Appendices

Appendix A
Workshop Materials

Agendas for December 12, 2019 and January 14, 2019 Workshops

Introductory Presentations for December 12, 2019 and January 14, 2019 Workshops

Municipal Vulnerability Preparedness Data Handout

MEETING DATE: December 12, 2018

MEETING TIME: 4:00 PM

REFERENCE: Municipal Vulnerability Preparedness
Stakeholder Workshop #1
Hingham, Massachusetts
B+T Project No. 3018.00

PREPARED BY: Beals and Thomas, Inc.

COPIES TO: Stakeholders

AGENDA ITEMS:

Time	Activity	Participants
Before Start	Sign-in / Registration	
4:00 – 4:10 PM	Welcome, Workshop Overview, and Introductions	Roger Fernandes
4:10 – 4:25 PM	MVP Overview	Eric J. Las
4:25 – 4:45 PM	Science and Resources	Mary Kate Schneeweis
4:45 – 5:15 PM	Large Team Exercise	Stakeholders and Facilitators
5:15 – 6:00 PM	Small Team Exercises	Stakeholders and Facilitators
6:00 – 6:15 PM	Break and Refreshments	
6:15 – 7:15 PM	Small Team Exercises (cont'd)	Stakeholders and Facilitators
7:15 – 7:35 PM	Small Group Report Outs	Small Group Representative
7:35 – 7:55 PM	Summary Discussion	Eric J. Las
7:55 – 8:00 PM	Workshop #1 Conclusion and Introduction to Workshop #2	Mary Kate Schneeweis

NPS/MKS/ejl/301800AG001

MEETING DATE: January 14, 2018

MEETING TIME: 4:00 PM

REFERENCE: Municipal Vulnerability Preparedness
Stakeholder Workshop #2
Hingham, Massachusetts
B+T Project No. 3018.00

PREPARED BY: Beals and Thomas, Inc.

COPIES TO: Stakeholders

AGENDA ITEMS:

Time	Activity	Participants
Before Start	Sign-in / Registration	
4:00 – 4:05 PM	Welcome and Introductions	Roger Fernandes
4:05 – 4:15 PM	Workshop #1 Recap and Workshop #2 Overview	Nick Santangelo Dan Gagne
4:15 – 5:45 PM	Small Team Exercises	Stakeholders and Facilitators
5:45 – 6:15 PM	Break and Refreshments	
6:00 – 6:30 PM	Small Team Exercises (cont'd)	Stakeholders and Facilitators
6:30 – 6:45 PM	Small Group Report Outs	Small Group Representative
6:45 – 7:00 PM	Break	
7:00 – 7:55 PM	Large Group Discussion	Stakeholders and Facilitators
7:55 – 8:00 PM	Wrap-Up and Next Steps	Eric J. Las

MKS/nps/dmg/301800AG002

Community Resilience Building Workshop #1

Presented by:

BEALS + THOMAS

December 12, 2018

Welcome and Introduction

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Winter Storm Riley
March 3, 2018

Barnes Wharf looking northwest

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Team Members

- Town of Hingham Core Team
  - Roger Fernandes, Town Engineer
  - Tom Molinari, Assistant Town Engineer
- Beals and Thomas Facilitators
  - Eric Las, PE
  - Dan Gagne, PE
  - Mary Kate Schneeweis
  - Nick Santangelo, EIT
- Roundtable Stakeholder Introductions

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Municipal Vulnerability Preparedness (MVP) Program

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Executive Order 569

- Issued by Governor Baker September 2016
  - Tasked Executive Office of Energy and Environmental Affairs (EEA) with creating two frameworks to assess vulnerabilities and adaptation strategies related to climate change
    - MVP Office
    - Resilient MA website
    - State Hazard Mitigation and Climate Adaptation Plan

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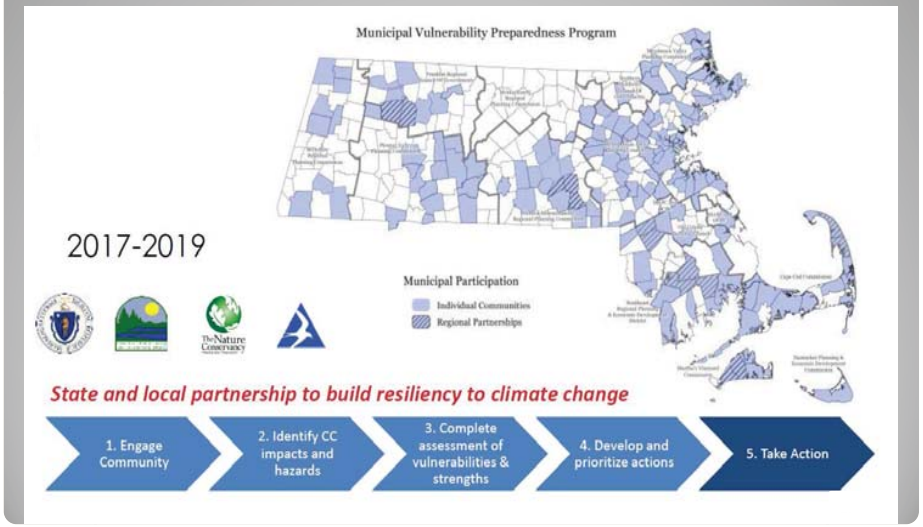
State's Vision for MVP Program



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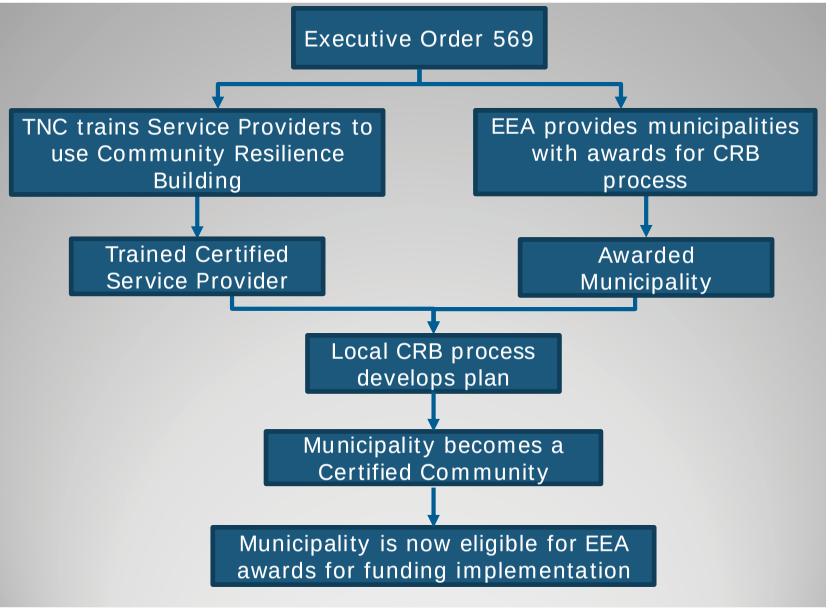

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MVP Designation Schedule

- Receipt of planning grant: June 2018
- Core team established approach: June – September 2018
- Workshop #1: December 2018
- Workshop #2: January 2019
- Public listening session: Spring 2019
- Final report: June 2019

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Mitigation Planning Benefits

- A process for communities to identify policies, activities and tools to implement mitigation actions
  - Increases awareness of vulnerabilities
  - Promotes safety and welfare of communities and citizens
  - Cultivates community commitment to mitigation
- Lack of hazard awareness and mitigation plan could lead to unnecessary losses to infrastructure and critical facilities and loss of life

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MVP Process

A Prepare for the Workshop
1. Establish a core team with goals.
2. Engage stakeholders.
3. Prepare materials for workshop.
4. Decide on participant arrangements.

B Characterize Hazards
1. Identify past, current, and future impacts.
2. Determine the highest priority hazards.

C Identify Community Vulnerabilities and Strengths
1. Identify infrastructural vulnerabilities and strengths.
2. Identify societal vulnerabilities and strengths.
3. Identify environmental vulnerabilities and strengths.

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MVP Process

D Identify and Prioritize Community Actions
1. Identify and prioritize infrastructural actions.
2. Identify and prioritize societal actions.
3. Identify and prioritize environmental actions.

E Determine the Overall Priority Actions
1. Identify highest-priority actions.
2. Further define urgency and timing.

F Pull It All Together
1. Generate final workshop products.

G Move Forward
1. Continue community outreach and engagement.
2. Secure additional data and information.
3. Inform existing planning and project activities.

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Workshop Objectives

- Workshop #1
  - Define extreme weather and natural and climate-related hazards
  - Identify existing and future vulnerabilities and strengths
- Workshop #2
  - Develop and prioritize actions for the community and broader stakeholder networks
  - Identify opportunities for the community to advance actions to reduce risks and build resilience.

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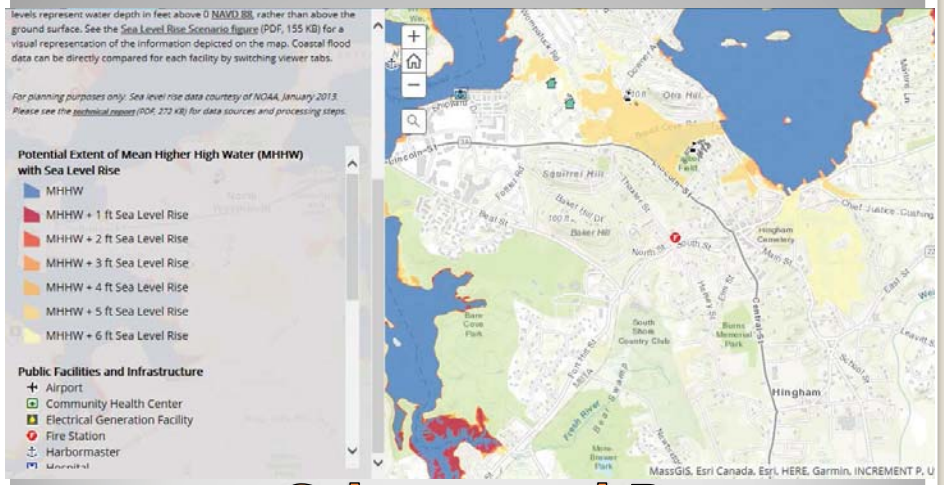

Science and Resources

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Hingham Demographics*

- Total Population: 23,500
- Potential Vulnerable Populations:
  - Age 65+: 22%
  - Persons with disabilities: 4%
  - Speak language other than English at home: 5%
  - Below poverty line: 6%

*American Community Survey 2017

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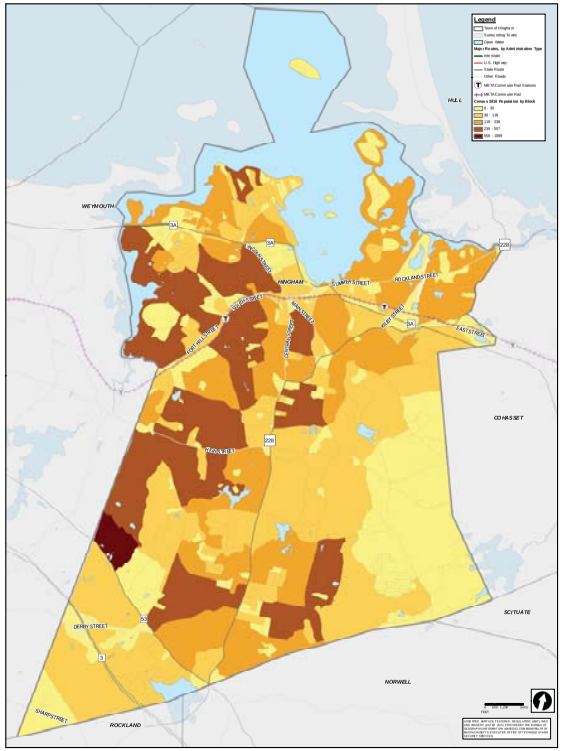

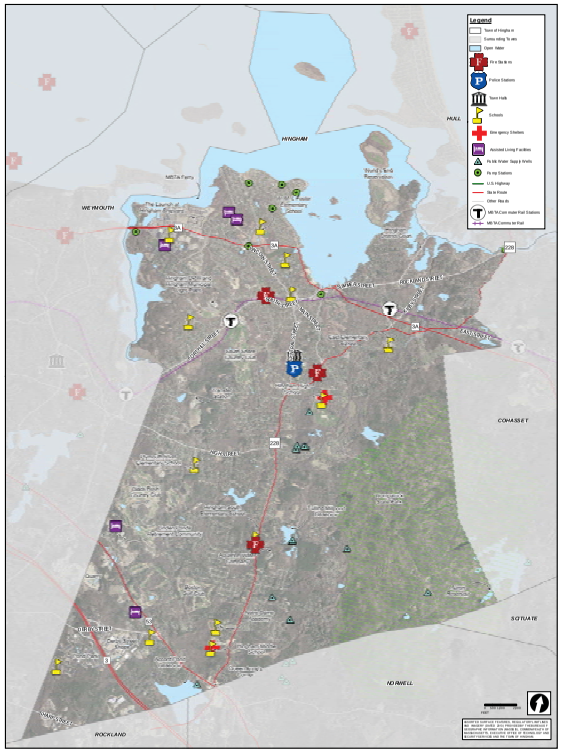

2014 Hazard Mitigation Plan Update

- Recommendations to address natural hazards
  - Flooding – (Identified as Greatest Hazard)
  - High winds
  - Winter storms
  - Brush fires
  - Geologic hazards
- Prioritized mitigation based on anticipated area of hazard impact, expected benefit, and cost

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Flooding

- Coastal
  - Worst-case hurricane surge mapping for present-day sea level (MassGIS)
- Coastal and inland
  - 1% annual chance flooding at present day (FEMA)

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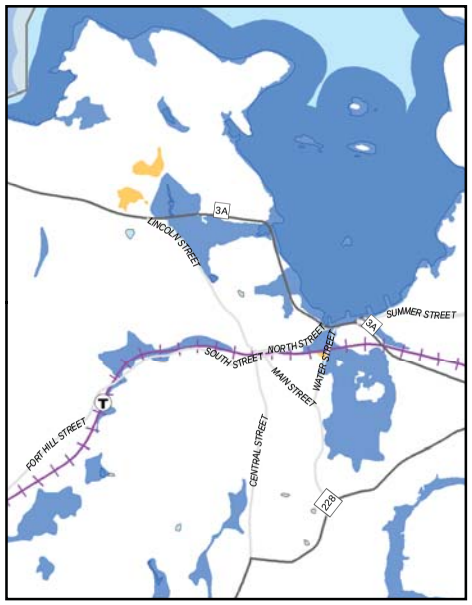

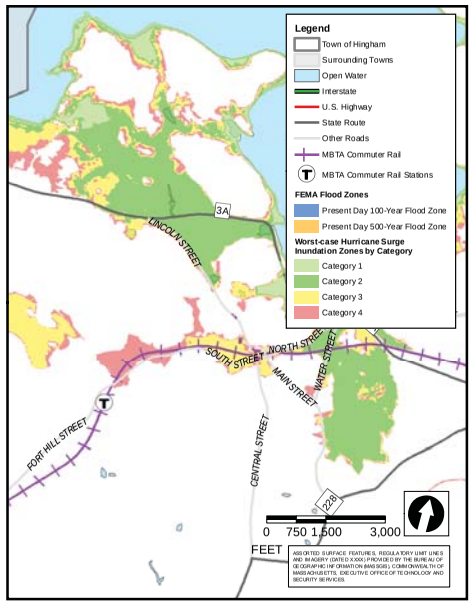

Massachusetts Climate Change Projections (South Shore Region)

- Temperature
  - Increased average temperatures and number of days with maximum temperature above 90°F
  - Decrease in number of days with minimum temperature below 32°F
- Precipitation
  - Increase in number of days with greater than 1" precipitation and total precipitation
- Drought
  - Increase in consecutive dry days

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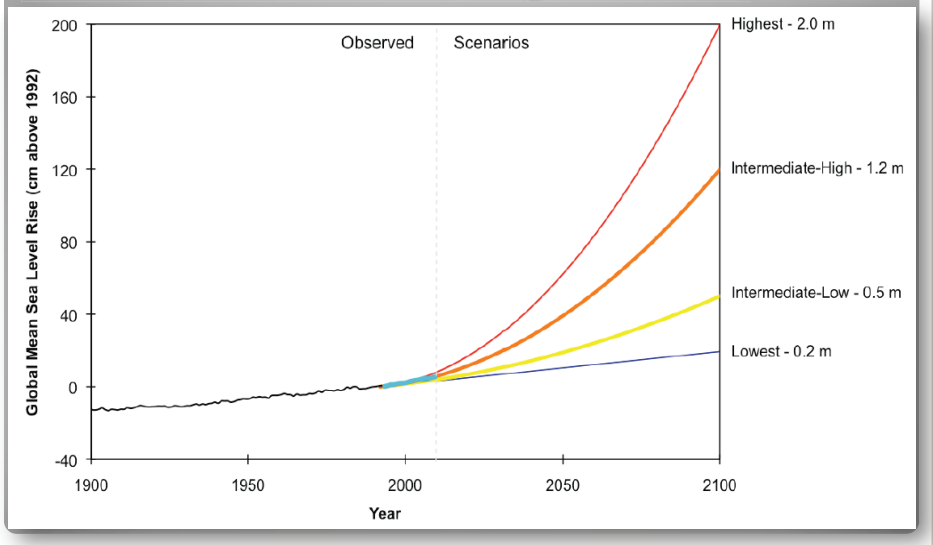
Sea Level Rise Projections



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Climate Change Vulnerability, Risk Assessment and Adaptation Study

- Quantified risk of flooding caused by sea level rise and increased storm surge
  - Primary focus on infrastructural and environmental
- Sea level rise based on highest global estimate published by the U.S. National Climate Assessment, factoring local tide gauge
- 2070 percent risk of flooding from storms and sea level rise

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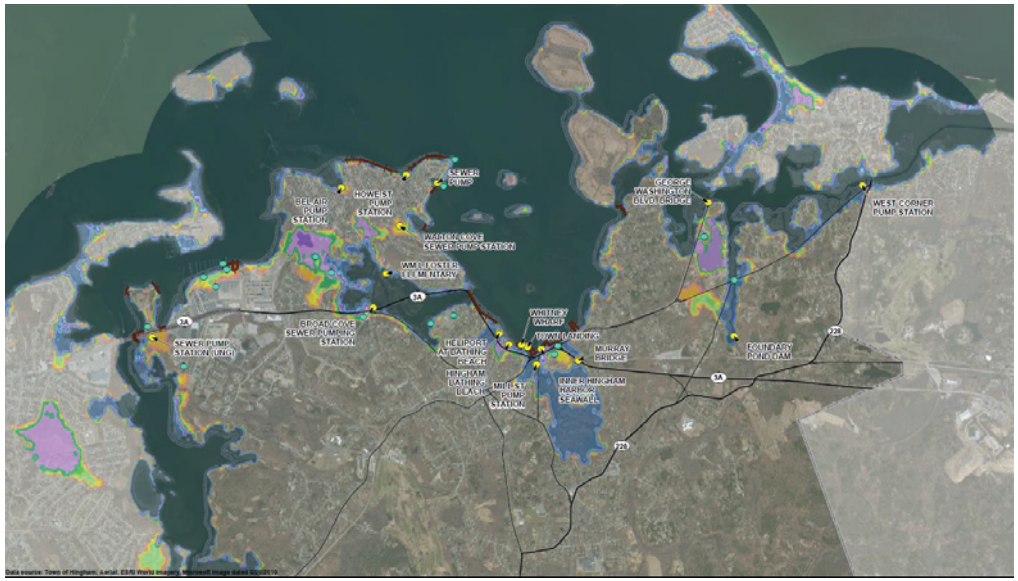

Workshop Exercises

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Summary of Workshop #1 Exercises

- Develop and prioritize list of **Hazards**
- Identify community **Strengths** and **Vulnerabilities**
  - Infrastructural
  - Societal
  - Environmental

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Definitions

- A **Hazard** is like the sun.
- The **Risk** from that hazard is sunburn.
- The **Vulnerability** includes the length of exposure of skin to the sun.
- The **Action** to reduce risk from the hazard is to apply sunscreen or seek shade.

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Break

- 10-minute
- Upon return, please sit at the table that corresponds to your nametag color

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Risk Matrix Columns 1 - 4

- List top **hazards** for community in top row
- For each sector (infrastructure, societal, environmental)
  - Identify **vulnerabilities** and **strengths**
    - Determine location
      - List on Risk Matrix
      - Mark on Base Map
    - Identify ownership of issue or place.
    - Identify if feature/asset is a strength and/or vulnerability

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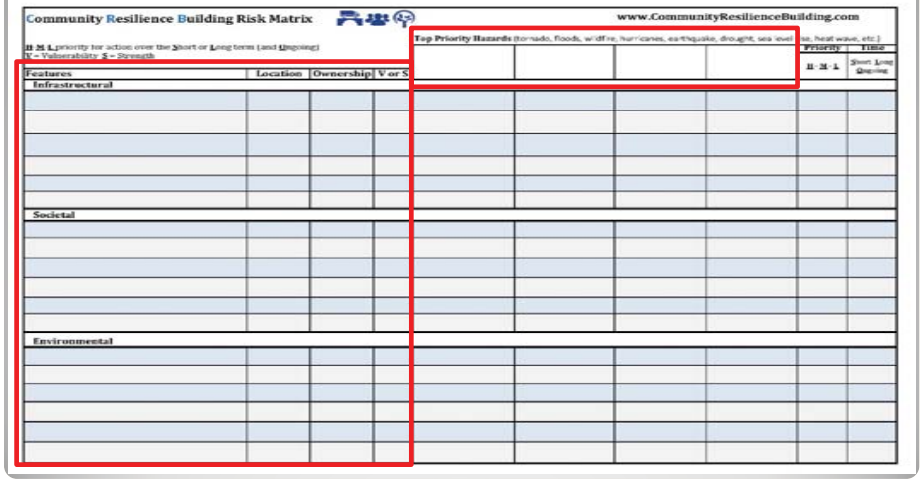
Small Groups: Complete Risk Matrix


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

Features	Location	Ownership	V or S	Top Priority Hazards (tornado, floods, wildfire, hurricanes, earthquake, drought, sea level rise, heat wave, etc.)				Priority H-M-L	Time Short Long Ongoing
Infrastructural									
Societal									
Environmental									

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Report Out

- Identify small team spokesperson
  - 3-5 minute summary

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Next Steps

- Workshop #2 – indicate availability on sign-in sheet
- Identify and Prioritize community actions based on Strengths and Vulnerabilities from Workshop #1
  - Infrastructural
  - Societal
  - Environmental

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Community Resilience Building Workshop #2

Presented by:

BEALS + THOMAS

January 14, 2019

Welcome and Introduction

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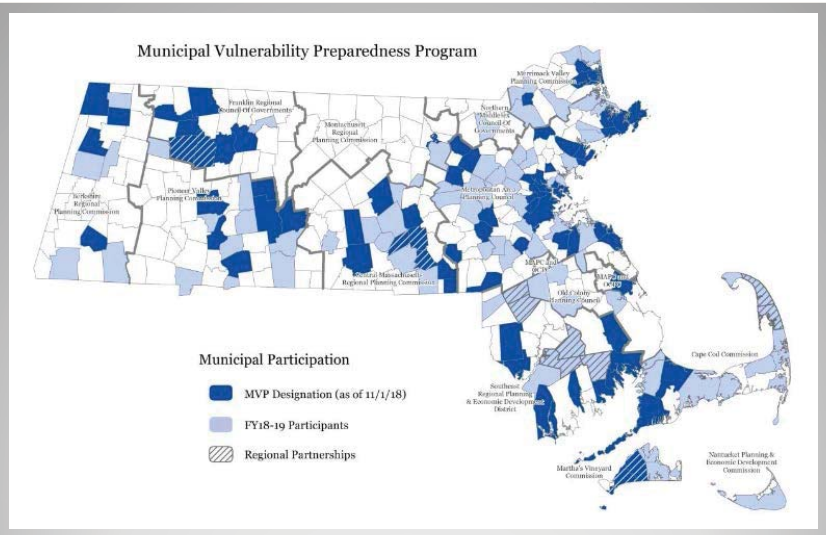

Workshop #1 Recap

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Workshop Objectives

- Workshop #1
  - Define extreme weather and natural and climate-related hazards
  - Identify existing and future vulnerabilities and strengths
- **Workshop #2**
  - **Develop and prioritize actions for the community and broader stakeholder networks**
  - **Identify opportunities for the community to advance actions to reduce risks and build resilience.**

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Definitions

- **Hazard** – cause of negative impacts to community
- **Risk** – potential result from hazard
- **Vulnerability** – feature (societal, environmental, or infrastructural) that is susceptible to risk
- **Action** – addresses vulnerability

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Hazards vs. Vulnerabilities

Examples include:

Hazards		Vulnerabilities
Coastal flooding	→	Residences in flood zone
Drought	→	Water supply
Wind	→	Overhead power lines
Wildfire	→	Dry vegetation

Summary of Findings from Workshop #1

- Top Hazards
  - Flooding
  - Heat/Drought
  - Population Density
  - Severe Storms
  - Pollution

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Summary of Findings from Workshop #1

- Strengths
  - Social groups and volunteers
  - Emergency response and public safety
  - Open space
- Vulnerabilities
  - Aging infrastructure
  - Water supply
  - Elderly population

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Workshop #2 Overview

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Small Group Exercise

- Revisit top hazards
- Revisit vulnerability and strengths
- Determine actions
  - Identify the actions needed to reduce the vulnerability or reinforce the strength represented by each feature/asset.
- Prioritize
  - Priority (High, Medium, Low)
  - Timeframe (ongoing, short-term, long-term)

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If Possible: Use Nature Based Solutions

- Use or mimic natural systems to address hazards
  - Ecological Restoration
  - Green Infrastructure
  - Low-Impact Development (LID)

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Image Source: *Nature-Based Solutions to address global societal changes*; Cohen, et al. 2016

Examples of Ecological Restoration

- Dam Removal

- Beach Nourishment

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Image Source: *Dam Removal in Massachusetts* by EOEEA 2007; *Nature-Based Solutions to address global societal changes* by Cohen, et al. 2016

Examples of Green Infrastructure/LID

- Stormwater Management with Green Roofs

- Stormwater Management with Bioretention Areas and Rain Gardens

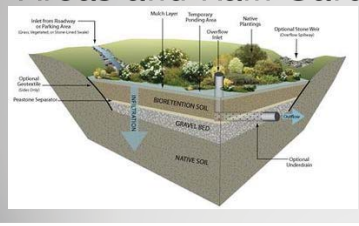

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Image Source: *mass.gov; Massachusetts Clean Water Toolkit; commonwaters.org*

MVP Action Grants

- Town will be eligible upon designation as MVP community
- Some project categories include:
  - Detailed Vulnerability/Risk assessments
  - Local bylaw and ordinance improvements
  - Engineering and construction of retrofits
  - Ecological restorations
  - Nature based solutions

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Break into Small Groups

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Small Group Exercises: Complete Risk Matrix

- Determine actions
  - Identify the actions needed to reduce the vulnerability or reinforce the strength represented by each feature/asset
- Prioritize
  - Priority (High, Medium, Low)
  - Timeframe (ongoing, short-term, long-term)
- Identify group spokesperson

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Small Group Report Out

- Small group spokesperson
  - 3-5 minute summary to present completed matrices

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Break

- 10-minute
- Review final risk matrices and mark your top three priorities

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Large Group Discussion

- Identify top 3-5 priority actions
- Further refine timeframe(s)

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Next Steps

- Town and B+T to compile results of workshop into summary report
- Listening session to be scheduled to gather public input
  - Present list of priority actions and how to implement
- Submit final report to EEA to receive MVP designation

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TOWN OF HINGHAM

Municipal Vulnerability Preparedness (MVP) Data Handout

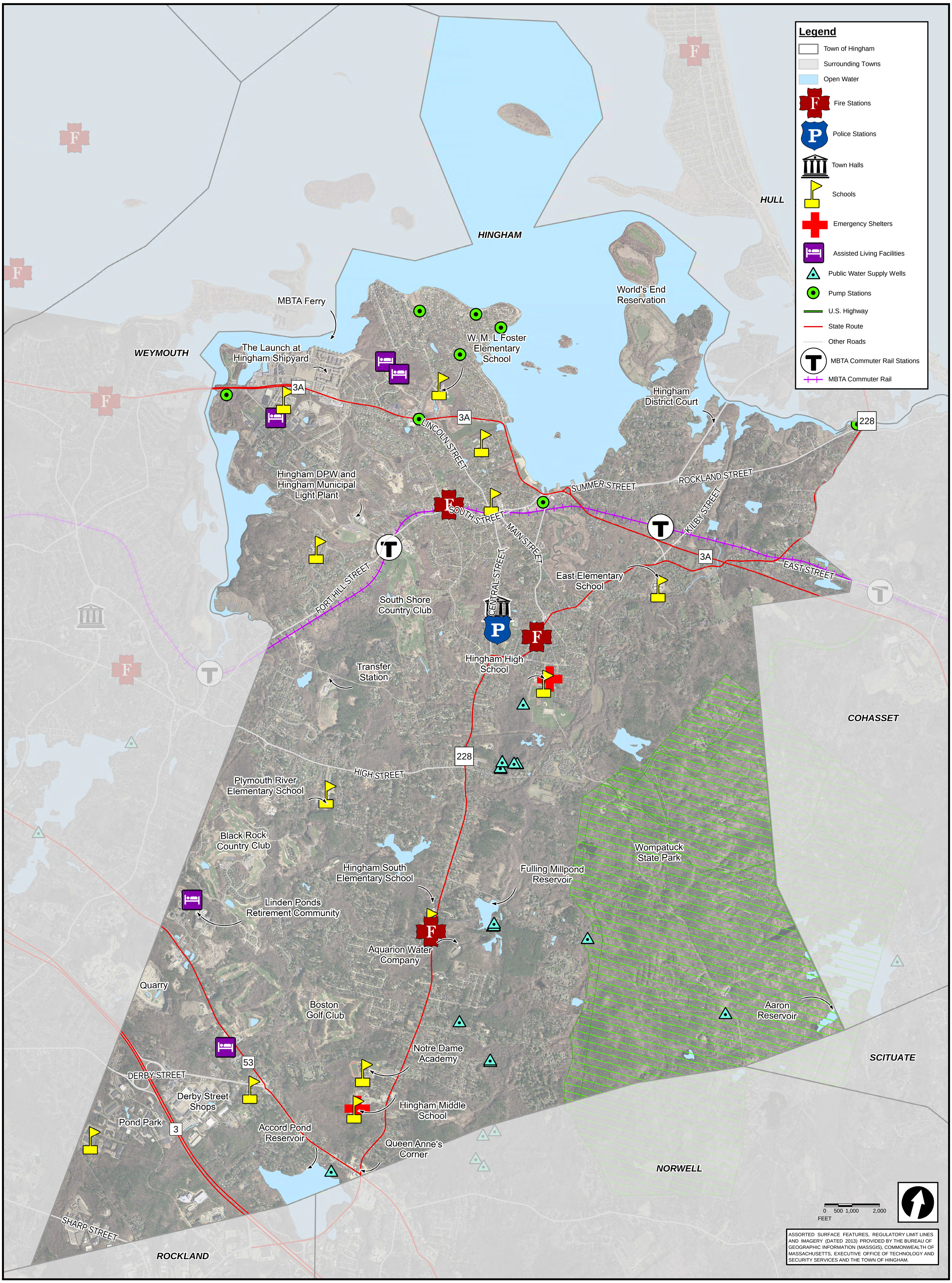
	Observed Baseline 1971-2000	Projected Change in 2030s	Projected Change in 2070s
Average Temperature (°F)	50	+2 to +4	+3 to +9
Days with Maximum Temperature Over 90°F	8	+6 to +15	+9 to +49
Days with Minimum Temperature Below 32°F	119	-12 to -27	-21 to -55
Days with Precipitation Over 1"	9	0 to +2	+1 to +3
Total Precipitation (Inches)	46	0 to +5	+1 to +8
Consecutive Dry Days	17	0 to +1	-1 to +3
Sea Level Rise		+1	+3

Climate forecasting information from Massachusetts Climate Change Projections published December 2017
Sea Level Rise information from Climate Change Vulnerability Risk Assessment and Adaption Study Town of Hingham, MA published June 29, 2015

Hazards Identified in the 2014 Hazard Mitigation Plan Update

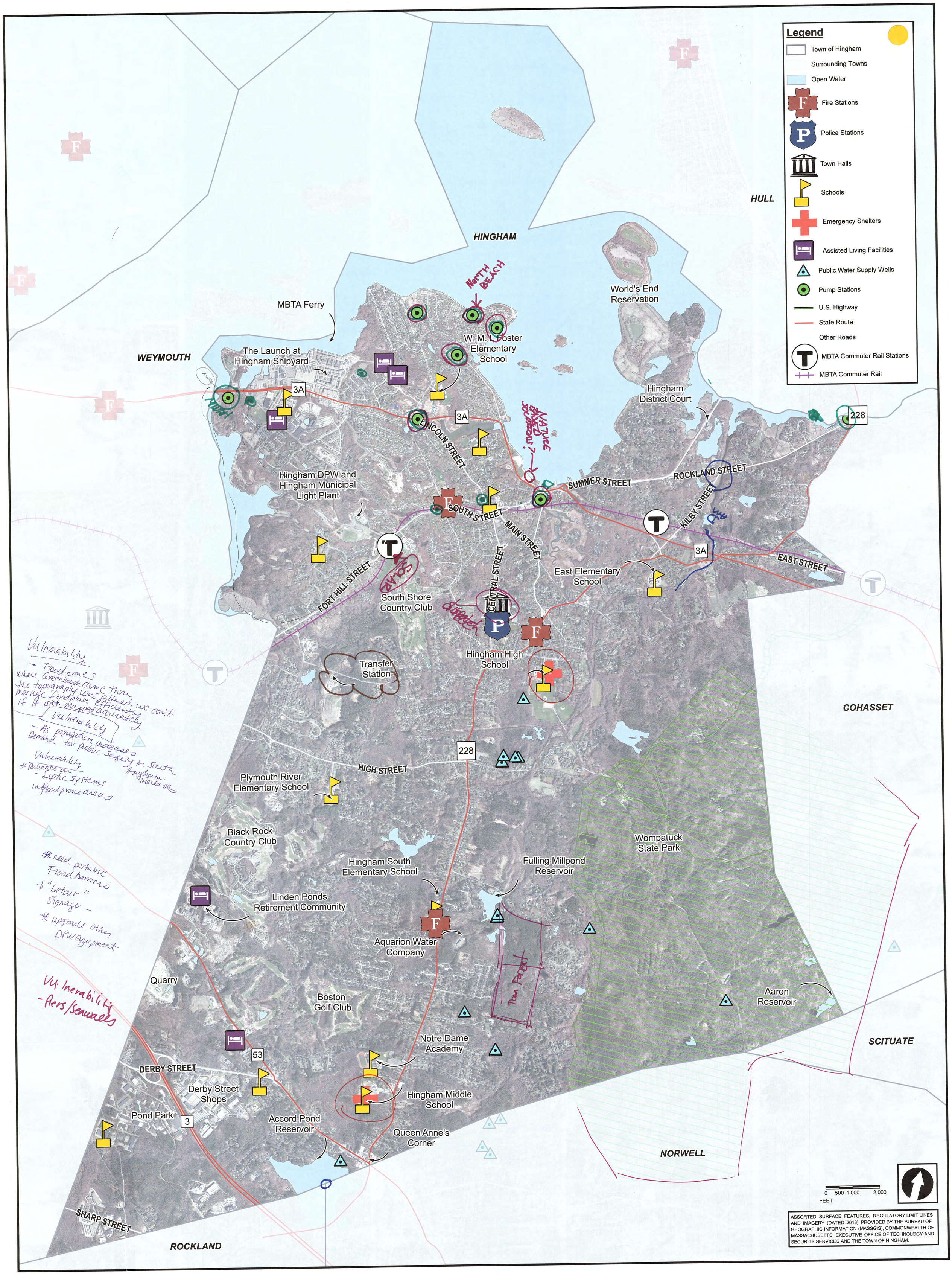
- Flood
  - Inland/Riverine
  - Coastal Storms
  - Dam Failure
  - Ice Jams
- Wind
  - Hurricanes
  - Tornadoes
  - Nor'easters
  - Severe Thunderstorms
- Winter Storms
  - Ice Storms
  - Blizzards
- Geologic
  - Earthquakes
  - Landslide
- Other Natural Hazards
  - Brush Fires
  - Extreme Temperatures
  - Droughts

Appendix B
Base Map



ASSORTED SURFACE FEATURES, REGULATORY LIMIT LINES AND IMAGERY (DATED 2013) PROVIDED BY THE BUREAU OF GEOGRAPHIC INFORMATION (MASSGIS), COMMONWEALTH OF MASSACHUSETTS, EXECUTIVE OFFICE OF TECHNOLOGY AND SECURITY SERVICES AND THE TOWN OF HINGHAM.

Appendix C
Participatory Mapping


Legend
Town of Hingham
Surrounding Towns
Open Water
Fire Stations
Police Stations
Town Halls
Schools
Emergency Shelters
Assisted Living Facilities
Public Water Supply Wells
Pump Stations
U.S. Highway
State Route
Other Roads
MBTA Commuter Rail Stations
MBTA Commuter Rail
HINGHAM
HULL
WEYMOUTH
COHASSET
SCITUATE
NORWELL
ROCKLAND
World's End Reservation
MBTA Ferry
The Launch at Hingham Shipyard
W. M. L. Foster Elementary School
Hingham District Court
Hingham DPW and Hingham Municipal Light Plant
LINCOLN STREET
SUMMER STREET
ROCKLAND STREET
KILBY STREET
SOUTH STREET
MAIN STREET
EAST STREET
FORT HILL STREET
CENTRAL STREET
South Shore Country Club
East Elementary School
Hingham High School
Transfer Station
HIGH STREET
Plymouth River Elementary School
Black Rock Country Club
Hingham South Elementary School
Fulling Millpond Reservoir
Wompatuck State Park
Linden Ponds Retirement Community
Aquarion Water Company
Quarry
Boston Golf Club
Aaron Reservoir
Notre Dame Academy
DERBY STREET
Derby Street Shops
Hingham Middle School
Pond Park
Accord Pond Reservoir
Queen Anne's Corner
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FEET
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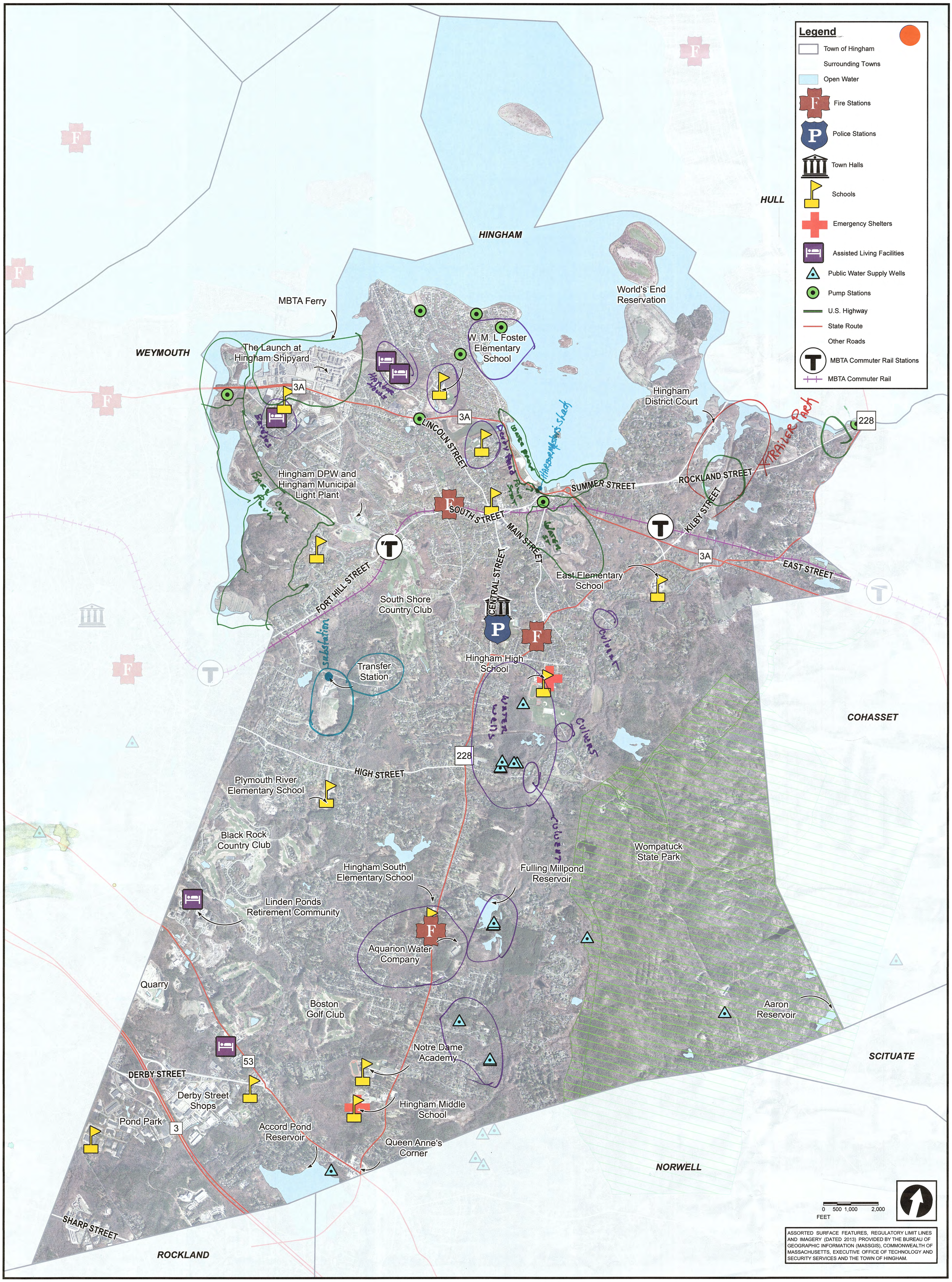
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SOUTH STREET
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CENTRAL STREET
FORT HILL STREET
Hingham DPW and Hingham Municipal Light Plant
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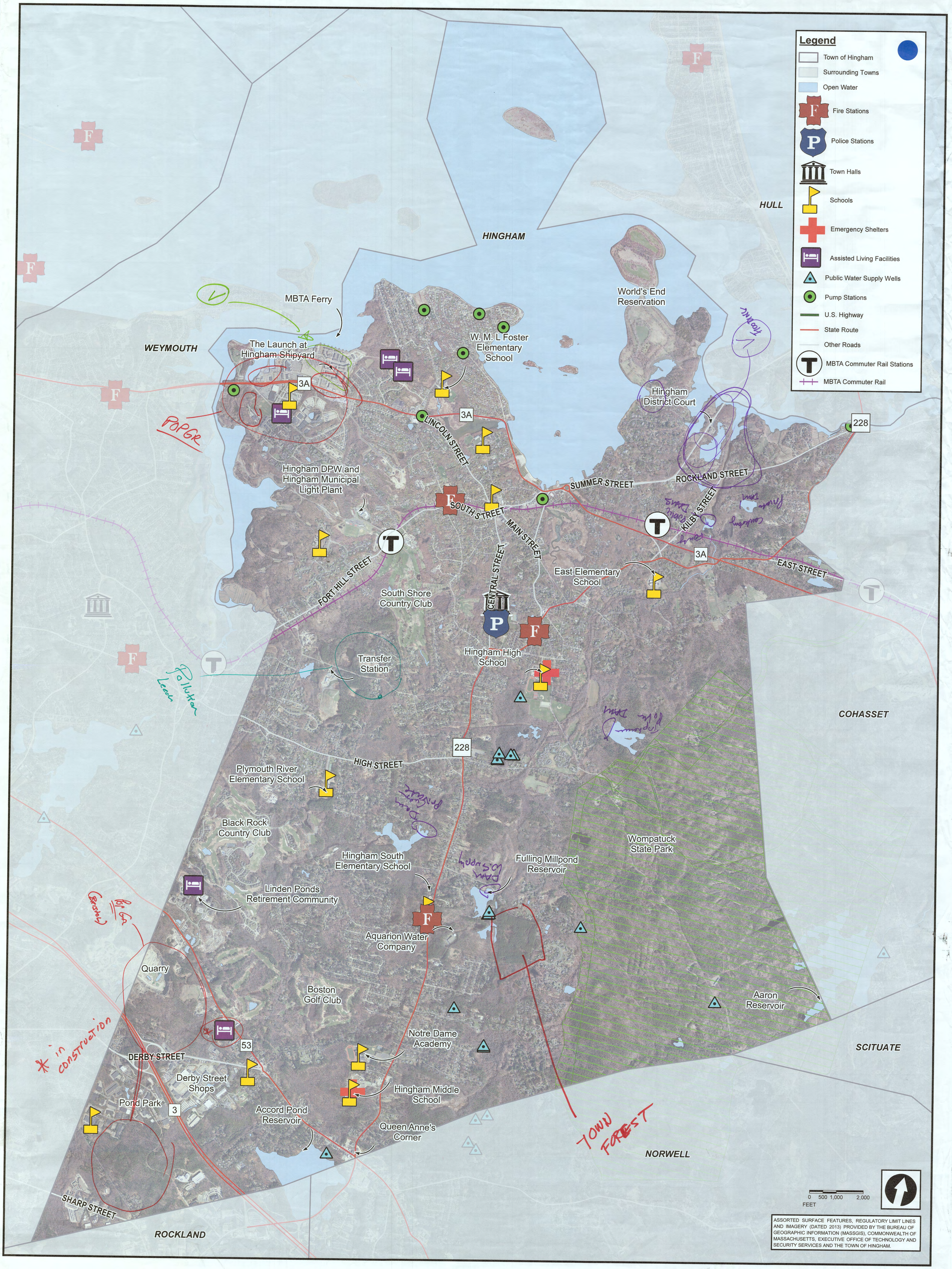

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Appendix D
Completed Risk Matrix

Community Resilience Building Risk Matrix

Compiled Risk Matrix

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CIVIL ENGINEERS | LANDSCAPE ARCHITECTS | LAND SURVEYORS | PLANNERS | ENVIRONMENTAL SPECIALISTS

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

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

Features	Location	Ownership	V or S	Coastal Flooding	Inland Flooding	Severe Storms	Drought	Priority H · M · L	Time Short Long Ongoing
Infrastructural									
Sea Walls / Piers / Oceanic Buffers	Harbor	Public / Private	V/S	Increase the height of the existing seawalls and adjacent upland, continue ongoing maintenance of existing walls (H, O/S) Work with private property owners to improve private seawalls (H, S) Install nature-based solutions where no walls (L, L) Conduct beach nourishment along existing seawalls (L, L)		Increase the height of the existing seawalls and adjacent upland, continue ongoing maintenance of existing walls (H, O/S) Work with private property owners to improve private seawalls (H, S) Install nature-based solutions where no walls (L, L) Conduct beach nourishment along existing seawalls (L, L)		H/L	O/S/L
Sewer Line / Pump Stations	Coastline	Public	V	Implement resiliency improvements to sewer pump stations, including installation of watertight mitigation gates, improvements to pump station buildings, and sealing of manhole covers				H	O/S/L
Aging Infrastructure	Townwide	Public	V	Provide dock space for the Harbormaster Install automatic tide gates at the Broad Cove culvert Identify impacts of road salting on infrastructure	Conduct flood protection project(s) for the Foster School Identify impacts of road salting on infrastructure	Provide dock space for the Harbormaster Install automatic tide gates at the Broad Cove culvert	Construct a new fire station	H	O
Drainage	Townwide	Public	V		Improve stormwater technology Develop regulations that require sewer inflow and infiltration mitigation Conduct a design assessment or "stress test" of the existing drainage system Require new development to use corrosion-resistant additives in concrete			H	O/S
Public Transporation	Specific	Public	V/S	Increase frequency of ferry and extend schedule Increase parking available for the commuter rail				M	O
Route 3A Rotary / 3A / Trains	Coastline	Public	V		Increase seawall and upland height and construct riprap adjacent to Route 3A, the associated rotary, and the commuter rail			M	O/S
Emergency Shelters	Various	Public / Private	V		Increase public outreach regarding the locations of existing emergency shelters and add new shelters			M	S
Utilities (light, sewer, water, power, etc.) Education + Green Energy	Townwide	Public / Private	V	Move electric utilities underground (M, O) Create redundancy to existing power supply (M, O)	Conduct improvements to sewer infiltration and inflow (M, O) Clear and maintain existing utility easements (M, O)	Educate utility clients on reductions in energy use (L, S)	Move electric utilities underground (M/L, O)	M/L	O/S/L
Societal									
Evacuation Routes	Townwide	Public	V	Finalize and implement evacuation routes				H	S
Aging Population	Townwide	Private	V	Conduct outreach to other towns Establish an outreach program that travels to vulnerable populations Encourage additional outreach from neighbors Educate the public, particularly vulnerable populations, on the Reverse 911 program			Conduct outreach to other towns Establish an outreach program that travels to vulnerable populations Encourage additional outreach from neighbors Educate the public, particularly vulnerable populations, on the Reverse 911 program	H	S
Assisted Living Facilities	Bridges Harbor House	Public / Private	V	Encourage assisted living facilities to develop facility-specific evacuation plans Improve resiliency of assisted living facilities to flood and severe storms				M	O
Harbor	Specific	Public	S	Develop a plan to mitigate and or decrease bacteria levels at beaches		Minimize beach erosion		M	O
Reliance on Technology	Townwide	Private	V/S		Develop strategies to communicate during emergencies in event of electronic communication failure			M	L
Pets	Townwide	Private	V	Establish pet-friendly emergency shelters Educate pet-owners on evacuation of pets and associated emergency preparedness				M	L
Historic Monuments / Structures / Cemeteries	Townwide	Public / Private	V/S	Develop plans for temporary flood barriers to protect historic monuments, structures, and cemeteries Prioritize protected assets				M	L
Public Safety	Townwide	Public	S	Obtain flood transportation vehicles for emergency medical services				L	L
Church / Religious Organizations / Places of Worship	Townwide	Private	S	Use churches, religious organizations, and places of worship as supplemental shelters				L	O
Environmental									
Ground/Surface Water Supply	Specific / Townwide	Public / Private	V	Reduce road salt useage Install stormwater controls to treat nutrients in runoff Educate public on nutrients and pesticides in runoff			Identify additional sources of water supply Reduce water usage within the Town Establish emergency water distribution sites Educate homeowners on testing of private wells Educate private well owners and develop a bylaw related to irrigation	H	O/S
Coastline	Specific	Public / Private	V	Conduct beach nourishment and construct an armor stone wall at North Beach Conduct beach nourishment and additional protection at residences		Conduct beach nourishment and construct an armor stone wall at North Beach Conduct beach nourishment and additional protection at residences		H	O
Chemical Management	Townwide	Public / Private	V	Construct a new and/or improved salt shed Reduce road salt use and develop an alternative or low-sodium ice treatment Improve regulatory controls regarding storage of oil and hazardous materials in areas vulnerable to hazards Improve the existing Fire Department database regarding the presence of hazardous material storage in vulnerable areas				H	S
Open Space	Specific	Public / Private	V/S	Study the preservation of open space and flooding at salt marshes Acquire additional open space Evaluate dams for removal Educate the public on water consumption Construct additional public access and trails at existing open space areas		Maintain fire roads and access to open space areas Study the preservation of open space and flooding at salt marshes	Maintain fire roads and access to open space areas	M	O/L
Transfer Station	Specific	Private	V/S	Add additional hours to transfer station operations and provide additional space, to prepare for cleanup after emergencies				L	O/L
Trees	Townwide	Public / Private	S			Conduct tree maintenance		L	O
Local Forest Health (Town and Wampatuck)	Specific	Public	V/S		Improve forest management techniques for locally-owned forests, and coordinate with the state regarding Wompatuck State Park		Improve forest management techniques for locally-owned forests, and coordinate with the state regarding Wompatuck State Park	L	L

Appendix E
Listening Session

Listening Session Announcement

Agenda for June 4, 2019 Board of Selectmen Meeting

Summary of Findings Presentation for Listening Session

BEALS + THOMAS

Town of Hingham

Municipal Vulnerability Preparedness (MVP) Public Listening Session

When: Tuesday, June 4th at 7:00 p.m.

Where: Hingham Town Hall, 210 Central Street

North Hearing Room

The Board of Selectmen invites the public to attend a listening session presenting the results of a recent Community Resiliency Building planning process related to climate change. Through this process, which leverages local knowledge and the experience of community members, the Town has developed a list of the top hazards that Hingham may face, as well as prioritized actions to respond. A Summary of Findings report will be made available for comment prior to the listening session.

The Town of Hingham will become designated by the Executive Office of Energy and Environmental Affairs as a Municipal Vulnerability Preparedness community upon completion of this process. This designation will make the Town eligible for grant funds to implement resiliency planning and improvement projects.

Town of Hingham

Board of Selectmen
Meeting Agenda

June 4, 2019
6:30 P.M.
Location: Town Hall

1. Call to order

2. Approval of Minutes
   Public Comment

3. To accept the charge of the Water Company Transition and Evaluation Committee

4. Request from Hingham Little League to install a shed on Lynch Field

5. Memorandum of Understanding with the Massachusetts Office on Disability and the Department of Housing and Community Development

6. Municipal Vulnerability Program summary and public listening session

7. Discussion and Potential Approval of a proposed resolution of D.P.U. 19-29

   Appointments

   Selectmen/Town Administrator Reports

   Executive Session to conduct strategy sessions in preparation for negotiations with nonunion personnel and/or to conduct contract negotiations with nonunion personnel for the Water Superintendent position pursuant to M.G.L. c. 30A, § 21(a)(2).

Possible Votes:

1. To authorize the Town Administrator to sign the contract with Capeway Roofing to complete a partial roof replacement at Town Hall.

2. To authorize the Town Administrator to sign the Comprehensive Master Plan Agreement.

3. To authorize the Town Administrator to sign the Memorandum of Agreement with National Grid for the Gas Main Installation project on Main Street.

6. To discharge the Water Company Acquisition Study Committee.

7. To waive the permit fees associated with the installation of the High School Clerestory Windows.

8. To wave the building permit and electrical permit fees for High School repairs resulting from the recent fire.

9. To waive the permit fees associated with the construction of a storage shed at Lynch Field.

10. To approve the issuance of a Special (One Day) Wine and Malt Beverages License to Mark Mignosa on behalf of Fruit Center Marketplace for the Spring Craft Beer Fest.

11. To approve the issuance of a Special (One Day) Wine and Malt Beverages license to Kelsey Strout on behalf of the McCourt Foundation for the Tour de South Shore Bike/Walk.

12. To approve the issuance of a Special (One Day) Wine and Malt Beverages license to Joan Meschino for a reception at Ames Chapel.

13. To approve the issuance of a Special (One Day) Wine and Malt Beverages license to Scott McIsaac on behalf of the Episcopal Parish of St. John the Evangelist for Summerfest 2019.

14. To approve the issuance of a Special (One Day) Wine and Malt Beverages license to Abigail Coughlin on behalf of Compass for an employee reception.

Community Resilience Building Public Listening Session

Presented by:

BEALS+THOMAS

June 4, 2019

Public Listening Session Agenda

I. Overview of the Municipal Vulnerability Preparedness Program and Process
II. Summary of Findings Report
- Hazards
- Strengths and Vulnerabilities
- Recommendations

III. Next Steps
IV. Public Comment and Questions

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Municipal Vulnerability Preparedness (MVP) Program

- Executive Order 569
  - Framework to assess vulnerabilities and adaptation strategies related to climate change
  - Technical and financial resources

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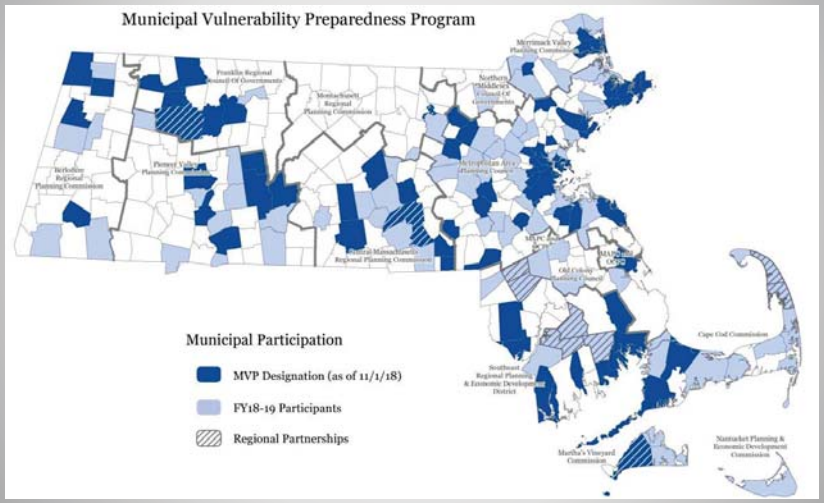
State's Vision for MVP Program



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Mitigation Planning Benefits

- A process for communities to identify policies, activities and tools to implement mitigation actions
  - Increases awareness of vulnerabilities
  - Promotes safety and welfare of communities and citizens
  - Cultivates community commitment to mitigation
- Lack of hazard awareness and mitigation plan could lead to unnecessary losses to infrastructure and critical facilities and loss of life

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Local Planning Efforts

- 2007 Coastal Infrastructure Inventory and Assessment, 2015 Update
- 2015 Climate Change Vulnerability, Risk Assessment and Adaptation Study
- 2016 Climate Change Vulnerability Report
- 2016 Hazard Mitigation Plan
- 2016 Draft Open Space and Recreation Plan
- 2019 Land Use and Fiscal Strategies for Climate Adaptation in Hull, Hingham, and Cohasset

Planning → Action → Greater Resilience

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MVP Timeline

- Receipt of Planning Grant: June 2018
- Core Team Established Approach: June – September 2018
- Workshop #1: December 2018
- Workshop #2: January 2019
- Public Listening Session: June 2019
- Final Report: June 2019

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Stakeholders

Local Public
- Hingham Engineering Department
- Hingham Conservation Department
- Hingham Health Department
- Hingham Planning Board
- Hingham Department of Community Planning
- Hingham Harbor Development Committee
- Hingham Harbormaster
- Hingham Municipal Lighting Plant
- Hingham Sewer Commission
- Hingham Town Administrator
- Hingham Police Department
- Hingham Fire Department
- Bare Cove Park Committee
- Hingham Council on Aging
- Hingham Public Works
- Hingham Recreation Department
- Water Supply Committee
- Historic District Commission

State Public
- Massachusetts Department of Conservation and Recreation
- The Friends of Wompatuck

Private
- Aquarion Water Company of Massachusetts
- Bare Cove Marina
- North and South Rivers Watershed Assoc.
- Weir River Estuary Park Committee

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Workshop Objectives

- Workshop #1
  - Define extreme weather and natural hazards related to climate change
  - Identify existing and future vulnerabilities and strengths
- Workshop #2
  - Develop and prioritize actions for the community and broader stakeholder networks
  - Identify opportunities for the community to advance actions to reduce risks and build resilience

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Definitions

- **Hazard:** natural cause of negative impacts to community
- **Risk:** potential result from hazard
- **Vulnerability or Strengths:** feature (infrastructural, societal, or environmental) that is susceptible to risk
- **Action:** addresses vulnerability

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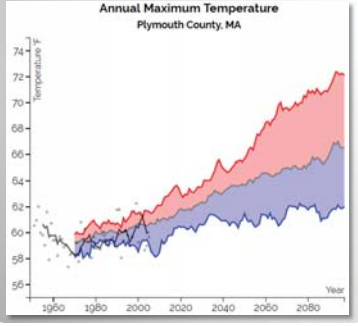
MA Climate Change Projections

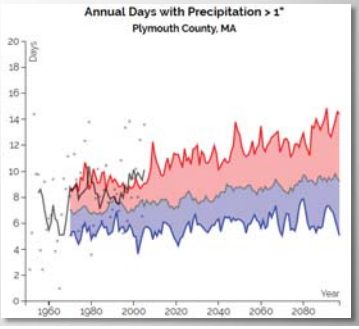
Temperature

- Increased average temps and number of days with maximum temperature above 90°F
- Decrease number of days with temps below 32°F

Precipitation & Drought

- Increase in total and number of days with greater than 1" precipitation
- Increase in consecutive dry days





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Highest Ranked Hazards

Flooding

Existing Impacts

Future Impacts Associated with Climate Change and Sea Level Rise

Figure 28 - Route 3A at Broad Cove Entrance in 2070 1% Flood (Elevation 12.8 ft NAVD88)

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Highest Ranked Hazards

Heat and Drought

Highest Ranked Hazards

Severe Storms
(High Winds, Ice, and Snow)

Strengths and Vulnerabilities

Strengths

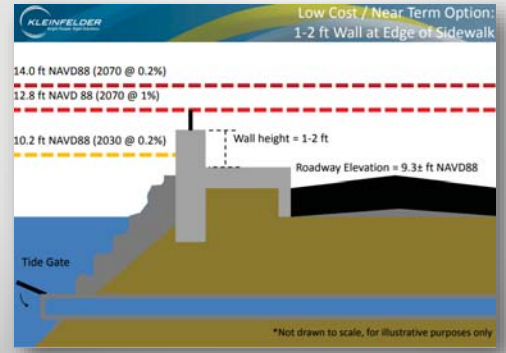
- Coastal Infrastructure
- Emergency response and public safety
- Open space

Vulnerabilities

- Aging infrastructure
- Elderly population
- Quality and quantity of water supply

Top Priorities to Improve Resiliency

- Increase height of existing seawalls and adjacent upland, continue ongoing maintenance of existing walls, and work with private property owners to improve private seawalls.



Top Priorities to Improve Resiliency

Utilities

- Implement resiliency improvements to sewer pump stations
- Protect the quality and quantity of drinking water.

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Next Steps

MVP Next Steps:

- Draft Report available at: https://www.hingham-ma.gov/306/Climate-Change
- Submit comments to: MVPComments@Hingham-ma.gov by June 18, 2019
- Final Report
- Designation as MVP Community
- Prepare MVP Action Grant

Planning Next Steps:

- Open Space and Recreation Plan Update
- Master Plan Update

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Public Comments

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