Town of Sharon

Gavins Pond Dam, Sharon, MA. Source: Wikimedia Commons.

MUNICIPAL VULNERABILITY PREPAREDNESS PLAN (MVP)

May 2021

Prepared by:

Weston & Sampson℠
transform your environment

westonandsampson.com

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1.0 INTRODUCTION

The Town of Sharon (the "Town") pursued the Municipal Vulnerability Preparedness (MVP) Planning Grant to expand the assessment of the Town's vulnerability to climate change and to identify priority action items that are well suited to advancing the MVP program's priorities. The MVP process in Sharon was multidisciplinary as stakeholders represented each facet of the municipal government. The MVP Planning Grant was also leveraged as an opportunity to craft a coordinated vision and to identify future areas of collaboration.

Figure 1: Sharon MBTA Station.
Source: John Phelan, Wikimedia Commons.

1.1 Land Use and Critical Facilities

Much of Sharon's town character, history, and current recreational opportunities are tied to its distinct abundance of open spaces and natural resources. Sharon's rivers, streams, and ponds have been important components in shaping the Town's physical, historical, and cultural landscape. The Town has made land preservation a priority, which enhances the Town's diverse landscapes. The Town is home to the 2,250-acre Massachusetts Audubon Moose Hill Wildlife Sanctuary, and has 60% of Borderland State Park, comprising 1,260 acres, within its borders. The Town is home to the approximately 400-acre Lake Massapoag, which includes Memorial Beach, concerts, fireworks, fishing, and swimming. Additionally, the Town has successfully preserved an additional 1,500 acres of its 24 square miles, as public conservation land. This effort has led to more than 5,000 acres of protected open space in Sharon. Promoting infill and climate resilient development to protect Sharon's remaining undeveloped land will increase the Town's adaptive capacity. Sharon has worked diligently to assure that the built areas of town were developed thoughtfully. The Town has easy interstate access via Exit 8 off Interstate 95 on the Sharon/Foxborough border, Exit 9 within Sharon, and Exit 10 on the Sharon/Walpole line. Commuter rail service is available with a stop on the MBTA Providence/Stoughton Line within Sharon. This easy accessibility and proximity to Boston

(17 miles), make Sharon a desirable place to reside. Figure 2 provides a breakdown of land uses in Sharon.

Using the Town's latest Hazard Mitigation Plan (updated in 2018) as a baseline, the MVP planning process updated and confirmed a list of critical facilities within the Town (included in Appendix B: Community Resilience Building Workshop Materials). These critical facilities were mapped against hurricane inundation and the Federal Emergency Management Agency's (FEMA) flood maps. The resulting Hazard Map (included in Appendix B) was used as a reference for participants during the Community Resilience Building Workshop.

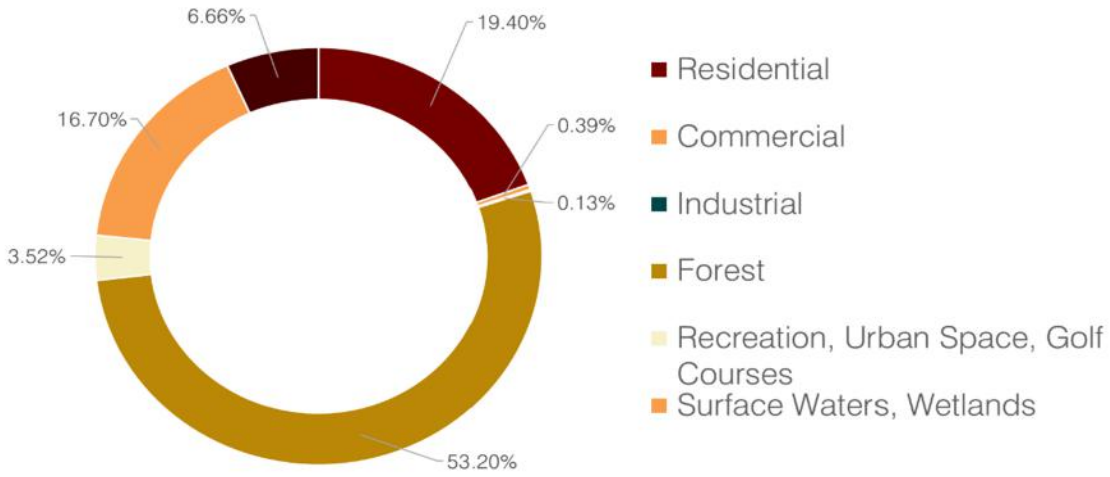

Figure 2. Land Use in Sharon.

Source: Metropolitan Area Planning Council (MAPC). 2018. "Town of Sharon Hazard Mitigation Plan 2018 Update." Pp. 54-55.

1.2 Demographics and Social Services in Sharon

Sharon is home to approximately 18,943 residents. Over 40 percent of the population is under 18 or over 65, which is slightly higher than Massachusetts compared to the Commonwealth as a whole (37%). About 3,600 students are enrolled in the public school system, which includes one early pre-kindergarten school, three elementary schools, one middle school, and one high school. Sharon is also home to private schools including Striar Hebrew Academy, Chabad Day School of Sharon, and the Islamic Academy of New England. Youth and seniors are considered vulnerable populations during extreme weather events because of potential isolation, lack of access to resources, and need for additional care. People with a disability may also be vulnerable for similar reasons. Data has shown that residents over the age of 65 represent Sharon's highest increase in relative population growth.[1] Climate change planning efforts should consider the unique needs of this demographic, and the increasing demand that an aging population may put on the Town's emergency response personnel, public facilities, and other social services. Table 1 provides more information on demographics in Sharon.

[1] *Imagine Sharon Comprehensive Master Plan*, July 2019, p. 6.

Table 1. Vulnerable Populations

Population	Sharon	Massachusetts
2010	17,554 residents	6,547,790 residents
2018	18,943 residents	6,902,149 residents
Age		
Under 18 years	27.0%	20%
65+ years	15.2%	17%
Education		
Bachelor's degree or higher	73.6%	42.1%
Additional Information		
Median household income	$138,396	$74,167
Persons in poverty	1.9%	10.5%
With a disability	4.3%	7.9%
Language other than English spoken at home	32.4%	23.1%

Source: United States Census and American Community Survey, 2019.

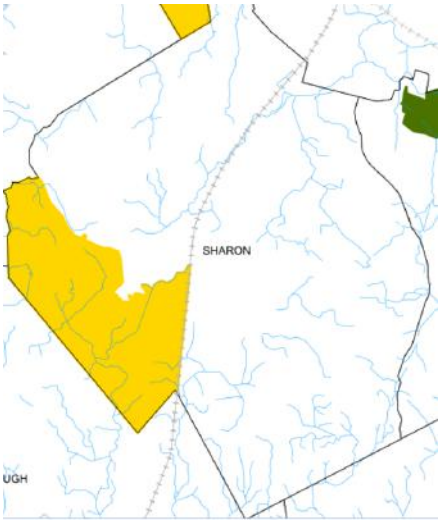

Figure 3: Environmental Justice Populations.

Residents with limited English-language proficiency are also considered vulnerable because emergency alerts and communications are less likely to be in their native language. For this reason, additional care should be taken to provide emergency communications in multiple languages. Low-income households that face financial burdens are considered vulnerable because they may find it more difficult to prepare, adapt, or recover from extreme events.

Although Sharon has a lower percentage of people living in poverty compared to the state (refer to Table 1), it does include an Environmental Justice (EJ) community comprised of 2,069 people (11% of the population, based on the 2010 census). The EJ designation is based on the criteria that at least 25% of the residents in that area identify as a race other than white (minority).

1.3 Background on Current Resilience Efforts

The Town of Sharon is involved in ongoing resiliency work related to zoning and regulations, public infrastructure, stormwater management, public safety, community outreach, and tree maintenance. Many of these actions were captured in the 2018 update of Sharon's Hazard Mitigation Plan and summarized in the table below.

Table 2. Summary of Existing Hazard Mitigation Measures (Town of Sharon and MAPC, 2018)

Hazard	Mitigation Measure	Update/Comments
Flooding	Participation in the National Flood Insurance Program (NFIP)	Effective/46 policies in force
	Adopted the Massachusetts Building Code	Effective
	Floodplain Conservancy District	Updated /Effective
	Stormwater Management Bylaw and Regulations	Effective
	Annual catch basin cleaning and street sweeping	Effective
	Wetlands Protection By-Law	Effective
	Subdivision and Zoning	Update with climate resilience and adaptation measures as needed
		Effective
	Public education on stormwater through the NPDES Phase II program	Effective
	2017 Open Space and Recreation Plan-being updated in 2019.	Effective
	Existing Site-Specific Flooding Mitigation	Effective
	Protected open space and proactive land preservation programs	Effective
Wind	Annual tree trimming program by Department of Public Works	Effective
	Tree maintenance by Eversource	Effective
	State Building Code addresses wind standards	Effective for new construction
Winter-Related	Regular snow removal operations and roadway treatments (restricted salt)	Effective
	Catch basin cleaning to maintain drainage	Effective
	State Building Code addresses snow load standards	Effective for new construction
	Overnight parking ban November to April	Effective
	Snow and Ice Disposal Bylaw	Effective

Table 2. Summary of Existing Hazard Mitigation Measures (Town of Sharon and MAPC, 2018)

Hazard	Mitigation Measure	Update/Comments
	Sufficient space for municipal snow storage	Effective
Fire	Outdoor burning permits required	Effective
	Fire department reviews all development plans	Effective
	Fire Department provides public education on its website	Effective
	Fire Tower on Moose Hill	Effective
	Public education during drought watches	Effective
	Fire trails in wooded areas	Effective
Geologic	State Building Code addresses earthquake standards	Effective for new construction
	Shelters and backup facilities available	Effective
	Evacuation plan in CEMP	Effective
	Maximum slopes for subdivision roads	Effective
	Earth Removal Bylaw	Effective
Multi-hazard	Comprehensive Emergency Management Plan (CEMP)	Effective/Up to date
	Enforcement of State Building Code	Effective
	Emergency Preparedness public education on the town website	Effective
	Reverse 911	Effective
	Backup generators	Effective
	Citizen Emergency Response Team (CERT)	Effective
	Local Emergency Planning Committee (LEPC)	Effective to include reference to natural hazards planning and response
	2020 Master Plan- being updated 2019	Add Climate Adaptation to next plan update

2.0 PROCESS AND TIMELINE

The MVP planning process engaged municipal leaders, key stakeholders, and the general public to inform the Summary of Findings Report.

2.1 Core Team Meetings

The Core Team guided the process by reviewing and providing feedback on the materials that would later be used at the Community Resilience Building Workshop. The Core Team provided information about past hazard events and other input related to natural hazards and climate change impacts in Sharon. The narratives and ideas of the Core Team improved the project team's materials and brought the global phenomenon of climate change down to the local scale. Core Team members are listed in Section 7.1: CRB Workshop Participants. The Core Team also developed the invitation list for the Community Resilience Building Workshop described below and reviewed the final priority action items to ensure local priorities were captured. Throughout the summer of 2020, expert interviews were conducted with key staff for the Town of Sharon so that the MVP could accurately describe actions that are currently taken by the Town to mitigate climate change impacts.

2.2 Community Resilience Building Workshop

The objective of the Community Resilience Building (CRB) Workshop was to capture ideas from a diverse set of perspectives and to build a broad coalition of stakeholders to move climate resilience forward in Sharon. Municipal staff, town boards and committees, local organizations, regional partners, state agencies, and adjacent towns were invited to participate in the CRB Workshop. Approximately 20 participants were able to join throughout the day. The CRB workshop utilized a Risk Matrix to complete the objectives of the day in small groups. The CRB workshop's central objectives were to:

- Define top local natural- and climate-related hazards of concern.
- Identify existing and future strengths and vulnerabilities.
- Develop prioritized actions for the community.
- Identify immediate opportunities to collaboratively advance actions to increase resilience.

The completed matrices are available in Appendix B: Community Resilience Building Workshop Materials. Additionally, a list of workshop participants is included in Section 7.1 of this report.

2.3 Listening Session

As part of the CRB process, the Town convened a public listening session in partnership in June 2021. To promote the event, an invitation was sent to the CRB workshop invitee list, and were asked to promote the listening session through their networks. Additional promotional materials were

posted to the Town's webpage. The listening session presented an overview of the planning process, climate impacts in Sharon, and the results of the CRB Workshop. The meeting closed with a question-and-answer session with the audience. Team members recorded notes and input from attendees, which were incorporated into this report. The summary of the meeting is available in Appendix B.

3.0 TOP HAZARDS

During the CRB Workshop, participants discussed the Town's greatest threats under climate change in a large group format. The hazards initially introduced to start the conversation included flooding, wildfires, hurricanes, extreme wind events (including severe thunderstorms and tornados), drought, extreme temperatures, and winter weather (including nor'easters, ice storms, and severe storm storms). During a large group discussion, workshop attendees were able to narrow down these event types to four top hazards.

3.1 Top Hazards

Flooding, severe storms, drought, and extreme temperatures emerged as the top areas of concern during the CRB Workshop. These hazards are discussed in more detail in the following sections.

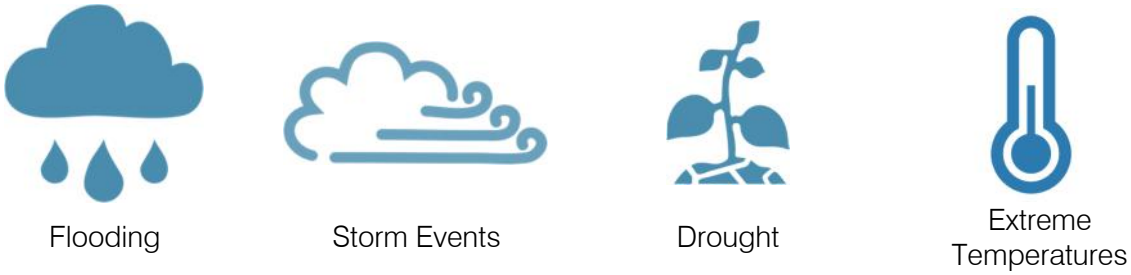

Figure 4: Top Hazards from Sharon's Community Resilience Building Workshop.

3.2 Current Concerns and Future Challenges

3.2.1 Flooding

Across the northeast, precipitation during heavy events increased by more than 70% between 1958-2010.[2] This change in precipitation patterns can lead to increased riverine and stormwater flooding. These conditions are expected to continue to worsen with an anticipated 8% increase in extreme precipitation events by midcentury, and a 13% increase by 2100.[3] These changes will require incorporating climate change considerations (including future precipitation data) into the design of public infrastructure, which often has a lengthy design life and can be difficult to retrofit.

Stormwater flooding due to inadequate flood storage and undersized drainage systems is a prevalent concern. The Town's more frequent flooding problems are likely related to insufficient or inoperable flood management structures such as culverts, dams, and drainpipes that are not large enough to quickly transport floodwaters away from town streets and neighborhoods.

Sharon is bordered by the towns of Walpole and Foxborough to the west, Walpole to the northwest and directly to the north, Norwood and Canton with Stoughton to the South. During heavy rain events, the combined watershed from its neighboring towns to the north and west causes Sharon to accumulate a great deal of water in a short amount of time. This is exacerbated by undersized drainage systems. Virtually all of the 100-year and 500-year flood zones in Town are located near major bodies of water. However, in many of those areas the flood frequency is greater than the 100-year flood event. Sharon is home to several major water bodies that impact flooding events. These

[2] Massachusetts Executive Office of Energy & Environmental Affairs (EOEEA), "Climate Change Clearinghouse for the Commonwealth," Resilient MA, 2019, resilientma.org/.
[3] Massachusetts Executive Office of Energy & Environmental Affairs and Adaptation Advisory Committee, "Massachusetts Climate Change Adaptation Report," September 2011. P19

include, but are not limited to, Canoe River, Beaver Brook, Massapoag Brook, Massapoag Lake, and several smaller lakes, ponds, brooks, and streams. However, the Canoe River, Massapoag Brook, and Massapoag Lake tend to have the largest impact on flooding.

Locally identified areas of flooding include Billing Street (at the Massapoag Brook crossing), Morse Street (south side of Massapoag Lake and at Mountain Street), Edgehill (at Dedham Street), Saw Mill Pond Road, Main Street (near Massapoag Brook), Spring Valley Golf Course, and School Meadow Brook (at Commercial Street).[4]

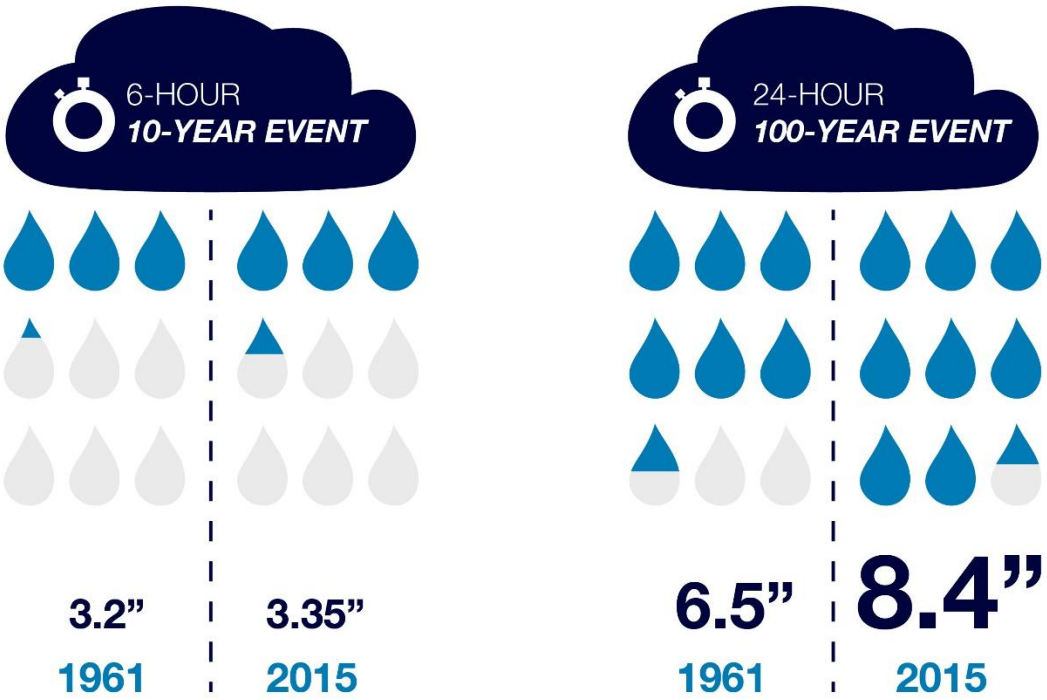

Figure 5. Changes in Precipitation (NOAA TP-40 [1961] and NOAA Atlas Volume 10 [2015])

Currently, there are no repetitive flood loss structures in Sharon. As defined by the Federal Emergency Management Agency (FEMA), a repetitive flood loss structure is an NFIP-insured structure that has had at least two paid flood losses of more than $1,000 each in any 10-year period since 1978.[5]

3.2.2 Severe Storms

Extreme storms such as thunderstorms and nor’easters can produce strong winds, snow, and ice, in addition to heavy rainfall. Extreme snow events, including blizzards and Nor’easters, are expected to become increasingly intense and produce heavier snowfall.

[4] Town of Sharon Hazard Mitigation Plan Update 2018.

[5] Federal Emergency Management Agency (FEMA), “Definitions,” Government, 2019, fema.gov/national-flood-insurance-program/definitions#R.

Figure 6: A portion of the FEMA Flood Insurance Rate Map (FIRM) for Sharon (FEMA, 2012)

High winds and ice can cause power disruptions, accidents and difficult travel conditions, and property damage. The Blizzard of 2013 left nearly 400,000 Massachusetts residents without power and these storms are among the most expensive and disruptive weather events in Massachusetts' history.[6]

Tree damage during high wind events has the potential to be a significant hazard in Sharon. Trees can knock out power lines and block major roadways, which slows emergency response times. The Town has implemented an effective tree trimming and removal program through the Department of Public Works. This has allowed Sharon to retain its charming tree-lined streets while minimizing tree damage. Sharon hosts a variety of outdoor summer programs and microbursts have proven problematic on two such occasions. A microburst was recorded in town during the late 1990s, which caused some damage to trees and homes across a swath of the town. Another microburst was recorded in 2006 and caused a great deal of damage in the eastern part of the town.[7] The Town of Sharon Department of Public Works engages in a vigorous and thorough tree maintenance program that balances keeping the town as treed as possible while reducing threats to life and property from tree damage.

[6] Commonwealth of Massachusetts, Massachusetts Emergency Management Agency (MEMA), and Massachusetts Executive Office of Energy & Environmental Affairs (EEA), "Massachusetts State Hazard Mitigation and Climate Adaptation Plan," September 2018, mass.gov/files/documents/2018/10/26/SHMCAP-September2018-Full-Plan-web.pdf.
[7] Town of Sharon Hazard Mitigation Plan 2018 Update.

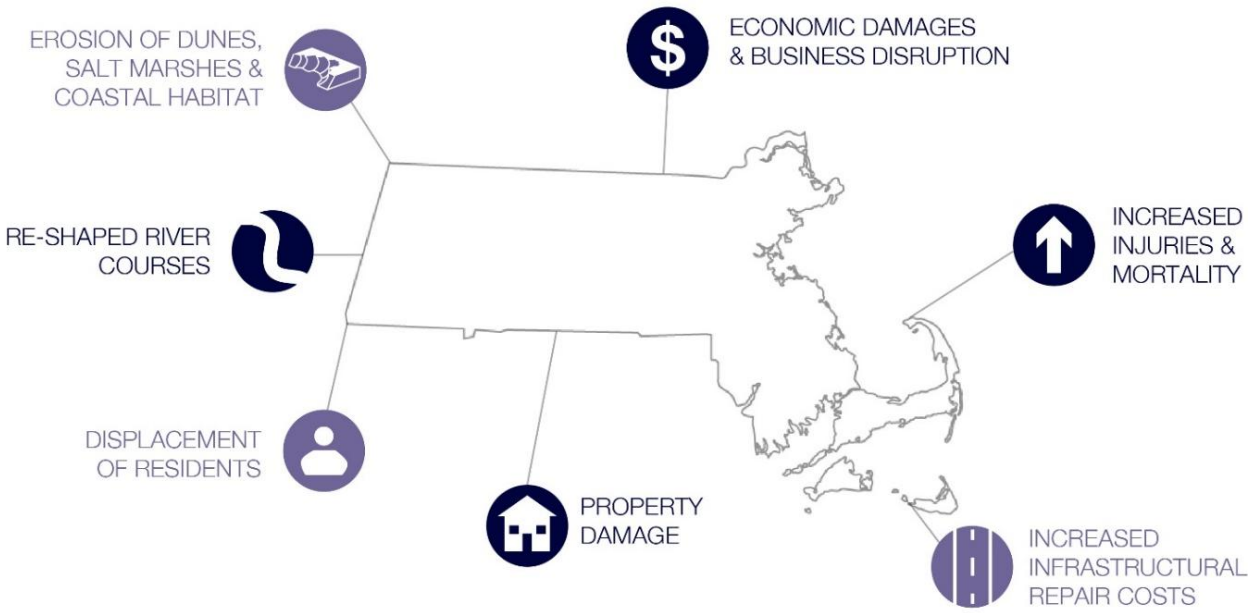

Figure 6: Impacts of severe storms (EOEEA, 2019)

3.2.3 Drought

Episodic droughts, or droughts lasting one to three months, are predicted to occur more frequently in the late summer and early fall. Under a high emissions scenario, the frequency of episodic droughts lasting up to three months could increase as much as 75% by 2100. Increasing temperatures combined with decreasing summer rainfalls could produce drought conditions like those experienced in the summer of 2016.[8] On July 8, 2016, the Massachusetts Office of Energy and Environmental Affairs (EEA) declared a Drought Watch for Central and Northeast Massachusetts, and a Drought Advisory for Southeast Massachusetts, which includes the Town of Sharon. By December of 2016, all regions except the Cape and Islands were listed in Drought Warning, the second-highest drought stage. By early 2017 precipitation returned to a normal pattern, and by June 2017, all regions of the state were listed as being in a normal condition.

Under a severe long-term drought, Sharon could be vulnerable to restrictions on the water supply. This could result in damages such as loss of landscaped areas and potential loss of business revenues if restrictions for water use were to be put into place. This type of hazard has never occurred to such a severe degree in Sharon so we can only estimate outcomes and damages under severe prolonged drought conditions. Increasing temperatures and dryer conditions under droughts can also lead to increased wildfire risk. The greatest brush fire hazard in Sharon relates to the high-tension wires that traverse the Town through the north-central area and the northwestern and southeastern edges of Borderland State Park, known as Moose Hill and Snake Hill, respectively.

[8] Massachusetts Executive Office of Energy & Environmental Affairs and Adaptation Advisory Committee, "Massachusetts Climate Change Adaptation Report." P19.

4.0 VULNERABILITIES AND STRENGTHS

The workshop participants' major area of concern was ensuring public health and safety from flooding. The need for infrastructure upgrades, improved communications to vulnerable populations, and protecting our environmental assets was highlighted during discussions. The specific examples of areas of concern were grouped within the following three categories: infrastructural, societal, and environmental. Many of the identified vulnerabilities were also categorized as strengths.

4.1 Infrastructure

Workshop participants identified those key infrastructural features in Sharon that are most vulnerable to natural hazards and climate change impacts or maybe so impacted in the future. They are:

- Streets and neighborhoods that may be impacted by flooding.
- Massapoag Dam outlet control structure should be investigated and repaired.
- A culvert on High Plain Street has a redesign but needs to be constructed to reduce flooding.
- Trees are both a vulnerability and a strength – guarding against the heat island effect but presenting potential hazards during storms.
- Water/well water systems are vulnerable to drought.
- Stormwater systems are vulnerable to flooding.
- The Community Center could be reviewed for infrastructure upgrades.
- Other critical facilities may not have systems that function well during extreme events or require additional maintenance.

4.2 Societal

Workshop participants discussed the impact of climate change on vulnerable populations and essential services, which included*:*

- Community social networks (through churches, for example) should be assessed and inventoried to support better communitywide communication – the lack of coordination is a vulnerability.
- The Library was identified as the appropriate place to serve as a hub for communication.
- The Food Pantry is significant because it serves vulnerable residents and can foster communication.
- The Council on Aging is a critical social resource and provides services and information to seniors, many of whom may not be computer literate.

4.3 Environmental

Workshop participants identified those key environmental features in Sharon that are most vulnerable to natural hazards and climate change impacts. They are:

- Lake Massapoag, the Canoe River Aquifer, State-owned property (DCR Borderlands), and Town-owned properties like Rattlesnake Hill are resources, and the Town should develop a public education program to inform people about climate impacts.
- The MassAudubon/Trustees of Reservations properties should be accessible to people of all abilities.
- The Town should work with the Neponset Riverway Association and existing groups to coordinate community education and collaborate with other towns where the river flows to increase communications.
- Invasive species represent a threat to environmental resources. The Town should create a public education program to reduce invasives and promote native plants.

Figure 7: Water storage tank from Sharon Water Supply and Sharon Fire Department.

5.0 TOP RECOMMENDATIONS TO IMPROVE RESILIENCE

After identifying the Town's top hazards and listing vulnerabilities and strengths, workshop participants brainstormed possible actions to address climate change impacts. Participants considered various adaptation options carefully. Strategies recommended during the workshop's group discussions include:

- Developing public education programs so that residents understand how climate change will affect Sharon's natural resources.
- Work with adjacent towns and regionally to support shared goals such as improved water quality in the Neponset River.
- Think comprehensively about town drainage flows and where debris management and nature-based solutions could reduce the chance of flooding.

Participants ranked action items as a low, medium, or high priority. Each group was then asked to report out the "highest high" priorities. A summary of findings from these group matrices is included below.

5.1 High Priorities

- Robin Road infrastructure upgrades and low impact development (LID) assessment to reduce flow to the surrounding neighborhood.
- Investigate and repair outlet structure at Massapoag Dam.
- Install drainage at the High Plan Street culvert.
- Assess tree conditions townwide and develop a management plan for maintaining existing trees and planting new trees to reduce heat island effects.
- Use the library to increase communications networks from the Town to residents as a central resource.
- Create contact lists for the Food Pantry, Help Us Get Safe (HUGS), and other community organizations to facilitate outreach to vulnerable populations.
- Provide education to the Council on Aging on climate change impacts (through printed materials and presentations at the Center).
- Integrate the Council of Aging's contact lists with Town contact lists and other organizations.
- Develop educational programs that focus on how climate change will affect Lake Massapoag.
- Develop public education program for climate change impacts on Town-owned properties, such as Rattlesnake Hill.
- Create a public education campaign on the impacts of climate change on wetlands and water bodies.
- Continue monitoring of wetlands and water bodies.

5.2 Moderate Priorities

- Conduct a public engagement session to promote the use of commuter rail and examine obstacles like a shortage of parking to encourage public transportation for commuting and reduce greenhouse gas emissions.
- Link pedestrian and bike connections to the commuter rail station to encourage non-auto travel to reduce greenhouse gas emissions.
- Conduct a building assessment for infrastructure upgrades to the Community Center to reduce energy consumption and build resiliency during extreme weather events.
- Examine heating and cooling systems in critical facilities to ensure that they will function during extreme temperature fluctuations.
- Establish relationships with churches and other social networks for information dissemination.
- Assess Reverse 911.
- Establish email contacts for local businesses for use during emergencies.
- Develop public education on climate change impacts to the Canoe River Aquifer and the Neponset River and coordinate with existing protection and advocacy groups, such as the Neponset Riverway Association. Collaborate with other towns.

5.3 Other Priorities

- Identify alternate sources of drinking water (emergency connection at the MWRA).
- Explore the ability to store water locally/recharge aquifers.
- Allocate funding to the water supply.
- Understand the effect of drought on trees and educate the public.
- Explore the ability to store and filter water before entering the stormwater systems.
- Investigate septic systems that are vulnerable to flooding for replacement or upgrades and provide education to homeowners.
- Assess septic systems for future impacts from climate change.
- Understand water quality concerns such as petrochemicals and address them (oil and gas separators).
- Perform a townwide assessment of generators at community facilities.
- Assess access at the MassAudubon/Trustees of the Reservations properties (particularly for those with different abilities) and educate the public on climate change impacts.
- Develop public education material on climate change impacts to State-owned property, such as the lands bordering Department of Conservation and Recreation properties.
- Develop a public education program to inform the public about invasive species and coordinate with groups and organizations for overseeing removal events.

- Assess common and likely species and pests and promotion of native species.
- Explore regulatory requirements and public education opportunities to support native planting and landscaping.

6.0 ADDITIONAL INFORMATION

6.1 CRB Workshop Participants

The CRB Workshop participants represented the Core Team, Town Staff, Boards and Committees, Local Organizations, and Regional and State Agencies. Their knowledge and experience in Sharon contributed to the findings and implementation actions in this report.

6.1.1 CRB Workshop Attendees

Name	Title	Affiliation	Attendance
Frederic Turkington*	Town Administrator	Town of Sharon	Yes
Lauren Barnes*	Assistant Town Administrator	Town of Sharon	Yes
Peter O'Cain*	Town Engineer	Town of Sharon	Yes
April Forsman*	GIS Coordinator	Town of Sharon	Yes
Mike Madden*	Captain	Town of Sharon	Yes
Donald Brewer*	Deputy Police Chief	Town of Sharon	Yes
John Thomas*	Conservation Administrator	Town of Sharon	Yes
Judy Crosby	School Committee	Town of Sharon	Yes
Anja Bernier	Capital Outlay Committee	Town of Sharon	Yes
Arnold Cohen	Finance Committee	Town of Sharon	Yes
Patricia-Lee Achorn	Finance Committee	Town of Sharon	Yes
Brian Collins	Finance Committee	Town of Sharon	Yes
Carolyn Mecklenberg	Regional Coordinator	Office of Energy and Environmental Affairs	Yes

**Indicates participation in the Core Team. Additional Core Team members from the Town of Sharon include: Eric Hooper (Superintendent of Public Works), Kevin Davis (Engineering Field Agent), Jim Wright (Fire Chief), and John Ford (Chief of Police).*

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Workshop Attendees. Community Resilience Building Workshop: Sharon, Massachusetts, February 27, 2021.

APPENDIX A

Core Team Meeting Materials

Municipal Vulnerability Preparedness Planning Grant

Core Team Meeting

Thursday, February 20, 2019

9:30 am – 11:30 am

Introductions	5 minutes
Project Overview	15 minutes
Core Team Role	2 minutes
Goal Setting and Endorsement	15 minutes
Community Resilience Building Workshop and Review of Materials	35 minutes
Data Sources	3 minutes
Workshop Participants	10 minutes
Wrap Up and Next Steps	5 minutes

APPENDIX B

Community Resilience Building Workshop Materials

Municipal Vulnerability Preparedness Planning Grant

Community Resilience Building Workshop

Wednesday, February 17, 2021
9:00 am – 1:00 pm

AGENDA

Introductions	5 minutes
Presentation on MVP	25 minutes
Select Key Hazards	10 minutes
Infrastructure Features	60 minutes
BREAK	5 minutes
Social Features	60 minutes
Environmental Features	60 minutes
Prioritized Actions	15 minutes

Zoom Information

https://us02web.zoom.us/j/83233865470

Meeting ID: 832 3386 5470

One tap mobile

+19294362866,,83233865470# US (New York)

Dial by your location

+1 929 436 2866 US (New York)

TOWN OF SHARON

Community Resilience Building Workshop

Wednesday, February 17, 2021

Photo by W&S, 2019

1

1

WELCOME

Carolyn Meklenburg, Regional Coordinator
MA Executive Office of Energy and Environmental Affairs

Caroline Wells, Weston & Sampson

Ashley Sweet, Weston & Sampson

Photo by Imagine Sharon, 2019

2

2

WORKSHOP

AGENDA

- Presentation on MVP
- Risk Matrix
- Infrastructure Features
- BREAK
- Risk Matrix

Photo by Imagine Sharon, 2019

3

3

- Municipal Vulnerability
- Preparedness Program

- **Carolyn Meklenburg**
- **Greater Boston Regional Coordinator**
- MA Executive Office of Energy and Environmental Affairs

4

4

The Municipal Vulnerability Preparedness Program seeks to build climate resilience across the Commonwealth.

5

5

Climate resilience is the ability of a community to **understand the needs** of its built, social and natural environment **to anticipate, cope with, and rebound stronger** from events and trends related to **climate change hazards.**

Resilient communities don't just recover—they *continuously build capacity* to reduce the impacts of future climate events.

6

6

How has climate change impacted Massachusetts?

- Rising Temperatures — 2.9º F (Since 1895 (statewide))
- Heavy Precipitation — 55% (Since 1953)
- Sea Level Rise — 11 in. (Since 1922 (Boston))

Source: Climate Science Special Report, 2017; NOAA NCEI ClimDiv; NOAA Ocean Service

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What does the climate data look like?

Rising Temperatures | Heavy Precipitation | Sea Level Rise

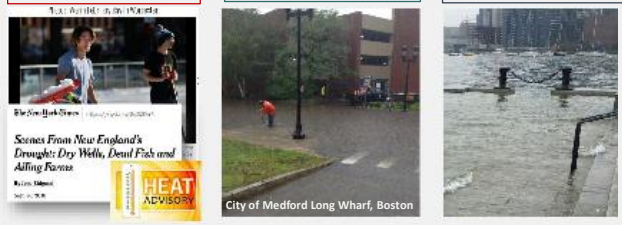

Image Sources: https://www.telegram.com/news/20200223/worcesters-february-thaw-to-continue; City of Medford; New England Aquarium

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•How will climate change impact Massachusetts?

By end of century:

RISING TEMPERATURES
- 10.8°F increase in avg annual temp.
- Up to 64 fewer days/year with min. temperatures < 32º F
- Up to 64 more > 90ºF days/year

CHANGES IN PRECIPITATION
- 18% increase in consecutive dry days
- 57% increase in days with > 1 in. rainfall
- 7.3 inches additional annual rainfall

SEA-LEVEL RISE
- 4-10.5 feet along the MA coast

EXTREME WEATHER
- Increase in frequency and magnitude

9

•MVP Planning Grant

•COMMUNITY RESILIENCE BUILDING WORKSHOP(S)
- •Define and characterize hazards •using latest science and data
- •Identify existing and future community •vulnerabilities and strengths
- •Develop and prioritize community •adaptation actions
- •Determine overall priority actions
- •Conduct community engagement
- •Receive MVP designation

→ •MVP Action Grant
- •Implement priority •adaptation actions •identified through •planning process

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Planning GRANT
- $15,000- $100,000 per plan
- Some expanded scopes
- $1M available

Action GRANT
- Open to MVP communities
- $25,000- $2M per project
- 25% (non-state) match required
- $10M available annually

8

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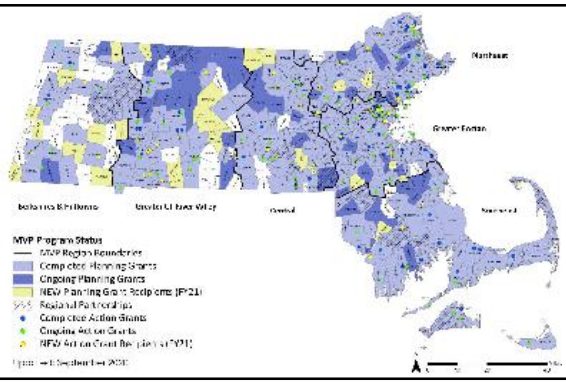
Four Years of MVP



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The MVP Program holds these core values:

- Furthering a **COMMUNITY IDENTIFIED PRIORITY ACTION** to address climate change impacts
- Utilizing best available **CLIMATE PROJECTIONS AND DATA** for a proactive solution
- Employing **NATURE-BASED SOLUTIONS**
- Meaningfully engaging and addressing threats faced by **ENVIRONMENTAL JUSTICE COMMUNITIES** and **CLIMATE VULNERABLE POPULATIONS**
- Conducting robust **COMMUNITY ENGAGEMENT**
- Achieving **BROAD & MULTIPLE COMMUNITY BENEFITS**
- Committing to **MONITORING** project success and **MAINTAINING** the project into the future
- Utilizing **REGIONAL SOLUTIONS** toward regional benefit
- Pursuing **INNOVATIVE, TRANSFERABLE** approaches

•Photo Credits: Kim Lundgren Associates, David Murphy, City of Chelsea/MAPC

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What are some examples of MVP Action Grant projects?

EASTON MEDFORD N AT IC K/C R WA

FY20: $177,620

Restoring degraded stream channel to a **healthy wetland** by removing old building remnants and invasive plants

FY20: $36,136

Engaging **underrepresented residents** in climate action planning through a series of family-friendly dinners, featuring **translators** and **culturally-relevant food**

FY21: $264,171

Modeling **flooding** in the Charles River Watershed to identify **regional opportunities** for watershed-scale adaptation **planning**

•Photo Credits: Environmental Consulting & Restoration/Town of Easton, City of Medford, Charles River Watershed Association

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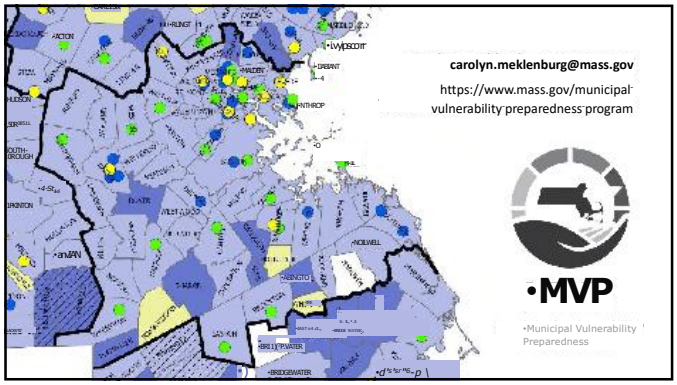

carolyn.meklenburg@mass.gov

https://www.mass.gov/municipal-vulnerability-preparedness-program

•MVP

•Municipal Vulnerability Preparedness

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Evaluating Sharon's Vulnerability

Photo by the Sharon Police Department

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RELEVANT PLANNING DOCUMENTS

In Sharon and Massachusetts

- Massachusetts Climate Change Projections (NECSC, 2018)
- Town of Sharon 2009-2016 Open Space & Recreation Plan
- Town of Sharon Emergency Planning Guide
- Massachusetts Climate Change Adaptation Report (MA EEA, 2011)
- Town of Sharon Hazard Mitigation Plan 2018 Update
- Input from Municipal Officials
- Sharon Comprehensive Master Plan, 2019

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EXISTING HAZARD PROTECTION

- Participation in the National Flood Insurance Program
- Massachusetts State Building Code
- Stormwater Management Standards
- Wetlands Protection Bylaws and Regulations
- Maintenance of municipal storm water drainage system
- Zoning Bylaws that address flooding and other hazards
- Tree maintenance, public water body maintenance
- Snow removal, street sweeping, roadway treatments
- Dam failure mitigation plans

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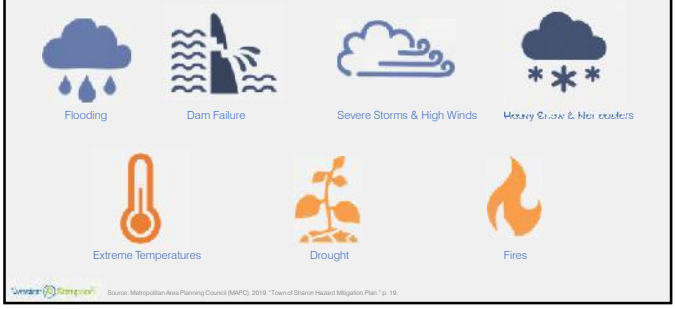
HIGH-RISK HAZARDS IN SHARON



Source: Metropolitan Area Planning Council (MAPC). 2019. "Town of Sharon Hazard Mitigation Plan," p. 19.

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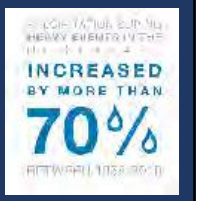
EXTREME PRECIPITATION

8%

Increase in extreme precipitation events by midcentury

13%

Increase in extreme precipitation events by 2100



Source: Executive Office of Energy and Environmental Affairs, Adaptation Advisory Committee. 2011. "Massachusetts Climate Change Adaptation Report," 19.

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FLOODING

ZONE	ANNUAL CHANCE	FLOODPLAIN
A, AE, A1-A30	1% ANNUAL CHANCE	100-YEAR FLOODPLAIN
X	0.2% ANNUAL CHANCE	500-YEAR FLOODPLAIN

"By 2050, Boston could experience the current 100-year riverine flood every two to three years on average"

Source: Executive Office of Energy and Environmental Affairs, Adaptation Advisory Committee. 2011. "Massachusetts Climate Change Adaptation Report," 19.

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STORMWATER FLOODING

Areas with:

- Poor drainage
- High amounts of impervious surface
- Undersized culverts

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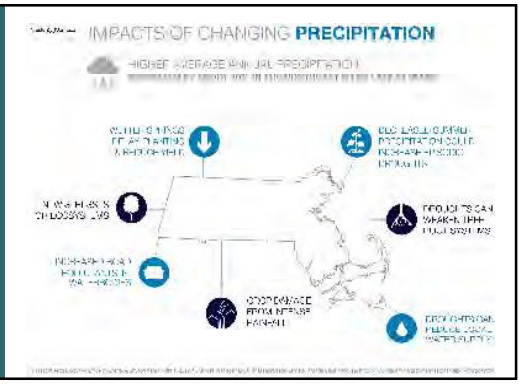
Chain Reactions from Rain and Drought



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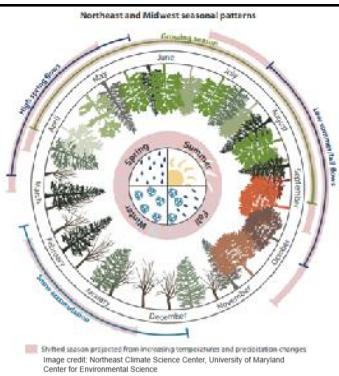

Shifted season projected from increasing temperatures and precipitation changes
Image credit: Northeast Climate Science Center, University of Maryland Center for Environmental Science

The most notable recent drought event was in 2016.[1]

The occurrence of droughts lasting 1 to 3 months could go up by as much as 75% over existing conditions by the end of the century, under the high emissions scenario.[1]

This could impact the groundwater drinking supply and the Fire Department.[2]

1. Source: Executive Office of Energy and Environmental Affairs, Adaptation Advisory Committee. 2011. "Massachusetts Climate Change Adaptation Report," 17.
2. Core Team Meeting, December 11, 2019

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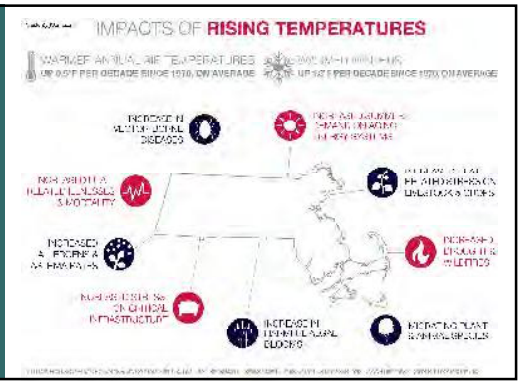
Chain Reactions from High Heat Days



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WINTER STORMS

- The blizzard of 2013 left nearly **400,000 Massachusetts residents without power**[1]
- "Heavy blizzards are among the **most costly and disruptive** weather events for Massachusetts communities."[1]
- The average annual snowfall for the snowiest city in Eastern Massachusetts is **62.7 inches**.[2]
- The Town considers itself to be at **high risk** for Nor'easters and heavy snow, and at **moderate risk** for snow melt, ice jams, ice storms, and blizzards[3]

Photo by Unsplash.

1. Resilient MA Climate Change Clearinghouse for the Commonwealth. "Extreme Weather." 2017
2. The snowiest city in Eastern MA is Milton (Commonwealth of Massachusetts. "Massachusetts State Hazard Mitigation and Adaptation Plan." 2018. P4-226).
3. Town of Sharon Hazard Mitigation Plan

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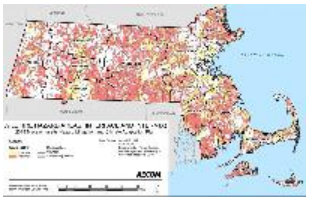
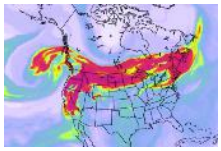
BRUSH FIRE



Wildfire Hazard Areas, 2018 Massachusetts Hazard Mitigation and Climate Adaptation Plan, p4-176



Previous Fires:

- There are generally less than **20 brush fires** in Sharon annually[1]
- From 2001 to 2009, the wildfire extent in Sharon was **9 to 26 acres** burned with **21 to 50** recordable fires[1]

1. Metropolitan Area Planning Council. 2018. "Town of Sharon Hazard Mitigation Plan 2018 Update." p43-44

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WIND-RELATED HAZARDS

A downed electric pole. Photo by Groton Electric Light, undated

- These hazards include hurricanes, tornadoes, and high winds during severe storms
- Falling trees and downed power lines causing power outages can be an issue
- The Town considers itself at low risk for tornadoes, **medium risk** for hurricanes/tropical storms[1]

1. Metropolitan Area Planning Council (MAPC). 2018. "Town of Sharon Hazard Mitigation Plan 2018 Update." p23

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As an FYI: Boston Sea Level Rise Projections (ft)

Increased coastal flooding

Permanently inundated low-lying coastal areas

Increased shoreline erosion

Emission Scenario	2030	2050	2070	2100
Intermediate	0.7	1.4	2.3	4.0
Intermediate-High	0.8	1.7	2.9	5.0
High	1.2	2.4	4.2	7.6
Extreme	1.4	3.1	5.4	10.2

(Source: Northeast Climate Adaption Science Center)

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RISK MATRIX

Photo by W&S, 2018

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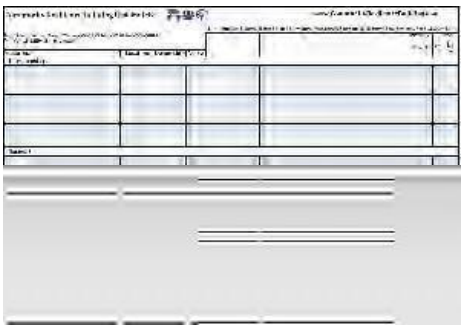
RISK MATRIX



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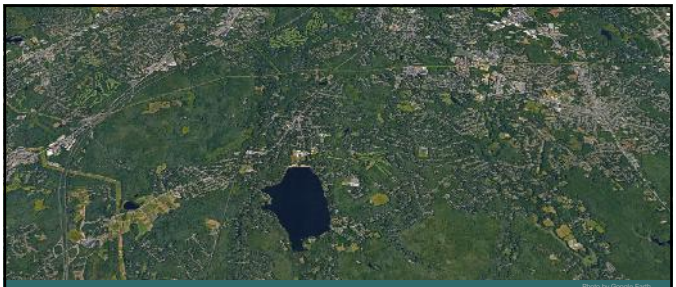

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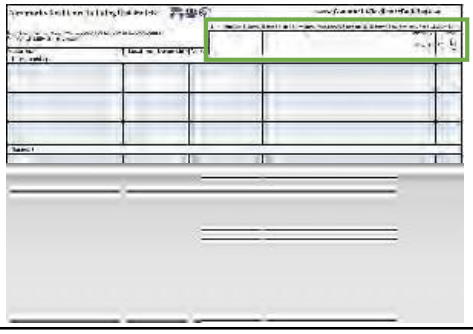
RISK MATRIX: HAZARDS



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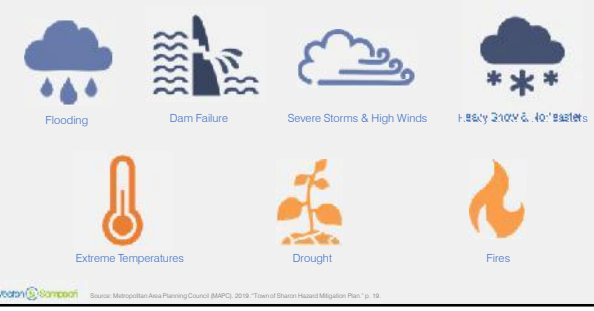
HIGH-RISK HAZARDS IN SHARON



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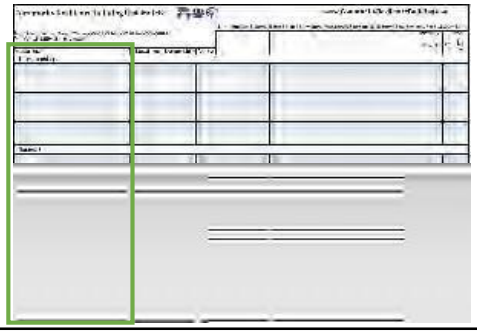
RISK MATRIX: FEATURES



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RISK MATRIX: FEATURES

FEATURES	LOCATION	OWNERSHIP	VULNERABILITY OR STRENGTH
Infrastructural	Town wide	State	Vulnerability
Societal	Multi- vs. Single-neighborhood	Town	Strength
Environmental	Specific location	Private	Both
		Shared	

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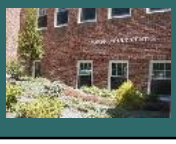
INFRASTRUCTURAL FEATURES

The Sharon Police Department and Public Works. Photo by Google Earth.



Sharon Adult Center, photo by townofsharon.net

Critical Facilities have the potential to cause serious harm if destroyed or damaged, including:

- **Emergency response facilities**
  - Fire stations
  - Police stations
- **Custodial facilities**
  - Jails
  - Long-term care facilities
  - Hospitals
- **Schools**
- **Emergency shelters**
  - Senior Center
- **Utilities**
  - Water supply
  - Wastewater treatment facilities
- **Communications facilities**

Source: Metropolitan Area Planning Council (MAPC). 2018. "Town of Sharon Hazard Mitigation Plan 2018 Update." p57

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INFRASTRUCTURAL FEATURES

Police Department
Photo by the Sharon Police Department

Fire Department
Photo by the Sharon Fire Department

Wastewater Treatment & Collection

Community Centers
Community Center from the Sharon Master Plan

Roadways
Photo by W&S, 2019

Water Supply

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HAZARD POTENTIAL OF DAMS

Dam Name	River	Owner	Hazard	Date of Last Inspection	Inspection Frequency
Trowel Shop Pond Dam	Massapoag Brook	Town of Sharon, Department of Public Works	Low	12/30/2008	Every 10 Years
Manns Pond Dam	Massapoag Brook	Town of Sharon, Department of Public Works	Significant	6/26/2018	Every 5 Years
Massapoag Lake Dam	Massapoag Brook	Town of Sharon, Department of Public Works	Significant	6/2/2014	Every 5 Years
Hammershop Pond Dam	Massapoag Brook	Town of Sharon, Department of Public Works	Significant	11/9/2017	Every 5 Years
Leach Pond Dam	Poquanticut Brook	MA Department of Conservation & Recreation	Low	5/7/2015	Every 10 Years
Upper Leach Pond Dam	Poquanticut Brook	MA Department of Conservation & Recreation	Low	5/7/2015	Every 10 Years

Source: Massachusetts Department of Conservation and Recreation's Office of Dam Safety, 2019

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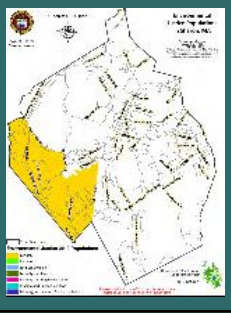
SOCIETAL FEATURES



Population	Sharon	Massachusetts
2010	17,554 residents	6,547,790 residents
2018	18,943 residents	6,902,149 residents
Age		
Under 18 years	27.0%	20%
65+ years	15.2%	17%
Education		
Bachelor's degree or higher	73.6%	42.1%
Additional Information		
Median household income	$138,396	$74,167
Persons in poverty	1.9%	10.5%
With a disability	4.3%	7.9%
Language other than English spoken at home	32.4%	23.1%

Source: American Community Survey. "Quick Facts." U.S. Census Bureau, 2019

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ENVIRONMENTAL FEATURES

Source: Town of Sharon Facebook

- Sharon covers **24.4 square miles** of land and water[1]
- Over **53% of the town's total land is forest land**[1]
- The town has 23 certified vernal pools and provides habitat for three threatened and endangered species[1]
  - Eastern Rattlesnake
  - Blanding's Turtle
  - Marbled Salamander
- New development **is limited**[1]
  - 13 new residential developments were constructed between 2010 and 2017

Source: Wikipedia

1. Metropolitan Area Planning Council (MAPC). 2018. "Town of Sharon Hazard Mitigation Plan 2018 Update." p55

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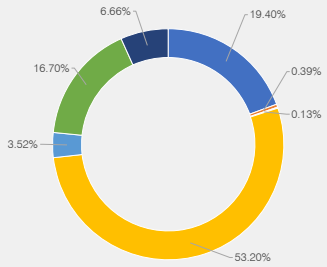
SHARON LAND USE



Source: Metropolitan Area Planning Council (MAPC). 2018. "Town of Sharon Hazard Mitigation Plan 2018 Update." p54-55

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COMMUNITY ACTIONS

What actions are reasonable to take to strengthen features that are vulnerable – and maintain or build on features that are strong?

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PREVENTING SEWER BACKFLOW

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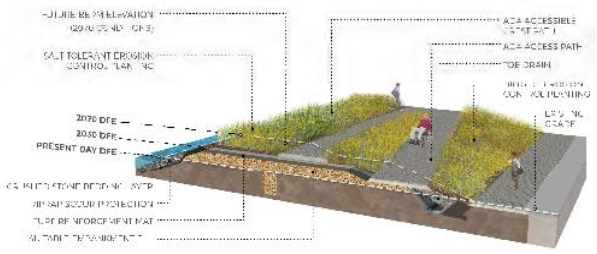
VEGETATED BERM



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MULTI-PURPOSE FLOOD STORAGE

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CULVERT WIDENING TO IMPROVE HABITAT & FLOW

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LOW IMPACT DEVELOPMENT (LID)

Stormwater infiltration / rain gardens

Porous asphalt & permeable pavers

Street trees & tree box filters

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REDUCE IMPERVIOUS AREAS

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CLOUDBURST STREETS

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GREEN ROOFS

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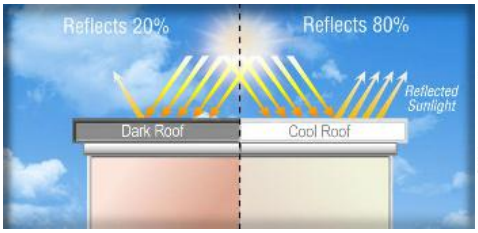
COOL ROOFS



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COOLING CENTERS

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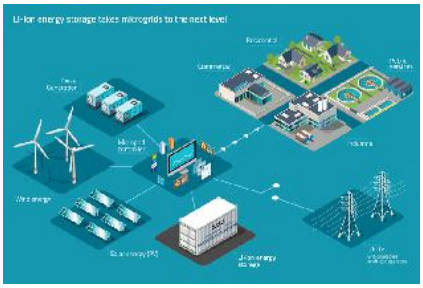
RENEWABLE MICRO-GRIDS



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RE-EVALUATE LOCAL REGULATIONS & POLICIES

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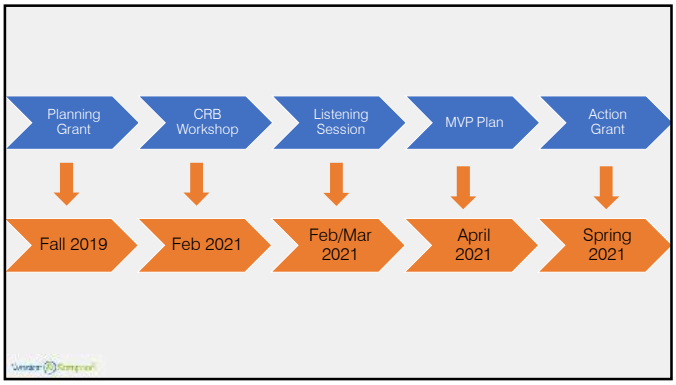

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THANK YOU

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Community Resilience Building Risk Matrix

www.CommunityResilienceBuilding.org

H-**M**-**L** priority for action over the **S**hort or **L**ong term (and **O**ngoing)
V = Vulnerability **S** = Strength

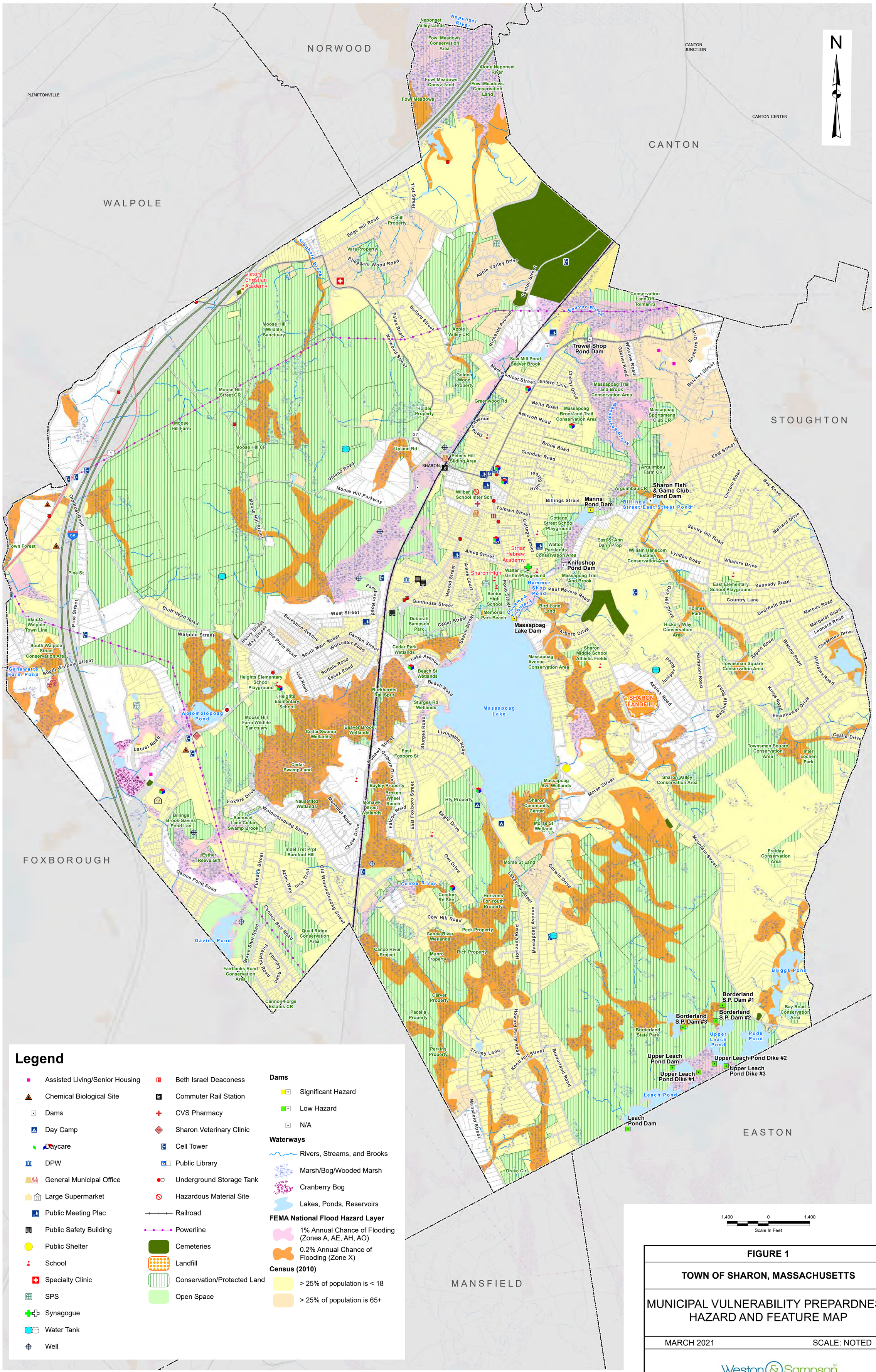
Top Priority Hazards (tornado, floods, wildfire, hurricanes, earthquake, drought, sea level rise, heat wave, etc.)

Features	Location	Ownership	V or S	DROUGHT	FLOODING	STORM EVENTS (wind/rain/snow/ice)	EXTREME TEMPERATURES	Priority H - M - L	Time S hort L ong O ngoing
Infrastructural									
Robin Road Residences and Streets (flooding)	Town	Town	V	NA	Street and neighborhood flood during rain events needs to be addressed - areawide drainage analysis	Upgrade infrastructure for extreme rain events, perform a full infrastructure assessment. Incorporate Low Impact Design (LID) techniques to reduce flow to the area.	NA	H	L
Massapaug Dam (outlet control structure)	Town	Town	V	NA	Investigate and repair outlet control structure	Investigate and repair outlet control structure	NA	H	O
Culvert on High Plain Street (design in process)	Town	Town/Private	V	Additional drainage design and installation required. Low Impact Development Techniques to reduce road way width (impervious area) could be conducted. Resolve abutter issues with the help of the Neponset River Homeowner Association.				H	L
Trees (see also environmental infrastructure)	Townwide	Various	V/S	Townwide tree condition survey on private and town property within proximity to power lines, Low Impact Development Solutions, assess potential impacts to trees for various hazard events, Explore ways to assist low-income homeowners with tree trimming/removal for trees that threaten safety/health. Address the effect of water supply on trees (see Water and Wastewater Systems, below). Educate public on the potential hazards from residential fire pits.	NA	Townwide tree condition survey on private and town property within proximity to power lines, Low Impact Development Solutions	Assess heat island effect and use tree planting as a mitigation measure, Low Impact Development Solutions	H	I
School HVAC in Buildings	Town	Town	V	NA	NA	NA	Explore supplemental or replacement HVAC system that support existing system (which do not function well during extreme events and require additional maintenance). Identify health risks from viruses in school building ventilation, and mitigate air quality issues (e.g. separate ventilation areas for school nurse)	H	L

Alternative Power Generation Opportunities	Various	Various	S	NA	NA	Move power lines underground, consider developing microgrids especially for critical facilities.	Solar installations, electric vehicle charging stations, consider developing microgrids especially for critical infrastructure, create a residential solar program and educate residents, promote opportunities for alternative energy in homes throughout the community.	H*	O
Water and Wastewater Systems (wells and septic)	Various	Private	V/S	Identify alternate sources of drinking water (emergency connection ot the MWRA). Explore ability to store water locally/recharge aquifers. Allocate funding to water supply. Understand the effect of drought on trees, and educate the public.	Explore ability to store and filter water prior to entering stormwater systems, investigate vulnerable septic systems to flooding for replacement or upgrades and provide education for homeowners, assess septic systems to future impacts from climate change. Understand water quality concerns such as petrochemicals and address (oil and gas separators)	Explore ability to store and filter water prior to entering stormwater systems.	Explore ability to store water locally/recharge aquifers. Allocate funding to water supply.	L	O
Transportation system - commuter rail	parking lot	State/MBTA/Town	V/S	NA	NA	NA	Address the parking shortage for commuter rail, conduct a public engagement process to increase usage, build bike and pedestrian connections. Explore grants for community	M	L
Community Center - infrastructure upgrades		Town	V/S	NA	NA	Conduct a building assessment for needed infrastructure upgrades	NA	M	L
Heating and Cool Systems - Other Critical Facilities	Various	Town	V/S	NA	NA	NA	Systems don't function well during extreme events and require additional maintenance	M	L
Societal									
Churches and other social networks	Various	Various	S/V	NA	NA	Townwide assessment and inventory of generators at churches and other social facillities	Townwide assessment and inventory of generators at churches and other social facillities	L	O
Social Communication Network	Various	Various	V	NA	Establish and increase relationships with churches and other social networks for information dissemination	Establish and increase relationships with churches and other social networks for information dissemination	Reverse 911 System assessment	M	O
Business Network	Various	Various	S/V	establish email contact list for local businesses for use during emergencies				M	O

Library	Town	Town	S	Use the library to increase communications network from town to residents - central resource	Use the library to increase communications network from town to residents - central resource	Use the library to increase communications network from town to residents - central resource	Use the library to increase communications network from town to residents - central resource	H	O
Environmental Justice Community	W. Sharon	NA	S/V	Use the library to increase communications network from town to residents - central resource	Use the library to increase communications network from town to residents - central resource	Use the library to increase communications network from town to residents - central resource	Use the library to increase communications network from town to residents - central resource	H	O
Food Pantry, HUGS (Help Us Get Safe - domestic violence)	NA	Private	S/V	NA	Include in contact lists and outreach	Include in contact lists and outreach	NA	H	O
Council on Aging	Massapoag Ave.	Town	S	NA	Provide education on climate change impacts (printed materials and presentations at the center).	Provide education on climate change impacts (printed materials and presentations at the center). Integrate contact lists with town and other organizations	Integrate contact lists with town and other organizations	H	O
Environmental									
Trees (above in Infrastructure)	Townwide	Various	V	see above	see above	see above	see above	H	L/O
Lake Massapaug (water body)	Town	Town	V	Develop public education program on climate change impacts	Develop public education program on climate change impacts	Develop public education program on climate change impacts	Develop public education program on climate change impacts	H	O
Mass Audubon Property/ Trustees of Reservations/	Various	Private	S/V	Access assessment (specifically for disabled pop), public education on climate change impacts				L	O
Town owned open space (Rattlesnake Hill)	Various	Town	V	Public education on climate change impacts	NA	NA	Public education on climate change impacts (fire safety)	H	O
State owned open space (DCR (Borderlands))	Various	State	V	Public education on climate change impacts	NA	NA	Public education and outreach on climate change impacts (fire safety)	L	O
Canoe River Aquifer (ACEC)	Various	State	V	Public education on climate change impacts, work with existing groups	Public education on climate change impacts, work with existing groups	Public education on climate change impacts, work with existing groups	Public education on climate change impacts, work with existing groups	M	O
Neponset River	Various	State	V	Community education, collaborate with other towns that the river flows through to increase communication, work with the Neponset Riverway Association, work with existing groups	Community education, collaborate with other towns that the river flows through to increase communication, work with the Neponset Riverway Association, work with existing groups	Community education, collaborate with other towns that the river flows through to increase communication, work with the Neponset Riverway Association, work with existing groups	Community education, collaborate with other towns that the river flows through to increase communication, work with the Neponset Riverway Association, work with existing groups	M	O

Wetlands and waterbodies	Various	Various	V	Public education on climate change impacts. Continue monitoring activities.	Public education on climate change impacts. Continue monitoring activities.	Public education on climate change impacts. Continue monitoring activities.	Public education on climate change impacts. Continue monitoring activities.	H	O
Invasive Species	Townwide	NA	V	Develop public education program for invasive species (and/or coordinate with groups and organizations for overseeing removal events), conduct an assessment of common and likely invasives, monitoring of invasive species and pests, promotion of native species, explore regulatory requirements and public education opportunities for native planting in landscaping	NA	NA	Develop public education program for invasive species (and/or coordinate with groups and organizations for overseeing removal events), conduct an assessment of common and likely invasives, monitoring of invasive species and pests, promotion of native species, explore regulatory requirements and public education opportunities for native planting in landscaping	L	O



Legend

- Assisted Living/Senior Housing
- Chemical Biological Site
- Dams
- Day Camp
- Daycare
- DPW
- General Municipal Office
- Large Supermarket
- Public Meeting Plac
- Public Safety Building
- Public Shelter
- School
- Specialty Clinic
- SPS
- Synagogue
- Water Tank
- Well
- Beth Israel Deaconess
- Commuter Rail Station
- CVS Pharmacy
- Sharon Veterinary Clinic
- Cell Tower
- Public Library
- Underground Storage Tank
- Hazardous Material Site
- Railroad
- Powerline
- Cemeteries
- Landfill
- Conservation/Protected Land
- Open Space

Dams

- Significant Hazard
- Low Hazard
- N/A

Waterways

- Rivers, Streams, and Brooks
- Marsh/Bog/Wooded Marsh
- Cranberry Bog
- Lakes, Ponds, Reservoirs

FEMA National Flood Hazard Layer

- 1% Annual Chance of Flooding (Zones A, AE, AH, AO)
- 0.2% Annual Chance of Flooding (Zone X)

Census (2010)

- > 25% of population is < 18
- > 25% of population is 65+

FIGURE 1

TOWN OF SHARON, MASSACHUSETTS

MUNICIPAL VULNERABILITY PREPARDNESS HAZARD AND FEATURE MAP

MARCH 2021 SCALE: NOTED

Weston & Sampson

APPENDIX C

Public Listening Session Materials

TOWN OF SHARON
MEETING NOTICE

Posted in accordance M. G.L. c. 30A, §§ 18-25

SHARON SELECT BOARD
June 22, 2021 – 7:30 pm

****Important note** Sharon TV will likely broadcast virtual Board and Committee meetings on Sharon TV. If you elect to enable your webcam, your image and background may be broadcast with or without sound.**

Online	Meeting ID	Password
www.zoom.us	**584-648-7446**	02067

https://zoom.us/j/5846487446?pwd=ZE45aUhrNXc3ayszKzVhcnBRR1BkZz09

BY PHONE

1-312-626-6799	1-929-205-6099	1-253-215-8782
1-301-715-8592	1-346-248-7799	1-669-900-6833

To mute or unmute yourself, Press *6

Note: If you plan to also use your computer to see participants and shared documents, do not use computer audio since it will create an echo with your computer speakers.

AGENDA

Recitation of the Pledge of Allegiance

1. 7:30 pm — Introduction and vote to appoint four new Sharon Police Officers
   a. Biographical information
2. 7:40 pm — Review final draft Municipal Vulnerability Program plan
   a. Draft report
3. 7:55 pm — Update on water system restrictions and water capacity strategy
4. 8:00 pm — Discuss and vote to amend DEI Committee charge and composition
   a. Amended charge
5. 8:10 pm — Vote to approve access restrictions on Town land opposite Massapoag Lane
   a. Correspondence
   b. Correspondence and case law provided by Town Counsel
6. 8:15 pm — Review and vote to approve interview questions for Governance Study Committee Interviews
   a. Draft interview questions
7. 8:20 pm — Review schedule and process for Police Chief selection
   a. Draft schedule
8. 8:25 pm — Review and approve consent calendar

Note: Items may not be discussed in the order listed or at the specific time estimated. Times are approximate. The meeting likely will be broadcast and videotaped for later broadcast by Sharon Community Television.

I. Vote to approve the minutes of the following meetings
   a. May 25, 2021 – Regular session
   b. June 8, 2021 – Regular session
   c. June 8, 2021 – Executive Session

II. Vote to approve the following banner requests
   a. Friends of the Sharon Public Library book sale October 25 – November 1, 2021 in first position and waive the fee

III. Vote to rescind the local declaration of emergency effective June 15, 2021
   a. Resolution

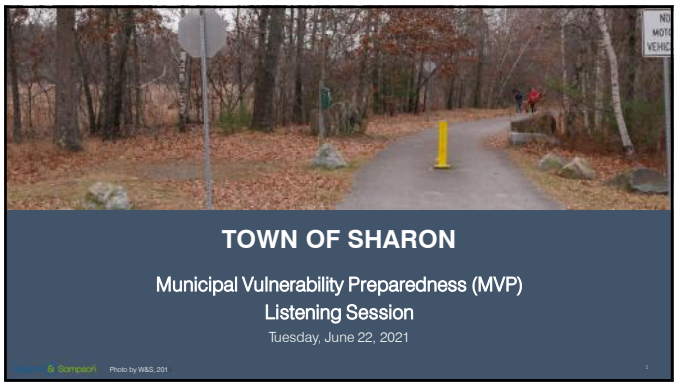
IV. Vote to approve collective bargaining agreement with Police Lieutenants
   a. Draft agreement

9. 8:30 pm Town Administrator's Report
   a. Report

10. 8:35 pm Topics not anticipated with 48 hours of posting

11. 8:35 pm Adjourn

<u>Note:</u> Items may not be discussed in the order listed or at the specific time estimated. Times are approximate. The meeting likely will be broadcast and videotaped for later broadcast by Sharon Community Television.



TOWN OF SHARON

Municipal Vulnerability Preparedness (MVP)
Listening Session
Tuesday, June 22, 2021

Photo by W&S, 201

1

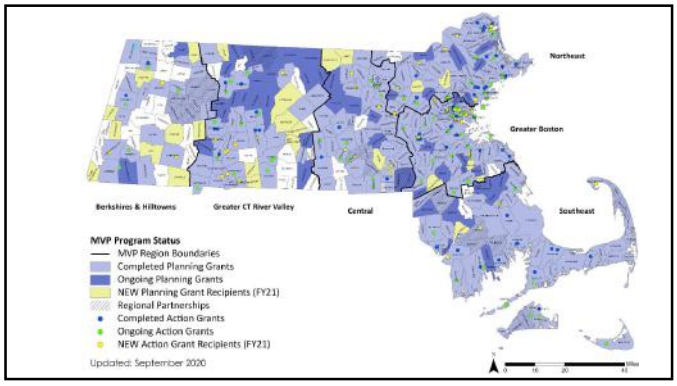
Municipal Vulnerability Preparedness

MVP PRINCIPLES

A community-led, accessible process that

- Employs local knowledge and buy-in
- Utilizes partnerships and leverages existing efforts
- Is based in best available climate projections and data
- Incorporates principles of nature-based solutions
- Demonstrates pilot potential and is proactive
- Reaches and responds to risks faced by EJ communities and vulnerable populations

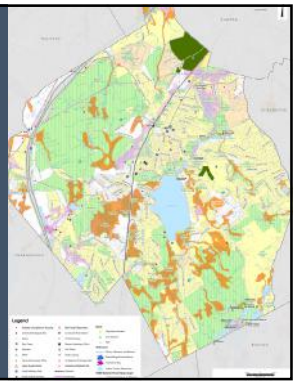
2



3

CRITICAL INFRASTRUCTURE AND VULNERABLE POPULATIONS

…evaluating exposure to climate change hazards



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RELEVANT PLANNING DOCUMENTS

In Sharon and Massachusetts

- Massachusetts Climate Change Projections (NECSC, 2018)
- Town of Sharon 2009-2016 Open Space & Recreation Plan
- Town of Sharon Emergency Planning Guide
- Massachusetts Climate Change Adaptation Report (MA EEA, 2011)
- Town of Sharon Hazard Mitigation Plan 2018 Update
- Input from Municipal Officials
- Sharon Comprehensive Master Plan, 2019

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EXISTING HAZARD PROTECTION

- Participation in the **National Flood Insurance Program**
- Massachusetts State Building Code
- Stormwater Management Standards
- Wetlands Protection Bylaws and Regulations
- Maintenance of municipal storm water drainage system
- Zoning Bylaws that address flooding and other hazards
- Tree maintenance, public water body maintenance
- Snow removal, street sweeping, roadway treatments
- Dam failure mitigation plans

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MUNICIPAL VULNERABILITY PREPAREDNESS

community resilience building workshop

Focused on Four Hazards

Identified:
- Vulnerabilities
- Strengths
- Priority Action Items

Across Three Categories:
- Infrastructure
- Societal
- Environmental

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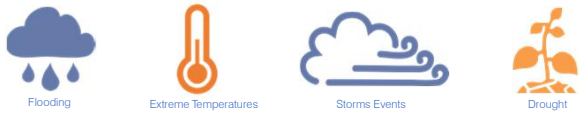
HIGH-RISK HAZARDS IN SHARON



Source: Metropolitan Area Planning Council (MAPC). 2019. "Town of Sharon Hazard Mitigation Plan." p. 19.

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INFRASTRUCTURAL FEATURES

Police Department

Photo by the Sharon Police Department

Fire Department

Photo by the Sharon Fire Department

Wastewater Treatment & Collection

Community Centers

Community Center from the Sharon Master Plan

Roadways

Photo by W&S, 2019

Water Supply

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SOCIETAL FEATURES

Population	Sharon	Massachusetts
Age		
Under 18 years	27.0%	20%
65+ years	15.2%	17%
Education		
Bachelor's degree or higher	73.6%	42.1%
Additional Information		
Median household income	$138,396	$74,167
Persons in poverty	1.9%	10.5%
With a disability	4.3%	7.9%
Language other than English spoken at home	32.4%	23.1%

Source: American Community Survey, "Quick Facts." U.S. Census Bureau, 2019

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ENVIRONMENTAL FEATURES

Source: Town of Sharon Facebook

24.4 square miles

53% of the town's total land is forest land

- The town has 23 certified vernal pools and provides habitat for three threatened and endangered species[1]
  - Eastern Rattlesnake
  - Blanding's Turtle
  - Marbled Salamander
- New development **is limited**[1]
  - 13 new residential developments were constructed between 2010 and 2017

Source: Wikipedia

1. Metropolitan Area Planning Council (MAPC). 2018. "Town of Sharon Hazard Mitigation Plan 2018 Update." p55

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ACTIONS TO PREPARE SHARON FOR CLIMATE CHANGES

- Developing public education programs so that residents understand how climate change will affect Sharon's natural resources.
- Work with adjacent towns and regionally to support shared goals such as improved water quality in the Neponset River.
- Think comprehensively about town drainage flows and where debris management and nature-based solutions could reduce the chance of flooding.

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TOP ACTIONS TO PREPARE SHARON FOR CLIMATE CHANGES

Other High Priority Actions:

- Infrastructure improvements and assessment for nature-based design solutions
- Improving communications by using Town assets, such as the Library and the Council on Aging and creating comprehensive contact lists
- Developing a tree management plan to maintain existing trees and planting new trees to reduce heat island effect
- Continue to monitor wetlands and waterbodies, and build awareness about their sensitivity to climate changes

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THANK YOU

Stantec & Sampson

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