

# Douglas, MA Hazard Mitigation Plan (proposed layout)

## Section 1: Introduction

### *Overview*

- Hazard mitigation planning in general

### *Plan Purpose*

- Benefits of hazard mitigation planning

### *Mission statement*

- Create

### *Goals*

- Create

### *Planning Process*

- Overview of approach/process of the project
  - o Local Hazard Mitigation Committee Meetings
  - o Public Workshops
  - o Municipal Interviews
  - o Survey

### *Community Profile*

- Geographic location
- History
- Demographics
- Government Structure

### *History of Disaster Declarations*

- Federal Emergency and Major Disaster Declarations for the County

### *Recent Disaster Declarations*

- Recent (2016 – forward) Federal Emergency and Major Disaster Declarations for the County

## Section 2: Hazard Identification and Risk Assessment

### *Introduction*

- Which hazards merit special attention
- What actions might be taken to reduce the impact(s) of those hazards
- What resources are likely to be needed

### *Hazard Identification*

- Required to evaluate all hazards identified in the State Plan...anticipated list:
  - o Riverine/Flash Flooding
  - o Heavy Rain/Inland and Urban Flooding
  - o Dam Failure
  - o Beaver Activity
  - o Blizzards/Heavy Snow/Winter Weather/Nor'easters
  - o Ice Storms
  - o Extreme Cold
  - o Hurricanes/Tropical Storms
  - o Tornadoes

- High Winds
- Lightning/Thunderstorms
- Hail
- Earthquakes
- Drought
- Extreme Heat
- Brushfires/Wildfires
- Invasive Species (aquatic plants/vector-borne)
- Not addressed:
  - Coastal Flooding
  - Coastal Erosion
  - Avalanche
  - Expansive Soils
  - Land Subsidence
  - Volcanoes
  - Tsunamis
- Climate Change will be included in each hazard as 'Climate change impacts on...'

***Hazard Profiles***

- Review of NOAA's National Centers for Environmental Information (<http://www.ncdc.noaa.gov/>) 'Storm Events' database and develop tables based on hazard type, date, level/description and damages to develop a Hazard Index (January 1, 2015 – August 1, 2023).
  - Flood Related
    - MVP Climate Change Projections on Precipitation to be added.
  - Winter Related
    - MVP Climate Change Projections on Extreme Cold Temperatures to be added.
  - Wind Related
    - Hail and TORRO Hail Intensity Scale to be added.
  - Geologic Related
  - Drought Related
  - Extreme Heat Related
    - MVP Climate Change Projections on Extreme Heat to be added.
  - Brushfire/Wildfire Related
  - Invasive Species Related
- Evaluate the location/history/probability of future occurrence of hazards (consistent with the state plan)

**Criteria for Frequency Categorization:**

- Very Low (1):* events that occur less frequently than once in 100 years (less than 1% per year).
- Low (2):* events that occur at least once in the next 100 years (1% to 10% per year).
- Moderate (3):* events that occur at least once in the next 10 years (10% to 40% per year).
- High (4):* events that occur at least once in the next year (40% to 70% probability).
- Very High (5):* events that occur more than once in the next year (70% to 100% probability).

**Criteria for Location and Extent:**

- Small:* Less than 10% of the town affected

*Medium:* 10 to 50% of the town affected  
*Large:* More than 50% of the town affected

**Criteria for Severity Categorization:**

<i>Minor (1):</i>	Very few injuries if any Minimal disruption on quality of life Shutdown of critical facilities and services temporary Minor property damage
<i>Limited (2):</i>	Injuries and/or illness do not result in permanent disability Complete shutdown of critical facilities for more than a day Property severely damaged/destroyed < 25%, > 10%
<i>Critical (3):</i>	Multiple injuries possible Complete shutdown of critical facilities for more than a week Property severely damaged/destroyed < 50%, > 25%
<i>Catastrophic (4):</i>	Multiple deaths/injuries possible Complete shutdown of facilities for 30 days or more Property severely damaged/destroyed > 50%

- Mapping will also be updated
  - o Environmental Justice areas to be added?
  - o Critical Facilities/Vulnerable Populations
  - o FEMA Flood Zones/Repetitive Flood Loss Areas
  - o Snowfall, Hurricane/Tornado paths, etc.

**Vulnerability**

- Evaluates vulnerability of built environment, social and environment.

**Development Trends**

- o Changes over time, future development plans (residential/commercial/industrial)

**Economic Vulnerability**

- o Impacts of FEMA flood zones (Economic by land use type, land/building values)

**Social Vulnerability**

- o Impacts to built/natural environment and that relationship to the social structure of the community
- o Infrastructure/Emergency lifelines
- o Evacuation/Populations at risk

**Environmental Vulnerability**

***FEMA Disaster Grant Assistance***

- Has the Town received any financial assistance from MEMA/FEMA/EOEEA/MVP?

**Section 3: Capability Assessment**

***Introduction***

- Documents local, state and federal department, agency and program capabilities in terms of pre- and post-disaster activities

***Planning/Regulatory Capabilities***

- Planning documents

- Regulations/Bylaws
- Building Code

*Administrative Capabilities*

- Emergency Management Plan
  - o Emergency Operations Center/Shelter
- Municipal Website
- Coordination with Neighboring Communities
- Municipal Structure/Staff

*Financial Capabilities*

- Federal/State Grant Opportunities

*National Flood Insurance Program*

- NFIP/Compliance with NFIP

*Existing Protection Matrix*

- Summary of all above

## **Section 4: Mitigation Strategy**

*Introduction*

*Mitigation Activities*

- Requires an action for every vulnerability identified in the plan

*Mitigation Action Plan*

- Categories
  - o Public Education and Awareness
  - o Property Protection
  - o Natural Resource Protection
  - o Structural Projects
  - o Emergency Services
  - o Planning and Prevention
- Time Frame
  - o Short Term = 0 to 6 Months
  - o Medium Term = 6 to 18 Months
  - o Long Term = 18 Months to 5 Years
- Cost Estimate
  - o Staff Time – municipal personnel time
  - o Minimal – less than \$50,000
  - o Moderate – more than \$50,000, but less than \$100,000
  - o Significant – over \$100,000
- Prioritization of Actions (abbreviated Benefit/Cost Analysis)
  - STAPLEE Criteria**
    - o Social: Is the action compatible with present and future local community needs and values?

- **Technical:** Is the action feasible with available local resources (or as supplement by outside resources as necessary)?
- **Administrative:** Does the community have the administrative capacity to implement the action?
- **Political:** Is there strong public support to implement and maintain the action?
- **Legal:** Does the community have the legal authority to implement the action?
- **Economic:** Is the action cost-effective?
- **Environmental:** Does the action impact environmental resources, and is the impact positive, negative, or neutral?

- Action Description

- Action Type:
- Priority Score:
- Lead:
- Supporting:
- Time Frame:
- Financing Options:
- Cost Estimate:
- Benefit:
- Vulnerable Area:

## **Section 5: Plan Implementation/Maintenance**

### *Implementation/Evaluation/Revision*

- Implementation
  - Following municipal adoption
- Evaluation
  - Annually
- Revision
  - Every 5 years/after a major event

### *Continued Public Involvement*

- Posted on Town's website
- Annual Town Meeting