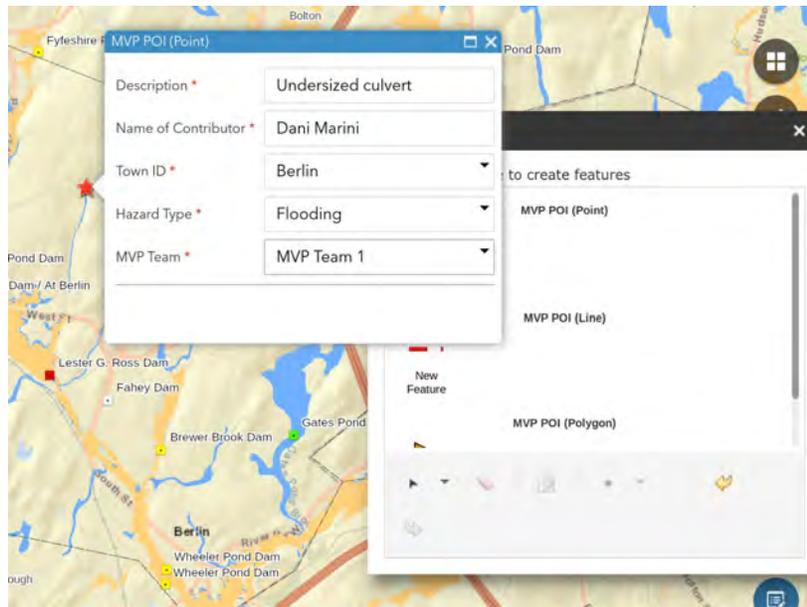
- a. Select the edit button in the lower right corner.
- b. Select whether you want to create a point, line, or polygon.



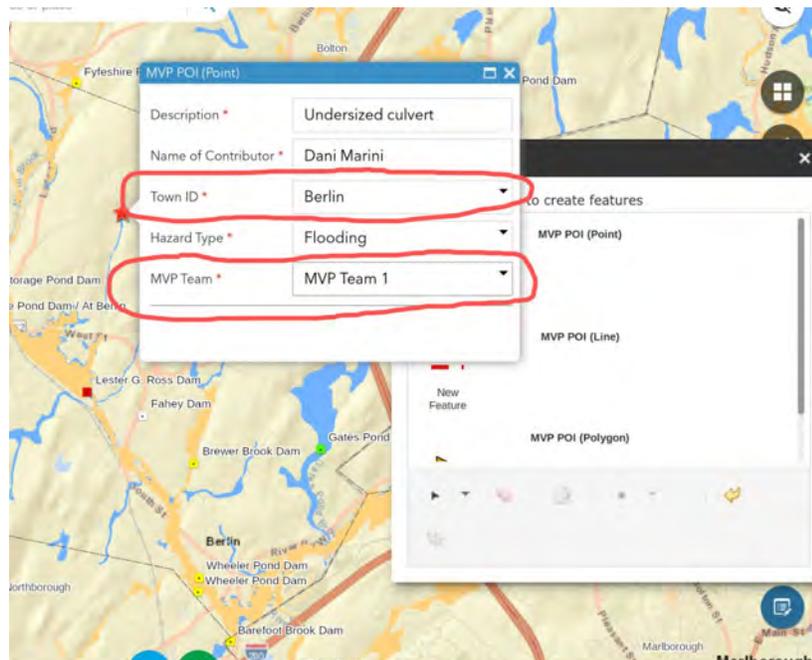
- c. Click on the map where you want to place your feature.
- d. You will then be prompted to describe your feature.



6. When creating your feature, you will be given the following attributes to fill out:
 - a. Description - Provide a brief description of what the point, line, or polygon is representing.
 - b. Hazard Type - Select from the dropdown menu the type of hazard (if any) the point, line, or polygon is representing. Use "None" if you are not sure what to select.
 - c. Name of Contributor - Please enter your name so we know who created the point, line, or polygon in case we have follow up questions.
 - d. Town - Please select your town (Berlin).
 - e. MVP Team - Please select the MVP Team (Table) that you were assigned to.

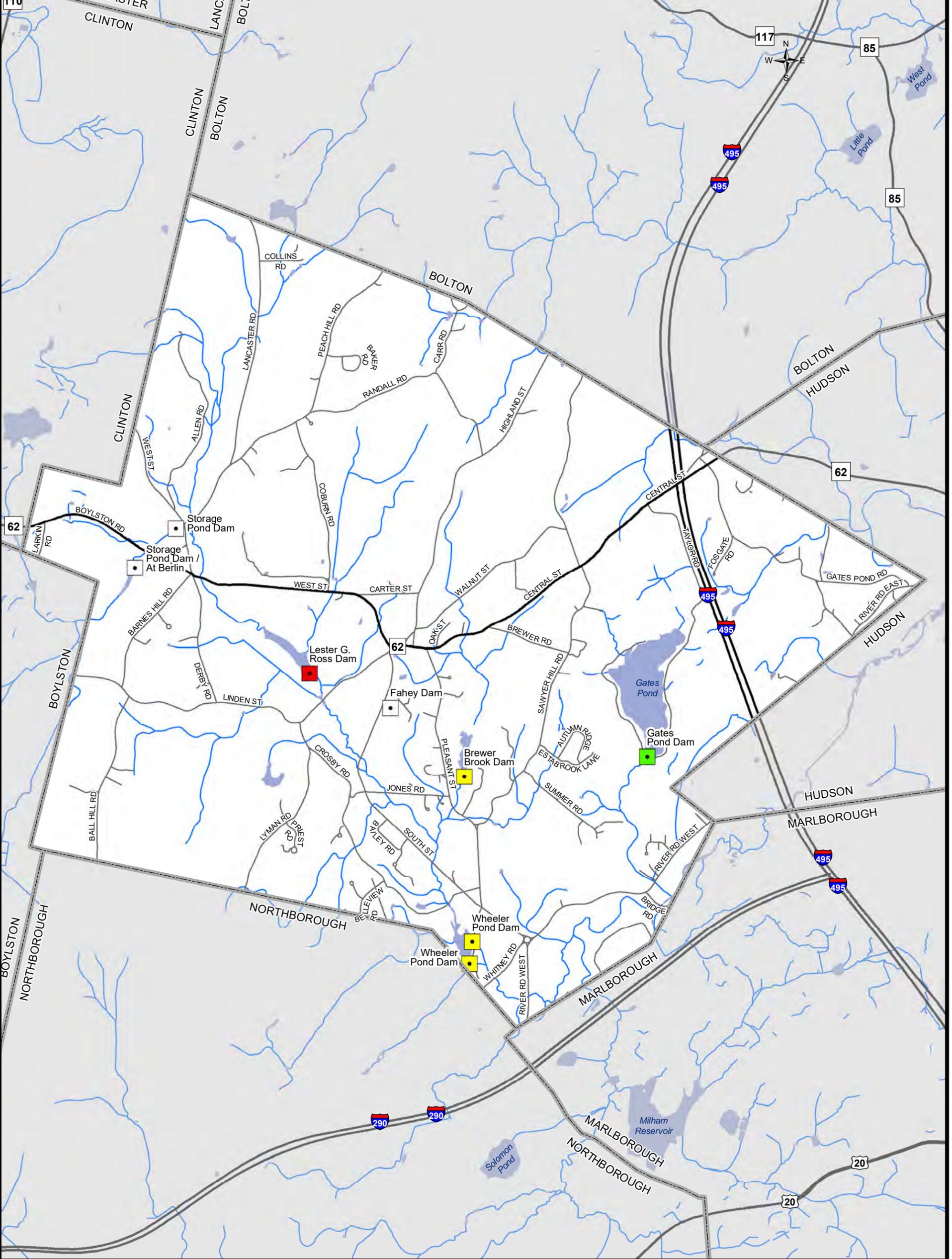


7. It is very important that you enter the correct MVP Team and Town when creating a new feature. If you enter the wrong values, then your feature will not show up on the map and that data will be lost.



Reference Map: Dams

Town of Berlin, Massachusetts



- | | | | |
|---------------|--------------------|-------------|----------------------|
| Legend | | Dams | |
| | Town Boundary | | Major Road |
| | Water Bodies | | Local Road |
| | High Hazard | | Low Hazard |
| | Significant Hazard | | Not Rated, Too Small |

Source: Data provided by the Town of Berlin, CMRPC, massDOT, MassGIS.

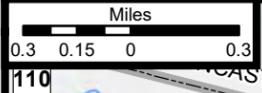
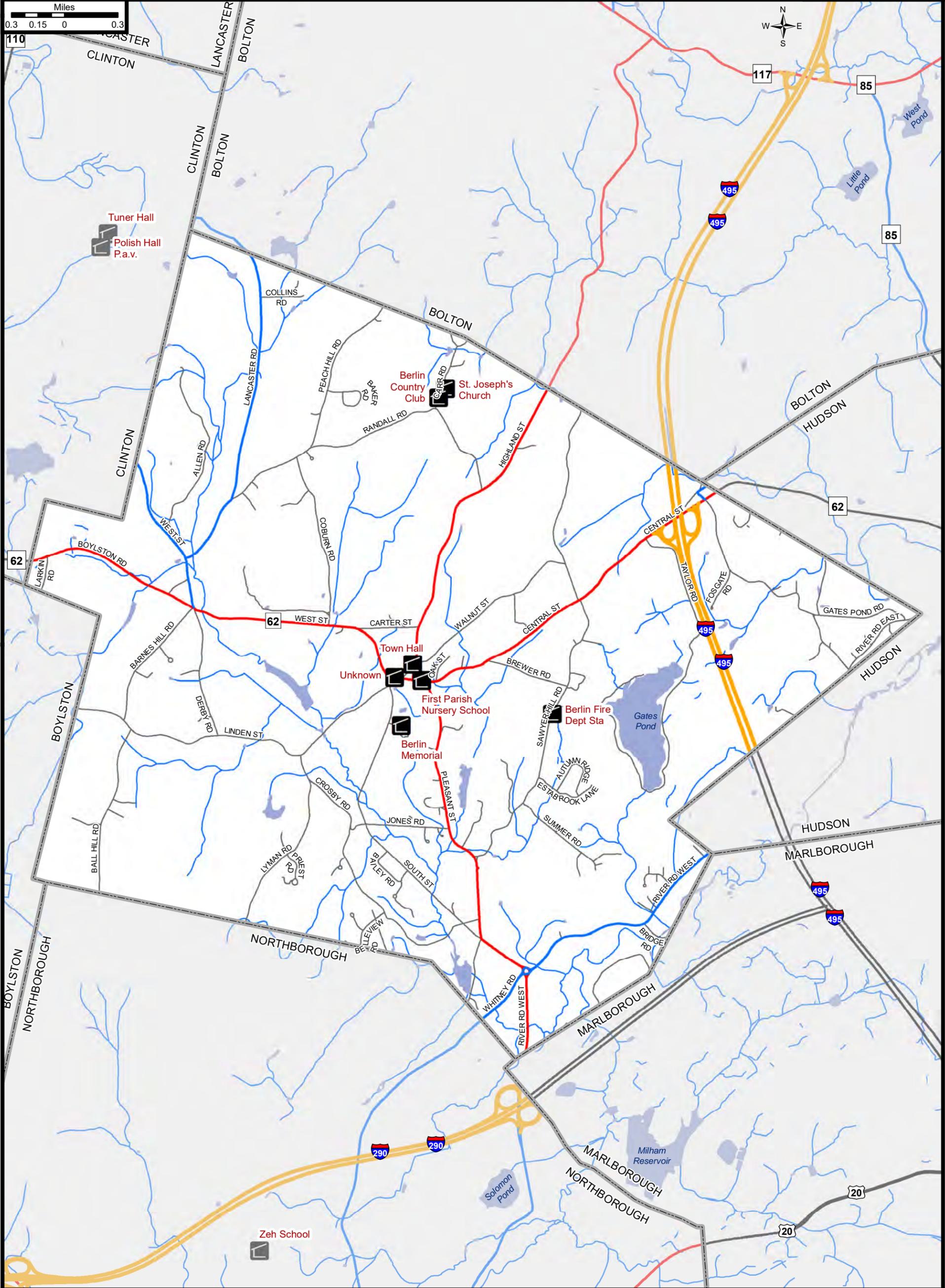
Information depicted on this map is for planning purposes only. This information is not adequate for legal boundary definition, regulatory interpretation, or parcel-level analysis. Use caution interpreting positional accuracy. One Mercantile Street, Suite 520 - Worcester, MA 01608



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Reference Map: Evacuation Routes & Shelters

Town of Berlin, Massachusetts



- Legend**
- Town Boundary
 - Major Road
 - Shelter
 - Highway
 - Secondary
 - Local Road
 - Water Bodies
 - Primary
 - Tertiary

Source: Data provided by the Town of Berlin, 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 interpreting positional accuracy.

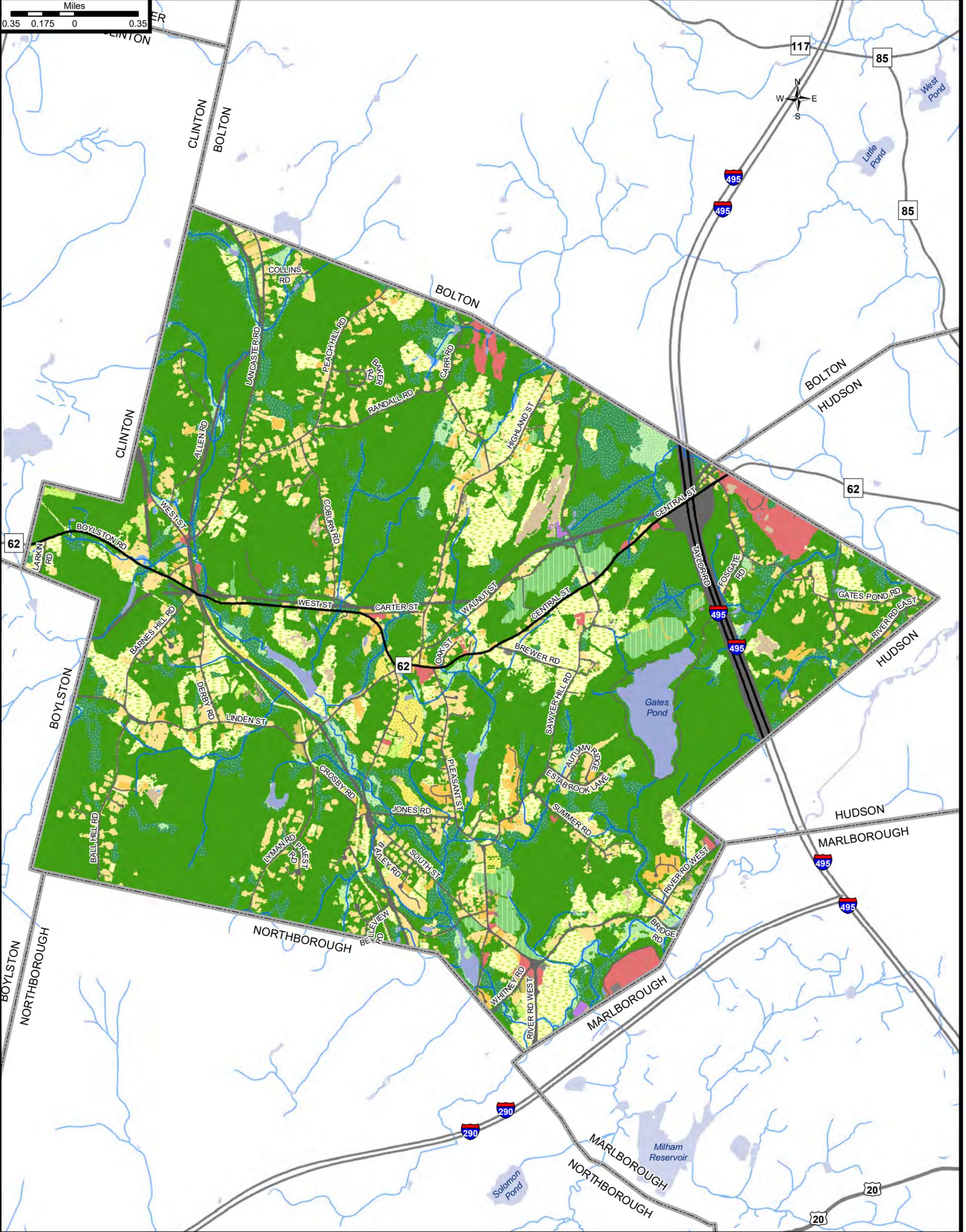


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Municipal Vulnerability Preparedness (MVP) Workshop

Reference Map: Land Use (2016)

Town of Berlin, Massachusetts



Residential	Mixed Use - Other	Forest	Non-forested Wetland	Unconsolidated Shore	Developed Open Space
Residential - Multi-Family	Urban Public/Instit...	Scrub/Shrub	Saltwater Wetland	Aquatic Bed	Right-of-way
Commercial	Pasture/Hay	Bare Land	Water	Other Impervious	Cranberry bog
Industrial	Cultivated	Forested Wetland			Orchard
					Nursery
					Misc

Source: Data provided by the Town of Berlin, CMRPC, massDOT, MassGIS.

Information depicted on this map is for planning purposes only. This information is not adequate for legal definition, regulatory interpretation, or parcel-level analysis. Use caution interpreting positional accuracy.

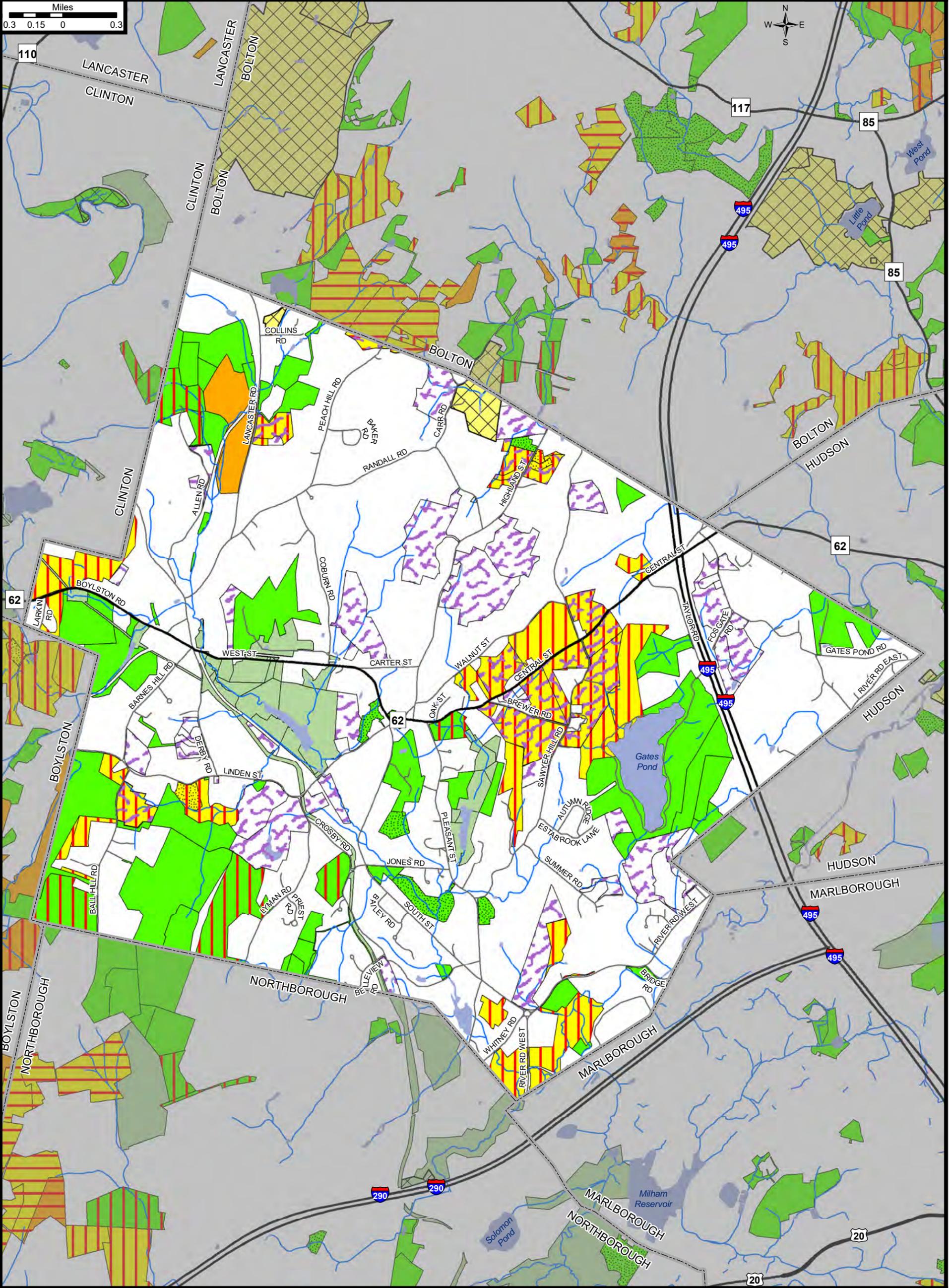


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Municipal Vulnerability Preparedness (MVP) Workshop

Reference Map: Open Space

Town of Berlin, Massachusetts



- | | | | |
|---------------|-----------------------------|----------------------------|---------------------------------------|
| Town Boundary | Open Space Ownership | Level of Protection | Chapter Land (61, 61A, 61B) |
| Water Bodies | Federal | Perpetuity* | Conservation Restriction |
| Major Road | State | Limited | Agricultural Preservation Restriction |
| Local Road | Municipal | None | |
| | Private | | |
| | Non-Profit | | |

Source: Data provided by the Town of Berlin, CMRPC, massDOT, MassGIS.

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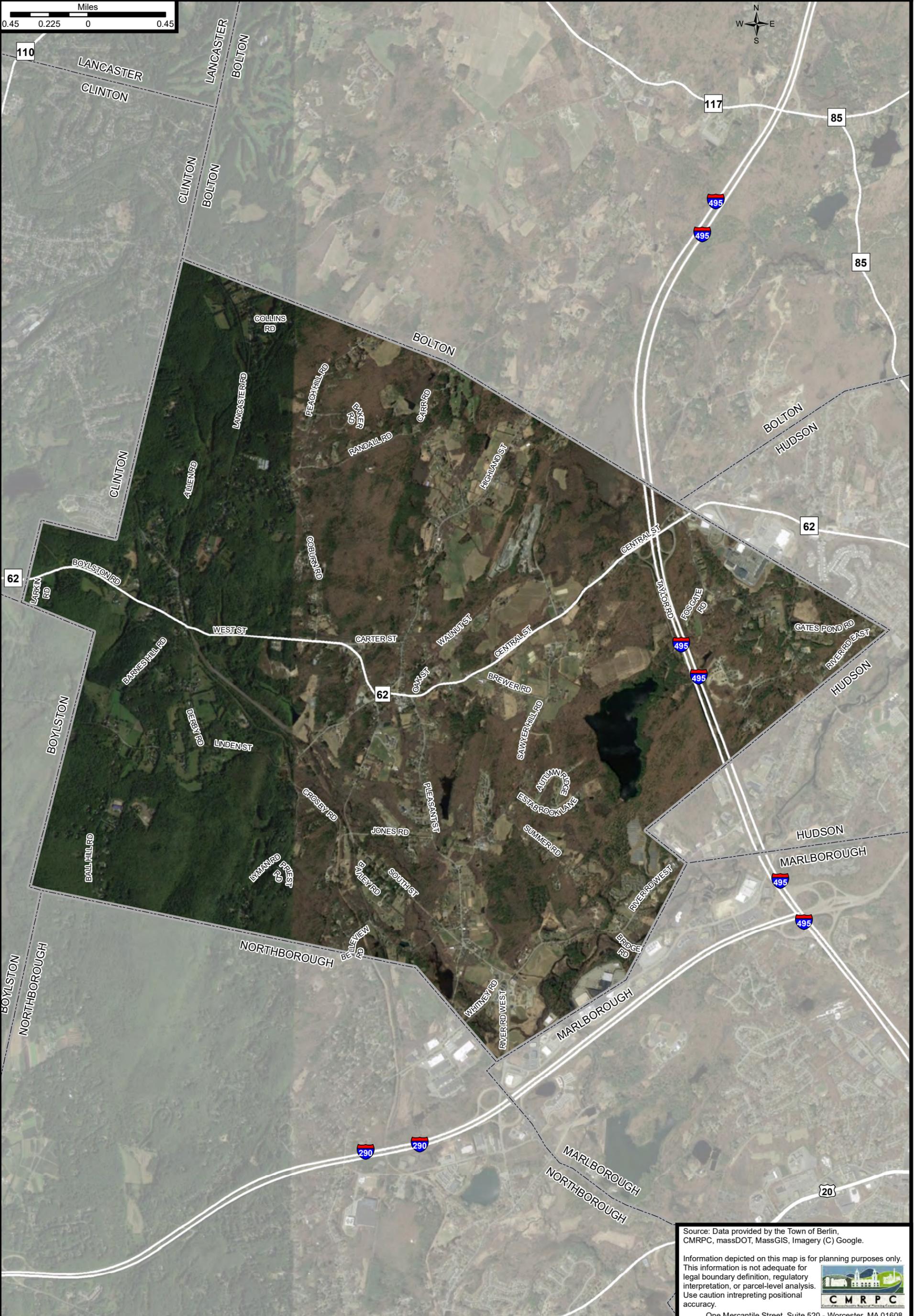
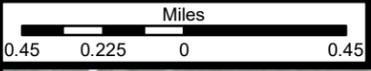


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Reference Map: Orthophoto (2017)

Town of Berlin, Massachusetts



Source: Data provided by the Town of Berlin, CMRPC, massDOT, MassGIS, Imagery (C) Google.

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 interpreting positional accuracy.

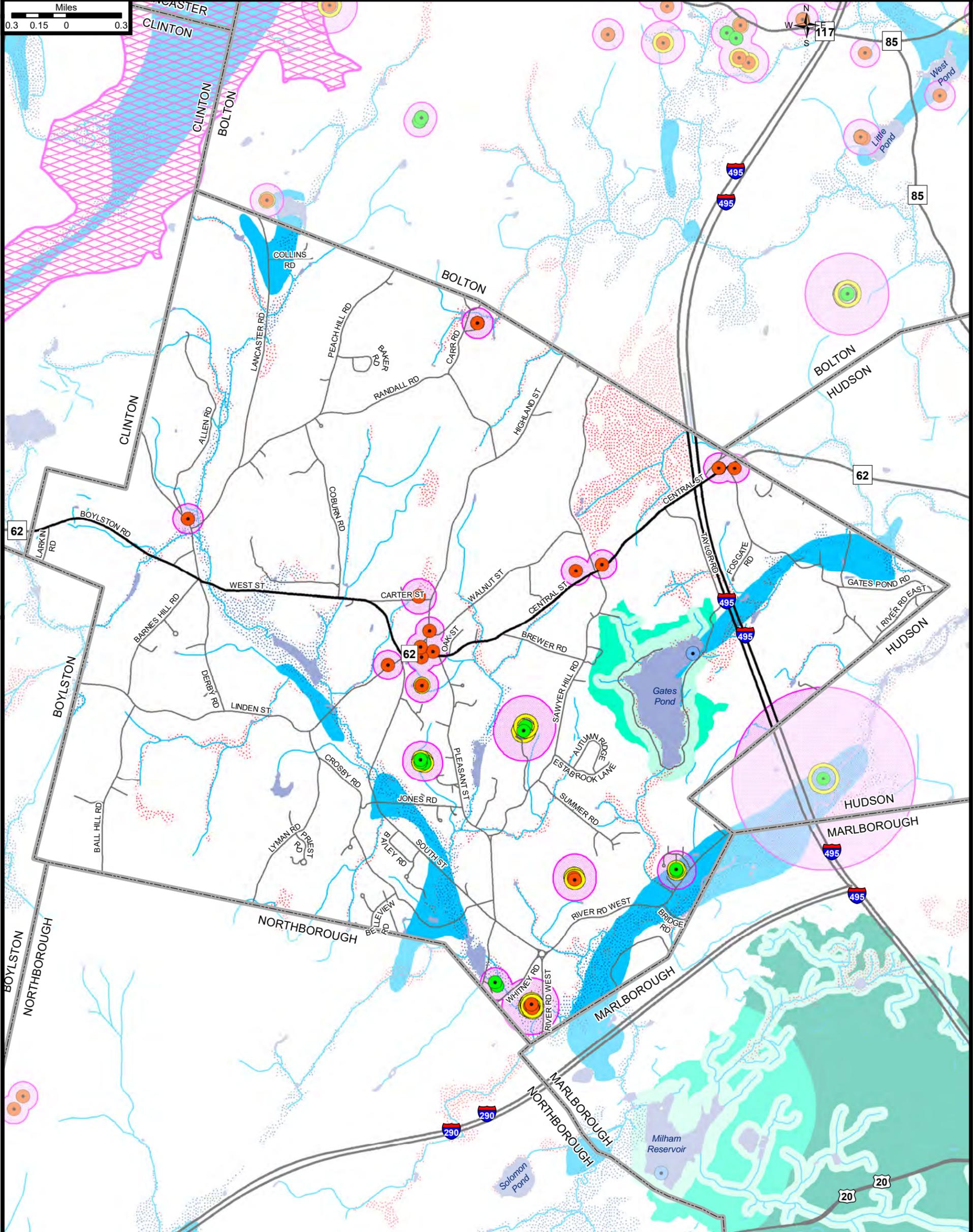
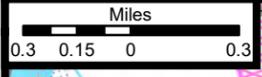


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Municipal Vulnerability Preparedness (MVP) Workshop

Reference Map: Water Resources

Town of Berlin, Massachusetts



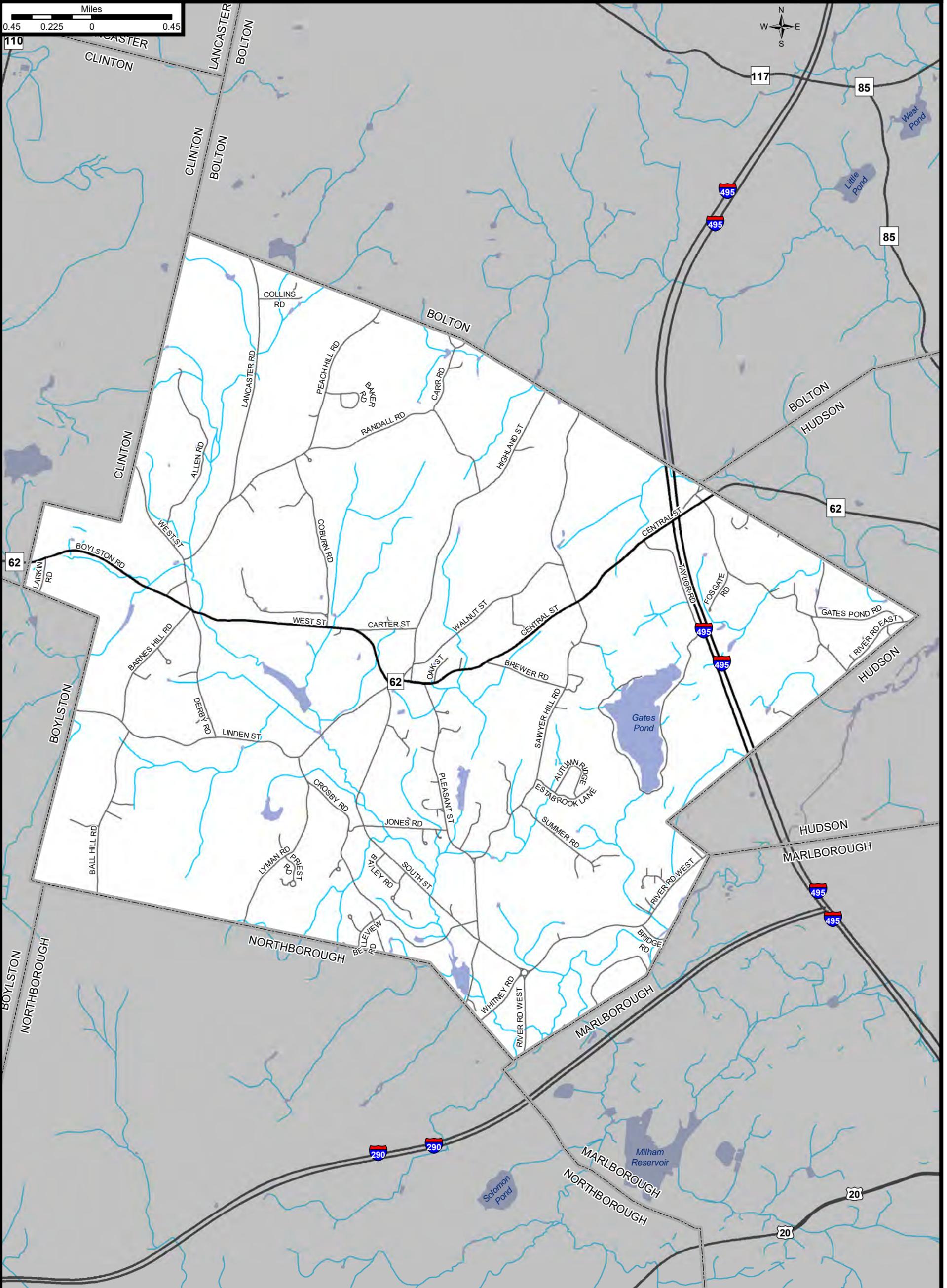
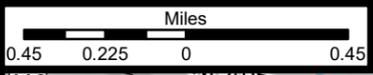
<p>massDEP Public Water Supplies</p> <ul style="list-style-type: none"> ● Community Groundwater Source ● Surface Water Intake 	<ul style="list-style-type: none"> ● Non-Community Groundwater Source ● Emergency Surface Water 	<ul style="list-style-type: none"> DEP Approved Zone I Approved Wellhead Protection Areas (Zone II) Interim Wellhead Protection Areas Aquifer 	<p>FEMA National Flood Hazard Layer (DFIRM Data) or FEMA Q3 Flood Zones (Pre-DFIRM)</p> <ul style="list-style-type: none"> 100-year Flood Area 500-year Flood Area 	<p>Surface Water Supply Protection Area</p> <ul style="list-style-type: none"> Zone A Zone B Zone C 	<p>Source: Data provided by the Town of Berlin, CMRPC, massDOT, MassGIS.</p> <p>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 interpreting positional accuracy.</p> 
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Reference Map: Utility Infrastructure

Town of Berlin, Massachusetts



- | | | |
|---------------|------------|-------------|
| Town Boundary | Major Road | Sewer Line |
| Local Road | Water Line | Water/Sewer |
| Water Bodies | | |

Source: Data provided by the Town of Berlin, 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 interpreting positional accuracy.

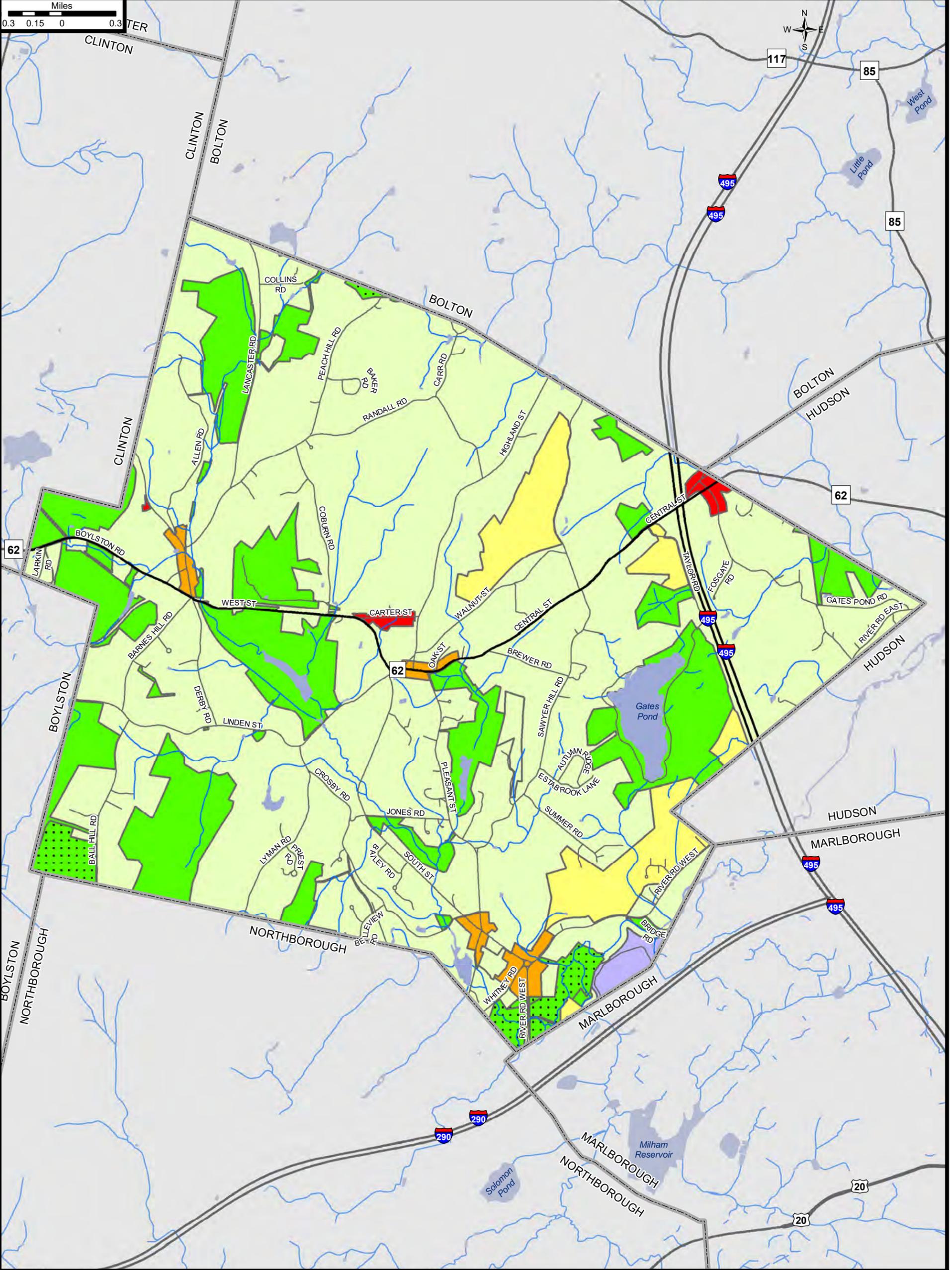


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Reference Map: Zoning

Town of Berlin, Massachusetts



Zoning Districts					
	AGRICULTURAL - RECREATION - CONSERVATION		COMMERCIAL		LIMITED INDUSTRIAL
	ARC - CONSERVATION RESTRICTION		COMMERCIAL - VILLAGE		RESIDENTIAL AGRICULTURE
			LIMITED BUSINESS		

Source: Data provided by the Town of Berlin, CMRPC, massDOT, MassGIS.

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Municipal Vulnerability Preparedness (MVP) Workshop



Berlin Table 1

H-M-L priority for action over the Short or Long term (and Ongoing)
 V = Vulnerability S = Strength

Top Priority Hazards (tornado, floods, wildfire, hurricanes, earthquake, drought, sea level rise, etc.)

Features	Location	Ownership	V or S	Description	Drought/Heat	Wind Events	Flooding	Winter Storms	Priority	Time
									H - M - L	Short Long Ongoing
Infrastructural										
Dams										
Old mill dam under Rt. 62 at North Brook.	Rt. 62 @ North Brook	Unk.	V	Not listed in state database. Concern re condition and possible flooding.				Study and repair, will depend on ownership	L	L
Lester Ross Dam	On map	State	V	Town told (by whom?) that the dam will be a problem if the reservoir is allowed to fill completely.				Continue to coordinate with state to confirm dam is maintained	L	L
Wheeler Dam	On map	Private	V	In poor condition. Needs repair/replacement/removal, complex issue with tax title, possible old explosives and nuclear reactor				Study, removal, possible acquisition	M	O
Gates Pond Dam	On map	Town of Hudson	V	Owned by Hudson for water supply. Would like more information about condition.				Coordination with Hudson	L	O
Electrical System	Throughout town	National Grid	V/S	Lines in Berlin fed from substations in Marlboro and Clinton. Vulnerable to tree falls. 5 year tree trimming cycle by Grid. 200+ standing dead trees on Town's list that could impact lines, Highway Dept. can't keep up.		Clearing of tree branches and high risk trees		Clearing of tree branches and high risk trees	H	O
Emergency Communications System	Towers on Coburn Road, Taylor Road	Town; Private	V/S	Emergency comms lines are copper and fiber, which are vulnerable to downed trees. The two tower sites are privately owned, older/vulnerable towers.		Vulnerable to downed tree, clearing of high risk trees, possible microwave system		Vulnerable to downed tree, clearing of high risk trees, possible microwave system	H	O
Shelters	Memorial School; Public Safety Bldg	Town	S	School is primary shelter but it lacks showers. Public safety serve as overflow				Coordination with Boylston for shared facility at regional middle/high school, exploration of other schools or private/public partnerships as options. Assess evacuation transportation needs. Discuss with contracted school bus company.	M	O
Roads/Highways	On map; see HMP also	Town; State	V/S	Various road segments are vulnerable to blowing snow. See Hazard Mitigation Plan. I-495 has very limited emergency access in Berlin.				Possible usage of snow fences or plantings (road safety) explore non-salt road treatments,	M	O
Water Supply	Throughout town	Private	V	No Town water. All private wells. Vulnerable to power outages where generators are not available. Drought hasn't been an issue recently (2016 few issues). Large lot zoning designed to keep water withdrawal density low.	Explore public education/outreach programs regarding water conservation, lawn alternatives	Think about back up generators, study alternate water supplies in event of long term outage		Explore the possibility of contamination during a flooding event. To what extent do bylaws allow for low impact development or nature based solutions	H	Some O Some L (water sources)

Contaminated Wells	Senior Housing, Northbrook 1 and Northbrook 2, 135 Pleasant	Private	V	Senior Housing complex's well water is contaminated by perchlorate.	Continue to monitor levels of perchlorate and sediment in water	H	O
Rural Firefighting System	See HMP	Town	V/S	The Town owns several fire ponds and dry hydrants. Maintenance is challenging as ponds gradually dry up and are clogged with invasive plants.	Coordinate with other town depts and bodies to expand sources, conduct a study and develop a plan, possible invasive removal, pursue hiring a consultant	H/M	O
CSX Railroad	On map	CSX	V	CSX's Framingham-Leominster route carries tank cars and solid waste through town. Bed, bridge are in poor condition. Route parallels North Brook. Concern re spills if a natural disaster impacts the line.	Coordination and communication strategy	L	O
Drainage/Culverts	N/A	Town	V	Defers to Highway Department. See also HMP.	Defer to Highway Dept, perform an inventory and study	H	S/O
Town Facilities	On map	Town	V/S	Town facilities are generally new or recently renovated. Highway barn is new, school and public safety bldg are ~20 years old, Town Hall was renovated about the same time. Only concern is that flooding on Rt. 62 could block one access route to the highway barn.	General maintenance, explore possibility with Green Communities, for EOC or shelter function	H	S/O
Other Concerns	Northboro	Private	V	Group has concerns regarding vulnerability of two sites in Northboro near Berlin line in the event of natural disaster; Santo Anza illegal dump and Steris cobalt reactor	Continued coordination with DEP	L	O
Gas Supply	4 gas stations	Private	V	Ice storm limited availability of gas, 12 years ago, forced private citizens to supply gas	Coordinate to verify generators or alt. to use pumps if power outage, possible purchase of hand pump	L	O
Societal							
Senior Population	Throughout Town	Private	V	Berlin has high % of senior population	Investigate options for outreach and communication, creation of an optional "life saver registry" in case of emergencies, continued outreach for CodeRED system	M	O
Senior Housing	135 Pleasant Highland St Brook Lane	Private	V	Two 40-unit subsidized housing developments, one 60-unit 55+ housing development, and another 55+ development under construction. Concern about vulnerable population, evacuation, etc.	Continue to coordinate with facility operators. Consider public education around property maintenance and risks from climate change Consider updating the shelter plan.	M	O

Assabet Valley Regional Tech. HS	Marlboro	Public	S	Students can support resilience-related projects	Investigate options for using student labor on resiliency projects, work with the school's off-campus coordinator.	M/L	O
Fire Department	On map	Town	V/S	Fire Department is mostly call/volunteer. In recent years it has been harder to maintain numbers of FFs. Rely heavily on mutual aid.	Fire dept continues to evolve to a paid composition	L	O
School for Autism	Near rotary	Private	V	Somewhat close to dynamite storage, cobalt reactor. Potential need for evacuation.	Include the school and the whole area, including Riverbridge, in emergency plan updates.	M/L	O
Population Growth and Development	Throughout Town	N/A		Berlin's population is growing quickly	Ensure growth is occurring in appropriate areas. Reasses shelter plans and capacity. Explore public/private partnerships for emergency situations. Explore "resilience hubs" like community centers, libraries.	M/H	O
19 Carter	Center of Town	Private	S	Community Center			
Environmental							
Forests/Trees	Throughout town	Various	V	Forests have been damaged from pests (gypsy moth), ice storms, droughts, heat, etc. Town has not been able to keep up with 200+ standing dead trees to help prevent power line and other property damage. Greater risk of wildfires due to expensive forest cover. There was a large forest fire in 2000 between Linden and South streets.	Work on the removal of high risk trees, coordinate with National Grid, town developing its own capability to remove trees, possibility of creating a forest/tree inventory, forestry management plan, clearing of undergrowth to limit the risk of fires (explore the usage of controlled burns)	H/M	O
Mosquitoes	Throughout town	N/A	V	More mosquitoes due to warmer winters. Public health threat. But, mosquito control pesticides can damage agriculture due to inadvertent bee kills.	Coordinate with Mosquito Control District	L	O
Open Space	Throughout town	Various	S	Open space (much in Ch. 61A) protects from flooding, heat, etc.	Continue to preserve, protect, and expand open space	M	O
Agriculture	Unk	Unk	S/V	Farms provide a lot of the same benefits as other open space but are vulnerable to droughts.	Share resources among farms like tanker trucks. Develop fire ponds as water resources. Ag commission and Planning Board could look into shared water issues. Analyze use, public education.	M/H	O
Waterways	Throughout town	Various	S/V	Berlin's ponds and streams are recreational and environmental assets. However, many are now impacted by invasive species in and near the water. Wheeler Pond in particular has a lot of aquatic invasive.	Consider forming local group to monitor conditions and pursue improvement if warranted. Study work of Mill River Greenway Initiative. Consider Town swimming hole - potentially the pond behind the Wheeler Dam.	M/H	L
Snow drifting	Unk	Unk	V		Potential for planting of low growth trees and/or bushes for pollinating insects	M	O
Wheeler Pond	Unk	Unk	V/S	Area surrounding pond has been taking over by plant based invasive species. Pond lacks a place of recreation I.E a beach		M	S
Tolman Greenhouse				Petroleum or other manmade hazard in upland brooks may come downstream		M	L

Town trail system	Town wide	private and public	S		Find ways to link up various trails to create one cohesive trail network		
Central Mass Rail Trail	parallel Rt 62	public and private	S		Become involved and develop strategies to		
Environmental							
Wheeler Pond	Pleasant Street	Private	S/V	Right now more of a channel, now in tax title, dynamite storage bunker partially	Assess the dams located next to the dam and evaluate proeprty for town ownership		Ongoing
Conservation Land	Town-wide	Town (Con Com)	S/V	Contains some asain longhorned beetles zones, many brooks, aquifer	Maintaining a list of priority conservation lands. DCS land grant.Taking a look at the TNC layers.	H	Short term
Farms (Indian Head, Balance Rock, Rainville)		Private	S	Three in particular that need to be preserved for food security	Purchase the development rights for agricultural farms. 61a agriculture use, lowers the tax rate. 61b, recreation. When a property is for sale, the Town has first right of refusal. Action item, to	H	Ongoing
Lyman School	Linden St/ Lyman St	Private	S	Stuggling to conserve this 110 acre parcel, huge recreation use and	An Action Grant in the next round of funding.	H	Short
Roadside Trees	Town-wide	Public/Private	V	could be catastrophic during wind storms, disruption to the power grid, especially road-side trees.	Tree trimming of the road-side trees. The use of a forester and a development of a forest management plan.	Tree trimming- H, Conservation lands and getting a forester is M	Short
Wells	Town-wide	Private	V/S	The town is entirely dependant on public water.	Recharging, inspectional services. The town needs expertise to develop an action plan. Potential efforts to undertake the usage of private wells, such as an aquifer being depleted.	M	ongoing
Invasive Species	Town-wide	Public/Private	V	Invasive species are causing severe damage.	There is a strategy with new development to mitigate invasive species spread not developing borders between properties. Working to create a partnership with CISMA to acquire grant funds	M	ongoing
Berlin Broken Stone	Sawyer Hill Road	Private	S	Active rock quarry	Preserve inactive land on quarry property	M	ongoing

Community Garden at Riverbridge!	Riverbridge villate	Private owned; publicly leased for 99 years	Strength	Food security; connection with the environment					
Transfer Station	35 Jones Road	Town owned	Strength						
Gates Pond Road landfill	Gates Pond Rd	Hudson owns	Vulnerability	risk of leak -non lined - no methane burn off - potential need to properly cap all of it	investigate if capped/cap				
Town's capped landfill	Jones Road	Town owned	Vulnerability	risk of leak - non lined- no methane burn off - potential need to properly cap all of it	investigate if capped/cap				
Berlin Public Library	23 Carter Street	Town owned	Strength	new septic project approval adds to the future viability of the building					
1870 Town Hall	12 Woodward Ave	Town owned	Strength	\$1M ADA accessible access to Grand Hall on 2nd floor					
19 Carter Street Community Center	19 Carter Street	Private-non-profit	Strength	Preservation of Old Methodist Church as community center					
Town Offices/Public Safety Complex	23 Linden Street	Town owned	Strength	Reuse of former 1950 vintage elementary school for new seat of town government as of 2000					
Public Tree management/complexities	Townwide	Town owned	Vulnerability	no replacement program per se; causes power outages; blocked roads; lots of dead trees; major hazard to road ways and power; town Highway lacks needed equipment (bucket truck) to deal with problem; maybe Berlin could partner with other towns?					
# of Auto Body and Repair shops	Townwide	Locally owned; independent	Both	Roux, Wheeler's, Berlin Auto Service (these 3 are auto repair - there's also an auto body shop - Auto Station Sales)					
Berlin Auto Parts	76 Coburn Rd	Privately owned	Both	recycling center for scrap metals but traffic/storage of scrap autos					
Tahanto Berlin/Boylston Regional School District (K-12)	Regional	Govt/other	Both	our future; we need to find more ways to involve the students, and especially the Berlin student population, in Berlin					
Assabet Regional Technical High School	Regional	Govt/other	Strength	our future; we need to find more ways to involve the students, and especially the Berlin student population, in Berlin government HOWEVER not physically located in Berlin - in Marlborough					
Charter Communications	Regional	Privately owned	Strength	Fiber optic; strong cable TV committee & staff locally though increasingly folks are cutting the cable on TV but still have many phone and internet customers					
Steris Medical equipment cleaners	On Northboro line	Privately owned	Vulnerability	chemical/radiation/poison gas (?) risks, danger for emergency responders, no known evacuation plan - risk for incoming Riverbridge apartments					
Emergency Management Planning	Townwise	Town/CMRPC/ME/MA	Strength	Was updated a year ago, may need updating when Riverbridge comes on line (204+ apartment units)					
EV Charging Station Proposal	23 Linden Street	Could be Town	WOULD BE A STRENGTH	Was proposed but didn't happen- maybe could happen after the front parking lot at the Town Offices are repaved as was approved at 2020 ATM					
Bike Racks	23 Linden Street	Could be Town	WOULD BE A STRENGTH	Again, perhaps after lot is repaved					
Solar array (roof or canopy) for new Highway Barn	112 West Street	Town	WOULD BE A STRENGTH	\$4k/month electric bill for new \$4M building (1 year old) with extreme electric bills and no radiant heat. An array would be great but earlier attempt at a grant failed to materialize					
Societal									
Northbrook Village I & II (large-scale residential developments)	135 Pleasant St	2 private non-profits	Both	# of large-scale residential developments underway (Northbrook Village I & II) each with 40 units for senior living - phase 1 has #36 affordable/4 market rate, phase 2 are 40 apartments all affordable); dense development and vulnerable population					
204 units at Riverbridge	RiverRoad West/Tyler Road/Basset Road/Newsome	Private	Both	40B housing that brings town to 16.99% affordable housing stock and ceases further 40B development; VERY dense development compared to rest of town					
66+ units of senior townhouses (sold/some infrastructure afoot)	Highland Street	Private	Both	Will include an open space element and closer/cluster townhouse development; provide for a walk-able downtown opportunity for residents; dense development					

Sawyer Hill (Mosaic & Camelot condominiums)	Village Court and Village Lane - both off Sawyer Hill Road	Private	Both	cluster and open space; brought in gas from Northboro to serve the project & allows folks on the route to get that gas service - started with 17 affordables but now down to 15 due to foreclosures over past 1.5 decades - high degree of community involvement and volunteerism - high density development					
Whitney Estates	Alden Drive	Private	Both	408 - had 3 affordables but now down to 2 due to foreclosure - high density development					
Meadowbrook	Brook Lane	Private	Both	Great volunteer pool in Town government!					
Shortage of extremely low Area Median Income (AMI) in town	Townwide reach	Private	Vulnerability	while the town has 16.99 Affordable Housing but town is still exposed in terms of dense housing projects that cater to lower AMI					
CodeRed	Townwide reach	Town	Strength	allows for quick response in event of loss of landlines, run by the Police Dept -- should be shared with FD? Also need a better way to identify the callers as "CodeRed Call from Berlin" so that folks take the call/it appears as junk caller; increase the push to the public safety and fire departments					
Nashoba Valley Regional Dispatch District	Regional	Berlin & 7 other communities + the Dept of Defense/Devens	Both	through regionalized police and fire dispatch; on the downside, the dispatch is NOT manning the Town offices 24/7 and dispatchers are not as intimately familiar with Berlin people/landmarks/issues which can cause delay					
Berlin General Store	Central Street	Private	Strength	Coffee - great food - lots of local politics - reuse of privately owned historical structure in town					
Emerson Urgent Care	Highland Commons	Private	Strength	Though urgent care only, tremendous local resource for emergency care					
Temescal	Central Street/Hudson - Rt 62	Private	Strength depending on the strain	Both medicinal and recreational source for cannabis					
Homesuites by Hilton	River Road West	Private	Strength	100 bed efficiency style executive housing					
First Parish Church	Central Street	Private; religious	Strength	non-space community partners; community involvement; explore other opportunities to communicate through/with them and their					
St Joseph's Catholic Church	West Street	Private; religious	Strength	faith based community partners; community involvement; explore other opportunities to communicate through/with them and their					
Berlin Family Food Pantry	23 Linden Street	Private non-profit	Strength	food security					
Many Hands Thrift Shoppe	Central Street	Private	Strength	needs security					
Senior Van Service/COA	Townwide reach	Town	Strength	provide greater regional access for seniors in fringe-rural community					
Meals on Wheels/COA	Townwide reach	Town	Strength	food security					
Local tradesmen base for local services	Townwide	Private; independent	Strength	housing/construction security					
National Lumber	Central Street		Strength	housing/construction security					
Clinton Savings Bank	Central Street	Private	Strength	local financial					
Assabet Regional Technical HS	Marlboro	Regional public	Strength	has offered to be a regional shelter in event of emergency, and use of their students as labor pool					
Farms and Agricultural Lands	Townwide	Private	Strength	Provide food security and help preserve land; could not possibly name them all but some notable farms include: Indeed Head Farm @ Pleasant Street, Balance Rock Farm @ Highland Street, Berlin Farms @ Central Street, Berlin Orchard @ Sawyer Hill Road, Northbrook Alpaca, Lilac Hedge Farm, and Golden Skep					
GPS marking of substantial Town points of interest	Townwide	Public/Private		Allow for marking of significant markers					
# of private solar arrays on private residences	Townwide	Private	Strength	Having standalone systems - with storage batteries on site, provides for greater independence from the grid and vulnerability to trees/interruptions in transmission					

Boundless Adventures	River Road West	Privately owned, partially on Town leased land; partly private land	Strength	New outdoor recreation/ropes course on the edge of the Riverbridge mixed use village development.
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Environmental

SA Farms	Whitney Road, Northborough	Private	Vulnerability	abutting state aqueduct land; and extreme negative impact on a neighboring stream; civil composting & criminal animal abuse activities/ongoing; MassDEP and Northborough			
MWRA aqueduct	Clinton to Southborough	State govt					
Indian Head Farm/SunEdison solar project	River Road	Private land and private array	Strength				
Potas Farm/ZTE solar project	330 Randall Road	Private land and private array	Strength				
Assabet River			Strength				
Gates Pond Reservoir Loop Trail	99 Taylor Road	Town of Hudson	Strength	Lovely walk, owned by TOwn of Hudson but located within Berlin - some complaints about dogs off leash			
North Brook			Strength				
Worcester Sand and Gravel							
Mass Broken Stone	Sawyer Hill Rd/Bolton side	Private owned	Both	Still active,			
Ford (now Sawyer) Gravel Pit	Linden Street	Private Owned		status (?)			
Berlin's Wetlands Protection Bylaw	N/A	Town	Strength	Provides additional protections to water/wetland resources; the Con Comm is in the process of trying to strengthen the bylaw			
Berlin Right to Farm Community Status	Townwide	Private	Strength				
Berlin Green Community Status	N/A	Town	Strength				
Commonwealth Community Compact signatory	N/A		Strength				
Sidewalks or lack of town-wide sidewalks							
% of protected open space lands in Town	Townwide		Strength				
general overall health of the Town's lands (not polluted)	Townwide		Strength				
Gypsy moths	Townwide		Vulnerability	puts trees at risks and could create hazards for roadways and powerlines			
ALB - Asian Longhorn Beetle project	Townwide		Vulnerability	ALB is in neighboring towns, potential for it to crossover into Berlin, puts trees at risks and could create hazards for the roadways and powerlines			
Central Mass Mosquito Control Project membership	N/A		Strength				
Community buy-in/involvement with roadside clean up	Townwide						
South Commons soccer fields/rec lands	South Street	Town	both	Recreation states the fields need substantial work to be attractive for private lease/soccer			
SouthCommons Wellness Trail	South Street	Town					
Rail trail project/consensus	Transtown	Regional/Private/N	Both	regional project and recreational opportunity and ADA access; though some feel safety risk, maintenance costs will fall to town. initial buy			
Tolman Property	Walnut St	Private	Vulnerability	Foreclosure quagmire with USDA not wanting to foreclose and known prior heating oil spill on site of unknown size, Town exploring Brownfield funding to explore further			
Bittersweet /invasives				Form a community group on clearing them, identifying them, education - in conjunction (more) with SVT and/or Boy Scouts; explore state or fed opportunities for farmers and/or private property owners (or open expanses of Chapter 61 protected Forestry lands) to tackle invasives; explore what the state may have done with Suasco waterways and weed control			
Poison Ivy	Townwide	Public/Private	Vulnerability	Goats for rent to clear invasives; poison ivy			
Risi lands	River Road West	Town owned	Strength	opportunity to hay it? Town revenue?			
Tyler Farm	River Road West	Private owned	?	Oldest home in town, adjacent to spooky			
Berlin County Club	Carr Road	Private Owned	Strength	protection of open space for active recreational use			
(NO) Wetlands Protection Bylaw		Town owned	Vulnerability	was 50' (passed but rescinded by TM); and the next 2 attempts were 35' but defeated.			

TOWN OF BERLIN

Municipal Vulnerability Preparedness (MVP)

Community Resilience Building Workshop

June 18, 24 and 25, 2020



You are Invited to Participate in Berlin's Municipal Vulnerability Preparedness (MVP) Program!

The Town of Berlin is collaborating with EOEEA and CMRPC to offer a three-day virtual workshop on June 18th, June 24th, and June 25th which will bring together community members to comprehensively identify and prioritize steps to reduce risk and improve resilience across Berlin. Follow the instructions below in order to help make your community more climate resilient! If you have any questions about the program, please contact Mary Arata, Administrative Assistant to the Town Administrator, at selectmen@townofberlin.com. We look forward to seeing you virtually at our workshop!

Step 1. RSVP by June 11

To participate in the virtual workshop, please RSVP by emailing selectmen@townofberlin.com before June 11th.

Step 2. Discover Berlin'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.

Berlin MVP Workshop Dropbox: <https://www.dropbox.com/sh/4d004dnlca6122/AADwYytr8eX7mcNtTf03aHNJa?dl=0>

Step 3. Review the Program Overview and Workshop Guide

The following two documents will give you an overview of the MVP program and will describe a typical Community Resiliency Building (CRB) workshop.

MVP Program Overview: <https://www.dropbox.com/s/341s6o5vyft1fz3/MVP%20Program%20Overview.pdf?dl=0>

CRB Workbook: <https://www.dropbox.com/s/st782o3m8mhev9/CRB%20Workbook.pdf?dl=0>

Step 4. Watch the MVP Presentations

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 Berlin 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 June 18th**.

Presentations: https://www.dropbox.com/sh/28ukm39qkmi85n4/AADPC21vQBv1_eFG6_FYvrlca?dl=0

Step 5. Familiarize Yourself with the Matrix and Mapping Tools

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 and marking up an online map with our ideas. The following three documents will show you an example of a completed matrix, will guide you through using the online mapping tool, and will give you a set of pre-made maps that already display various features, hazards, and resources in Berlin.

Complete Matrix Example: <https://www.dropbox.com/s/nbyaic2fm4davry/Complete%20Matrix%20Example.pdf?dl=0>

Online Mapping Tool: Coming soon!

Maps: https://www.dropbox.com/sh/z9v3n63xgr6tak/AAC_qWkMiGsiirHun6_p9EbAa?dl=0

Step 6. Learn How to Zoom

New to Zoom? The following document contains a series of instructional videos to help guide you through Zoom from downloading the app to joining a meeting for the first time.

<https://www.dropbox.com/s/z7sks13hik0r284/How%20to%20Zoom.pdf?dl=0>

Step 7. Attend the Workshop!

The 3-day workshop will be held on June 18th, June 24th, and June 25th. 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: <https://www.dropbox.com/s/ssv31gkqn37a3ti/Workshop%20Agenda%3A%20Day%201.pdf?dl=0>

Zoom Link Day 1: <https://us02web.zoom.us/j/81367168512>

Agenda Day 2: <https://www.dropbox.com/s/wcs24ojf0wsylnk/Workshop%20Agenda%3A%20Day%202.pdf?dl=0>

Zoom Link Day 2: <https://us02web.zoom.us/j/84864864845>

Agenda Day 3: <https://www.dropbox.com/s/x0qgaudn3xq7dfd/Workshop%20Agenda%3A%20Day%203.pdf?dl=0>

Zoom Link Day 3: <https://us02web.zoom.us/j/84292771208>



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

**1. Engage
Community**

**2. Identify CC
Impacts &
Hazards**

**3. Complete
Assessment of
Vulnerabilities
& Strengths**

**4. Develop &
Prioritize
Actions**

5. Take Action

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.



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/j/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

5:10 pm – 5:30 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 Berlin's Virtual Community Resilience Building Workshop!



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

STEP TWO: WHAT, WHERE, WHO AND VULNERABILITIES

Community Resilience Building Risk Matrix  www.CommunityResilienceBuilding.org

H-M-L priority for action over the **Short** or **Long** term (and **Ongoing**)
V = Vulnerability **S** = Strength

Top Priority Hazards (tornado, floods, wildfire, hurricanes, drought, heat wave, etc.)

Features	Location	Ownership	V or S	Top Priority Hazards			Priority		Time	
				Floods	Winter Storms	Droughts & Wildfires	H	M	L	Short
Infrastructural										
Dam										
Societal										
Senior Housing										
Environmental										
Wetlands										



STEP TWO: WHAT, WHERE, WHO AND VULNERABILITIES

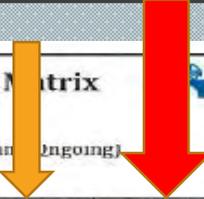


Community Resilience Building Risk Matrix				www.CommunityResilienceBuilding.org				
H-M-L priority for action over the Short or Long term (ongoing)				Top Priority Hazards (tornado, floods, wildfire, hurricanes, drought, heat wave, etc.)				
V = Vulnerability S = Strength				Floods	Winter Storms	Droughts & Wildfires	Priority	Time
Features	Location	Ownership	V or S	H-M-L	Short	Long	Ongoing	
Infrastructural								
Dam	Estimated Location							
Societal								
Senior Housing								
Environmental								
Wetlands								



STEP TWO: WHAT, WHERE, WHO AND VULNERABILITIES

Community Resilience Building Risk Matrix				www.CommunityResilienceBuilding.org				
H-M-L priority for action over the Short or Long term (and Ongoing) V = Vulnerability S = Strength				Top Priority Hazards (tornado, floods, wildfire, hurricanes, drought, heat wave, etc.)				
Features	Location	Ownership	V or S	Floods	Winter Storms	Droughts & Wildfires	Priority	Time
							H-M-L	Short Long Ongoing
Infrastructural								
Dam								
Societal								
Senior Housing								
Environmental								
Wetlands								



Estimated Location

Public? Private? State?

STEP TWO: WHAT, WHERE, WHO AND VULNERABILITIES

www.CommunityResilienceBuilding.org

Community Resilience Building Risk Matrix

H-M-L priority for action over the Short or Long term (and Ongoing)
 V = Vulnerability S = Strength

Top Priority Hazards (tornado, floods, wildfire, hurricanes, drought, heat wave, etc.)

Features	Location	Ownership	V or S	Top Priority Hazards			Priority	
				Floods	Winter Storms	Droughts & Wildfires	H-M-L	Short Long Ongoing
Infrastructural								
Dam								
Societal								
Senior Housing								
Environmental								
Wetlands								



Vulnerability or Strength

Estimated Location

Public? Private? State?

BREAK OUT GROUP: FIRST MEETING

- Step 1- 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/j/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/AADwYvfr8eXZmcNtTF03aHNJa?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

ppeloquin@cmrpc.org

TOWN OF BERLIN

Municipal Vulnerability Preparedness (MVP)

Community Resilience Building Workshop

June 18, 24 and 25, 2020

Day Two June 24th



Community Resiliency Building Workshop



Town of Berlin

Municipal Vulnerability Preparedness

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CMRPC
Central Massachusetts Regional Planning Commission

DAY ONE: COMPLETED/PARTIALLY COMPLETED

Community Resilience Building Risk Matrix  www.CommunityResilienceBuilding.org

H-M-L priority for action over the Short or Long term (and Ongoing)
 V = Vulnerability S = Strength

Top Priority Hazards (tornado, floods, wildfire, hurricanes, drought, heat wave, etc.)

Features	Location	Ownership	V or S	Top Priority Hazards (tornado, floods, wildfire, hurricanes, drought, heat wave, etc.)			Priority		Time	
				Floods	Winter Storms	Droughts & Wildfires	H-M-L	Short Long Ongoing		
Infrastructural										
Dam										
Societal										
Senior Housing										
Environmental										
Wetlands										



Estimated Location
 Public? Private? State?
 Vulnerability or Strength

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

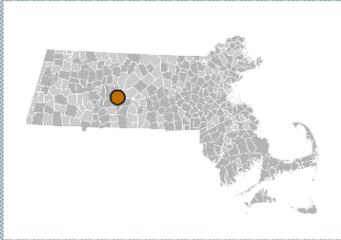


Permeable Paving

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.



Nature-based solutions

Pilot potential

INFRASTRUCTURE PROJECTS

Traditional Culvert



Nature Based Culvert

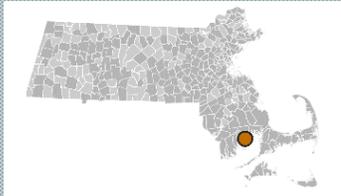


Example Action Grant Projects

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

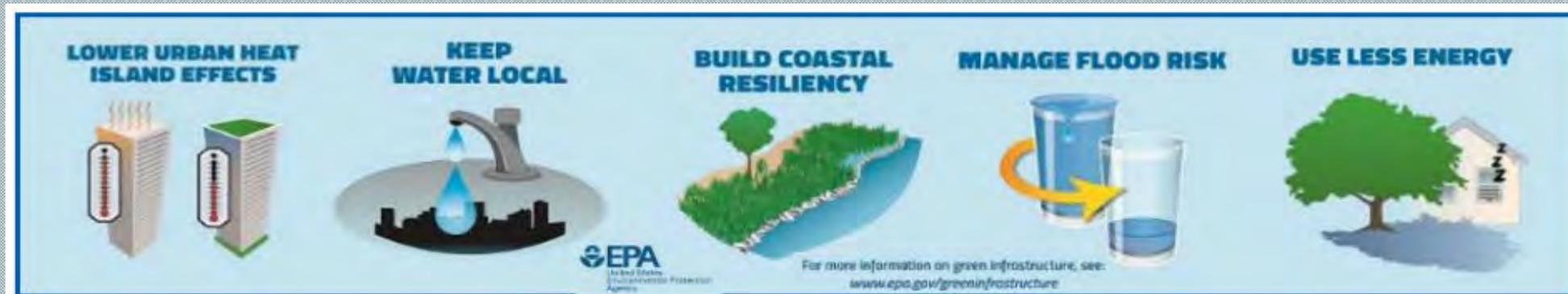


Data Utilization

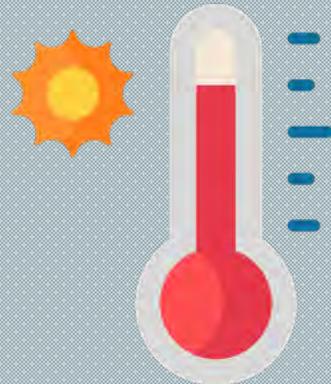
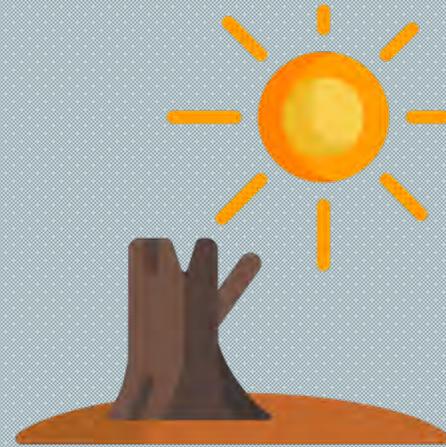
Proactive

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



QUESTIONS



TIME TO GET TO WORK

CONTACT US

- Berlin Board of Selectmen—
 - Mary Arata, selectmen@townofberlin.com
- CMRPC Project Leaders –
 - Peter Peloquin, ppeloquin@cmrpc.org
 - Dani Marini, dmarini@cmrpc.org
- Executive Office of Energy and Environmental Affairs –
 - Hillary King, Hillary.king@mass.gov

REPORT OUTS

**What did your table
find?**

SUMMARY DISCUSSION

- Areas of agreement
- Areas of unique perspectives

TIME TO VOTE

- A survey will be created after the three meetings are completed
- You will be able to vote for your top five projects

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

1. Engage
Community

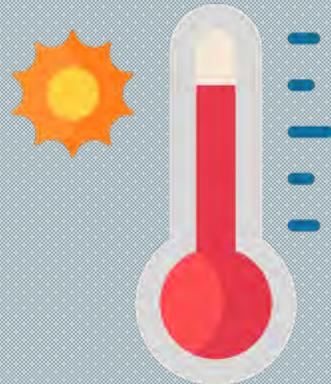
2. Identify CC
Impacts &
Hazards

3. Complete
Assessment of
Vulnerabilities
& Strengths

4. Develop &
Prioritize
Actions

5. Take Action

QUESTIONS



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**THANK
YOU**

Home



VIRTUAL PUBLIC LISTENING SESSION - Thur Aug. 27th from 6:30-7:30PM

Berlin's Municipal Vulnerability Preparedness Program

POSTED ON: AUGUST 13, 2020 - 6:41PM

Learn more and provide comments regarding Berlin'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

- Berlin Board of Selectmen at (978) 838-2442 or selectmen@townofberlin.com
- Central Massachusetts Regional Planning Commission at ppeloquin@cmrpc.org

This will be a virtual meeting on Zoom!

VIRTUAL PUBLIC LISTENING SESSION

Berlin's Municipal Vulnerability Preparedness Program

Thursday, August 27, 2020

6:30-7:30PM

ZOOM Log-in <https://us02web.zoom.us/j/89763899492?pwd=SmdLdHRCTjZmbDIHdmlldkNHdjVPUT09>

Zoom dial in phone number: 1 646 558 8656 Meeting ID: 897 6389 9492 Passcode: 889548



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

Municipal Vulnerability Session meeting flier regarding August 27th Zoom meeting - all welcome!

MUNICIPAL VULNERABILITY PREPAREDNESS (MVP) PROGRAM

Public Listening Session

Berlin, MA

August 27, 2020

6:30 - 7:30PM



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



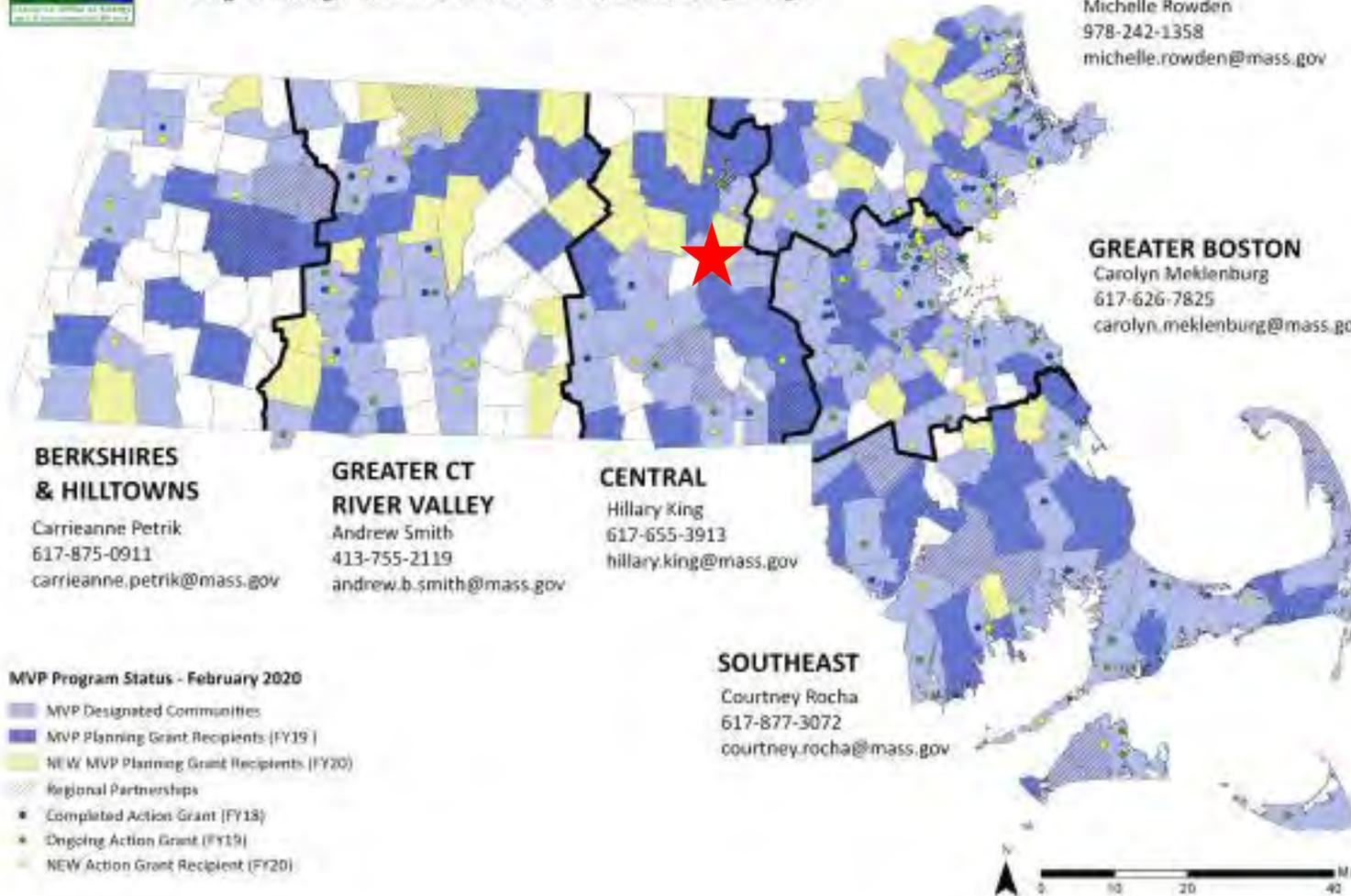


Municipal Vulnerability Preparedness (MVP) Program

Program Manager: Kara Runsten, 617-626-7826, kara.runsten@mass.gov

NORTHEAST

Michelle Rowden
978-242-1358
michelle.rowden@mass.gov



GREATER BOSTON

Carolyn Meklenburg
617-626-7825
carolyn.meklenburg@mass.gov

BERKSHIRES & HILLTOWNS

Carrieanne Petrik
617-875-0911
carrieanne.petrik@mass.gov

GREATER CT RIVER VALLEY

Andrew Smith
413-755-2119
andrew.b.smith@mass.gov

CENTRAL

Hillary King
617-655-3913
hillary.king@mass.gov

SOUTHEAST

Courtney Rocha
617-877-3072
courtney.rocha@mass.gov

MVP Program Status - February 2020

- MVP Designated Communities
- MVP Planning Grant Recipients (FY19)
- NEW MVP Planning Grant Recipients (FY20)
- Regional Partnerships
- Completed Action Grant (FY18)
- Ongoing Action Grant (FY19)
- NEW Action Grant Recipient (FY20)



CMRPC
Central Massachusetts Regional Planning Commission

COMMUNITY RESILIENCE BUILDING (CRB) PROCESS

- Community-driven process led by the project coordinators (Margaret Nartowicz, Mary Arata) with a core team of Town officials and Department Heads
- Berlin's 5 member Core Team met 6 times, February, March, May and June
- Invitation-only workshop was held virtually on June 18, 24 and 25, 2020
- 33 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



- Infrastructure



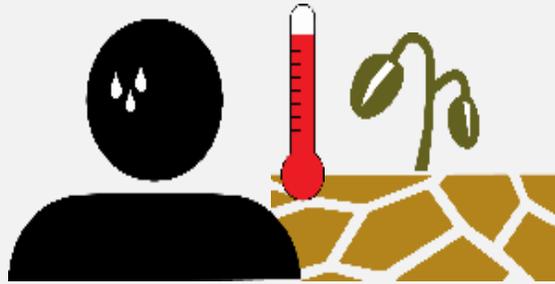
- Society



- Environment

STEP ONE: IDENTIFY TOP 4 HAZARDS

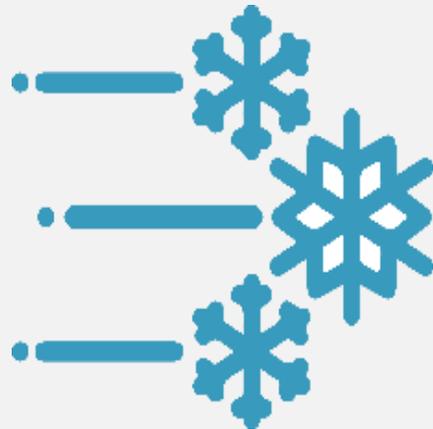
DROUGHT/HEAT



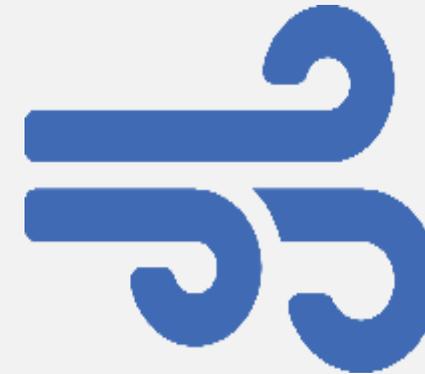
FLOODING



WINTER STORMS

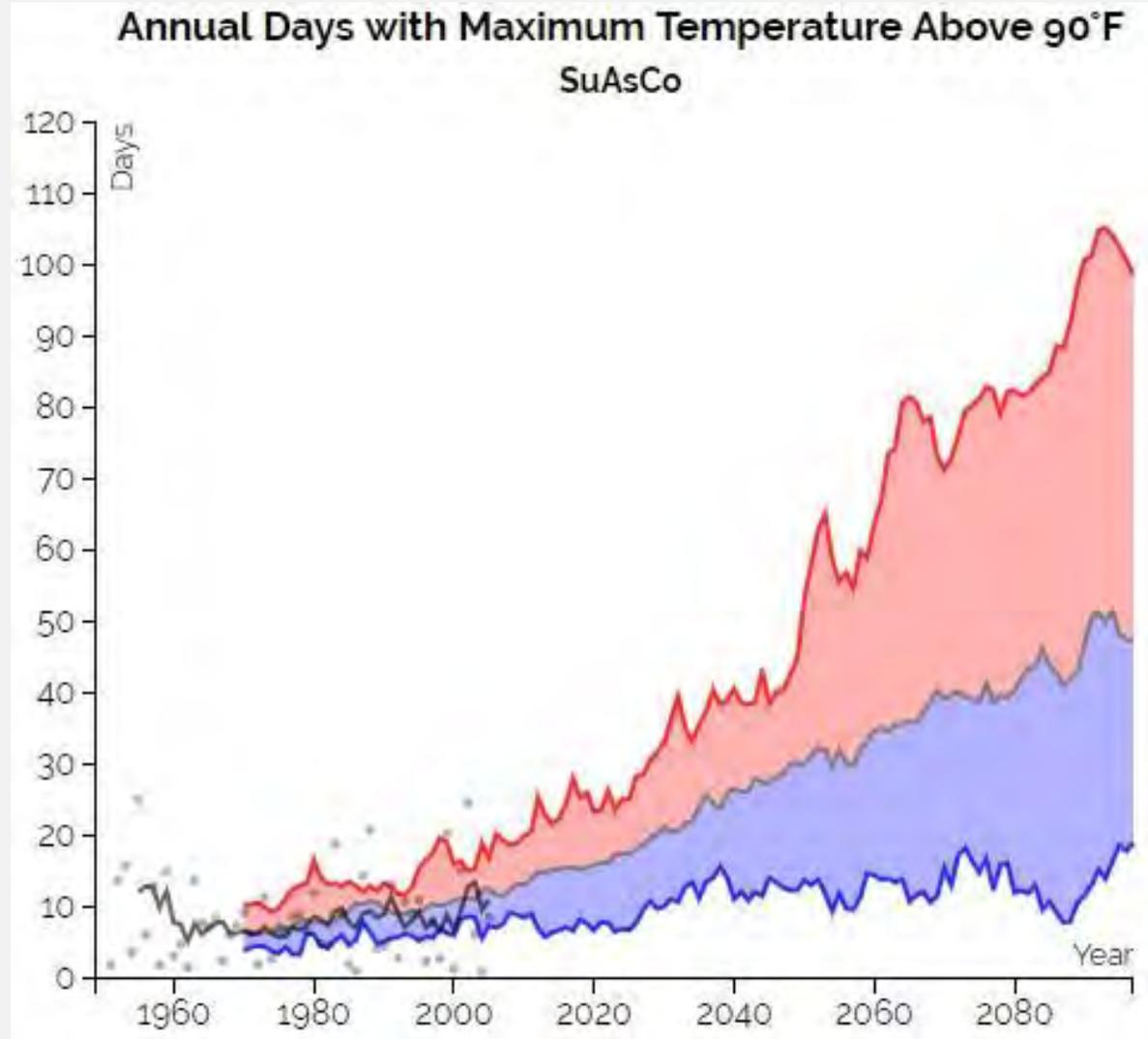


HIGH WIND EVENTS

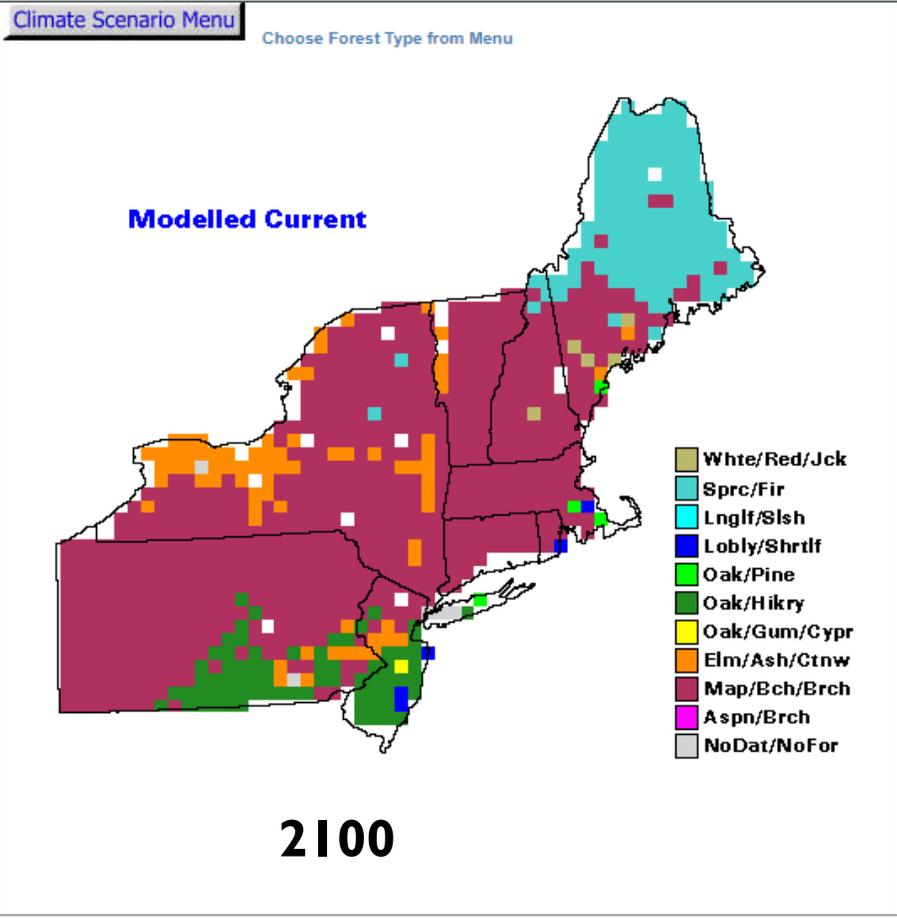
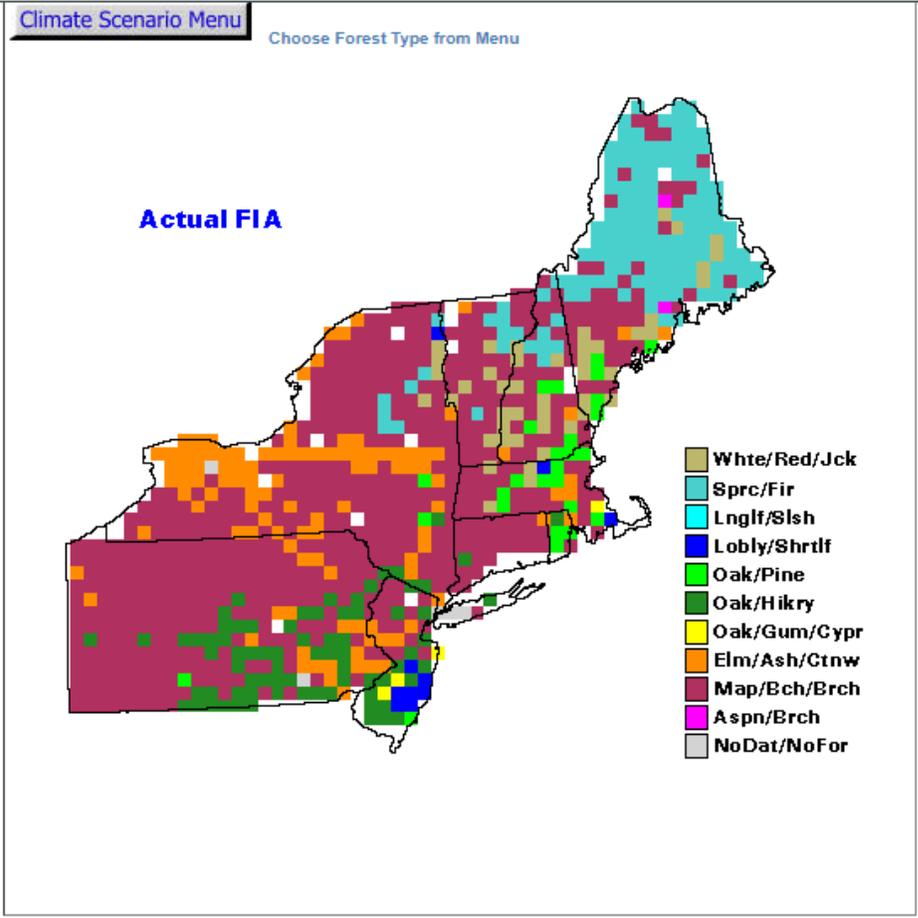


HEAT PROJECTIONS

- 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

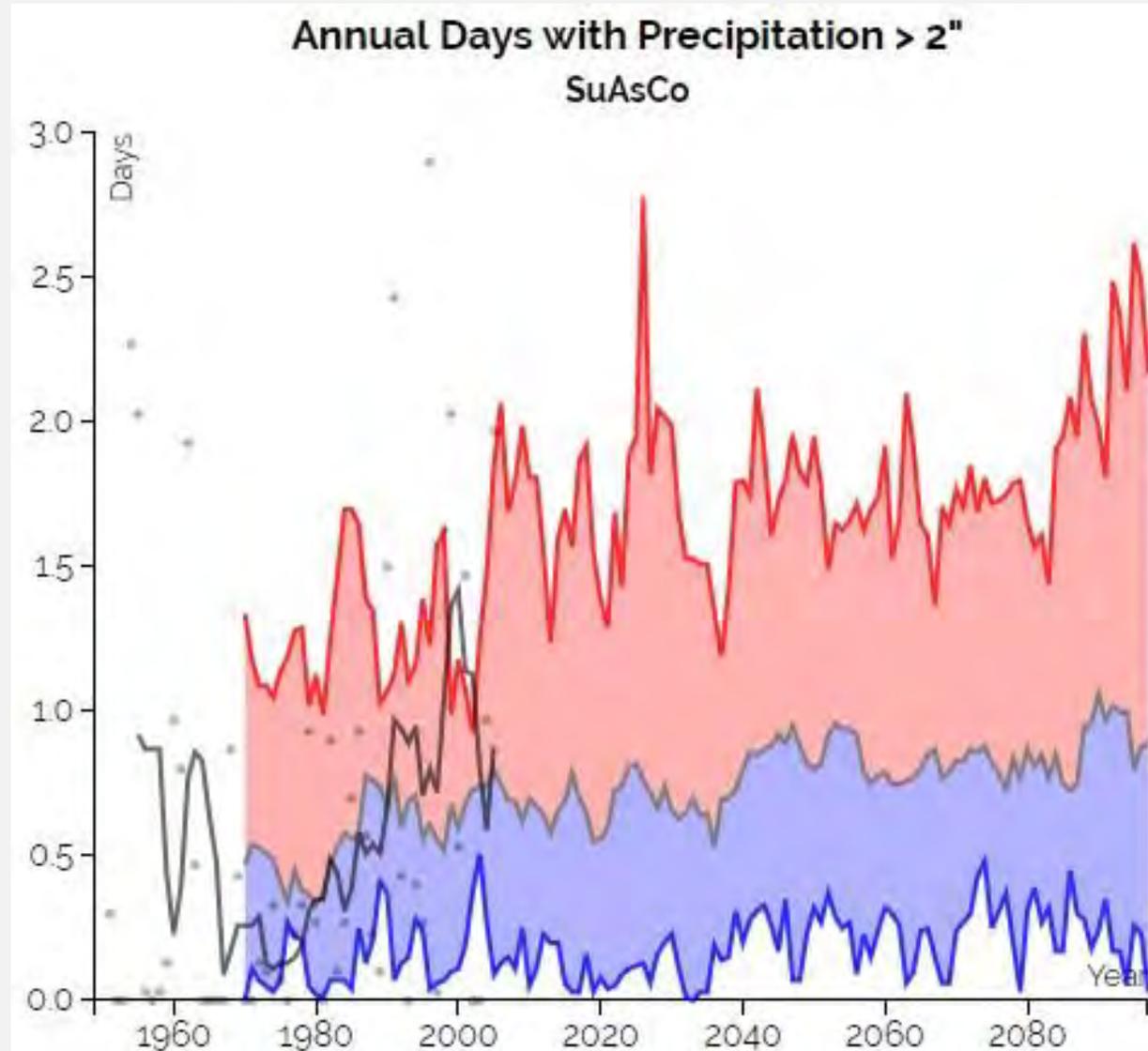


- Expected to move north
- Diversity of species will likely decrease
- Likely increase in invasive species

HEAVY RAINFALL AND FLOODING

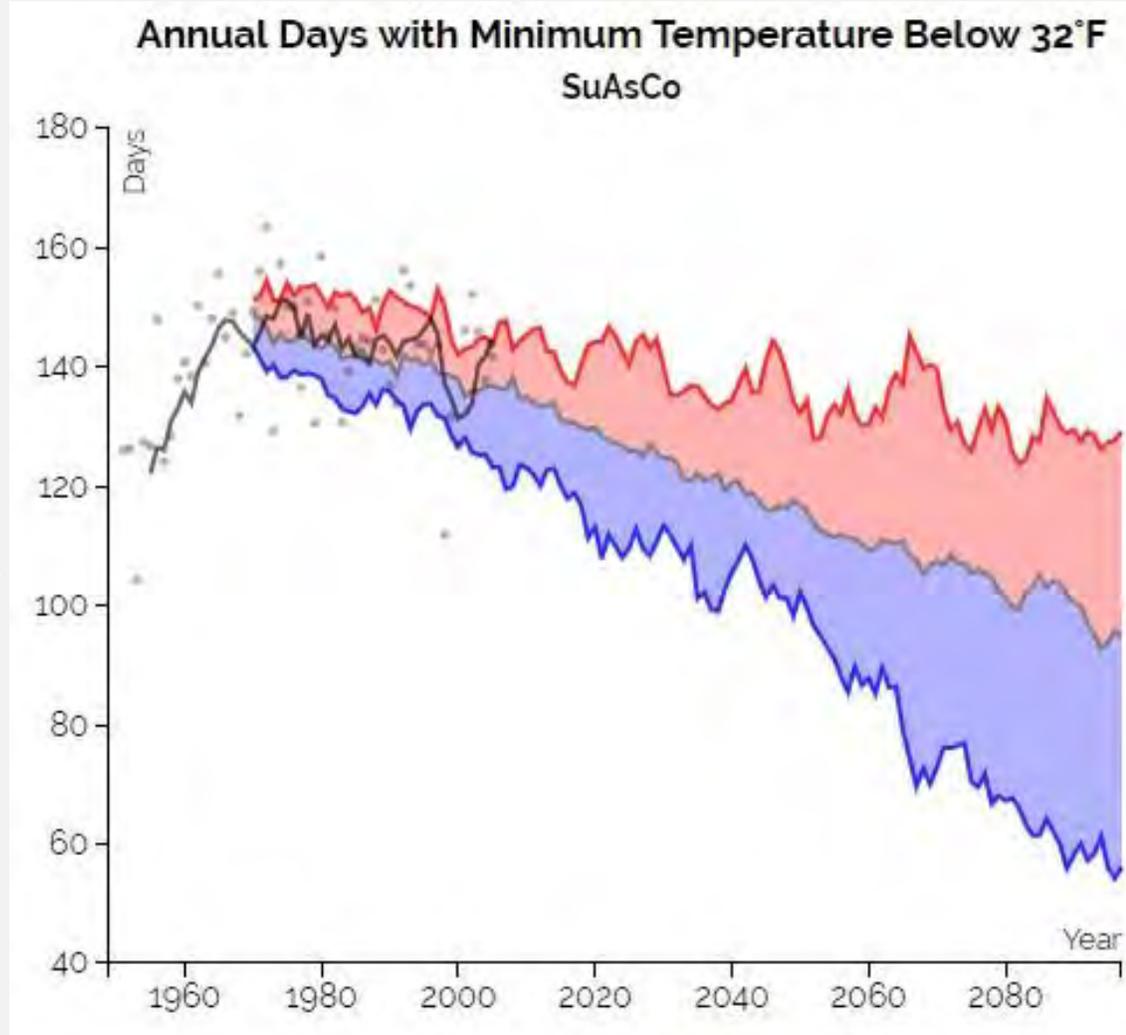
Extreme Precipitation

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



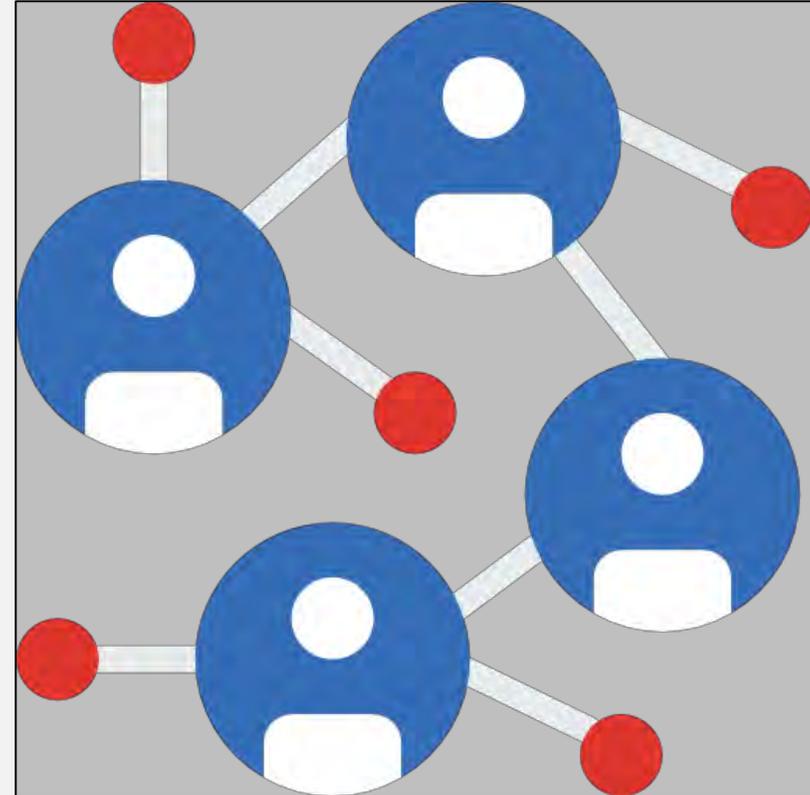
WINTER STORMS

- 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



BREAKOUT GROUPS

- 4 Breakout groups of 5-6 individuals
- 4 Focus Hazards
- 3 Focus Sections
- Tools and Resources
 - Matrix, Maps, HMP & Each Other



Icon made Prettyicons from Flaticon.com

STEP TWO: WHAT, WHERE, WHO AND VULNERABILITIES

Community Resilience Building Risk Matrix  www.CommunityResilienceBuilding.com

H-M-L priority for action over the Short or Long term (and Ongoing)
 V = Vulnerability S = Strength

Top Priority Hazards (tornado, floods, wildfire, hurricanes, earthquake, drought, sea level rise, heat wave, etc.)

Features	Location	Ownership	V or S	Top 4 Hazards				Priority	Time
				H	M	L	S	H-M-L	Short Long Ongoing
Infrastructural									
Dam									
Societal									
Senior Housing									
Environmental									
Wetlands									



STEP TWO: WHAT, WHERE, WHO AND VULNERABILITIES



Community Resilience Building Risk Matrix				www.CommunityResilienceBuilding.com					
H = High priority for action over the Short or Long term (depending on the hazard) M = Medium priority for action over the Short or Long term (depending on the hazard) L = Low priority for action over the Short or Long term (depending on the hazard) V = Vulnerability S = Strength				Top Priority Hazards (tornado, floods, wildfire, hurricanes, earthquake, drought, sea level rise, heat wave, etc.)				Priority	Time
Features	Location	Ownership	V or S	Top 4 Hazards				H - M - L	Short Long Duration
Infrastructural									
	Estimated Location								
Dam									
Societal									
	Estimated Location								
Senior Housing									
Environmental									
	Estimated Location								
Wetlands									

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Dam									
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Senior Housing									
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Wetlands									

Public? Private? State?

Estimated Location



STEP TWO: WHAT, WHERE, WHO AND VULNERABILITIES



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Features	Location	Ownership	V or S						
Infrastructural									
Dam									
Societal									
Senior Housing									
Environmental									
Wetlands									

Estimated Location

Public? Private? State?

Vulnerability or Strength



TABLE SUMMARIES

AutoSave [DP] Day 1-Table 1-Andrew.xlsx Kevin Finn

File Home Insert Draw Page Layout Formulas Data Review View Help PDFescape Desktop Creator

Calibri 12 A A Wrap Text General Conditional Formatting Cell Styles Insert Delete Format Sort & Filter Find & Select Ideas Sensitivity

Clipboard Font Alignment Number Styles Cells Editing Ideas Sensitivity

Community Resilience Building Risk Matrix **TABLE 1** www.Community-ResilienceBuilding.org

Table 1

Priority Hazards (tsunami, floods, wildfire, hurricanes, earthquakes, drought, sea level rise, etc.)

Features	Location	Ownership	V or S	Description	Priority	
					H-M-L	Short Long Ongoing
Societal						
Senior Population	Throughout Town	Private	V	Berlin has high % of senior population	Investigate options for outreach and communication, creation of an optional "be safe registry" in case of emergencies, continued outreach for CodeRED systems	H O
Senior Housing	135 Pleasant Highland St Brook Lane	Private	V	Two 40-unit subsidized housing developments, one 60-unit 55+ housing development, and another 55+ development under construction. Concern about vulnerable population, evacuation, etc.		
Arundel Valley Regional Tech HS	Marble	Public	S	Students can support resilience-related projects		
Fire Department	Drmap	Town	WS	Fire Department is mostly call/volunteer. In recent years it has been harder to maintain numbers of FF. They heavily on mutual aid.		

Search for anything 5:04 PM 6/24/2020



GROUP VOTE

A Zoom meeting grid with seven participants. The participants are arranged in three rows. The first row contains three participants: Dani Marini (CMRPC), Pete Peloquin, and Mary Arata, Admin. Asst to Berlin T... The second row contains three participants: Louise Janda, James Wheeler, and Barry Eager. The third row contains one participant, Peter Hoffman, and a role labeled 'townclerk' with a phone icon and the number 19788048485.

Dani Marini (CMRPC)	Pete Peloquin	Mary Arata, Admin. Asst to Berlin T...
Louise Janda	James Wheeler	Barry Eager
Peter Hoffman	<p>townclerk</p>	<p>19788048485</p>

WHAT DID THE GROUP FIND?



Walter Bickford



Pete Peloquin

Matt F Audio



19788048485



Chief Galvin



Ashley Davies - S...



Ken Clark



Timothy Wheeler



Mary Arata, Adm...



Dani Marini (CM...



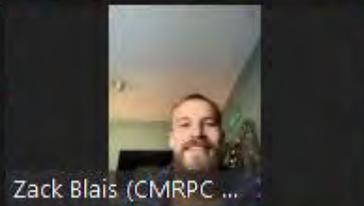
Erik von Geldern



James Wheeler



Margaret Narto...



Zack Blais (CMRPC ...



Dave



Louise Janda



sue therrien



Sarah Adams - C...



Peter Hoffman



Kevin Finn



Barry Eager



Andrew Loew C...



Jess



Michael Ginzberg



Ian McElwee CM...

INFRASTRUCTURE CONCERNS

- Dams
- Town Infrastructure
- Town Services
- Municipal Facilities and access points
- Culverts and Bridges



INFRASTRUCTURE STRENGTHS



- Sheltering Options
- Town Facilities/Services
- Transportation Access

INFRASTRUCTURE ACTIONS

High Priority

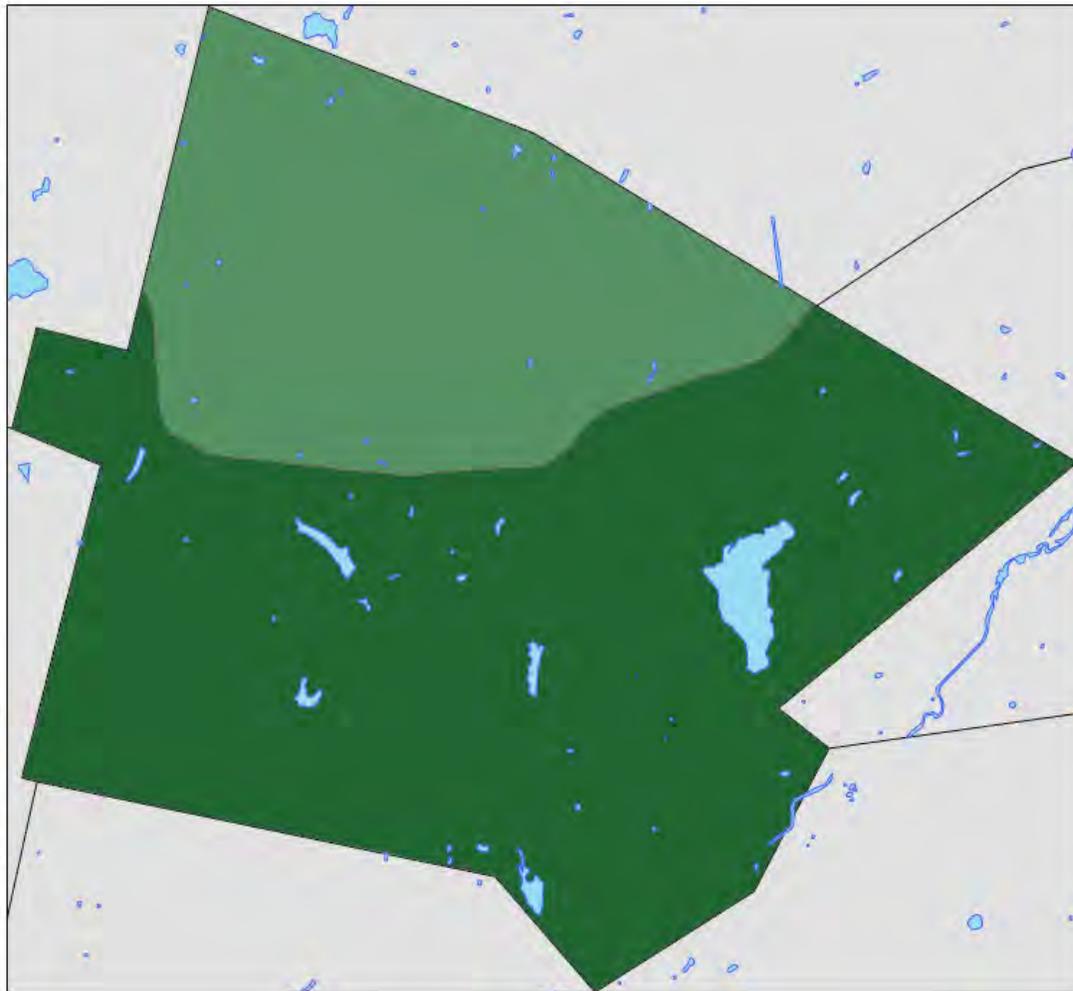
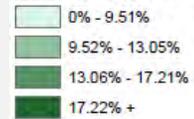
- Securing Alternate Power
- Dam and Culvert Evaluation
- Water Provisions
- Sheltering Options

SOCIETAL CONCERNS

Municipal Vulnerability Preparedness (MVP)
Workshop: Berlin

Legend

Percent Population over 65



- At Risk Populations
- Population Growth
- Emergency Communications



0 0.225 0.45 0.9 Miles

Information depicted on this map is for planning purposes only. This information is not adequate for legal boundary definition, regulatory interpretation, or other uses requiring high accuracy. Interpretation of jurisdictional boundaries is not guaranteed.

Produced by the Central Massachusetts Regional Planning Commission
1 Mainville Street, Suite 202, Worcester, MA 01602
Web us on-line at - <http://www.cmrpc.org>

CMRPC-Disaster Mitigation/MVP

Date: 12/2012



SOCIETAL STRENGTHS



- Schools and Youth
- Businesses
- Community Organizations
- Emergency Management

SOCIETAL ACTIONS

High Priority

- Community Outreach/Engagement
- Improving Emergency Services
- Support Senior Population

ENVIRONMENTAL CONCERNS



- Insect-Borne Disease
- Forest and Tree Health
- Farmland
- Pollution and Runoff
- Wheeler Pond

ENVIRONMENTAL STRENGTHS



- Farming and Agriculture
- Water Resources
- Open Space and Recreation

ENVIRONMENTAL ACTIONS

High Priority

- Tree Health Management
- Environmental Education Initiative
- Prioritize Conservation and Recreation

NEXT STEPS FOR WESTBOROUGH

- Finalize draft report with assistance from CMRPC
- Final report submitted to EOEEA by June 30, 2021
 - Projected Submission in late September
- Berlin receives “MVP Community” certification
- Annual reporting by Core Team
- Develop and apply for MVP Action Grants



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 1st- June 30th
- 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

- Berlin's Project Manager,
 - Berlin Board of Selectmen selectmen@townofberlin.com
- CMRPC Project Leader,
 - Peter Peloquin, ppeloquin@cmrpc.org
- Regional Coordinator, Executive Office of Energy and Environmental Affairs
 - Hillary King, Hillary.King@mass.gov



Thank you

