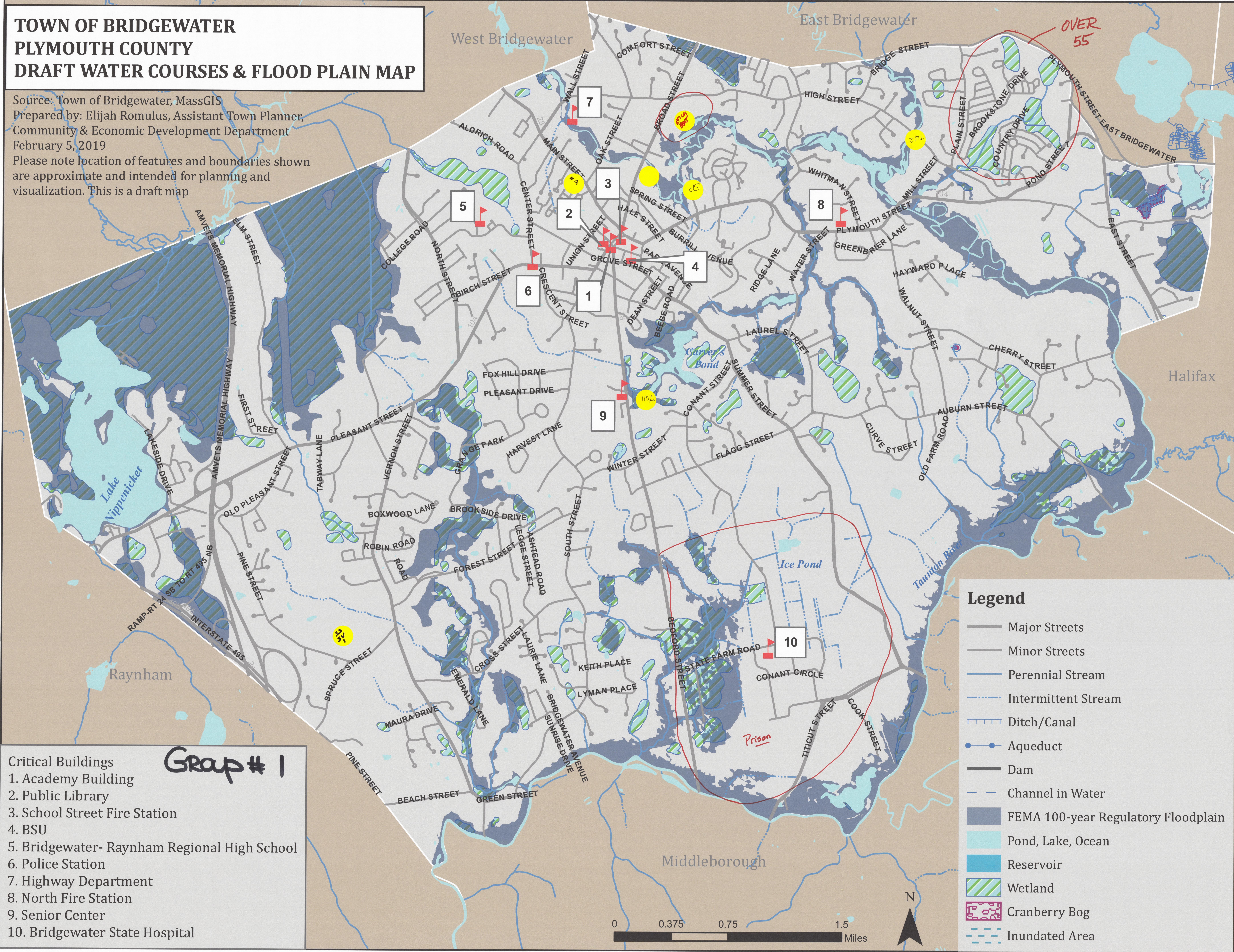


TOWN OF BRIDGEWATER  
PLYMOUTH COUNTY  
DRAFT WATER COURSES & FLOOD PLAIN MAP

Source: Town of Bridgewater, MassGIS  
Prepared by: Elijah Romulus, Assistant Town Planner,  
Community & Economic Development Department  
February 5, 2019  
Please note location of features and boundaries shown  
are approximate and intended for planning and  
visualization. This is a draft map



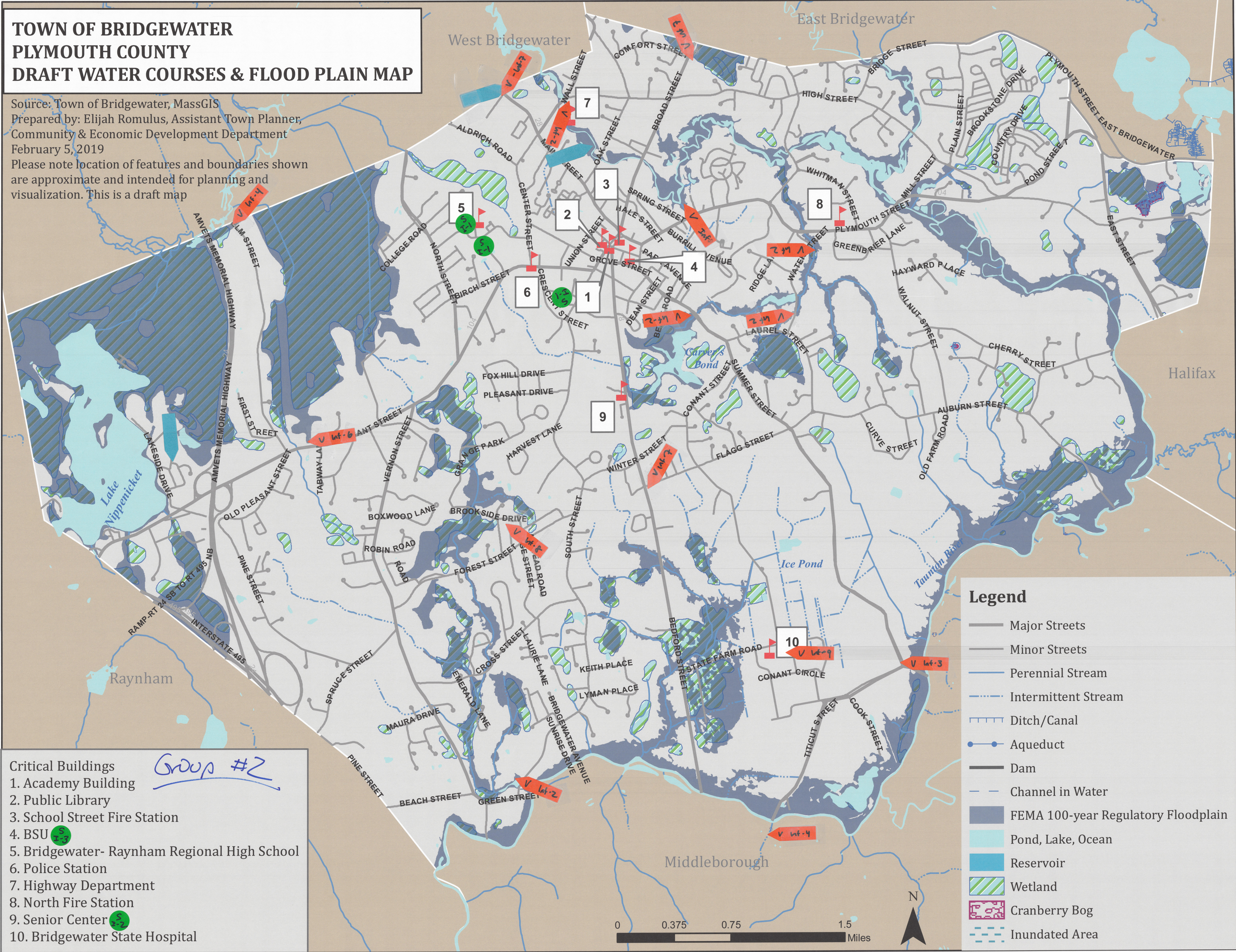






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PLYMOUTH COUNTY  
DRAFT WATER COURSES & FLOOD PLAIN MAP

Source: Town of Bridgewater, MassGIS  
Prepared by: Elijah Romulus, Assistant Town Planner,  
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February 5, 2019  
Please note location of features and boundaries shown  
are approximate and intended for planning and  
visualization. This is a draft map



- Critical Buildings
- 1. Academy Building
  - 2. Public Library
  - 3. School Street Fire Station
  - 4. BSU
  - 5. Bridgewater- Raynham Regional High School
  - 6. Police Station
  - 7. Highway Department
  - 8. North Fire Station
  - 9. Senior Center
  - 10. Bridgewater State Hospital
- Group #2

**Legend**

- Major Streets
- Minor Streets
- Perennial Stream
- Intermittent Stream
- Ditch/Canal
- Aqueduct
- Dam
- Channel in Water
- FEMA 100-year Regulatory Floodplain
- Pond, Lake, Ocean
- Reservoir
- Wetland
- Cranberry Bog
- Inundated Area

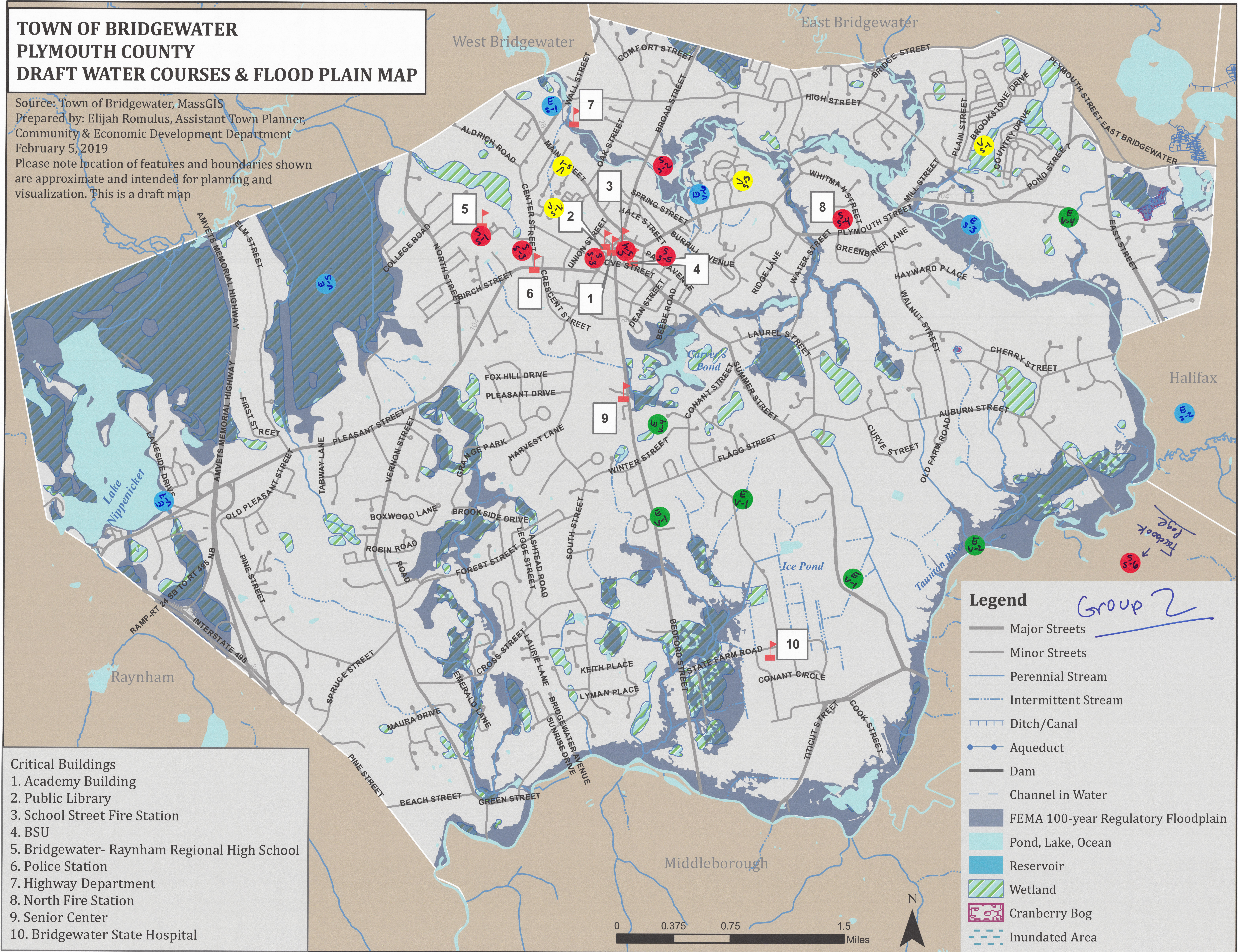






**TOWN OF BRIDGEWATER  
PLYMOUTH COUNTY  
DRAFT WATER COURSES & FLOOD PLAIN MAP**

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February 5, 2019  
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## ***WORKSHOP NO. 2***

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**GREEN INTERNATIONAL AFFILIATES, INC.**

239 LITTLETON ROAD, SUITE 3 WESTFORD, MA 01886

T: (978) 923-0400 | F: (978) 399-0033 | WWW.GREENINTL.COM

**ATTENDANCE SHEET****Project:** Bridgewater MVP workshop #2**Location:** 66 Central Square, Bridgewater, MA**Date:** Thursday, February 21, 2019 at 10:00am

Name	Representing	Phone	Email
1. Danielle Spicer	Green International Affiliates, Inc	978-923-0400	<a href="mailto:dspicer@greenintl.com">dspicer@greenintl.com</a>
2. Peter Richardson	Green International Affiliates, Inc	978-923-0400	<a href="mailto:prichardson@greenintl.com">prichardson@greenintl.com</a>
3. Oxana Fartushnaya	Green International Affiliates, Inc	978-923-0400	<a href="mailto:ofartushnaya@greenintl.com">ofartushnaya@greenintl.com</a>
4. Elijah Romulus	Town of Bridgewater	508 697 0950	<a href="mailto:eromulus@bridgewaterma.org">eromulus@bridgewaterma.org</a>
5. Azu Etoniru	" "	508 697 0906	<a href="mailto:aetoniru@bridgewaterma.org">aetoniru@bridgewaterma.org</a>
6. Kitty			
7. Eileen Hiney	Citizen of BW	774-274-6392	<a href="mailto:fryleen@verizon.net">fryleen@verizon.net</a>
8. Carter Hunt	+ MPC	508 697 3681	<a href="mailto:Carter@thehunts.org">Carter@thehunts.org</a>
9. Frank Saus	Town of BW	508-577 5479	596 FRANK@GMAIL.COM
10. Tom Levy	Fire	697-0900	<a href="mailto:TLEVY@bridgewaterma.org">TLEVY@bridgewaterma.org</a>
11. Lorraine Carrozza	Elder Affairs	(508) 697-0929	<a href="mailto:LCarrozza@bridgewaterma.org">LCarrozza@bridgewaterma.org</a>
12. Steven Solari	Building Inspector		<a href="mailto:ssolari@bridgewaterma.org">ssolari@bridgewaterma.org</a>
13. Carl H. MacDermott	Police Department	(508) 697-6118	<a href="mailto:Cmacdermott@bridgewaterma.org">Cmacdermott@bridgewaterma.org</a>
14. G. Janet Spurr Hunt	Town Clerk	508-659-1220	<a href="mailto:mkhunt@bridgewaterma.org">mkhunt@bridgewaterma.org</a>
15. Rob Pellegrini	Law Office	508 807 1131	<a href="mailto:rpellegrini@pkboston.com">rpellegrini@pkboston.com</a>







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16.	Jennifer Burke CED Director	508-697-0950	jburke@bridgewaterma.org
17.	Michael Dutton Town Manager	508-697-0419	mdutton@bridgewaterma.org
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# Bridgewater Municipal Vulnerability Preparedness (MVP) Plan Workshop No. 2

Peter A. Richardson, P.E., CFM, LEED AP, ENV SP

Danielle Spicer, P.E., LEED AP, ENV SP

(State Certified MVP Providers)

February 21, 2019



**Bridgewater**  
*Massachusetts*

Bridgewater...Preserving Our Past. Enriching Our Present. Building Our Future.



*Building Strong Client Relationships Through Engineering Excellence*



# Agenda

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10:00 – 10:10 am	Recap of CRB Process
10:10 – 10:20 am	Review of Goals & Hazards
10:20 – 11:00 am	Finalize Risk Matrix
11:00 – 12:00 am	Infrastructure Action Items
12:00 – 12:30 pm	Lunch
12:30 – 1:00 pm	Societal Action Items
1:00 – 1:30 pm	Environmental Action Items
1:30 – 2:00 pm	Questions/Discussion/Next Steps



# MVP Program – CRB Process

## Workshop No. 1:

**Finalize Step B & Work  
on Step C**

## Workshop No. 2:

**Finalize Steps C, D & E**

## Overview of the Process (Steps & Tasks)



### Community Components



Infrastructural



Societal



Environmental



# Goals for the Town's MVP Plan

What are the Goals for  
The Town's MVP Plan?





# Goals for the Town's MVP Plan

**Goal No. 1:** Successful completion of the CRB process to become designated as a “Municipal Vulnerability Preparedness Program Climate Community,” or “MVP Climate Community”, eligible for future MVP Action Grants.

**Goal No. 2:** Educate Public about climate change vulnerabilities in Bridgewater and develop comprehensive communication plan, including evaluation of evacuation plan(s).

**Goal No. 3:** Minimize impacts to public infrastructure from climate change, especially water supply wells, wastewater treatment plant, and bridges.

**Goal No. 4:** Evaluate Public Safety relative to environmental impacts and waterborne diseases

**Goal No. 5:** Improve Stormwater Management through Green Infrastructure and coordination with MS4 efforts.



# Characterize Hazards





# Characterize Hazards

## Types of Natural Hazards for Inland Communities

- |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"><li>▪ <u>Deep Freeze (Extreme cold)</u></li><li>▪ <u>Drought</u></li><li>▪ <u>Floods</u><ul style="list-style-type: none"><li>❖ <u>Excessive rainfall</u></li><li>❖ <u>Heavy rain on frozen ground,</u></li><li>❖ <u>Rain combined with snow melt</u></li><li>❖ <u>Tidal Backwater (SLR)</u></li><li>❖ Beaver Dams</li></ul></li><li>▪ Geological Events<ul style="list-style-type: none"><li>❖ Earthquake</li><li>❖ Erosion</li><li>❖ Landslides</li></ul></li></ul> | <ul style="list-style-type: none"><li>▪ <u>Heat Wave</u></li><li>▪ <u>Hurricanes (Flooding and Wind Damage)</u></li><li>▪ <u>Microbursts/Tornadoes</u></li><li>▪ <u>Thunderstorms/Lightning</u></li><li>▪ Wildfires</li><li>▪ <u>Wind</u></li><li>▪ <u>Winter Storms</u><ul style="list-style-type: none"><li>❖ <u>Nor'Easter</u></li><li>❖ <u>Blizzards</u></li><li>❖ <u>Rain/snow mix</u></li><li>❖ <u>Ice storm</u></li></ul></li></ul> |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|



# Characterize Hazards

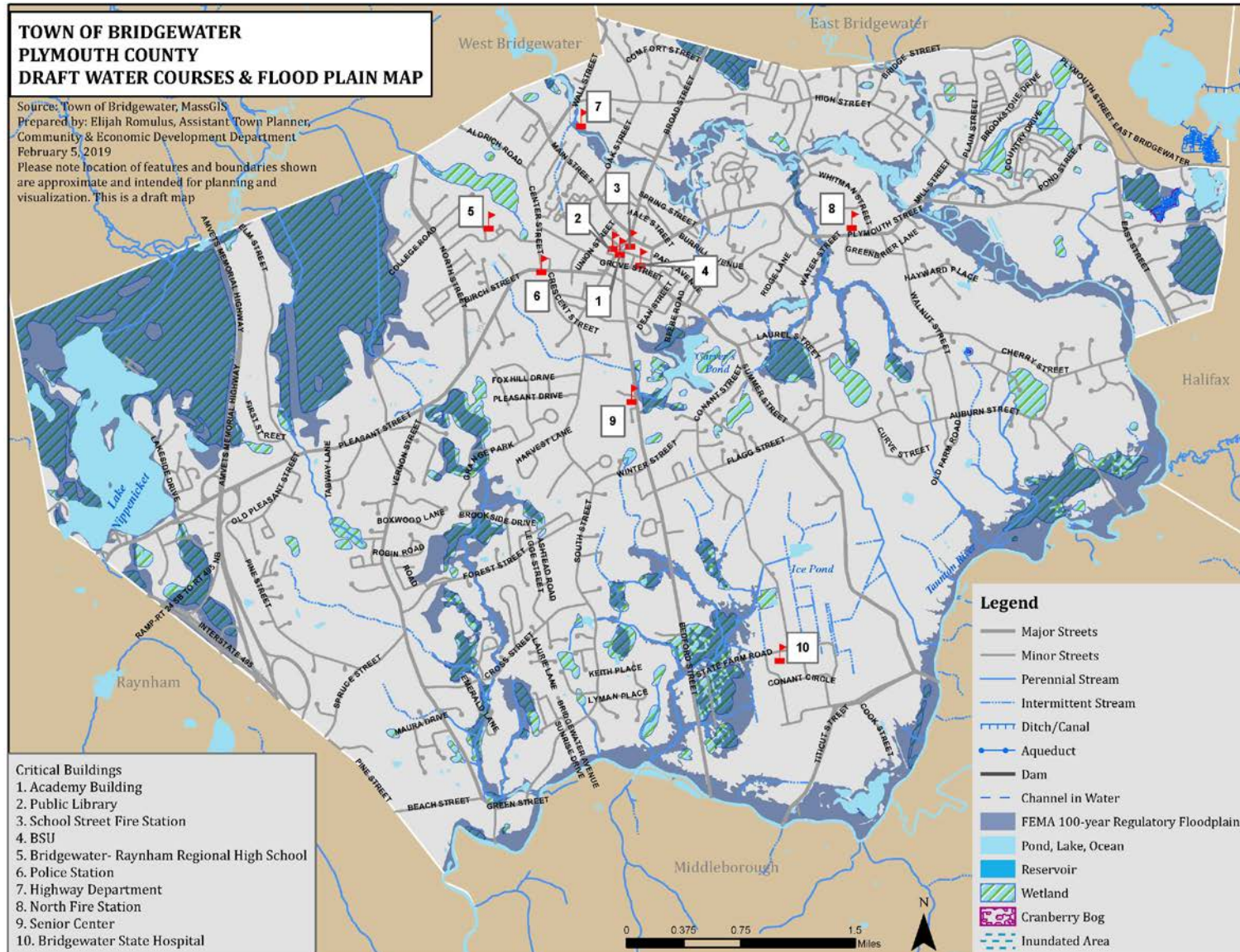
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## Top Four Natural Hazards that will impact Bridgewater the Most as a Result of Climate Change

1. Flooding
2. Wind
3. Winter Storms/Extreme Cold
4. Drought/Extreme Heat



# Identify & Prioritize Community Actions





# Questions/Discussion/Next Steps





























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## ***LISTENING SESSION***

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239 LITTLETON ROAD, SUITE 3 WESTFORD, MA 01886

T: (978) 923-0400 | F: (978) 399-0033 | WWW.GREENINTL.COM

**ATTENDANCE SHEET****Project:** Bridgewater MVP Listening Session**Location:** 66 Central Square, Bridgewater, MA**Date:** Wednesday, May 29, 2019 at 6:30pm

Name	Representing	Phone	Email
1. Danielle Spicer	Green International Affiliates, Inc	978-923-0400	<a href="mailto:dspicer@greenintl.com">dspicer@greenintl.com</a>
2. Peter Richardson	Green International Affiliates, Inc	978-923-0400	<a href="mailto:prichardson@greenintl.com">prichardson@greenintl.com</a>
3. Oxana Fartushnaya	Green International Affiliates, Inc	978-923-0400	<a href="mailto:ofartushnaya@greenintl.com">ofartushnaya@greenintl.com</a>
4. Lorraine Carrozza	Elder Affairs	508 697-0929	Lcarrozza@bridgewaterma.org
5. Kitty Doherty	Natural Resource Conservation	508-697-2358	hivaland927@gmail.com
6. Ray Ajemian	Planning board	508 697 6653	RPAJEMIAN * GMAIL.COM
7. Lisa Sullivan	Planning Board	508 697 3751	MSULLI1@Comcast.net
8. Eileen Hiney	citizen	508 279 3953	fryleen@verizon.net
9. AZU Etonire	Town Engineer	508-697-0906	AETONIRU@BRIDGEWATERMA.ORG
10. JEN BURKE	Director of Community & Eco.	508-697-0950	JBURKE@BRIDGEWATERMA.ORG
11. Carlton Hunt	MPC / EC	508 243 0638	Carlton@thehunts.org
12.			
13.			
14.			
15.			







# Bridgewater Municipal Vulnerability Preparedness (MVP) Plan Listening Session

Peter A. Richardson, P.E., CFM, LEED AP, ENV SP

Danielle Spicer, P.E., LEED AP, ENV SP

(State Certified MVP Providers)

May 29, 2019



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*Massachusetts*

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*Building Strong Client Relationships Through Engineering Excellence*



# Agenda

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- Introduction
- Overview of MVP Program
- MVP Core Team
- Workshop Process
- Development of Action Items
- Summary of Findings
- Questions/Discussions



# Overview of MVP Program

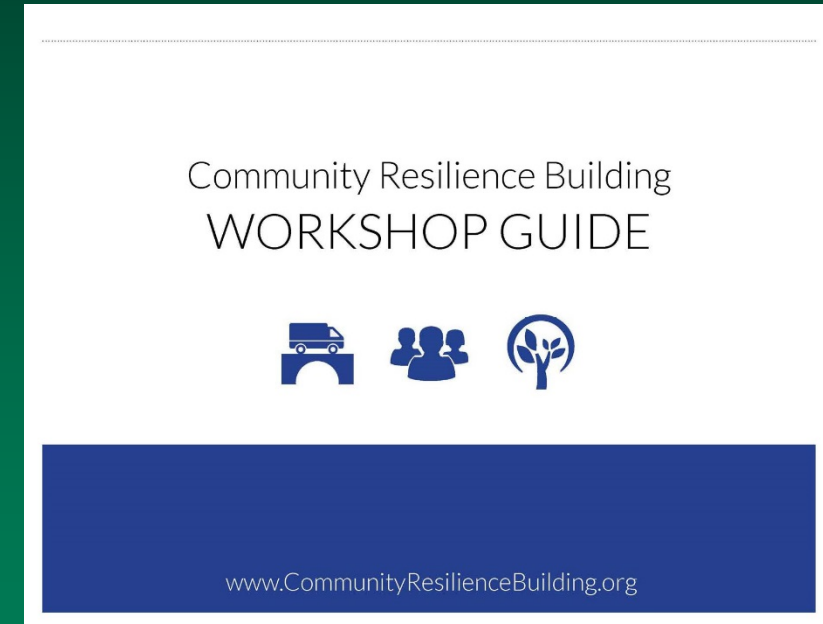


The Massachusetts Climate Change  
Clearinghouse (resilient MA)

[www.resilientma.org](http://www.resilientma.org)

Community Resilience Building  
Workshop Guide

[www.CommunityResilienceBuilding.com](http://www.CommunityResilienceBuilding.com)



UMASS Climate Change Projections (March 2018)



# Overview of MVP Program

March 2018

## TAUNTON BASIN

### MUNICIPALITIES WITHIN TAUNTON BASIN:

Abington, Attleboro, Avon, Berkley, Bridgewater, Brockton, Carver, Dighton, East Bridgewater, Easton, Fall River, Foxborough, Freetown, Halifax, Hanson, Holbrook, Kingston, Lakeville, Mansfield, Middleborough, New Bedford, North Attleborough, Norton, Pembroke, Plainville, Plymouth, Plympton, Raynham, Rehoboth, Rochester, Rockland, Sharon, Somerset, Stoughton, Swansea, Taunton, West Bridgewater, Whitman, and Wrentham



Many municipalities fall within more than one basin, so it is advised to use the climate projections for the basin that contains the majority of the land area of the municipality.

March 2018

## TAUNTON BASIN

Taunton Basin		Observed Baseline 1971-2000 (°F)	Projected Change in 2030s (°F)	Mid-Century Projected Change in 2050s (°F)	Projected Change in 2070s (°F)	End of Century Projected Change in 2090s (°F)
Average Temperature	Annual	49.9	+2.0 to +3.8	+2.7 to +5.9	+3.1 to +8.6	+3.4 to +10.5
	Winter	30.0	+2.2 to +4.4	+2.9 to +6.7	+3.5 to +8.8	+3.9 to +10.1
	Spring	47.3	+1.7 to +3.4	+2.4 to +5.4	+2.6 to +7.5	+3.1 to +9.2
	Summer	69.6	+1.7 to +3.9	+2.2 to +6.3	+2.8 to +9.6	+3.4 to +11.6
Maximum Temperature	Annual	62.7	+2.1 to +4.5	+3.4 to +6.3	+3.2 to +9.0	+3.7 to +11.2
	Winter	60.3	+1.9 to +3.7	+2.5 to +5.9	+2.8 to +8.6	+3.1 to +10.4
	Spring	39.5	+1.8 to +4.2	+2.5 to +6.2	+3.0 to +8.1	+3.4 to +9.4
	Summer	58.0	+1.5 to +3.4	+2.0 to +5.2	+2.5 to +7.6	+3.0 to +9.0
Minimum Temperature	Annual	80.5	+1.6 to +3.8	+2.1 to +6.2	+2.7 to +9.7	+3.1 to +11.6
	Winter	62.7	+2.1 to +4.4	+3.3 to +6.4	+3.1 to +9.0	+3.4 to +11.3
	Spring	39.4	+2.1 to +3.9	+2.9 to +6.1	+3.4 to +8.6	+3.8 to +10.6
	Summer	20.5	+2.5 to +4.7	+3.2 to +7.3	+4.1 to +9.4	+4.4 to +10.8
Minimum Temperature	Annual	36.7	+1.8 to +3.5	+2.7 to +5.7	+2.7 to +7.4	+3.2 to +9.1
	Winter	58.6	+1.8 to +3.9	+2.4 to +6.5	+2.9 to +9.4	+3.6 to +11.5
	Spring	41.6	+2.1 to +4.7	+3.5 to +6.3	+3.3 to +9.0	+4.0 to +11.1
	Summer					

- The Taunton basin is expected to experience increased average temperatures throughout the 21<sup>st</sup> century. Maximum and minimum temperatures are also expected to increase throughout the end of the century. These increased temperature trends are expected for annual and seasonal projections.
- Seasonally, maximum summer and fall temperatures are expected to see the highest projected increase throughout the 21<sup>st</sup> century.
  - Summer mid-century increase of 2.1 °F to 6.2 °F (3-8% increase); end of century increase of 3.1 °F to 11.6 °F (4-14% increase).
  - Fall mid-century increase of 3.3 °F to 6.4 °F (5-10% increase); end of century increase by and 3.4 °F to 11.3 °F (5-18% increase).
- Seasonally, minimum winter and fall temperatures are expected to see increases throughout the 21<sup>st</sup> century.
  - Winter mid-century increase of 3.2 °F to 7.3 °F (16-35% increase); end of century increase by 4.4 °F to 10.8 °F (21-52% increase).
  - Fall mid-century of 3.5 °F to 6.3 °F (8-15% increase); end of century increase of 4 °F to 11.1 °F (10-27% increase).



# MVP Core Team

---

- Jennifer Burke - Town Planner
- Azu Etoniru - Town Engineer
- Steven Solari - Building Commissioner
- Kitty Doherty - Greenway/Taunton River Stewardship Council
- Harry Bailey - Conservation Commission/Taunton River Stewardship Council
- Paul Tappen - Columbia Gas
- Ron Ladue - Roadways Superintendent
- Carl MacDermott, III - Lt., Police Dept.
- Marilyn MacDonald – Chair, Conservation Commission
- Thomas Levy – Chief, Fire Dept.
- Michael Dutton – Town Manager



# Workshop Process

## Kickoff Meeting (11/29/2018):

### ✓ Step A

## Workshop No. 1 (02/14/2019):

### ✓ Steps B & C

## Workshop No. 2 (02/21/2019):

### ✓ Steps D & E

## Listening Session (05/29/2019):

### Step F & G

## Overview of the Process (Steps & Tasks)





# Workshop Process

## *Goals for the Town's MVP Plan – Created during Workshop #1*

**Goal No. 1:** Successful completion of the CRB process to become designated as a “Municipal Vulnerability Preparedness Program Climate Community,” or “MVP Climate Community”, eligible for future MVP Action Grants.

**Goal No. 2:** Educate Public about climate change vulnerabilities in Bridgewater and develop comprehensive communication plan, including evaluation of evacuation plan(s).

**Goal No. 3:** Minimize impacts to public infrastructure from climate change, especially water supply wells, wastewater treatment plant, and bridges.

**Goal No. 4:** Evaluate Public Safety relative to environmental impacts and waterborne diseases

**Goal No. 5:** Improve Stormwater Management through Green Infrastructure and coordination with MS4 efforts.



# Workshop Process

---

**Characterize Hazards Identified in Workshop #1  
Top Four Natural Hazards that will impact Bridgewater  
the Most as a Result of Climate Change**

**Flooding**

**Wind**

**Winter Storms/Extreme Cold**

**Drought/Extreme Heat**



# Workshop Process

## Step B & C: Characterize Hazards & Identify Community Vulnerabilities and Strengths





# Workshop Process

## Identifying Bridgewater's Vulnerabilities and Strengths





# Workshop Process

## *Vulnerable Areas and Attributes identified in Workshop #1*

INFRASTRUCTURAL	SOCIETAL	ENVIRONMENTAL
<ul style="list-style-type: none"> <li>• Dams</li> <li>• Bridges/Roads/Culverts</li> <li>• Wastewater and Water Treatment Facilities</li> <li>• Town Wells, Water Tanks and Water System</li> <li>• Drainage System</li> <li>• Shelter Buildings</li> <li>• Electrical Distribution System</li> <li>• Public Transportation Infrastructure/MBTA Station</li> <li>• Zoning Regulations</li> <li>• Telecommunications</li> <li>• Fire Department</li> <li>• Bridgewater Correctional Complex (incl. State Hospital)</li> <li>• Transfer Station</li> <li>• Solar Plant - ???</li> </ul>	<ul style="list-style-type: none"> <li>• Senior and Vulnerable Population Facilities and Housing</li> <li>• Densely Populated Neighborhoods</li> <li>• Roche Bros. Supermarket</li> <li>• BSU</li> <li>• Recreational Fields</li> <li>• Intra-Town Communications</li> </ul>	<ul style="list-style-type: none"> <li>• Stormwater Ordinance</li> <li>• Existing Septic Systems within Flood Zone</li> <li>• Farm Land Loss to Residential Development</li> <li>• Old Pine Plantations/Aging Trees (Town Forest)</li> <li>• Waterborne Diseases</li> <li>• Sea Level Rise</li> <li>• Wastewater Treatment Plant</li> <li>• Town Wells/Water Supply</li> <li>• Hockomock Swamp</li> <li>• Wetlands</li> <li>• Water Resources (Ponds, Lakes and Rivers)</li> <li>• High Street Dam Removal</li> </ul>



# Workshop Process

## *Current Strengths and Assets identified in Workshop #1*

INFRASTRUCTURAL	SOCIETAL	ENVIRONMENTAL
<ul style="list-style-type: none"> <li>• Wastewater Treatment Plant</li> <li>• Water Supply/Town Wells</li> <li>• Shelter Buildings</li> <li>• Zoning Ordinances</li> <li>• Highway Department/Highway Barn</li> <li>• MBTA Station</li> </ul>	<ul style="list-style-type: none"> <li>• Senior and Vulnerable Population Facilities &amp; Healthcare Facilities</li> <li>• Vulnerable Population Assistance Programs</li> <li>• Public Safety</li> <li>• Roche Bros. Supermarket</li> <li>• Open Space (Parks, Recreational Fields, Gold Course)</li> <li>• Social Media</li> <li>• Lucini Bus Service</li> <li>• Emergency Staging???</li> </ul>	<ul style="list-style-type: none"> <li>• Stormwater Ordinance</li> <li>• Existing Septic Systems within Flood Zone</li> <li>• Farm Land Loss to Residential Development</li> <li>• Old Pine Plantations/Aging Trees (Town Forest)</li> <li>• Waterborne Diseases</li> <li>• Sea Level Rise</li> <li>• Wastewater Treatment Plant</li> <li>• Town Wells/Water Supply</li> <li>• Hockomock Swamp</li> <li>• Wetlands</li> <li>• Water Resources (Ponds, Lakes and Rivers)</li> <li>• High Street Dam Removal</li> </ul>



# Development of Action Items

## *Step D: Identify & Prioritize Community Actions in Workshop #2*





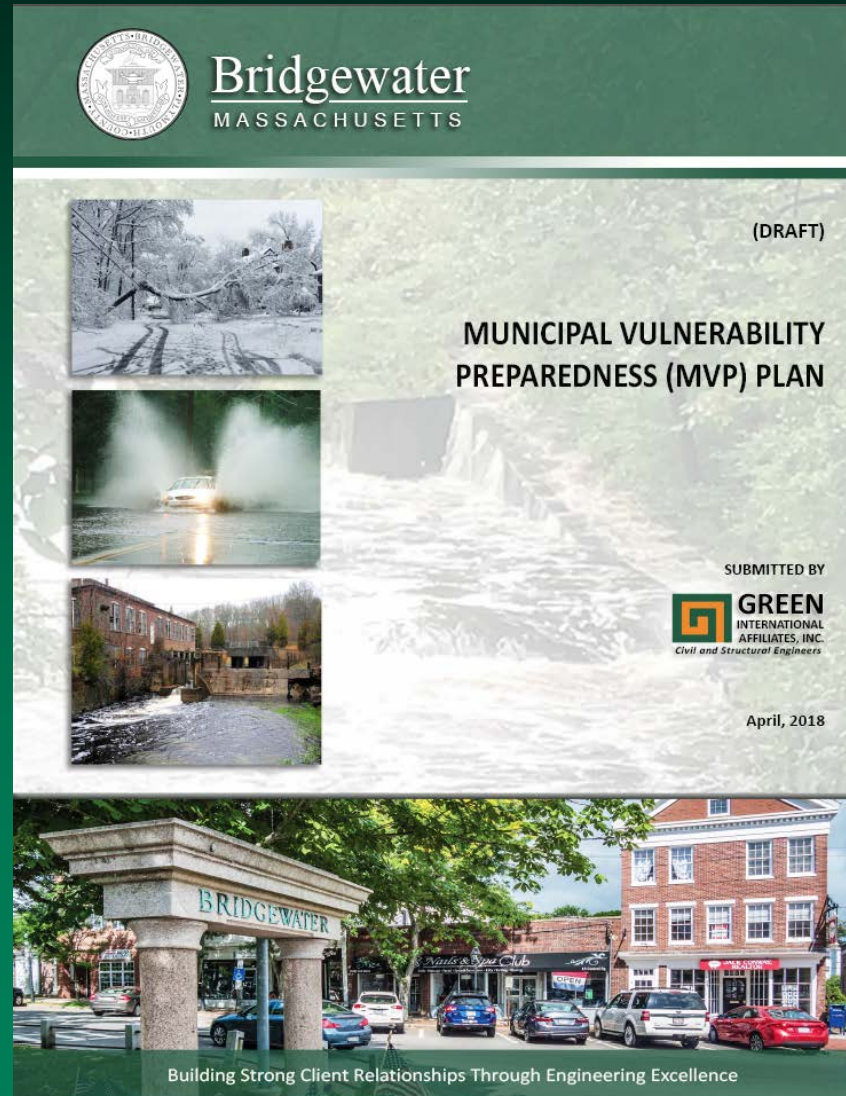
# Development of Action Items

## *Priorities developed in Workshop #2 for Action Items*

- **Drainage/Flood Study to identify increased risk from climate change**
- **Public Safety Communication**
- **Wastewater Treatment Plant and Water Supply**
- **Power and access to Shelter/Evacuation Facilities**
- **Aging/Hazardous Trees**



# Summary of Findings

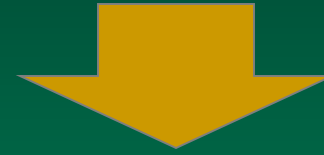




# Summary of Findings



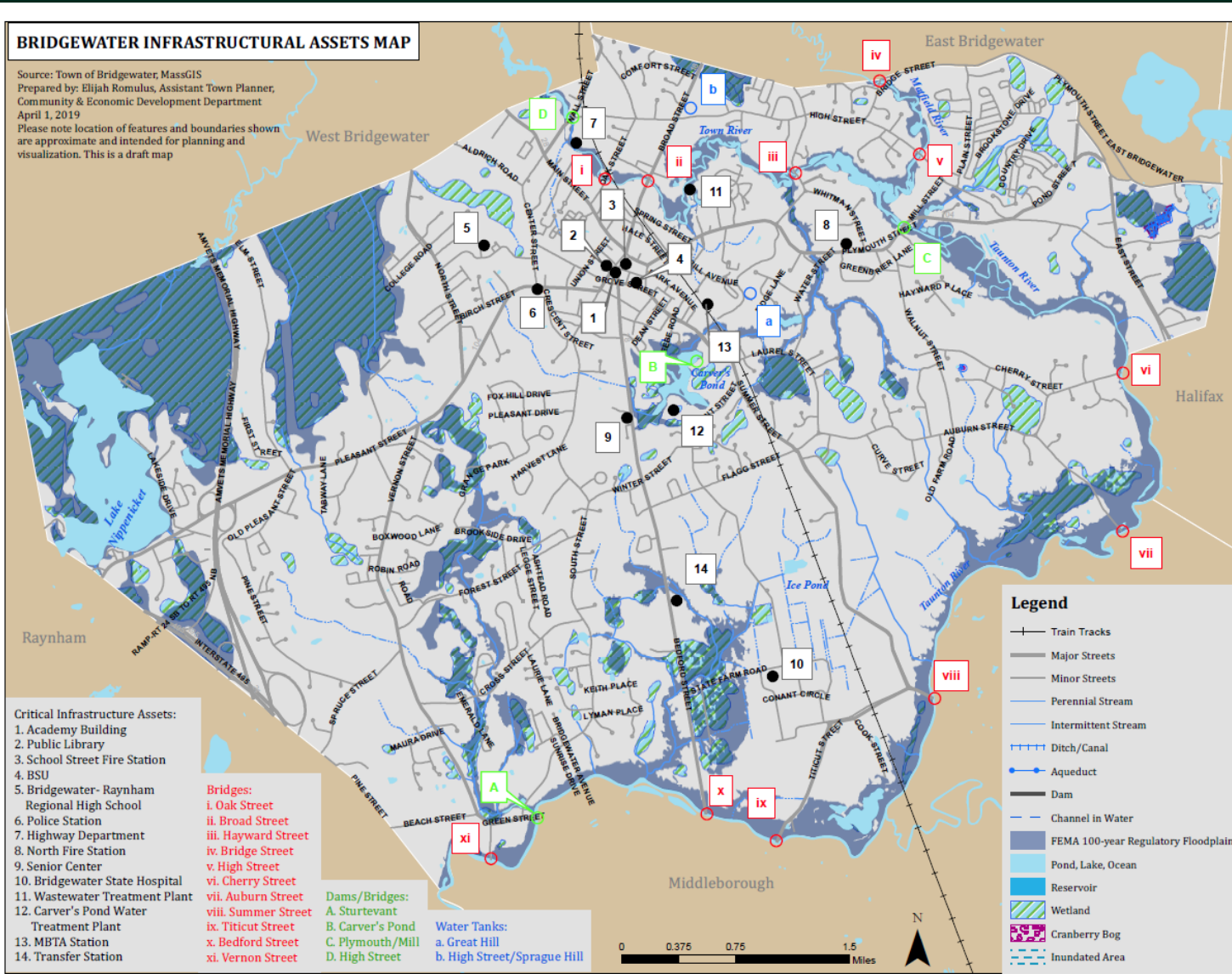
The risk of future flooding is uncertain until H&H modeling is performed with climate change precipitation projections.



Existing FEMA Hydraulic models can be run with EOEA climate change projection data to identify future flood risk.

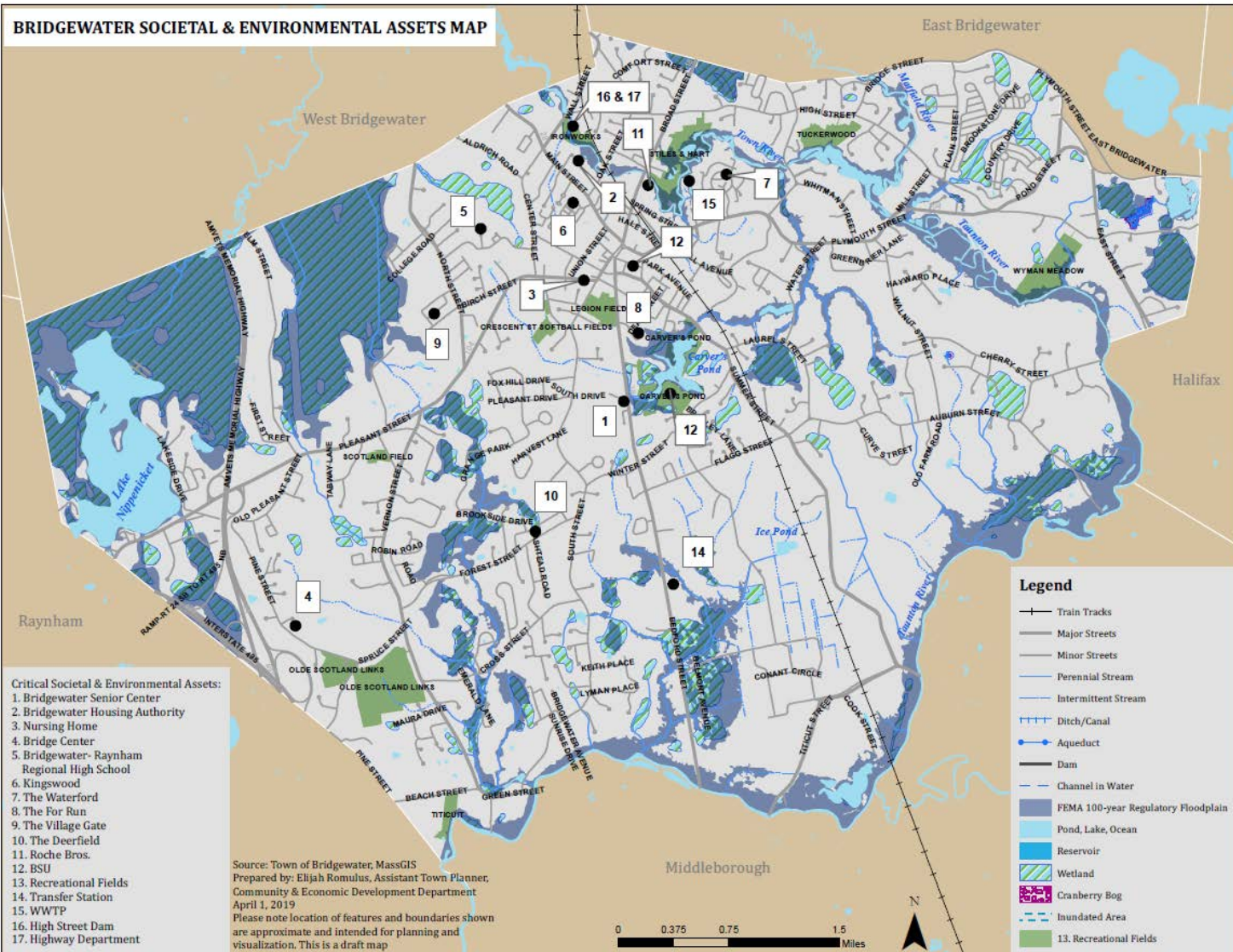


# Summary of Findings





# Summary of Findings





# Summary of Findings

## Goals established for the Town's MVP Plan

- Goal No. 1:** Identify Climate Change Vulnerabilities, considering Infrastructural, Societal and Environmental factors and Develop Action Steps to build the Town's Resilience to extreme weather-related conditions in the future based on EOEa climate change projections.
- Goal No. 2:** Develop an MVP Plan that satisfies the requirements of the MA EOEa, such that it receives approval and makes the Town Eligible for Future MVP Action Grants.
- Goal No. 3:** Develop an MVP Plan that compliments and builds upon the Town's previous conservation, recreation and revitalization efforts (existing Capital Improvement Plan, Bridgewater's Branding & Wayfinding Committee, Bridgewater Community Preservation Committee/CPA Plan, Comprehensive Master Plan Committee, Energy Committee, etc.).
- Goal No. 4:** Develop an MVP Plan that Minimizes Infrastructure Impacts from flood and other weather-related hazards
- Goal No. 5:** Develop an MVP plan that will encourage the Review and Upgrade of Bridgewater's current Zoning Regulations to prevent damage from flooding, current and future



# Summary of Findings

## Goals established for the Town's MVP Plan

**Goal No. 6:** Develop an MVP Plan that improves Stormwater Management (SWM) in Bridgewater

**Goal No. 7:** Review Emergency Management Plan with regards to potential hazards and vulnerable areas in Town, associated with climate change

**Goal No. 8:** Develop an MVP Plan that will help Control Waterborne Diseases, resulting from potential increased precipitation and flooding.

**Goal No. 9:** Develop an MVP Plan that will Promote Reduction of Bridgewater's Carbon Footprint

**Goal No. 10:** Include Public Education Program on potential Climate Change Impacts in Bridgewater's MVP Plan. Educate Public about climate change vulnerabilities in Bridgewater and develop comprehensive communication plan, including evaluation of evacuation plan(s).



# Summary of Findings

## Step E: Determine the Overall Priority Actions

Municipal Vulnerability Preparedness (MVP) Plan  
Bridgewater, Massachusetts

March 2019

The action steps have been prioritized in Table 3 as follows:

High MVP Priority
Medium MVP Priority
Low MVP Priority

Table 3: Recommended Action Steps to Improve Resiliency to Climate Change in Bridgewater

PROJECT No.	MITIGATION ACTION	TIMEFRAME	RESPONSIBLE ORGANIZATION	POTENTIAL FUNDING SOURCE	ESTIMATED COST
1	Obtain Effective hydraulic computer models from FEMA and develop Town-wide Hydrologic and Hydraulic (H&H) models based on UMass climate change (CC) projections for the 2050's and 2090's.	2019	Engineering	MVP Action Grant*	\$25,000-\$50,000
2	Develop a CC Resiliency Action Plan for the Wastewater Treatment Plant (WWTP) based on results of Project No. 1	2020	Wastewater	MVP Action Grant	\$15,000
3	Develop a CC Resiliency Action Plan for the Town's water supply wells and treatment facilities based on results of Project No. 1	2020	Water	MVP Action Grant	\$20,000
4	Review and update the Town's Stormwater Ordinance relative to CC Projections	2020	Planning	MVP Action Grant	\$5,000
5	Review and update zoning requirements to address CC Resiliency	2020	Planning	MVP Action Grant	\$10,000
6	Purchase and install an emergency generator at the Senior Center and develop an Emergency Back-up Power Plan for other public facilities that serve vulnerable populations.	2019	Emergency Management	MVP Action Grant	\$25,000
7	Develop a Town-wide emergency transport and food supply emergency action plan for vulnerable populations	2019	Emergency Management	MVP Action Grant	\$10,000
8	Review Town evacuation plans and update emergency instructions for evacuation (incorporate them in Branding & Wayfinding strategy) based on CC	2019	Emergency Management	MVP Action Grant	\$10,000

Municipal Vulnerability Preparedness (MVP) Plan  
Bridgewater, Massachusetts

March 2019

PROJECT No.	MITIGATION ACTION	TIMEFRAME	RESPONSIBLE ORGANIZATION	POTENTIAL FUNDING SOURCE	ESTIMATED COST
	projections and results of Project No. 1				
9	Improve public safety and emergency communication abilities with vulnerable population centers	2020	Emergency Management	MVP Action Grant	\$50,000
10	Develop a CC Resiliency Action Plan that incorporates nature-based solutions for Town parks and recreational areas.	2021	Planning and Conservation	MVP Action Grant	\$25,000
11	Develop a Hazard Tree Removal and Replacement plan (including the old pine plantation and Town forest)	2021	Planning and Conservation	MVP Action Grant	\$25,000
12	Protect agricultural land - Continue to implement Open Space and Recreation Plan 2017	2021	Planning and Conservation	MVP Action Grant	??
13	Establish a Floodplain and Stormwater Management Public Education Program based on results of Project No. 1	2021	Planning and Conservation	MVP Action Grant	\$10,000
14	Develop a public education program for vulnerable populations relative to climate change, its effects and ways to build social resiliency.	2021	Planning and Emergency Management	MVP Action Grant	\$7,500
15	Develop a Culvert and Bridge Improvement Master Plan based on results of Projects No. 1 and No. 8	2020	DPW	MVP Action Grant	\$50,000
16	High Street Dam Removal and Bridge Replacement	2020	DPW	MVP Action Grant	??
17	Develop a Landlord/Owner Communication Plan for multi-unit rental properties (3-family and up) to establish direct lines of communication for natural hazard emergencies	2021	Emergency Management	MVP Action Grant	\$25,000

\* MVP Action Grants typically include a Town cost share commitment of 25%



# Summary of Findings

## Recommended Action Steps

### Project No. 1

**Obtain Effective hydraulic computer models from FEMA and develop Town-wide Hydrologic and Hydraulic (H&H) models based on UMass climate change (CC) projections for the 2050's and 2090's.**



# Summary of Findings

## Recommended Action Steps

**Project No. 2: Develop a Climate Change Resiliency Action Plan for the Wastewater Treatment Plant (WWTP) based on results of Project No. 1**

**Project No. 3: Develop a CC Resiliency Action Plan for the Town's water supply wells and treatment facilities based on results of Project No. 1**

**Project No. 4: Review and update the Town's Stormwater Ordinance relative to Climate Change Projections**

**Project No. 5: Review and update zoning requirements to address Climate Change Resiliency**



# Summary of Findings

## Recommended Action Steps

**Project No. 6:** Purchase and Install an emergency generator at the Senior Center and develop an Emergency Back-up Power Plan for other public facilities that serve vulnerable populations

**Project No. 7:** Develop a Town-wide emergency transport and food supply emergency action plan for vulnerable populations

**Project No. 15:** Develop a Culvert and Bridge Improvement Master Plan based on results of Projects No. 1 and No. 8

**Project No. 16:** High Street Dam Removal and Bridge Replacement



# Summary of Findings

## Recommended Action Steps

**Project No. 10:** Review Town evacuation plans and update emergency instructions for evacuation (incorporate them in Branding & Wayfinding strategy) based on CC projections and results of Project No. 1

**Project No. 11:** Improve public safety and emergency communication abilities with vulnerable population centers

**Project No. 12:** Develop a CC Resiliency Action Plan that incorporates nature-based solutions for Town parks and recreational areas



# Summary of Findings

## Recommended Action Steps

**Project No. 13:** Develop a Hazard Tree Removal and Replacement plan (including the old pine plantation and Town forest)

**Project No. 14:** Protect agricultural land -Continue to implement Open Space and Recreation Plan 2017

**Project No. 15:** Establish a Floodplain and Stormwater Management Public Education Program based on results of Project No. 1

**Project No. 16:** Develop a public education program for vulnerable populations relative to climate change, its effects and ways to build social resiliency



# Summary of Findings

## Recommended Action Steps

**Project No. 17: Develop a Landlord/Owner Communication Plan for multi-unit rental properties (3-family and up) to establish direct lines of communication for natural hazard emergencies**



# Questions/Discussions







#### Agenda

- Introduction
- Overview of MVP Program
- MVP Core Team
- Workshop Process
- Development of Action Items
- Summary of Findings
- Questions/Discussions



