

Town of New Boston New Hampshire



Hazard Mitigation Plan Update 2016

Town Adoption Date: August 12, 2016
FEMA Approval Date: August 29, 2016

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Chapter 1 INTRODUCTION

Authority

This Hazard Mitigation Plan was prepared in accordance with the Disaster Mitigation Act of 2000 (DMA), Section 322, Mitigation Planning. Accordingly, this Hazard Mitigation Plan will be referred to as the “Plan”.

Funding Source

This Plan was funded by the NH Homeland Security and Emergency Management (HSEM) through a Hazard Mitigation Assistance (HMA) Grant, with soft match provided by the Town of New Boston.

Purpose

This Hazard Mitigation Plan is a planning tool to be used by the Town of New Boston, as well as other local, state and federal governments, in their effort to reduce the effects from natural and man-made hazards.

Introduction

On October 30, 2000 the President signed into law the Disaster Mitigation Act of 2000 (DMA 2000). The ultimate purpose of DMA 2000 was to establish a national disaster hazard mitigation program that reduces loss of life and property, human suffering, economic disruption, and disaster assistance costs resulting from disasters, and provide a source of pre-disaster hazard mitigation funding that will assist State and local governments in accomplishing that purpose.

The Robert T. Stafford Disaster Relief and Emergency Assistance Act, amended in April 2013 places emphasis on local mitigation planning. **It requires local governments to prepare and adopt jurisdiction-wide hazard mitigation plans as a condition of receiving Hazard Mitigation Assistance (HMA) Grants.** Local governments must review and if necessary, update the mitigation plan every five years to continue program eligibility.

Why Develop a Mitigation Plan?

The full cost of the damage resulting from natural hazards – personal suffering, loss of lives, disruption of the economy, and loss of tax base – is difficult to measure. Our State is subject to many types of natural hazards: floods, hurricanes, severe winter weather, earthquakes, tornadoes, downbursts, and wildfires, all of which can have significant economic and social impacts. Some, such as hurricanes, are seasonal and strike in predictable locations. Others, such as floods, can occur anytime of the year and almost anywhere in the State.

Hazard mitigation is the practice of reducing risks to people and property from natural hazards. FEMA defines hazard mitigation as “any action taken to reduce

or eliminate the long-term risk to human life and property from hazards.” It includes both structural interventions, such as flood control devices, and nonstructural measures, such as avoiding construction in the most flood-prone areas. Mitigation includes not only avoiding the development of vulnerable sections of the community, but also making existing development in hazard-prone areas safer. For example, a community could identify areas that are susceptible to damage from natural disasters and take steps to make these areas less vulnerable. It could also steer growth to less risky areas. Keeping buildings and people out of harm’s way is the essence of mitigation.

Scope of the Plan

The scope of this Plan includes the identification of natural hazards affecting the Town, as identified by the Hazard Mitigation Planning Committee. The hazards reviewed under the scope of this plan include those that are also outlined in the State of New Hampshire’s Hazard Mitigation Plan 2013:

| | | |
|---------------------|------------------|--------------------------|
| Dam Breach | Hurricane | Tornado/Downburst |
| Earthquake | Hail | Winter Weather |
| Erosion | Landslide | Wildfire |
| Extreme Heat | Lightning | Human Caused |
| Flooding | | |

Methodology

In June 2001, the New Boston Hazard Mitigation Plan Committee (NBHMPC) was formed to begin the initial planning stages for the *New Boston Hazard Mitigation Plan*. The Southern New Hampshire Planning Commission (SNHPC) assisted the Town in developing the Plan. The Committee held a total of six meetings beginning on June 20, 2001, and ending on March 7, 2002. NH HSEM approved the plan in June of 2002.

In May 2010, the New Boston Hazard Mitigation Committee (NBHMC), in conjunction with the SNHPC began updating the plan. The Committee held a total of five public meetings beginning in June 2010 and ending in October 2010 to collect information, compile the plan update, and review the plan update. The New Boston Board of Selectmen held a public hearing to formally adopt the Plan on May 13, 2011 and FEMA approved the Plan on July 13, 2011.

During the 2016 update, the NBHMPC with the assistance of Hubbard Consulting LLC held a total of five meetings on October 20, 2015, November 10, 2015, December 15, 2015, January 19, 2016 and March 1, 2016. Public notices were posted at the Town Hall, Dodge’s Store, the bank, Post Office and town website; inviting members of all town departments and boards, surrounding communities, businesses, academia, State agencies and non-profit agencies. In addition, email notifications were sent to adjacent communities, the Southern NH Planning Commission, the Chamber of Commerce and the NH HSEM. The general public was invited but did not attend any meetings. The Emergency Management Directors from surrounding towns were notified of the Plan Update and asked to

comment on the Plan (see Appendix B). The committee analyzed and revised the following sections of the Plan and provided input to update them: Chapters 1, 2, 3, 4, 5, 6 and 7. After acceptance by the committee, the Plan was submitted to the NH HSEM and FEMA Region 1 for formal approval. The Board of Selectmen formally adopted the Plan on August 12, 2016.

The committee developed this Plan as a result of the above meetings and the following planning process.

Step 1: Form a Hazard Mitigation Planning Committee

Prior to the first public information meeting the Town contacted town department heads and posted public notices to residents, business owners and neighboring towns, requesting that they consider serving on the Committee (See Appendix B). The Committee Members consisted of town staff.

Step 2: Set Hazard Mitigation Goals

At the first working meeting the committee reviewed and updated the Town's Hazard Mitigation Goals. The Hazard Mitigation Goals were initially adapted from the State of New Hampshire's Hazard Mitigation Plan 2003. In the 2016 update, the Committee reviewed the goals and made minor revisions to the 2010 Goals. This first step is extremely important in helping the committee understand the purpose of the Plan and the direction it should go. (See the end of this chapter for the "Hazard Mitigation Goals of the Town of New Boston, NH".)

Step 3: Hazard Identification

The Committee members updated the natural hazards and human-caused hazards that have or could potentially affect the Town of New Boston. The results of this step can be found in Chapters 2 and 3.

Step 4: Critical Facilities Analysis

The Committee members updated a Critical Facilities List for the Town. The Critical Facilities List is divided into 3 sections: Facilities needed for Emergency Response; Facilities not necessary for emergency response; and places and populations to protect in the event of a disaster. These were then evaluated for their vulnerability to the hazards identified in Step 3.

Step 5: Capability Assessment

The Committee members identified what plans and policies are already in place to reduce the effects of hazards. The results of this step can be found in Chapter 5. Many of these plans and technical reports were reviewed and incorporated during the planning process. They include the New Boston Emergency Operations Plan (2011) and the New Boston Master Plan (2006)

Step 6: Develop Objectives

The Committee identified "Problem Statements" for each of the hazards identified earlier in the planning process. All of the hazards have at least one problem statement associated with them (See Problem Statement in Appendix B). These

problem statements were then utilized as objectives in developing mitigation projects, as described in the next step.

Step 7: Develop Specific Mitigation Measures

As a result of the problem statements identified in step 6, the committee brainstormed specific projects or mitigation measures to address each hazard. The Committee Members used the “*Mitigation Project Identification Worksheet*”, as shown in Appendix B, to identify mitigation projects that directly address the hazards affecting the community. Finally, the committee prioritized the projects and listed them in the Mitigation Action Plan found at the end of Chapter 6.

Step 8: Adopt and Implement the Plan

After acceptance by the committee the Plan was submitted to the NH HSEM and FEMA Region 1 for “Approvable Pending Adoption”. The Board of Selectmen formally adopted the Plan on August 12, 2016. The “Formal Approval” letter from FEMA Region 1 can be found in Appendix C.

With respect to any ongoing mitigation projects, the lead and support agencies/people for such activity will be tasked with implementing the Plan’s mitigation projects. The Committee approved the “Mitigation Action Plan”, which identifies responsibility, funding/support and a timeframe for each of the prioritized projects. The Emergency Management Director is tasked with requesting annual reports as to the progress of each project.

Step 9: Monitor and Update the Plan

It is important that this plan be monitored and updated annually or after a presidentially declared disaster. Chapter 7 specifically addresses this issue.

Hazard Mitigation Goals Town of New Boston, NH

During the 2016 update, the Committee reviewed the 2010 New Boston Hazard Mitigation Plan goals and made only minor revisions. The Goals were not modified for any substantial content, as there has not been any substantial change in development. The goals for the Town of New Boston are as follows:

1. To improve upon the protection of the general population, citizens and guests of the Town of New Boston, from all natural and man-made hazards.
2. To reduce the potential impact of natural and man-made disasters on the New Boston’s Critical Support Services and Critical Facilities.
3. To reduce the potential impact of natural and man-made disasters on the New Boston’s infrastructure.
4. To improve the New Boston’s Emergency Preparedness, Disaster Response and Recovery Capability.
5. To reduce the potential impact of natural and man-made disasters on private

property.

6. To reduce the potential impact of natural and man-made disasters on the New Boston's economy.
7. To reduce the potential impact of natural and man-made disasters on the New Boston's natural environment.
8. To reduce the Town's liability with respect to natural and man-made hazards generally.
9. To reduce the potential impact of natural and man-made disasters on the Town's specific historic treasures.
10. Provide resources to residents of the Town of New Boston to become more resilient to hazards that impact the Town's critical support services, critical facilities, infrastructure, economy, environment, historical and cultural treasures and private property.
11. To identify, introduce and implement cost effective Hazard Mitigation measures so as to accomplish the New Boston's Goals.
12. To address the challenges posed by climate change as they pertain to increasing risks in the New Boston's infrastructure and natural environment.

The New Boston Hazard Mitigation Team concurs and adopts these goals for the Town of New Boston.

Hazard Mitigation Planning Committee 2016

| | |
|--------------------|--|
| Dan MacDonald | New Boston Fire Chief/EMD |
| Danielle Morse | NH HSEM, Senior Field Representative |
| Dick Perusse | New Boston Road Agent |
| Ed Hunter | New Boston Building Inspector |
| Eric Dubowik | New Boston Fire Inspector |
| James Brace | New Boston Police Chief |
| Nic Strong | New Boston Planning Coordinator |
| Peter Flynn | New Boston Town Administrator |
| Shannon Silver | New Boston Planning Coordinator |
| Tori Underwood | New Boston Central School Principal |
| Jane Hubbard | Hubbard Consulting LLC, Consultant |
| Bonnie M. Lockwood | McGrew Management Services LLC, Consultant |

ACKNOWLEDGEMENTS

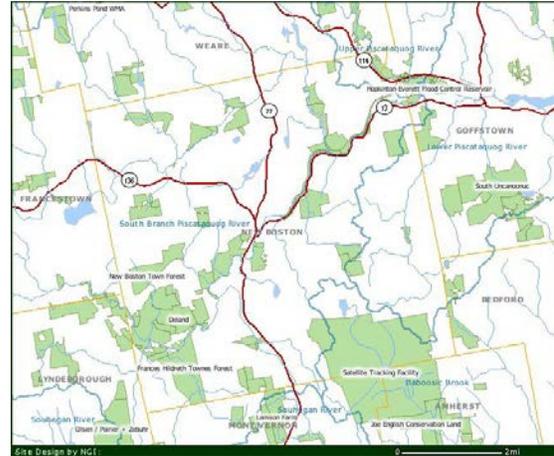
The Committee members listed above participated in committee meetings, provided departmental information, contributed in their field of expertise, reviewed and commented on committee meeting minutes, reviewed drafts of the Plan and worked together to identify and prioritize mitigation projects.

Many thanks to all the hard work and effort from each and every one of you. This plan would not exist without your knowledge and experience. Thank you!

Chapter 2 COMMUNITY PROFILE

COMMUNITY DESCRIPTION

The Town of New Boston is located in the south-central portion of the State of New Hampshire in Hillsborough County. New Boston is bordered by the Town of Weare to the north, the Towns of Goffstown and Bedford to the east, the Towns of Amherst and Mont Vernon to the south, and the Towns of Lyndeborough and Francestown to the west.



New Boston encompasses a total of 27,648 acres or approximately 43.2 square miles and is located approximately fifteen miles west of the City of Manchester, twenty-five miles southwest of the City of Concord, and thirty-five miles east of the City of Keene. According to the 2014 U.S. Census the population of the Town was 5,390.

Primary highway access is provided by New Hampshire Route 13, which connects New Boston with Goffstown to the east, Concord to the northeast, and Mont Vernon and Milford to the south. New Hampshire Routes 136 and 77, which connect with Francestown and with Weare and Concord respectively, also provide access.

The principal watercourse in the Town of New Boston is the South Branch Piscataquog River that rises in Francestown to the northeast on the eastern slopes of the Wapack Mountains. The main stem follows a winding easterly course for approximately 20 miles to New Boston. The river flows through the center of Goffstown and West Manchester and empties into the Merrimack River approximately 10 miles downstream of the New Boston corporate limits.

Elevations in New Boston range from a high of 1,280 feet at Joe English Hill to a low of 100 feet on the South Branch Piscataquog River at the Goffstown corporate limit. The Village of New Boston lies at about 400 feet above mean sea level. The average temperature of the area is approximately 46F, with extremes ranging from an average monthly low of 10F in January to an average monthly high of 88F in July (New Boston Flood Insurance Study, 2001).

NATIONAL FLOOD INSURANCE PROGRAM (NFIP)

Floodplains for this Plan are defined as the 100-year and 500-year flood hazard zones, as depicted on the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM). New Boston participates in the National Flood Insurance Program (NFIP) administered by FEMA. In order to enable landowners to qualify for federally insured flood insurance, the Town, in its administration of site plan review, subdivision regulations and zoning, must regulate development in the floodplain using federal standards.

The town joined the NFIP on 5/19/1981 and is currently participating in the National Flood Insurance Program (NFIP). The community has Digital Flood Insurance Rate Maps and Flood Insurance Study dated, September 25, 2009. There are currently 34 policies, none of which are repetitive loss properties.

The Town's existing ordinance meets the minimum requirements of the NFIP, according to the latest Community Assistance Visit. The Town will continue to maintain procedures and regulations that are in compliance with the NFIP by conducting Community Assistance Visits (CAVs) and Community Assistance Contacts (CACs) with the Office of Energy and Planning and updating the Floodplain Ordinance as federal requirements are updated. The last CAV was conducted on August 14, 2013 and the last CAC was conducted on June 30, 2010.

| NFP Insurance Summary for New Boston, NH* | | | | | |
|---|-------------------|----------|--------------------|------------------------------|--------------------------|
| Occupancy | Policies in Force | Premium | Insurance in Force | Number of Closed Paid Losses | \$ of Closed Paid Losses |
| A1-30 & AE Zones | 14 | \$21,781 | \$3,171,100 | 2 | \$45,342 |
| A Zone | 10 | \$20,794 | \$2,398,800 | 4 | \$35,215 |
| B, C and X Zone | 10 | \$4,584 | \$2,923,800 | 1 | \$16,197 |
| Total | 34 | \$47,159 | \$8,493,700 | 7 | \$96,754 |

*Source: FEMA Community information System as of 4/16/2015

DISASTER RISK

New Boston is prone to a variety of natural hazards. These include: flooding, severe wind events (downbursts and tornadic activity), severe winter weather, hurricane wildfire, earthquake, lightning strikes, dam failure, extreme heat, landslide, erosion hail and human-caused hazards. In addition, local connective action enhanced by the Wapack Range west of New Boston induces thunderstorms on warm, humid summer days and causes locally significant rainfall. The average annual precipitation is 42 inches, of which approximately 15 percent is in the form of snowfall. (Hillsborough County Flood Insurance Study, September 25, 2009)

The major floods in New Boston have resulted from rainfall alone or in combination with snowmelt and ice jams. The flood of record occurred in March 1936 and inundated much of the community. During this flood, the State Route 13 bridge was lost and the town sustained nearly \$3,500 worth of damages (1936 dollars). A slightly smaller but still damaging flood occurred in 1938, accompanied by hurricane force winds. Discharges were not recorded for these unusual flood events, but based on records from other streams in the region, the return period for a flood like that which occurred in 1936 is approximately 100 years.

The following tables summarize the impact and probability of natural and man-made hazards.

| Natural Hazards | Severity | Probability* In 25 years | Risk Severity x Probability |
|--|--|---|---|
| | Impact on Human / Property/ Business 1: Low 2: Moderate 3: High | Likelihood this will occur 0: Improbable 1: Remote 2: Occasional 3: Probable 4: Frequent | 0-3: Low 4-6: Moderate 7-9: High 10-12: Severe |
| Severe Winter Weather | 3 | 4 | 12 |
| Flood | 3 | 4 | 12 |
| Severe Wind (Tornado/Downburst) | 3 | 4 | 12 |
| Hurricane | 3 | 3 | 9 |
| Lightning | 2 | 4 | 8 |
| Wild/Forest Fire | 2 | 3 | 6 |
| Earthquake | 1 | 2 | 2 |
| Extreme Heat | 1 | 3 | 3 |
| Hail | 1 | 2 | 2 |
| Erosion | 1 | 2 | 2 |
| Dam Breach | 2 | 1 | 2 |
| Landslide | 1 | 1 | 1 |
| 0-3 Low Risk; 4-6 Moderate Risk; 7-9 High Risk 10-12 Severe Risk | | | |

*Probability Terms are defined as:

- Improbable: Not likely to occur in any 25 year period.
- Remote: Less than 1% probability in the next 25 year period.
- Occasional: Between 1% and 50% probability in the next 25 year period.
- Probable: Between 50% and 99% probability in the next 25 year period.
- Frequent: Near 100% probability in the next year.

| Human Caused Hazards | Severity | Probability* In 25 years | Risk Severity x Probability |
|--|---|--|---|
| | Impact on Human / Property/ Business 1: Low 2: Moderate 3: High | Likelihood this will occur 0: Improbable 1: Remote 2: Occasional 3: Probable 4: Frequent | 0-3: Low 4-6: Moderate 7-9: High 10-12: Severe |
| Armed Attack (assault, sniper) | 3 | 2 | 6 |
| Conflagration | 3 | 2 | 6 |
| Haz Mat (Fixed) | 2 | 2 | 4 |
| Haz Mat (Transport) | 2 | 2 | 4 |
| Infectious Disease | 2 | 2 | 4 |
| Terrorist Attack (WMD) | 3 | 1 | 3 |
| Transport Incident (plane, train, etc.) | 1 | 1 | 1 |
| Utility Interruption | 1 | 2 | 2 |
| 0-3 Low Risk; 4-6 Moderate Risk; 7-9 High Risk 10-12 Severe Risk | | | |

*Probability Terms are defined as:

- Improbable: Not likely to occur in any 25 year period.
- Remote: Less than 1% probability in the next 25 year period.
- Occasional: Between 1% and 50% probability in the next 25 year period.
- Probable: Between 50% and 99% probability in the next 25 year period.
- Frequent: Near 100% probability in the next year.

CALCULATING POTENTIAL LOSS

It is difficult to determine the amount of damage that could be caused by natural or human-caused hazards because the damage will depend on the hazard’s extent and severity, making each hazard event somewhat unique. Therefore, to calculate potential economic loss, we have assume that structures impacted by hazards could result in damage of either 1% or 5% of the assessed value.

Based on this assumption, the potential loss from any of the identified hazards would range from \$5,047,926 (1%) or \$25,239,629 (5%) based on the 2015 New Boston town valuations which lists the assessed value of all structures and their land in New Boston to be \$504,792,586. (See table below).

Human loss of life was not included in the potential loss estimates, but could be expected to occur, depending on the severity and type of the hazard.

| ASSESSED VALUE OF ALL STRUCTURES | | | |
|---|--------------------|------------------|-------------------|
| Type | 2015 Value | 1% Damage | 5% Damage |
| Residential | 388,734,000 | 3,887,340 | 19,436,700 |
| Manufactured Housing | 6,227,734 | 62,277 | 311,387 |
| Multi-Family | 46,785,252 | 467,853 | 2,339,263 |
| Commercial | 4,430,900 | 144,309 | 721,545 |
| Tax Exempt | 36,052,800 | 360,528 | 1,802,640 |
| Utilities | 12,561,900 | 125,619 | 628,095 |
| Total | 504,792,586 | 5,047,926 | 25,239,629 |

Source: DRA 2015 MS-1

DEVELOPMENT TRENDS

Currently, the eastern and northeastern regions of New Boston are seeing the greatest share of development growth in the town. In the northeast corner a small corridor of commercial development is occurring off state route 114. For the most part however, the development that is taking place in New Boston is single family residential. This is the case with the tremendous growth in the eastern portion of town off Bedford Road.

As a result of its location in the southern region of the state as well as its proximity to the larger cities of Boston and Manchester and the neighboring town of Bedford, it appears that the trend towards increased residential growth in the town of New Boston will continue.

Population, Housing Stock, and Growth Patterns

According to the NH Employment Security website, "Population change for New Boston totaled 4,465 over 54 years, from 925 in 1960 to 5,390 in 2014. The largest decennial percent change was a 66 percent increase between 1980 and 1990; the second largest was a 50 percent increase between 1960 and 1970. The 2014 Census estimate for New Boston was 5,390 residents, which ranked 61st among New Hampshire's incorporated cities and towns."

Table 1: New Boston Population

| Year | Population |
|------|------------|
| 2014 | 5390 |
| 2010 | 5321 |
| 2000 | 4190 |
| 1990 | 3198 |
| 1980 | 1928 |
| 1970 | 1390 |

Source: <http://www.nhes.nh.gov/elmi/products/cp/profiles-htm/NewBoston.htm>

Current projections from the New Hampshire Office of Energy and Planning (NH OEP) show the population growth rate will continue increasing at a similar rate in New Boston over the next twenty-five years, where the year-round population in 2040 is projected to be 6,800, an increase of 17% (Table 2).¹

Table 2: New Boston Population Projection

| Year | Population |
|------|------------|
| 2015 | 5812 |
| 2020 | 6502 |
| 2025 | 6639 |
| 2030 | 6744 |
| 2040 | 6800 |

¹ Municipal Population Projections 2010 to 2040. NH Office of Energy and Planning, 2013, <http://www.nh.gov/oep/data-center/documents/2013-projections-municipalities.pdf>. 2016

Future Development

The Town of New Boston's existing Zoning Ordinance, Floodplain Development Ordinance, Subdivision and Site Plan Review Regulations all work to minimize the impacts if not eliminate any development in the hazard areas. Extensive acreage of vacant developable land still exists outside of the Special Flood Hazard Areas and areas of steep slopes. These non-hazard related areas remain the preferred location of development in New Boston, both by the Town and Developers.

Evidence of recent growth can be seen by the consistent increase of building permits issued annually (Table 3).² The Committee concurred that there are no targeted hazard areas in New Boston where significant future development is expected to occur.

*Table 3: New Residential Building
Permits Issued*

| Time Period | # of Permits |
|-------------|--------------|
| 2011 | 8 |
| 2012 | 12 |
| 2013 | 17 |
| 2014 | 18 |
| 2015 | 37 |

The Hazard Mitigation Planning Committee utilized the Master Plan and local knowledge to review and incorporate development changes. However, due to no substantial changes in development with no impacts or changes to New Boston's overall vulnerability, there were no changes in priorities made to the New Boston Hazard Mitigation Plan Update 2016.

² New Boston Building Inspector
2016

Chapter 3 HAZARD IDENTIFICATION

Winter Weather

| Definition | | | | | | | | | | | | | | | | | | | | | |
|---|--|-------------|--|------------------|--------------------------------|-------------|---|----------|--|----------|---|-------------|---|----------|--|----------|--|-----------|---|-------|---------|
| <p>Heavy Snow Storms: A winter storm can range from moderate snow to blizzard conditions. Blizzard conditions are considered blinding wind-driven snow over 35 mph that lasts several days. A severe winter storm deposits four or more inches of snow during a 12-hour period or six inches of snow during a 24-hour period. Ice Storms: An ice storm involves rain that freezes upon impact. Ice coating at least one-fourth inch in thickness is heavy enough to damage trees, overhead wires and similar objects. Blizzard: A blizzard is a violent snowstorm with winds blowing at a minimum speed of 35 miles (56 kilometers) per hour and visibility of less than one-quarter mile (400 meters) for three hours. Nor'Easter: A Nor'easter is a large weather system traveling from south to north, passing along the coast. As the storm's intensity increases, the resulting counterclockwise winds that impact the coast and inland areas in a Northeasterly direction. Winds from a Nor'easter can meet or exceed hurricane force winds</p> | | | | | | | | | | | | | | | | | | | | | |
| Location | | | | | | | | | | | | | | | | | | | | | |
| <p>There is a town-wide vulnerability to severe winter weather. Nor'easters (wind), Ice Storms, Heavy Snow Accumulations and Severe Cold can occur at any place within the Town and generally affect the entire Town when it happens. The higher elevations are more likely to experience snow or ice before the lower terrain.</p> | | | | | | | | | | | | | | | | | | | | | |
| Impact | | | | | | | | | | | | | | | | | | | | | |
| <p>Heavy snow accumulations (generally considered one that deposits six or more inches of snow in a 12-hour period) especially those associated with nor'easters can have a significant affect on the Town, including extended power outages, road closures, collapsed roofs and increased snow removal costs. During ice storms, ice forms on cold surfaces, such as trees and power lines, and may continue to form until the ice is quite deep, as much as several inches thick. Ice damage results in power outages, road closures and forest damage. Ice on the roads can be the most difficult for a rapid emergency response. Private roads are difficult for emergency response vehicles due to the restricted access to roads during winter.</p> | | | | | | | | | | | | | | | | | | | | | |
| Extent | | | | | | | | | | | | | | | | | | | | | |
| <p>NOAA's National Climatic Data Center produced the Regional Snowfall Index (RSI) for significant snowstorms that impact the eastern two thirds of the U.S. The RSI ranks snowstorm impacts on a scale from 1 to 5, similar to the Fujita scale for tornadoes or the Saffir-Simpson scale for hurricanes.</p> | <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr style="background-color: #333; color: white;"> <th style="width: 15%;">CATEGORY</th> <th style="width: 35%;">RSI VALUE</th> <th style="width: 50%;">DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>1-3</td> <td>Notable</td> </tr> <tr> <td>2</td> <td>3-6</td> <td>Significant</td> </tr> <tr> <td>3</td> <td>6-10</td> <td>Major</td> </tr> <tr> <td>4</td> <td>10-18</td> <td>Crippling</td> </tr> <tr> <td>5</td> <td>18.0+</td> <td>Extreme</td> </tr> </tbody> </table> | | | CATEGORY | RSI VALUE | DESCRIPTION | 1 | 1-3 | Notable | 2 | 3-6 | Significant | 3 | 6-10 | Major | 4 | 10-18 | Crippling | 5 | 18.0+ | Extreme |
| CATEGORY | RSI VALUE | DESCRIPTION | | | | | | | | | | | | | | | | | | | |
| 1 | 1-3 | Notable | | | | | | | | | | | | | | | | | | | |
| 2 | 3-6 | Significant | | | | | | | | | | | | | | | | | | | |
| 3 | 6-10 | Major | | | | | | | | | | | | | | | | | | | |
| 4 | 10-18 | Crippling | | | | | | | | | | | | | | | | | | | |
| 5 | 18.0+ | Extreme | | | | | | | | | | | | | | | | | | | |
| <p>In addition, the National Weather Service developed and utilizes the Sperry-Piltz Ice Accumulation Index (SPIA) to forecast the impact of an ice storm. The index ranges from an ice storm rated as "0" which has little impact, to a index rating of 5 that has catastrophic damage to exposed utility systems.</p> | <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr style="background-color: #e0e0e0;"> <th style="width: 10%;">ICE DAMAGE INDEX</th> <th style="width: 90%;">DAMAGE AND IMPACT DESCRIPTIONS</th> </tr> </thead> <tbody> <tr style="background-color: #90EE90;"> <td>0</td> <td>Minimal risk of damage to exposed utility systems; no alerts or advisories needed for crews, few outages.</td> </tr> <tr style="background-color: #FFFF00;"> <td>1</td> <td>Some isolated or localized utility interruptions are possible, typically lasting only a few hours. Roads and bridges may become slick and hazardous.</td> </tr> <tr style="background-color: #FFDAB9;"> <td>2</td> <td>Scattered utility interruptions expected, typically lasting 12 to 24 hours. Roads and travel conditions may be extremely hazardous due to ice accumulation.</td> </tr> <tr style="background-color: #FF6347;"> <td>3</td> <td>Numerous utility interruptions with some damage to main feeder lines and equipment expected. Tree limb damage is excessive. Outages lasting 1 - 5 days.</td> </tr> <tr style="background-color: #DDA0DD;"> <td>4</td> <td>Prolonged & widespread utility interruptions with extensive damage to main distribution feeder lines & some high voltage transmission lines/structures. Outages lasting 5 - 10 days.</td> </tr> <tr style="background-color: #000000; color: white;"> <td>5</td> <td>Catastrophic damage to entire exposed utility systems, including both distribution and transmission networks. Outages could last several weeks in some areas. Shelters needed.</td> </tr> </tbody> </table> | | | ICE DAMAGE INDEX | DAMAGE AND IMPACT DESCRIPTIONS | 0 | Minimal risk of damage to exposed utility systems; no alerts or advisories needed for crews, few outages. | 1 | Some isolated or localized utility interruptions are possible, typically lasting only a few hours. Roads and bridges may become slick and hazardous. | 2 | Scattered utility interruptions expected, typically lasting 12 to 24 hours. Roads and travel conditions may be extremely hazardous due to ice accumulation. | 3 | Numerous utility interruptions with some damage to main feeder lines and equipment expected. Tree limb damage is excessive. Outages lasting 1 - 5 days. | 4 | Prolonged & widespread utility interruptions with extensive damage to main distribution feeder lines & some high voltage transmission lines/structures. Outages lasting 5 - 10 days. | 5 | Catastrophic damage to entire exposed utility systems, including both distribution and transmission networks. Outages could last several weeks in some areas. Shelters needed. | | | | |
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Previous Occurrence

February 5-7, 1978 Region-wide Blizzard affecting southern New England. Events accumulations to 28” in northeast New Hampshire, 25” in west central New Hampshire and 33” along coastal New Hampshire. Hurricane-force winds and record-breaking snowfall made this storm one of the more intense to occur this century across parts of the northeastern United States.

1994 Ice Storm The ice storm affected higher elevations such as Joe English Road.

January 23-24, 1998 A severe Ice Storm hit sections of New Hampshire from January 7 through January 9 1998. The hardest hit areas in northern and central New Hampshire were generally between about 1000 and 2000 ft above sea level. There was no electricity for a week during this storm.

December 11, 2008 Ice Storm New England was blanketed with ice and snow during the December 11 - 12, 2008 winter storm. The weight of the ice caused branches to snap and brought down power lines and poles across the region. About 400 thousand utility customers lost power during the event. Property damage was estimated at over \$5 million. New Boston’s shelter was opened for 9 days. Many roads were closed and areas of town were inaccessible due to debris. Route 137 large extent of damage and damage to Mountain Road. Property damage. Power was out for up to 2 weeks. Cleanup of the debris will continue through 2009. The town received over \$29,000 in disaster reimbursement money from FEMA.

February 23-24, 2010 A major storm system affected the northeastern U.S. from February 23rd through March 2nd brought high winds, heavy snow, heavy rain, inland and coastal flooding, and coastal erosion to the area during the period. Precipitation across the state fell during the period in the form of both rain and snow. Snowfall amounts were highly dependent on elevation and the higher elevations had significantly more snow than lower elevations which mixed with or changed to rain. Based on observed reports, most areas in southeastern NH likely saw gusts in the 50 to 90 mph range. The Town received over \$19,000 in disaster reimbursement money from FEMA.

January 12, 2011 A developing nor'easter coastal storm dumped up to twenty inches of snow across southern New Hampshire in a 24 hour period. This was the second major storm of an above average winter of snowfall. The first occurred December 26 and 27, with several other relatively minor snowfalls in the month of January, and a third major storm February 1 and 2. With only a brief thaw in between the December storm and the January storm, snow piled up across southern New England resulting in numerous roof collapses, including some buildings at the Hillsborough County Fairgrounds and several sheds and garages throughout Town.

October 30, 2011 A rare and historic October Nor'easter brought very heavy snow to portions of southern New England on Saturday October 29. Snowfall accumulations of one to two feet were common in the Monadnocks, Berkshires, Connecticut Valley, and higher elevations in central Massachusetts. Halloween was cancelled. The shelter and EOC were opened. Power was out for up to a week. 28 – 30 inches with drifts up to 5 ft. Up to 31 inches of snow was reported at Jaffrey, New Hampshire and Plainfield, Massachusetts.

February 8, 2013 Snow Storm An historic winter storm deposited tremendous amounts of snow over all of southern New England, mainly from the mid-afternoon on Friday, February 8 and lasting into the daylight hours of Saturday, February 9. What made this an amazing storm was the widespread coverage of heavy snowfall. Most locations received 2 to 2.5 feet of snow. Snowfall gained intensity during the afternoon, but during the night, 2 to 3 inch per hour amounts were common throughout the region. The band of heaviest snowfall, with 3 to 5 inches per hour for several hours, extended from southwest NH to central and western CT.

March 18-19, 2013 DR-4105 A coastal storm moved across the southern New England coastline, spreading a wintry mix of precipitation across much of the area. While the precipitation started as snow for most locations, snow quickly transitioned to sleet and freezing rain across portions of Connecticut, Rhode Island, and southeastern Massachusetts. Areas of northern Massachusetts and southwestern New Hampshire remained all snow and received around a foot of snow. The Town received \$20,865 in Federal disaster assistance funds

November 26, 2014 DR 4105 Thanksgiving Snow Storm: Most of NH received accumulations of 8” – 14” of heavy wet snow during this weather event. There were freezing temperatures on Friday that are continuing into the weekend. During the peak of the storm, there were 217,000 outages Statewide. The Town of New Boston was severely impacted. The shelter was opened and parts of Town were without power for up to 5 days.

January 27, 2015 DR 4209 Snow spread northward across the region Monday night and became heavy on Tuesday, the 27th. Winds became strong during the day Tuesday leading to blizzard conditions at times. The snow persisted into Tuesday night in many areas with blowing and drifting snow. Snowfall amounts ranged from 10 to more than 30 inches across much of the southeastern part of the state. The Town received \$21,495 in FEMA disaster funds.

Probability

Improbable/Remote/Occasional/Probable/Frequent (in 25 years)

Frequent

Flooding

| Definition |
|--|
| <p>Flooding is the temporary overflow of water onto land that is not normally covered by water. Flooding results from the overflow of major rivers and tributaries, storm surges, and/or inadequate local drainage. Flooding events considered in this Plan include 100-year and 500-year floodplain events, rapid snow pack melt and ice jams.</p> |
| Location |
| <p>Flooding in New Boston occurs in the 100 year floodplain as designated on the FEMA Flood Insurance Rate Map. Development in New Boston is concentrated along the South Branch Piscataquog River approximately 2.5 miles upstream of the confluence with the Middle Branch Piscataquog River. Many residential dwellings, all of the town's public buildings, and several stores and businesses in New Boston are located in the floodplain.</p> |
| Impact |
| <p>The damage caused by any flood depends on the depth and duration of flooding, the topography of the area flooded, velocity of flow, rate of rise, and the amount and form of development in the floodplain. If flooding occurs in the Town of New Boston, there is the potential for debris-impacted infrastructure to cause damage. Bridges, culverts and related roadways were identified as most vulnerable to debris-impacted infrastructure. The risk and impact due to flooding is high. There are 34 properties that maintain National Flood Insurance Program policies.</p> |
| Extent |
| <p>FEMA defines flood hazards by the 100-year and 500-year flood events. A 100-year flood event is defined as flood event having a 1% chance of being equaled or exceeded in any given year. The 500-year flood event is defined as flood event having a .2% chance of being equaled or exceeded in any given year. The Town of New Boston Flood Insurance Rate Maps (FIRM) identify both an A and AE zones. A zones are subject to the 100-year flood, however because there has been no detailed hydraulic studies, there is no Base Flood Elevation (BFE) determined for these zones. The AE zones are subject to the 100 year flood and have BFEs delineated on the FIRM.</p> |
| Previous Occurrence |
| <p>March 11-21, 1936 Double flood; first due to rains and snowmelt; second, due to large rainfall. Downtown New Boston flooded.</p> <p>September 21, 1938 Hurricane flooding occurred throughout the State, in some cases equaling and surpassing the Flood of 1936. Much of the town experienced damage, roofs were ripped off, the entire center of town flooded, trees were knocked over and pine forests were destroyed.</p> <p>1954 Hurricane</p> <p>April 16, 1987 FEMA DR-789-NH Severe Storms & Flooding. 75-year storm, Bedford Road by Clarke's pond collapsed. South Hill Road washed out. Rt.13 by Meadow Road flooded- snow melt and rain. Lost roads Tuesday, got back by Friday, lost them again Sunday.</p> <p>1999 Hurricane Floyd Approximately 80% of the town lost power for a week.</p> <p>October 2005 FEMA DR-1643-NH Severe storms and flooding. A low pressure system interacted with a plume of tropical moisture as the low slowly moved parallel to the Long Island and south Massachusetts coasts, producing between 2.5 and 5.0 inches of rain across southwest New Hampshire. This additional rain, combined with already swollen rivers, lead to flooding across the region. In Milford, approximately 60 people were evacuated from low lying areas by the Souhegan River. In Amherst, the Souhegan River overflowed its banks, flooding Starns Road, which was consequently closed. No injuries directly resulted from this flood event.</p> <p>May 2006 Heavy rainfall, most of it falling over an inch an hour period, caused widespread flooding across much of southern New Hampshire, where small streams and main stem rivers rose out of their banks. Major flooding of a number of small streams and main stem rivers occurred in Hillsborough County. The Governor of New Hampshire declared a State of Emergency for a time during this event, and the President declared major disaster status for those affected. At some locations, this was the worst flooding</p> |

recorded since the 1938 Hurricane and the great rain/snowmelt floods in March 1936. The focus of heavy rain shifted to southern New Hampshire late Friday night through Monday morning with Hillsborough County impacted the greatest. Storm rainfall totaled 8 to 12 inches. The event prompted the evacuation of several thousand people in southern New Hampshire and numerous road closures. A number of schools were closed for several days due to the flooding. The Piscataquog River at Goffstown recorded its third highest crest on record.

April 2007 An unusually strong and slow moving coastal storm for mid-April tracked to western Long Island Sound, before weakening slowly and drifting offshore. This storm brought a variety of impacts to southwest New Hampshire, including heavy snow to the higher elevations and widespread river and stream flooding. Snowfall totals as high as 4 to 8 inches were observed in the higher elevations of Cheshire County. There were numerous reports of downed trees and power lines in these areas from the weight of the heavy, wet snow. Rainfall totals of 3 to 5 inches, combined with wet antecedent conditions, resulted in widespread river and stream flooding, as well as significant flooding of urban areas. The worst flooding affected the Merrimack Valley, where moderate to major flooding occurred on the Merrimack, Nashua, Piscataquog, and Souhegan Rivers. For the Piscataquog and Souhegan Rivers the preliminary crests recorded may have been the highest since the floods of September, 1938.

October 2008 Tropical Storm Hanna. Storm total rainfall in southern New England ranged from 2.04 inches in Randolph, MA to 6.56 inches in Nashua, NH. The highest sustained wind of 27 knots (31 mph) was recorded at Nantucket Airport. The highest wind gust of 37 knots (43 mph) was recorded at Blue Hill Observatory in Milton, MA. Minor wind damage was sustained by nearly every county in southern New England. Heavy rain associated with Tropical Storm Hanna ranged from 4.69 inches to 6.18 inches in western Hillsborough County. In Goffstown, a thirty foot section of road washed out.

March 14, 2010 A stacked low pressure system moved southeast of Nantucket, spreading rain across Southern New England. This resulted in widespread rainfall totals of 3 to 6 inches. In eastern Massachusetts, a strong southeasterly low level jet pumped ample moisture into the area, resulting in rainfall totals on the order of six to ten inches. Strong winds associated with the low pressure system and the low level jet affected both the east and south coasts, resulting in numerous downed trees and wires and some minor structural damage to a few buildings.

October 26, 2012 Hurricane Sandy, a hybrid storm with both tropical and extra-tropical characteristics, brought high winds and coastal flooding to southern New England. Easterly winds gusted to 50 to 60 mph for interior southern New England. The Town's EOC was opened for several days. The Shelter was opened. Roads were closed due to trees and wires down throughout most of town and emergency vehicles could not pass.

| |
|---|
| Probability |
| <i>Improbable/Remote/Occasional/Probable/Frequent (in 25 years)</i> |
| Frequent |



May 2006 Flood



May 2006 Flood



October 2005 Flood

Severe Wind

| Definition | | | | | | | | | | | | | |
|--|---|------|-----------|------|------------|------|-------------|------|-------------|------|-------------|------|--------------|
| <p>A tornado is a violent windstorm characterized by a twisting, funnel-shaped cloud. These events are spawned by thunderstorms and occasionally by hurricanes. They may also occur singularly or in multiples. A downburst is a severe, localized wind blasting down from a thunderstorm. These “straight line” winds are distinguishable from tornadic activity by the pattern of destruction and debris. Downbursts fall into two categories: Microburst which covers an area less than 2.5 miles in diameter; and Macroburst which covers an area at least 2.5 miles in diameter</p> | | | | | | | | | | | | | |
| Location | | | | | | | | | | | | | |
| <p>Severe wind events (downburst, tornadoes or high winds associated with thunderstorms) can occur anywhere in New Boston. Generally the higher elevations are more susceptible as well as more vulnerable due to the fact that they are home to many communication towers, including emergency response/mutual aid towers. Due to the sporadic nature of Tornadoes, they could occur anywhere in the Town of New Boston.</p> | | | | | | | | | | | | | |
| Impact | | | | | | | | | | | | | |
| <p>Depending on the size and location of these events, the destruction to property may be devastating. Several of the more significant and recent events within southern New Hampshire have caused several millions of dollars in damage and at least 5 fatalities. The strongest tornado to hit anywhere in NH is an F-2 Tornado.</p> | | | | | | | | | | | | | |
| Extent | | | | | | | | | | | | | |
| <p>According to the Enhanced Fujita scale, which rates tornado intensity, an EF-2 tornado maintains wind speeds from 111-135 mph and can cause considerable damage. Roofs could be torn off frame houses; mobile homes demolished; large trees snapped or uprooted; and light object missiles would be generated as a result of an EF-2 Tornado.</p> | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="background-color: #e0e0e0;">EF 0</td><td>65-85 mph</td></tr> <tr><td style="background-color: #ffffe0;">EF 1</td><td>86-110 mph</td></tr> <tr><td style="background-color: #ffff00;">EF 2</td><td>111-135 mph</td></tr> <tr><td style="background-color: #ffa500;">EF 3</td><td>136-165 mph</td></tr> <tr><td style="background-color: #ff4500;">EF 4</td><td>166-200 mph</td></tr> <tr><td style="background-color: #ff0000;">EF 5</td><td>Over 200 mph</td></tr> </table> | EF 0 | 65-85 mph | EF 1 | 86-110 mph | EF 2 | 111-135 mph | EF 3 | 136-165 mph | EF 4 | 166-200 mph | EF 5 | Over 200 mph |
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| EF 5 | Over 200 mph | | | | | | | | | | | | |
| Previous Occurrence | | | | | | | | | | | | | |
| <p>February 2010 Low pressure centered over Martha's Vineyard brought strong northeast winds onshore into southern New Hampshire. Sustained wind speeds were around 45 mph with gusts between 55 mph and 65 mph. Trees, utility poles, and wires were downed by these winds with these sometimes damaging homes, cars, and other property on the ground. This also resulted in numerous power outages across southern New Hampshire, including New Boston.</p> | | | | | | | | | | | | | |
| Probability | | | | | | | | | | | | | |
| <p><i>Improbable/Remote/Occasional/Probable/Frequent (in 25 years)</i></p> | | | | | | | | | | | | | |
| <p>Frequent</p> | | | | | | | | | | | | | |

Hurricane

Definition

A hurricane is a tropical cyclone in which winds reach speeds of 74 miles per hour or more and blow in a large spiral around a relatively calm center. The eye of the storm is usually 20-30 miles wide and the storm may extend over 400 miles. High winds are a primary cause of hurricane-inflicted loss of life and property damage. The Saffir-Simpson Hurricane Wind Scale is a 1 to 5 rating based on a hurricane's sustained wind speed. This scale estimates potential property damage. Hurricanes reaching Category 3 and higher are considered major hurricanes because of their potential for significant loss of life and damage. Category 1 and 2 storms are still dangerous, however, and require preventative measures.

Location

When hurricane events occur in New Boston they affect the entire Town. The heavy rainfall associated with hurricanes will impact the 100-year floodplain and high winds can have an impact on the whole Town.

Impact

New Hampshire's exposure to direct and indirect impacts from hurricanes is real, but modest, as compared to other states in the region. That being said, the probability of hurricanes occurring in New Boston is possible. The largest impact is on the floodplain areas due to heavy rains. High winds cause trees to fall down thereby causing power outages, structural damage to buildings, road closures and debris management issues.

Extent

Wind speeds within hurricanes may reach 250 miles per hour in a Category 5 hurricane, as measured on the Saffir-Simpson Hurricane Scale. Tropical depressions are considered to be of hurricane force when winds reach 74 miles per hour. Damage resulting from winds of this force can be substantial, especially considering the duration of the event, which may last for many hours.

| Category | Wind Speed (mph) | Damage at Landfall |
|----------|------------------|--------------------|
| 1 | 74-95 | Minimal |
| 2 | 96-110 | Moderate |
| 3 | 111-130 | Extensive |
| 4 | 131-155 | Extreme |
| 5 | > 155 | Catastrophic |

Previous Occurrence

September 21, 1938 Hurricane flooding occurred throughout the State, in some cases equaling and surpassing the Flood of 1936. Much of the town experienced damage, roofs were ripped off, the entire center of town flooded, trees were knocked over and pine forests were destroyed.

August 31, 1954 - Hurricane Carol: Extensive amount of trees blown down and property damage throughout the State. Localized flooding.

August 19, 1991 FEMA DR-917-NH: Hurricane Bob struck New Hampshire causing extensive damage in Rockingham and Stafford counties, but the effects were felt statewide.

September 16-18, 1999 - Tropical Storm Floyd: This was originally a Hurricane that heavily impacted North Carolina and dumped heavy rains on New England resulting in a Presidential Declaration of Disaster in NH; FEMA DR-1305-NH in Belknap, Grafton and Cheshire Counties. Approximately 80% of the town lost power for a week.

August 28, 2011 Hurricane Irene did not significantly impact New Boston or Hillsborough County.

October 26, 2012 Hurricane Sandy, a hybrid storm with both tropical and extra-tropical characteristics, brought high winds and coastal flooding to southern New England. Easterly winds gusted to 50 to 60 mph for interior southern New England. The Town's EOC was opened for several days. The Shelter was opened. Roads were closed due to trees and wires down throughout most of town and emergency vehicles could not pass.

Probability

Improbable/Remote/Occasional/Probable/Frequent (in 25 years))

Probable

Lightning

| Definition | |
|--|---|
| <p>By definition, all thunderstorms contain lightning. Lightning is a giant spark of electricity that occurs within the atmosphere, or between the atmosphere and the ground. As lightning passes through the air, it heats the air to a temperature of 50,000 F, considerably hotter than the surface of the Sun.</p> | |
| Location | |
| <p>The entire Town is at moderate risk to lightning hazard. The higher elevation areas have an increased probability, such as the areas with cell towers, however lightning strikes can occur anywhere in the Town.</p> | |
| Impact | |
| <p>Residents and visitors to the NH area are more vulnerable to being struck by lightning because of the activities with which they are involved, particularly on those warm summer days when lightning is most likely to occur. Often, many people are outside enjoying the variety of recreational activities that attract people to New England during the summer when the vulnerability to lightning strike is highest. More likely to be affected are structures and utilities, often resulting in structure fires and power outages.</p> | |
| Extent | |
| <p>The National Oceanographic Atmospheric Administration (NOAA) defines the extent of lightning activity with a LAL scale as shown in the table below.</p> | |
| LAL 1 | No Thunderstorms |
| LAL 2 | Isolated thunderstorms. Light rain will occasionally reach the ground. Lightning is very infrequent. 1 to 5 cloud ground strikes in a 5 minute period. |
| LAL 3 | Widely scattered thunderstorms. Light to moderate rain will reach the ground. Lightning is infrequent, 6 to 10 cloud to ground strikes in a 5 minute period. |
| LAL 4 | Scattered thunderstorms. Moderate rain is commonly produced. Lightning is frequent, 11 to 15 cloud to ground strikes in a 5 minute period. |
| LAL 5 | Numerous thunderstorms. Rainfall is moderate to heavy. Lightning is frequent and intense, greater than 15 cloud to ground strikes in a 5 minute period. |
| LAL 6 | Dry lightning (same as LAL 3 but without rain). This type of lightning has the potential for extreme fire activity and is normally highlighted in fire weather forecasts with a Red Flag Warning. |
| Previous Occurrence | |
| <p>In recent years there have been 3 to 4 homes struck by lightning. The Town gas pumps and electronics have been struck 4 times in 2011, twice in 2012, 4 times in 2013, 5 times in 2015 and once in 2015 (there are no cost estimates for these at this time).</p> | |
| Probability | |
| <p><i>Improbable/Remote/Occasional/Probable/Frequent (in 25 years)</i></p> | |
| <p>Frequent</p> | |

Earthquake

| Definition | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|---------------|------------------------------|-------------|---|-------------------|---|-------------|--|------------|--|-------------------|-----------------------------------|----------------|---|-----|--------------|----------------|-----|----------------|----------------|-----|---------------------------|---------------|-----|---------------------|---------------|-----|-----------------------|---------------|-----|--------------|--------------------|-----|----------|-----------------|-----|----------------|------------------|-----|
| <p>An earthquake is a rapid shaking of the earth caused by the breaking and shifting of rock beneath the earth's surface. Larger earthquakes usually begin with slight tremors but rapidly take the form of one or more violent shocks, and end in vibrations of gradually diminishing force called aftershocks. The magnitude and intensity of an earthquake is determined by the use of scales such as the Richter scale and Mercalli scale.</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Location | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>According to the 2013 NH State Hazard Mitigation Plan, New Hampshire is considered to lie in an area of "Moderate" seismic activity with respect to other areas of the United States and is bordered to the North and Southwest by areas of "Major" activity. Therefore, an earthquake could impact the whole town.</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Impact | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>Earthquakes can cause buildings and bridges to collapse, disrupt gas, electric and phone lines, and often cause landslides, flash floods, fires, and avalanches. It is assumed that all of the buildings in the Town have not been designed to withstand seismic activity. More specifically, the older historic buildings that are constructed of non-reinforced masonry are especially vulnerable to any moderate sized earthquake. In addition, utilities (water, gas, etc) are susceptible to earthquake damage. New Boston has experienced the effect of small to moderate earthquakes that had minor to no effect on the town's infrastructure.</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Extent | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>Earthquakes with a magnitude of 2.0 to 4.9 on the Richter scale are considered minor to light, and those 5.0 to 6.9 are considered moderate to strong. However, if a large (6+ on the Richter Scale) occurred in or around the town, it is assumed that structural damage would be moderate to severe.</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr style="background-color: #e0e0e0;"> <th style="text-align: center;">Richter Scale</th> <th style="text-align: center;">Magnitude Earthquake Effects</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">2.5 or less</td> <td>Usually not felt, but can be recorded by seismograph.</td> </tr> <tr> <td style="text-align: center;">2.5 to 5.4</td> <td>Often felt, but only causes minor damage.</td> </tr> <tr> <td style="text-align: center;">5.5 to 6.0</td> <td>Slight damage to buildings and other structures.</td> </tr> <tr> <td style="text-align: center;">6.1 to 6.9</td> <td>May cause a lot of damage in very populated areas.</td> </tr> <tr> <td style="text-align: center;">7.0 to 7.9</td> <td>Major earthquake. Serious damage.</td> </tr> <tr> <td style="text-align: center;">8.0 or greater</td> <td>Great earthquake. Can totally destroy communities near the epicenter.</td> </tr> </tbody> </table> | Richter Scale | Magnitude Earthquake Effects | 2.5 or less | Usually not felt, but can be recorded by seismograph. | 2.5 to 5.4 | Often felt, but only causes minor damage. | 5.5 to 6.0 | Slight damage to buildings and other structures. | 6.1 to 6.9 | May cause a lot of damage in very populated areas. | 7.0 to 7.9 | Major earthquake. Serious damage. | 8.0 or greater | Great earthquake. Can totally destroy communities near the epicenter. | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 6.1 to 6.9 | May cause a lot of damage in very populated areas. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7.0 to 7.9 | Major earthquake. Serious damage. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8.0 or greater | Great earthquake. Can totally destroy communities near the epicenter. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Previous Occurrence | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>The following table summarizes earthquakes greater than 2.5 that have been felt in New Hampshire and New England:</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr style="background-color: #e0e0e0;"> <th style="text-align: left;">Location</th> <th style="text-align: left;">Date</th> <th style="text-align: left;">Magnitude</th> </tr> </thead> <tbody> <tr> <td>Ossipee, NH</td> <td>December 20, 1940</td> <td>5.5</td> </tr> <tr> <td>Ossipee, NH</td> <td>December 24, 1940</td> <td>5.5</td> </tr> <tr> <td>Dover-Foxcroft, ME</td> <td>December 28, 1947</td> <td>4.5</td> </tr> <tr> <td>Kingston, RI</td> <td>June 10, 1951</td> <td>4.6</td> </tr> <tr> <td>Portland, ME</td> <td>April 26, 1957</td> <td>4.7</td> </tr> <tr> <td>Middlebury, VT</td> <td>April 10, 1962</td> <td>4.2</td> </tr> <tr> <td>Near NH Quebec Border, NH</td> <td>June 15, 1973</td> <td>4.8</td> </tr> <tr> <td>West of Laconia, NH</td> <td>Jan. 19, 1982</td> <td>4.5</td> </tr> <tr> <td>Ontario-Quebec Border</td> <td>June 23, 2010</td> <td>5.0</td> </tr> <tr> <td>Boscawen, NH</td> <td>September 26, 2010</td> <td>3.1</td> </tr> <tr> <td>Virginia</td> <td>August 23, 2011</td> <td>5.8</td> </tr> <tr> <td>Southern Maine</td> <td>October 16, 2012</td> <td>4.0</td> </tr> </tbody> </table> | Location | Date | Magnitude | Ossipee, NH | December 20, 1940 | 5.5 | Ossipee, NH | December 24, 1940 | 5.5 | Dover-Foxcroft, ME | December 28, 1947 | 4.5 | Kingston, RI | June 10, 1951 | 4.6 | Portland, ME | April 26, 1957 | 4.7 | Middlebury, VT | April 10, 1962 | 4.2 | Near NH Quebec Border, NH | June 15, 1973 | 4.8 | West of Laconia, NH | Jan. 19, 1982 | 4.5 | Ontario-Quebec Border | June 23, 2010 | 5.0 | Boscawen, NH | September 26, 2010 | 3.1 | Virginia | August 23, 2011 | 5.8 | Southern Maine | October 16, 2012 | 4.0 |
| Location | Date | Magnitude | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Ossipee, NH | December 20, 1940 | 5.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Ossipee, NH | December 24, 1940 | 5.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Dover-Foxcroft, ME | December 28, 1947 | 4.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Kingston, RI | June 10, 1951 | 4.6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Portland, ME | April 26, 1957 | 4.7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Middlebury, VT | April 10, 1962 | 4.2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Near NH Quebec Border, NH | June 15, 1973 | 4.8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| West of Laconia, NH | Jan. 19, 1982 | 4.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Ontario-Quebec Border | June 23, 2010 | 5.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Boscawen, NH | September 26, 2010 | 3.1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Virginia | August 23, 2011 | 5.8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Southern Maine | October 16, 2012 | 4.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Probability | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p><i>Improbable/Remote/Occasional/Probable/Frequent (in 25 years)</i></p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Occasional | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Wildfire

| Definition | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|--|-------|-------------|---|---|---|-------------------|---|--------------------|---|------------------|---|------------------|---|--------------------|---|--------------------|---|----------------------|---|----------------------|---|------------------------|---|------------------------|---|-----------------|
| Any free burning uncontrollable wild land fire not prescribed for the area which consumes the natural fuels and spreads in response to its environment. | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Location | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Most of the Town and the surrounding communities of New Boston are heavily forested and are therefore vulnerable to this hazard, particularly during periods of drought. The town does not have any public hydrant system. The Town relies on dry hydrants, cisterns and tankers for fire suppression. | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Impact | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Fires in New Hampshire are predominantly human-caused, and roughly half of the total fire activity is in the most populous three southern counties. The proximity of many populated areas to the forested lands exposes these areas and their populations to the potential impact of wildfire. In addition, the potential for wildfires increases during a prolonged drought. | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Extent | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| The National Wildfire Coordinating Group (NWCG) classifies a wildfire into one of several ranges of fire, based upon the number of acres burned. The following list provides NWCG's scale for wildfire values: | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr style="background-color: #e0e0e0;"> <th style="text-align: center; padding: 5px;">Value</th> <th style="text-align: center; padding: 5px;">Description</th> </tr> </thead> <tbody> <tr> <td style="text-align: center; padding: 5px;">A</td> <td style="padding: 5px;">Greater than 0 but less than or equal to 0.25 Acres</td> </tr> <tr> <td style="text-align: center; padding: 5px;">B</td> <td style="padding: 5px;">0.26 to 9.9 Acres</td> </tr> <tr> <td style="text-align: center; padding: 5px;">C</td> <td style="padding: 5px;">10.0 to 99.9 Acres</td> </tr> <tr> <td style="text-align: center; padding: 5px;">D</td> <td style="padding: 5px;">100 to 299 Acres</td> </tr> <tr> <td style="text-align: center; padding: 5px;">E</td> <td style="padding: 5px;">300 to 999 Acres</td> </tr> <tr> <td style="text-align: center; padding: 5px;">F</td> <td style="padding: 5px;">1000 to 4999 Acres</td> </tr> <tr> <td style="text-align: center; padding: 5px;">G</td> <td style="padding: 5px;">5000 to 9999 Acres</td> </tr> <tr> <td style="text-align: center; padding: 5px;">H</td> <td style="padding: 5px;">10000 to 49999 Acres</td> </tr> <tr> <td style="text-align: center; padding: 5px;">I</td> <td style="padding: 5px;">50000 to 99999 Acres</td> </tr> <tr> <td style="text-align: center; padding: 5px;">J</td> <td style="padding: 5px;">100000 to 499999 Acres</td> </tr> <tr> <td style="text-align: center; padding: 5px;">K</td> <td style="padding: 5px;">500000 to 999999 Acres</td> </tr> <tr> <td style="text-align: center; padding: 5px;">L</td> <td style="padding: 5px;">1000000 + Acres</td> </tr> </tbody> </table> | Value | Description | A | Greater than 0 but less than or equal to 0.25 Acres | B | 0.26 to 9.9 Acres | C | 10.0 to 99.9 Acres | D | 100 to 299 Acres | E | 300 to 999 Acres | F | 1000 to 4999 Acres | G | 5000 to 9999 Acres | H | 10000 to 49999 Acres | I | 50000 to 99999 Acres | J | 100000 to 499999 Acres | K | 500000 to 999999 Acres | L | 1000000 + Acres |
| Value | Description | | | | | | | | | | | | | | | | | | | | | | | | | | |
| A | Greater than 0 but less than or equal to 0.25 Acres | | | | | | | | | | | | | | | | | | | | | | | | | | |
| B | 0.26 to 9.9 Acres | | | | | | | | | | | | | | | | | | | | | | | | | | |
| C | 10.0 to 99.9 Acres | | | | | | | | | | | | | | | | | | | | | | | | | | |
| D | 100 to 299 Acres | | | | | | | | | | | | | | | | | | | | | | | | | | |
| E | 300 to 999 Acres | | | | | | | | | | | | | | | | | | | | | | | | | | |
| F | 1000 to 4999 Acres | | | | | | | | | | | | | | | | | | | | | | | | | | |
| G | 5000 to 9999 Acres | | | | | | | | | | | | | | | | | | | | | | | | | | |
| H | 10000 to 49999 Acres | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I | 50000 to 99999 Acres | | | | | | | | | | | | | | | | | | | | | | | | | | |
| J | 100000 to 499999 Acres | | | | | | | | | | | | | | | | | | | | | | | | | | |
| K | 500000 to 999999 Acres | | | | | | | | | | | | | | | | | | | | | | | | | | |
| L | 1000000 + Acres | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Previous Occurrence | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| The largest physical area of past fires is located east of Joe English Road and north of Meadow Road. In 2006 there was a 16 acre wildfire at the New Boston Air Force Tracking Station. On average each year there are 3-8 acres of wildfires encountered in New Boston. | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Probability | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <i>Improbable/Remote/Occasional/Probable/Frequent (in 25 years)</i> | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Probable | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Hail

Definition

Hail is defined as a showery precipitation in the form of irregular pellets or balls of ice more than 5 mm in diameter, falling from a cumulonimbus cloud.

Location

Due to its widespread nature a hail event could affect any part of Town.

Extent/Impact

Hail can damage communications and IT functions, and can damage agricultural crops. Due to the complexities and various factors involved in the formation of hail particle size and weight, the impact can vary tremendously. The bigger the diameter of the hailstone, the bigger the impact on agriculture, infrastructure and other objects.

| Hail Size Description Chart | | |
|-----------------------------|-------------|--------|
| Hailstone size | Measurement | |
| | in. | cm. |
| bb | < 1/4 | < 0.64 |
| pea | 1/4 | 0.64 |
| dime | 7/10 | 1.8 |
| penny | 3/4 | 1.9 |
| nickel | 7/8 | 2.2 |
| quarter | 1 | 2.5 |
| half dollar | 1 1/4 | 3.2 |
| golf ball | 1 3/4 | 4.4 |
| billiard ball | 2 1/8 | 5.4 |
| tennis ball | 2 1/2 | 6.4 |
| baseball | 2 3/4 | 7.0 |
| softball | 3.8 | 9.7 |
| Compact disc / DVD | 4 3/4 | 12.1 |

Previous Occurrence

September 13, 2010 Penny size hail covered Route 114 to about an inch in depth.

May 25, 2014 An upper level disturbance moved through Southern New England, igniting showers and thunderstorms across the area. Many of these storms produced small to large size hail thanks to very cold temperatures aloft.

Probability

Improbable/Remote/Occasional/Probable/Frequent (in 25 years)

Occasional

Erosion

| Definition |
|--|
| Erosion is the process of the gradual wearing away of land masses. In general, erosion involves the detachment and movement of soil and rock fragments, during a flood or storm or over a period of years. Episodic erosion is induced by a single storm event while fluvial erosion is erosion caused by rivers and streams. |
| Location |
| Areas of concern are along the South Branch of the Piscataquog River. |
| Impact |
| Episodic and Fluvial erosion threatens public infrastructure, houses, businesses, and other private investments. |
| Extent |
| The magnitude of erosion varies depending upon the cause of the erosion. It can range from gradual bank erosion to catastrophic changes in river channel location and dimension during flood events. Large amounts of rain in a short period of time can cause the episodic erosion to roads, while longer term flooding can erode stream banks. |
| Previous Occurrence |
| Erosion is a long duration (over years) event in New Boston. Heavy rainfall events occur annually and cause additional erosion along the South Branch of the Piscataquog River with each event. |
| Probability |
| <i>Remote/Occasional/Probable/Frequent (in 25 years)</i> |
| Occasional |

Dam Breach

| Definition |
|---|
| According to the NH Department of Environmental Services (DES), a dam is any artificial barrier which impounds or diverts water which: has a height of 6 feet or more; or is located at the outlet of a great pond, regardless of height or storage; or is an artificial barrier which impounds liquid Industrial or liquid commercial wastes, or septage or sewage, regardless of height or storage. |
| Location |
| The Town of New Boston has nine (9) Class “NM” or “Non-Menace” dams. They are: South Branch of the Piscataquog River, Gregg Mill Dam, Middle Branch of the Piscataquog River, 1 farm pond, 2 Wildlife Pond dams, a detention pond, Joe English Acres Pond, Garnder Reservoir and heritage detention pond. There are no class S “significant hazard” or H “high hazard” dams in town. |
| Impact |
| The impact of a dam failure in the Town of New Boston would be moderate. The most likely impact to occur as a result of a dam failure would be structural damage that would render roads impassable. |
| Extent |
| NH Department of Environmental Services categorizes Dams into one of four classifications, which are differentiated by the degree of potential damages that a failure of the dam is expected to cause. The classifications are designated as non menace, low hazard, significant hazard and high hazard. A Non-Menace structure as a dam that is not a menace because it is in a location and of a size that failure or misoperation of the dam would not result in probable loss of life or loss to Property. A Low Hazard structure is classified as a dam that has a low hazard potential because it is in a location and of a size that failure or misoperation of the dam would result in any of the following: no possible loss of life; low economic loss to structures or property; structural damage to a town or city road or private road accessing property other than the dam owner’s that could render the road impassable or otherwise interrupt public safety services; the release of liquid industrial, agricultural, or commercial wastes, |

| |
|--|
| septage, or contaminated sediment if the storage capacity is less than two-acre-feet and is located more than 250 feet from a water body or water course; or a reversible environmental losses to environmentally-sensitive sites. |
| Previous Occurrence |
| 1999 Grist Mill Dam breach, due to flooding. |
| Probability <i>Improbable/Remote/Occasional/Probable/Frequent (in 25 years)</i> |
| Remote |

Landslide

| |
|--|
| Definition |
| A Landslide is the downward or outward movement of slope forming materials reacting under the force of gravity. These include mudflows, mudslides, debris flows, rockslides, debris avalanches, debris slides and earth flows. Landslides may be formed when a layer of soil atop a slope becomes saturated by significant precipitation and slides along a more cohesive layer of soil or rock. |
| Location |
| Areas of concern are along steep slopes greater than 15%. |
| Impact |
| Due to the very limited area that is susceptible to landslides, the impact is minimal. At the moment the only potential impact would just be the cost of debris removal from the roads. |
| Extent |
| <p>Although New Hampshire has a moderate risk statewide, there have been relatively few landslide events. The most well known landslide is the Old Man of the Mountain; a symbol of the State of New Hampshire that collapsed in 2003. Most other events of this hazard type are often attributed to corresponding flood events. The Table to the right shows the incidence and susceptibility of landslides throughout the State.</p> |
| |
| History |
| There have been no significant landslide events. |
| Probability <i>Improbable/Remote/Occasional/Probable/Frequent (in 25 years)</i> |
| Remote |

EXTREME HEAT

| Definition | | | | | | | | | | | | | | | | | | |
|--|--|---|--|------------|------------|---------------------|----------------|-----------------|--------------------------------|--------------|----------|--|---------------|------|---|--------------------|----------------------|---|
| A Heat Wave is a “Prolonged period of excessive heat, often combined with excessive humidity.” Heat kills by pushing the human body beyond its limits. In extreme heat and high humidity, evaporation is slowed and the body must work extra hard to maintain a normal temperature. | | | | | | | | | | | | | | | | | | |
| Location | | | | | | | | | | | | | | | | | | |
| Extreme heat events are difficult to define geographically. Due to their widespread nature, a period of extreme heat would affect the entire town. | | | | | | | | | | | | | | | | | | |
| Impact | | | | | | | | | | | | | | | | | | |
| A heat wave is defined as 3 or more consecutive days of 90 degrees or higher. Extreme heat conditions may impact the health of residents and visitors. Facilities without generators and air-conditioners that house the elderly and disabled are very susceptible to human health issues. Utilities are also vulnerable as the demand for air-conditioning rises. | | | | | | | | | | | | | | | | | | |
| Extent | | | | | | | | | | | | | | | | | | |
| <p>According to OSHA, The risk of heat-related illness becomes greater as the weather gets hotter and more humid. This situation is particularly serious when hot weather arrives suddenly early in the season, before workers have had a chance to adapt to warm weather. This table provides guidelines for the risk related to extreme heat.</p> | <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr style="background-color: #e0e0e0;"> <th style="padding: 5px;">Heat Index</th> <th style="padding: 5px;">Risk Level</th> <th style="padding: 5px;">Protective Measures</th> </tr> </thead> <tbody> <tr style="background-color: #ffff00;"> <td style="padding: 5px;">Less than 91°F</td> <td style="padding: 5px;">Lower (Caution)</td> <td style="padding: 5px;">Basic heat safety and planning</td> </tr> <tr style="background-color: #ffcc00;"> <td style="padding: 5px;">91° to 103°F</td> <td style="padding: 5px;">Moderate</td> <td style="padding: 5px;">Implement precautions and heighten awareness</td> </tr> <tr style="background-color: #ff9900;"> <td style="padding: 5px;">103° to 115°F</td> <td style="padding: 5px;">High</td> <td style="padding: 5px;">Additional precautions to protect workers</td> </tr> <tr style="background-color: #ff0000;"> <td style="padding: 5px;">Greater than 115°F</td> <td style="padding: 5px;">Very High to Extreme</td> <td style="padding: 5px;">Triggers even more aggressive protective measures</td> </tr> </tbody> </table> | | | Heat Index | Risk Level | Protective Measures | Less than 91°F | Lower (Caution) | Basic heat safety and planning | 91° to 103°F | Moderate | Implement precautions and heighten awareness | 103° to 115°F | High | Additional precautions to protect workers | Greater than 115°F | Very High to Extreme | Triggers even more aggressive protective measures |
| Heat Index | Risk Level | Protective Measures | | | | | | | | | | | | | | | | |
| Less than 91°F | Lower (Caution) | Basic heat safety and planning | | | | | | | | | | | | | | | | |
| 91° to 103°F | Moderate | Implement precautions and heighten awareness | | | | | | | | | | | | | | | | |
| 103° to 115°F | High | Additional precautions to protect workers | | | | | | | | | | | | | | | | |
| Greater than 115°F | Very High to Extreme | Triggers even more aggressive protective measures | | | | | | | | | | | | | | | | |
| Previous Occurrence | | | | | | | | | | | | | | | | | | |
| The town has experienced frequent heat waves in any given 25-year period. However, the impact upon the town and its residents in minimal. In the last five years the Town has opened the cooling station several times but very few people attended. The Committee had no specific dates or additional information of past extreme heat events. | | | | | | | | | | | | | | | | | | |
| Probability | | | | | | | | | | | | | | | | | | |
| <i>Improbable/Remote/Occasional/Probable/Frequent (in 25 years)</i> | | | | | | | | | | | | | | | | | | |
| Probable | | | | | | | | | | | | | | | | | | |

Avalanche, Drought & Radon

| Description |
|--|
| Due to no history of Avalanche, Radon and Drought as well as the lack of Avalanche, Radon and Drought conditions within the Town, the Committee chose not to recognize the risk of these hazards in this Plan. |

Human Caused Hazards

| Location |
|---|
| <p>The Town of New Boston has several areas that could be potential targets or are susceptible to accidental hazards. There are 7 State roads that pass through town, with relatively high volume. The Town is host to the US Airforce Tracking Station which tracks satellites and is located in a relatively remote and heavily wooded area of Town. The Hillsborough County Fairgrounds are located along Route 13, just east of the New Boston village area. The Manchester-Boston Regional airport has flight approaches over New Boston. There are numerous private entities scattered throughout town that could produce hazardous material incidents.</p> |
| Impact |
| <p>Due to the various locations and vulnerabilities throughout Town, the impact could be high. When compared to natural hazard risk, only Winter Weather, Flooding and Severe Wind have a higher overall risk.</p> |
| History |
| <p>1950s: A military plane crashed in New Boston. In addition, there have been numerous transportation related hazardous material spills, such as an LP Tank and water truck.</p> |

Chapter 4

CRITICAL FACILITIES

The Critical Facilities List for the Town of New Boston has been identified for the Town by the New Boston Hazard Mitigation Planning Committee. The list, included in the table starting on page 2, is divided up into three sections:

- Category 1: Facilities needed for Emergency Response
- Category 2: Facilities Not Necessary for Emergency response
- Category 3: Areas at Risk

ESTIMATING POTENTIAL LOSSES TO CRITICAL FACILITIES

The Category 1 Critical Facilities identified in New Boston are estimated to be worth over \$25,555,100. The Table below provides an estimate of the current monetary value for each of the Critical facilities in New Boston. These values can also be used to determine potential loss estimates in the event a natural or manmade hazard damages a portion of, or the entire facility. The estimates were generated by the town assessor and are based on property tax documentation.

| Inventory of Critical Facilities and Assets New Boston, NH | | | | | | | |
|---|---|----------------|------------|------------|------------|----------------|---|
| Facility | Name | Owner | Category 1 | Category 2 | Category 3 | Assessed Value | Hazards Addressed |
| | | | ✓ | ✓ | ✓ | | |
| Town Hall | New Boston Town Hall | Municipal | ✓ | | | \$522,000 | Flooding, Steep Slope, Wildfire and All Hazards |
| EOC Primary Secondary | New Boston Police Station | Municipal | ✓ | | | \$437,100 | Steep Slope, Wildfire and All Hazards |
| | New Boston Town Hall | Municipal | ✓ | | | \$522,000 | Flooding and All Hazards |
| Police Dept. | New Boston Police Station | Municipal | ✓ | | | \$437,100 | Steep Slope, Wildfire and All Hazards |
| Fire Station | New Boston Fire Station | Municipal | ✓ | | | \$216,000 | Flooding and All Hazards |
| | New Boston Fire Station – Hilltop Tracking Station | Municipal | ✓ | | | Unknown | Wildfire and All Hazards |
| EMS | New Boston Fire Department Ambulance | Municipal | ✓ | | | \$216,000 | Flooding and All Hazards |
| | US Airforce Tracking Station Ambulance | Federal | ✓ | | | Unknown | All Hazards |
| Shelter (none are red cross approved) | New Boston Elementary School | Municipal /SAU | ✓ | | | \$6,041,100 | All Hazards |
| | Whipple Free Library | Municipal | ✓ | | | \$1,209,300 | All Hazards |
| | Town Hall Upstairs (Short Term) | Municipal | ✓ | | | \$522,000 | Flooding and All Hazards |
| | New Boston Fire Station 2 nd floor (Short Term) | Municipal | ✓ | | | \$216,000 | Flooding and All Hazards |
| | New Boston Community Church (Short Term) | Private | ✓ | | | \$867,200 | Flooding and All Hazards |
| | Recreation Building Conf. Room (Short Term) | Municipal | ✓ | | | \$102,400 | All Hazards |
| | Historical Society (Short Term) | Municipal | ✓ | | | \$274,700 | Flooding and All Hazards |
| | Nan’s House (Short Term) | Private | ✓ | | | \$172,800 | Flooding and All Hazards |
| | Hillsborough County Fairgrounds (Barns, trailer hookups, etc) | Private | ✓ | | | \$937,900 | All Hazards |
| Public Works | New Boston Highway Department | Municipal | ✓ | | | \$103,100 | Flooding, Steep Slope, Wildfire and All Hazards |
| Fuel | New Boston Highway Department | Municipal | ✓ | | | \$103,100 | Flooding, Steep Slope, Wildfire and All Hazards |
| | US Airforce Tracking Station | Federal | ✓ | | | \$14,671,500 | All Hazards |
| Water | Cistern | | ✓ | | | n/a | Flooding and All Hazards |

| Inventory of Critical Facilities and Assets New Boston, NH | | | | | | | |
|---|---|-----------|------------|------------|------------|----------------|------------------------------------|
| Facility | Name | Owner | Category 1 | Category 2 | Category 3 | Assessed Value | Hazards Addressed |
| | | | ✓ | ✓ | ✓ | | |
| Daycare Centers | Strong Beginnings | Private | | ✓ | | \$609,400 | Flooding, Steep Slope, All Hazards |
| | Little People's Depot | Private | | ✓ | | \$299,500 | Steep Slope, Wildfire, All Hazards |
| | Chestnut Christian Preschool | Private | | ✓ | | \$407,400 | All Hazards |
| | Homespun Daycare | Private | | ✓ | | \$388,824 | All Hazards |
| | MacDonald Daycare | Private | | ✓ | | \$331,273 | Steep Slope, All Hazards |
| Churches | New Boston Baptist Church | Private | | ✓ | | \$465,500 | Steep Slope, All Hazards |
| | Chestnut Hill Chapel | Private | | ✓ | | \$407,400 | All Hazards |
| | New Boston Community Church | Private | | ✓ | | \$867,200 | Flooding and All Hazards |
| Health Facilities | Rose Meadow Farm (Briar Hill) | Private | | ✓ | | \$869,800 | All Hazards |
| | Rose Meadow Garden (Bedford Road) | Private | | ✓ | | \$1,771,214 | All Hazards |
| | Rose Meadow Acres (Old Coach Road) | Private | | ✓ | | \$1,353,500 | All Hazards |
| Historical | Baker Homestead (State Registry) | Private | | ✓ | | \$287,235 | All Hazards |
| Recreation Areas | Town Forest Picnic Area | Municipal | | | ✓ | Unknown | All Hazards |
| | Piscataquog Watershed Association Walk | Private | | | ✓ | Unknown | All Hazards |
| | Hillsborough County Fairgrounds | County | | | ✓ | \$937,900 | All Hazards |
| | New Boston School Playground | SAU | | | ✓ | Unknown | All Hazards |
| | Town Common | Municipal | | | ✓ | \$31,400 | All Hazards |
| | Friendly Beaver Campground | Private | | | ✓ | \$2,011,109 | All Hazards |
| | Town Ballfield | Municipal | | | ✓ | \$143,300 | All Hazards |
| | Bailey Pond | Private | | | ✓ | \$15,200 | All Hazards |
| | New Boston Association Playground/Field | Private | | | ✓ | \$375,800 | All Hazards |
| | Lydia Dodge Lot | Private | | | ✓ | \$1,014,700 | All Hazards |
| | Deland Forest | Private | | | ✓ | \$1,891,800 | All Hazards |
| | Saunders Mill Pasture | Private | | | ✓ | \$196,200 | All Hazards |
| | Sherburne Lot | Private | | | ✓ | \$224,700 | All Hazards |
| Sunset Lot | Private | | | ✓ | \$224,900 | All Hazards | |

| Inventory of Critical Facilities and Assets New Boston, NH | | | | | | | |
|---|---|---------------|------------|------------|------------|----------------|------------------------------------|
| Facility | Name | Owner | Category 1 | Category 2 | Category 3 | Assessed Value | Hazards Addressed |
| | | | ✓ | ✓ | ✓ | | |
| Hazardous Materials | US Airforce Tracking Station | Federal | | | ✓ | \$14,671,500 | All Hazards |
| | Procraft | Private | | | ✓ | \$260,800 | Flooding, All Hazards |
| | Surefire Auto | Private | | | ✓ | \$253,200 | All Hazards |
| | New Boston Hardware | Private | | | ✓ | \$347,000 | Flooding, Steep Slope, All Hazards |
| | Daniels Garage and Blasting | Private | | | ✓ | \$268,600 | Flooding, Steep Slope, All Hazards |
| | Milwaukee Ironworks | Private | | | ✓ | \$270,800 | Flooding, Steep Slope, All Hazards |
| | John Neville Construction | Private | | | ✓ | \$362,100 | All Hazards |
| | NAPA Auto Parts | Private | | | ✓ | \$336,100 | All Hazards |
| | New Boston Elementary School | SAU | | | ✓ | \$6,041,100 | All Hazards |
| | New Boston Highway Garage | Municipal | | | ✓ | \$103,100 | Steep Slope, All Hazards |
| | Dodge Farm | Private | | | ✓ | \$716,004 | All Hazards |
| | Bissonette Auto | Private | | | ✓ | \$362,100 | All Hazards |
| | Mr. Gees Tire Sales | Private | | | ✓ | \$461,800 | Wildfire, All Hazards |
| | New Boston Transfer Station | Municipal | | | ✓ | \$1,014,700 | All Hazards |
| | Police Department | Municipal | | | ✓ | \$437,100 | Wildfire, Steep Slope, All Hazards |
| | Fire Department | Municipal | | | ✓ | \$216,000 | Flooding, All Hazards |
| | RJP Auto Repair | Private | | | ✓ | \$353,600 | All Hazards |
| | New Boston Truck and Equipment | Private | | | ✓ | \$293,350 | All Hazards |
| | Sizemore Trucking | Private | | | ✓ | \$285,900 | All Hazards |
| | Large Employers | Surefire Auto | Private | | | ✓ | \$253,200 |
| Restoration Station Auto Repair | | Private | | | ✓ | \$257,000 | All Hazards |
| Jon's Auto | | Private | | | ✓ | \$214,800 | All Hazards |
| New Boston AFS | | Private | | | ✓ | \$14,671,500 | All Hazards |
| New Boston Elementary | | SAU | | | ✓ | \$6,041,100 | All Hazards |
| Bridges | Town of New Boston | Municipal | | | ✓ | \$13,158,451 | All Hazards |
| | John Neville Construction | Private | | | ✓ | \$362,100 | All Hazards |
| Bridges | Rose Meadow Group | Private | | | ✓ | \$3,994,514 | All Hazards |
| | Scobie Road near Pine Road | Municipal | | | ✓ | \$2,750,000 | Flooding, All Hazards |
| | East Colburn Road near John Newton Dodge Road | Municipal | | | ✓ | \$2,750,000 | Flooding, All Hazards |

| Inventory of Critical Facilities and Assets New Boston, NH | | | | | | | |
|---|---|-----------|------------|------------|------------|----------------|------------------------------------|
| Facility | Name | Owner | Category 1 | Category 2 | Category 3 | Assessed Value | Hazards Addressed |
| | | | ✓ | ✓ | ✓ | | |
| Bridges Cont. | Tucker Mill Road crossing the Middle Branch Piscataquog River | Municipal | | | ✓ | 750,000 | Flooding, All Hazards |
| | Dougherty Lane crossing the Middle Branch Piscataquog River | Municipal | | | ✓ | 375,000 | Flooding, All Hazards |
| | Route 77 crossing the Middle Branch Piscataquog River | State | | | ✓ | 4,750,000 | Flooding, All Hazards |
| | Route 114 crossing the Middle Branch Piscataquog River | State | | | ✓ | 4,750,000 | Flooding, All Hazards |
| | Howe Bridge Road crossing the South Branch Piscataquog River | Municipal | | | ✓ | 3,750,000 | Flooding, All Hazards |
| | Gregg Mill Road crossing the South Branch Piscataquog River | Municipal | | | ✓ | 3,000,000 | Flooding, All Hazards |
| | Riverdale Road crossing the Middle Branch Piscataquog River | Municipal | | | ✓ | 1,600,600 | Flooding, All Hazards |
| | Route 13 midway from Gregg Mill Road to Town Center | State | | | ✓ | 1,000,000 | Flooding, All Hazards |
| | Hilldale Lane | Municipal | | | ✓ | 2,225,000 | Flooding, All Hazards |
| | Depot Street crossing the South Branch Piscataquog River | Municipal | | | ✓ | 2,225,000 | Flooding, Steep Slope, All Hazards |
| | Bedford Road (at Town Center) crossing the South Branch Piscataquog River | Municipal | | | ✓ | 5,750,000 | Flooding, Steep Slope, All Hazards |
| | Route 13/ Mount Vernon Road crossing the South Branch Piscataquog River | State | | | ✓ | 6,000,000 | Flooding, All Hazards |
| | Lyndeboro Road crossing the South Branch Piscataquog River | Municipal | | | ✓ | 2,250,00 | Flooding, All Hazards |
| | Lyndeboro Road (near Misty Meadow Lane) crossing the South Branch Piscataquog River | Municipal | | | ✓ | 1,500,000 | Flooding, All Hazards |
| | Bog Brook Road near Christy Road | Municipal | | | ✓ | 1,100,000 | Flooding, Steep Slope, All Hazards |

| Inventory of Critical Facilities and Assets New Boston, NH | | | | | | | |
|---|---|-----------|------------|------------|------------|----------------|-----------------------|
| Facility | Name | Owner | Category 1 | Category 2 | Category 3 | Assessed Value | Hazards Addressed |
| | | | ✓ | ✓ | ✓ | | |
| | Parker Road Bridge (Goffstown/Rt. 114 Line) | Municipal | | | ✓ | 1,500,000 | Flooding, All Hazards |

Chapter 5 CAPABILITY ASSESSMENT

The following is a list of current policies and regulations adopted by the Town of New Boston that protect people and property from natural and man-made hazards. Below is a summary list of these policies and programs.

Summary of Existing Policies and Programs

| | |
|-------------------------------------|-----------------------------|
| Emergency Operation Plan | HazMat Response |
| Floodplain Development Ordinance | Emergency Back-up Power |
| Best Management Practices (BMPs) | Shoreland Protection Act |
| Building Codes | Piscataquog Rive Mgmt. Plan |
| Road Design Standards | Water Resource Mgmt. Plan |
| Wetlands & Stream Corridor District | Stormwater Management Regs. |
| Groundwater Resource District | New Boston CERT |
| Forestry & Conservation District | School Evacuation Plan |
| Earth Removal Ordinance | Shelter Plan |
| Site Plan Regulations | Police & Fire Mutual Aid |
| Town Radio System | Public Information |

Integration of Mitigation Priorities into Planning and Regulatory Tools

Many of the existing regulations as noted above can and should be regularly reviewed. This review process can lead to revisions that will incorporate mechanisms to assist in the implementation of the hazard mitigation priorities as defined in this *Plan*. This review should continue to be a priority of the New Boston Selectmen and Planning Board, and will likely include yearly requests in the annual budget process. Moreover, as suggested in the onset of this document, this *Plan* is a planning tool to be used by the Town of New Boston, as well as other local, state, and federal governments, in their effort to reduce future losses from natural and/or man-made hazardous events before they occur. That being said, the New Boston Planning Board also has the authority, under RSA 674:2 to incorporate this Plan as a new section of the New Boston Master Plan. This integration would serve well for any future zoning updates that relate to hazard mitigation, and for the future implementation of the hazard mitigation priorities as defined in this *Plan*.

Under the Prioritized Mitigation Projects *Action Plan* (found in Chapter 6), all parties listed under the Responsibility/Oversight category shall also review this listing annually, and consider the listed (and updated) mitigation projects within their annual budget requests.

| Type of Existing Protection | Description | Responsibility | Effectiveness (Poor/Avg/Exc) | Improvements or Changes Needed |
|---|--|---------------------------------------|---------------------------------|--|
| Emergency Operations Plan | The Town maintains an EOP that meets the recommendations by the NH Homeland Security Emergency Management. This plan identifies the response procedures and capabilities of the Town of New Boston in the event of a natural or man-made disaster. | Emergency Management Director | Exc | Update in 2016 |
| Floodplain Development Ordinance | Floodplain Ordinance applies to all lands designated as special flood hazard areas by FEMA. Building Inspector reviews all building permit applications for new construction or substantial improvements. | Building Inspector and Planning Board | Avg | Maintain regulations per FEMA requirements. |
| Best Management Practices (BMP's) | State guidelines for erosion and sediment control town-wide; protection of natural environment & prevention of potential damage due to poor construction methods | State/Building Inspector | Exc | Continuously updated. |
| Town-Adopted Building Codes | Regulates construction of buildings to set a minimum standard of protection for building occupants. All commercial and 1 & 2 family construction. | Building Inspector | Avg | Meets ICC regulations as adopted by the State of NH. |
| Road Design Standards | Include road design standards that account for storm drainage, erosion, fire safety and flood damage. | Planning Board | Exc | Updated in 2011 |
| Wetlands and Stream Corridor Conservation District | Enacted to regulate the uses of lands subject to standing water or extended periods of high water table. | Building Inspector and Planning Board | Exc | Updated in 2008 to include buffer (100 ft. from Prime Wetlands and 50 ft. from other |
| Groundwater Resource Conservation District | To protect, preserve and maintain existing and potential groundwater supply and groundwater recharge areas within known aquifers from adverse development, land use practices or depletion | Building Inspector and Planning Board | Avg | None |

| Type of Existing Protection | Description | Responsibility | Effectiveness (Poor/Avg/Exc) | Improvements or Changes Needed |
|--|---|-------------------------------------|---------------------------------|---|
| Forestry and Conservation District | Maintenance of natural resources, including aquifers which provide water to private wells...to protect large areas of undeveloped land which are not developable or marginally developable because of poor road access, steep slopes, shallow depth to bedrock. | Planning Board & Building Inspector | Avg | Continuously updated. |
| Ordinance to regulate removal of earth products | Removal of earth products...is prohibited except as provided in this ordinance; minimize safety hazards created by open excavations | Planning Board | Exc | Current/Up to date. |
| Non-residential site plan review regulations | "...to avoid undesirable and preventable elements of pollution such as noise, smoke, soot, particulates, or any other discharge into the environment..." | Planning Board/ZBA | Exc | Current/Up to date. |
| Town Radio System | Fire, Police and Town frequencies. However there are dead spots throughout town. | Fire and Police Departments | Poor | Add repeaters and antennas for better coverage. Construct a new Communication building. Add a fence for security. |
| Hazardous Materials | The Town is a member of the Souhegan Mutual Aid Response Team (SMART) and follows State regulations. | NH DES and Fire Department | Exc | Continuously updated. |
| Emergency Back-Up Power | Back-up power is located in the highway department, police station, fire station and New Boston Elementary | Board of Selectmen | Avg | Install generators at the Town Hall and Library. Upgrade generator at the Elementary School. |
| Shoreland Protection Act | To promote public health, safety, and the general welfare of the shorelands of the state's public waters | NH DES | Exc | Continuously updated. |

| Type of Existing Protection | Description | Responsibility | Effectiveness (Poor/Avg/Exc) | Improvements or Changes Needed |
|--|---|--|---------------------------------|--------------------------------------|
| Piscataquog River Management Plan | “...to create a framework for long-term use and protection of the Piscataquog River.” Covers land within ¼ mile of the Piscataquog River edge. | Planning Board Piscataquog River Local Advisory Committee | Avg | Continuously updated. |
| Water Resource Management Plan | “...to identify and, ...to evaluate the adequacy of existing and potential water resources to meet the current and future needs of the community...identify existing and potential threats to surface and groundwater supplies; identify regulatory and non-regulatory programs to enhance water resource management and protection...” | Planning Board Piscataquog River Local Advisory Committee | Avg | Needs to be updated |
| Stormwater Management Regulations | Regulations control runoff and soil erosion and sedimentation resulting from site construction and development. | Planning Board | Exc | Continuously updated. |
| New Boston CERT | Trained volunteer organization founded in November 2008 to support the New Boston Police and Fire Departments. | CERT | Exc | Continue training |
| School Evacuation Plan | The New Boston Central School Evacuation Plan identifies the procedures for events that occur during school and off-hour. School staff and town responders train and exercise the plan. | Fire, Police and School | Exc | Continuously updated. |
| Shelter Plan | The New Boston Shelter Plan is a detailed document that provides personnel with the process and control documents to open, manage and close the shelter. | EMD and New Boston CERT | Exc | Continuously updated. |
| Police and Fire Training and Mutual Aid | Fire is a member of Souhegan Mutual Aid Response Team. Police maintains mutual aid agreements with surrounding communities. Both Departments train and participated in exercises. | Police and Fire Departments | Exc | None |

| Type of Existing Protection | Description | Responsibility | Effectiveness <i>(Poor/Avg/Exc)</i> | Improvements or Changes Needed |
|-----------------------------|--|---------------------------------------|--|--------------------------------------|
| Public Information | The EMD conducts a "Survivor in the Country Class" for residents. Other means of public information include Code Red, Social Media, Town Website and Code-Ed (school notification system). | Fire, Police, EMD, Highway and School | Exc | Continuously updated. |

*Effectiveness terms are defined as:

Poor: Outdated and/or ineffective and needs to be reviewed/updated.

Average: Meets minimum requirements and may require potential reviews/updates.

Excellent: Regulations meets all requirements and requires no reviews/updates.

N/A: Not applicable to rate effectiveness because the Town does not currently participate in the program.

Chapter 6 MITIGATION PROJECTS

Hazard Identification

The Committee utilized the *Hazard Identification Worksheet*, as shown in Appendix B, to identify potential hazards, the historical occurrence, locations, assets at risk and the probability of each hazard. The results of this process can be found in Chapter 3.

Problem Statements

From the Hazard Identification process, the Committee developed a list of Problem Statements for each Hazard (see Appendix B). Based on the hazards and risks within the town, the Committee summarized the ‘problems’ associated for every hazard identified. These problem statements allowed the Committee to identify mitigation alternatives during the project identification step described below.

Goals Identified

The Committee identified Goals (shown in Chapter 1) based on the hazards identified, as well as the Mitigation Goals identified in the NH Hazard Mitigation Plan.

Project Identification

Using the *Mitigation Project Identification Worksheet* (see Appendix B) as a guide, the Committee members identified mitigation projects for each problem Statement. Specific objectives included: Prevention, Property Protection, Public Education, Natural Resource Protection, Emergency Services and Structural Projects. In total, there were 17 projects identified.

This process resulted in the *Mitigation Project Identification Matrix*. For illustrative purposes the table below is an excerpt from the *Matrix* included in Appendix B. In this *Matrix*, the committee was able to determine a basic benefit/cost by using the STAPLEE method. For each project identified, the committee considered the STAPLEE Criteria (Social, Technical, Administrative, Political, Legal, Economic and Environmental) to guide their decision in prioritizing the projects. One component of STAPLEE is the Economic criteria which aided the committee in determining whether the benefits outweigh the costs.

Excerpt from Mitigation Project Identification Matrix

| Mitigation Project Identification Matrix | | | | | | | | | |
|--|--|--|--------|-----------|---------------|-----------|-------|----------|-------------|
| Hazard | Problem Statement | Projects <i>Prevention /Property Protection/ Public Educ./ Nat.Resources /Emerg.Serv / Structural</i> | Social | Technical | Administrativ | Political | Legal | Economic | Environment |
| Flood | Heavy and prolonged rain events cause flood damage to roads and culverts and bridges and has the potential for residential flooding. | Continue to enforce floodplain regulations, including substantially improved structures; and amend regulations as necessary per federal requirements | + | + | + | + | + | + | + |

Prioritized Mitigation Projects

Each committee member reviewed the mitigation projects. After careful evaluation, the committee ranked the projects by voting for half of the projects. The project that received the most votes was ranked as the highest priority and the project receiving the least amount of votes received the lowest priority. (See Prioritized Mitigation Projects in Appendix B.) The prioritized projects are identified in the Mitigation Action Plan.

There have been no significant changes to mitigation priorities for the Town of New Boston. The Town has not experienced any changes in resources, new hazard impacts, or development patterns that merit changes to mitigation priorities. However, the Committee agreed to add ‘Extreme Heat’ in the hazard identification chapter. The Hazard Mitigation Committee identified new projects as described below and prioritized them as discussed above.

Mitigation Project Status:

The Town completed the original version of this Plan in 2002 and updated it in 2010. The projects completed since 2010 listed below are not included in the 2016 edition of the Plan. In addition, the Committee deleted some projects and added new projects to the Plan.

| Completed Projects since 2010 |
|--|
| Local sheltering Plan |
| Review and conduct a benefit analysis of expanding the Central School backup generator capabilities. |
| Complete and implement Wildfire Mitigation Resource Plan |
| Requiring new subdivisions to space buildings, provide fire breaks, on-site water storage, wide roads, multiple access. |
| Provide information regarding landscaping to keep bushes and trees away from structures. |
| Provide information on sealing inside and outside of storm windows and check seals in spring and fall/install storm windows. |
| Conduct a needs analysis for upgrading the Highway Departments generator system. |
| Deleted Projects |
| “Keep town and snow removal equipment in good repair.” Was deleted because the is covered in the Capability Assessment in Chapter 5. |
| “Provide public information related to mitigating chimney fires and “brush pits”.” Was deleted because it is covered in the “Survival in the Country” class. |
| “Adopt Building code standards for light frame construction, especially for wind-resistant roofs” was deleted because this is already covered in the ICC requirements already adopted by the Town. |
| “Provide information on how to turn off water, gas and electricity and drain pipes at home or work” was deleted because its is covered in the “Survival in the Country” class. |
| “Zoning districts to reflect fire risk zones.” Was deleted because the Committee was not clear of the purpose and the ICC requirements already cover some of this. |
| “Maintain lists of non-compliant and submit-to-rate structures in the FEMA designated Special Flood Hazard Areas” was deleted because no one really knew what this meant. The State NFIP coordinator was consulted and agreed it could be removed. |
| “Insulate low income homes” was removed because the committee felt this was covered under other public and private programs. |

Continuing Projects since 2010

(Note: these projects were identified by the committee as either on-going or annual projects that they wanted to maintain or were just simply not started because the responsible department simply did not initiate action.)

| |
|--|
| Post seasonal articles for specific hazards in local media outlets regarding emergency preparedness. |
| Update the School Evacuation Plan on an annual basis. |
| Coordinate with CERT on training and supplies. |
| Install river gauges at vulnerable locations on Piscataquog River. |
| Require all culvert replacement and other road projects to be conducted in accordance with NFIP standards. |
| Establish a local tree maintenance program to clear trees and hanging limbs from roadways and utilities. |
| Develop an inventory and maintenance program for detention ponds in subdivisions. |
| Promote family and/or company severe weather action plan (i.e. 'Survival in the Country' program). |
| Conduct a needs analysis of New Boston Town Hall for an emergency generator. |
| Complete radio infrastructure update for police, fire and highway departments. |
| Evaluation and strategy development for the transfer station non-stop operation. |
| Backup generator for library. |
| Participate in the Community Rating System. |

Mitigation Action Plan

The projects identified in 2010 included preparedness projects as well as mitigation projects. During the 2016 update, the committee prioritized only the projects defined as mitigation by FEMA. The mitigation projects were compiled in the Mitigation Action Plan found on Page 6-4 which identifies Responsibility, Funding, Time frame, Hazards Addressed and the Priority for each mitigation project. The preparedness projects are identified on page 6-5.

Since the 2010 version of the Hazard Mitigation Plan (HMP), the Town did not incorporate mitigation strategies into other planning mechanisms. However, the Town will consider incorporating HMP activities into other planning documents over the next five years. Some of those plans could include the following:

- Master Plan – The Master Plan is updated every 5 to 10 years in accordance with RSA 674. This plan also includes a discussion of capital improvements within the Town. The next Master Plan update will integrate mitigation strategies and actions from the HMP (which will have been updated in accordance with the provisions of Section VI in this plan).
- Emergency Operations Plan (EOP) – The EOP is designed to allow the Town to respond more effectively to disasters as well as mitigate the risk to people and property. The EOP will be reviewed to ensure that where appropriate, specific mitigation actions outlined in the HMP are also addressed in the EOP.

MITIGATION ACTION PLAN

The following is the completed list of projects, recommended by the Committee. The following action plan identifies Responsibility, Funding and a Time frame for the mitigation projects for each objective. The actions will begin as soon as the plan is approved and the community is eligible for funding, unless otherwise stated, and will be completed as noted in the implementation date column in the table below.

| Mitigation Action Plan – New Boston, NH | | | | | | |
|---|--------------------------------------|-----------------------------|------------------|--|---------------------------|-----------------|
| Mitigation Action | Responsibility/ Oversight | Funding/ Support | Timeframe | Hazards Addressed | Estimated Cost | Priority |
| 1. Upgrade culvert on Bedford Road. | Highway Department | Town budget / Grants | 1-2 years | Flood, Hurricane | \$85,000 | High |
| 2. Continue maintenance of water sources and fire ponds to ensure fire suppression capabilities. | Fire Dept. | Town budget / Grants | 1-2 years | Drought, Wildfire | \$2,000 | High |
| 3. Implement a drainage/catchment system to divert and capture runoff at the High Department site, which may contain chemical substances (i.e. salt, road treatment chemicals, hydraulic fluids/oils, etc). | Highway Department | Town budget / Grants | 2-3 years | Human Caused | \$100,000 | High |
| 4. Establish a local tree maintenance program to clear trees and hanging limbs from roadways and utilities. | Highway Department | Highway Budget / Grants | 1-2 years | Hurricane, Severe Wind, Winter Weather | \$5,000 | High |
| 5. Install bank Stabilization along Christy Road and Bog Road. | Highway Department | Town Budget / Grants | 2-3 years | Erosion | \$40,000 to \$50,000 | Medium |
| 6. Continue to enforce floodplain regulations, including substantially improved structures; and amend regulations as necessary per federal requirements. | Building & Planning | No cost / staff time only | 1-2 years | Flood, Hurricane | \$0 - Staff Time | Medium |

| Mitigation Action Plan – New Boston, NH | | | | | | |
|---|--------------------------------------|-----------------------------------|------------------|--|---------------------------|-----------------|
| Mitigation Action | Responsibility/ Oversight | Funding/ Support | Timeframe | Hazards Addressed | Estimated Cost | Priority |
| 7. Promote family and/or company severe weather action plan (i.e. ‘Survival in the Country’ program). | EMD / Police / Fire | | 1-2 years | All Hazards | \$0 - Staff Time | Medium |
| 8. Review and develop program for installing lightning protection for critical facilities, including the Town gas pumps. | EMD / Town Administrator | Town budget / Grants | 2-3 years | Severe Wind (lightning) | \$3,000 to \$20,000 | Medium |
| 9. Assess critical facilities for risk to damage from falling trees. | Town Administrator | Town budget / Grants | 2-3 years | Hurricane, Severe Wind, Winter Weather | \$5,000 to \$10,000 | Medium |
| 10. Identify at-risk populations with special needs (i.e. medical) during disasters. | EMD | No cost / staff time only | 1-2 years | All Hazards | \$0 - Staff Time | Medium |
| 11. Post season article for specific hazards in local media outlets regarding mitigation strategies. | EMD | No cost / staff time only | 1-2 years | All Hazards | \$0 - Staff Time | Medium |
| 12. Map erosion prone hazard areas. | Planning | Town Budget/ SNHRPC/ Grants | 4-5 years | Erosion | \$0 to \$5,000 | Medium |
| 13. Participate in the Community Rating System (CRS) which potential reduces premiums for flood insurance policy holders. | EMD / Planning | No cost / staff time only | 3-4 years | Flood, Hurricane | \$0 - Staff Time | Medium |
| 14. Install soil stabilization methods along Middle Branch Road in the area of the conservation land. | Highway Department | Town budget / Grants | 3-4 years | Landslide | \$40,000 to \$50,000 | Medium |
| 15. Conduct seismic retrofit if critical facilities. | Town Administrator | Town Budget/Grant s | 3-4 years | Earthquake | \$100 to \$5,000 | Low |

| Mitigation Action Plan – New Boston, NH | | | | | | |
|---|--------------------------------------|---------------------------------|------------------|------------------------------|---------------------------|-----------------|
| Mitigation Action | Responsibility/ Oversight | Funding/ Support | Timeframe | Hazards Addressed | Estimated Cost | Priority |
| 16. Provide public information related to mitigating chimney fires and “brush pits”. | Fire Dept. | No cost / staff time only | 1-2 years | Wildfire | \$0 - Staff Time | Low |
| 17. Investigate joining the Firewise Program that emphasizes community responsibility for planning in the design of a safe community as well as effective emergency response, and individual responsibility for safer home construction and design, landscaping, and maintenance. | Fire Dept. | No cost / staff time only | 2-3 years | Drought, Wildfire | \$0 - Staff Time | Low |

| NON-MITIGATION PROJECTS |
|--|
| 1. Obtain inundation map for the Everett Dam |
| 2. Install river gauges at vulnerable locations on the Piscataquog River. |
| 3. Develop an inventory and maintenance program for retention/detention ponds in subdivisions. |
| 4. Coordinate with NH DES on the removal of downed tree debris that increases potential for Ice Jams on the South Branch of the Piscataquog River. |
| 5. Install a backup generator at the library. |
| 6. Install a backup generator at the school for a shelter. |
| 7. Coordinate with CERT on training and supplies. |
| 8. Complete radio infrastructure update for police, fire and highway departments. |
| 9. Update the School Evacuation Plan on an annual basis. |
| 10. Conduct a needs analysis of New Boston Town Hall for an emergency generator. |
| 11. Evaluation and strategy development for the transfer station non-stop operation. |
| 12. Build a new salt shed. |
| 13. Implement school security measures (i.e. radios, internal notification, door locks, etc.) |
| 14. Purchase portable LED traffic signs for Fire, Police and DPW. |
| 15. Purchase portable radios for the Police Department. |
| 16. Purchase PPE for Police (i.e. tactical vests, ballistic shields and helmets, etc.) |

Chapter 7

ADOPTION, IMPLEMENTATION, MONITORING

Adoption

The New Boston Selectmen by majority vote officially adopted the *New Boston Hazard Mitigation Plan Update 2016* on August 12, 2016. The formal Adoption is on page 7-3.

Implementation

There were 17 mitigation projects that were prioritized by the Committee. For each project the Committee identified who, when and how they would be implemented. Please refer to the “Action Plan” in Chapter 6 for a description of the timeframe and persons or departments responsible for implementation of the Prioritized Projects.

It will be the future responsibility of the Emergency Management Director to ensure implementation of these Prioritized Projects.

Monitoring & Updates

The *New Boston Hazard Mitigation Plan Update 2016* should be reviewed and evaluated annually; and formally updated every five years. The Emergency Management Director is responsible for initiating this review and needs to consult with members of the New Boston Emergency Management Committee, in order to track progress and update the Prioritized List in Chapter 6. The EMD will ensure the following:

- The Hazard Analysis will be evaluated for accuracy.
- Projects completed will be evaluated to determine if they met their objective.
- Projects not completed since the last updated will be reviewed to determine feasibility of future implementation.
- Lastly, new projects will be identified and included in future updates as needed.
- The public, members of the Committee, surrounding communities, businesses, academia, State agencies and non-profit agencies, will continue to be invited and involved during this process. These groups can be notified through invitations, public notices, newspapers articles, brochures and/or other public outreach activities.
- In keeping with the process of adopting the New Boston Hazard Mitigation Plan Update 2016, a public hearing to receive public comment will be held. This will require the posting of two public notices.
- Updates to the *Plan* may be adopted subsequent to a public meeting or hearing by the New Boston Board of Selectmen.
- Once every five years, the EMD will submit an updated plan to FEMA for approval.

| Annual Hazard Mitigation Plan Update, Monitor & Evaluate Schedule and Public Involvement | | | |
|---|--|--|---|
| Meeting Schedule | Task | Town of New Boston Responsibilities | Public Involvement (neighboring communities) |
| Annually or as needed | Assess current status of funding for mitigation projects. Discuss any new projects/plans that should be obtained for your community. | Dept. heads and Board of Selectmen to locate and apply for sources of funding and implement the proposed strategies and plans. | Residents, businesses, and neighboring / watershed communities. |
| Annually or as needed | Meet to discuss the Hazard Mitigation Plan content and any updates needed for the plan | Department Heads or other agencies. | Residents, businesses, and neighboring / watershed communities. |
| Annually or as needed | Discussion and evaluation of Training Programs and public outreach efforts. New public outreach methods discussed. | Department Heads or other agencies. | Residents, businesses, and neighboring / watershed communities. |

CERTIFICATION OF ADOPTION

**TOWN OF NEW BOSTON, NH
7 MEETINGHOUSE HILL ROAD, NEW BOSTON, NH 03070
August 12, 2016**

A RESOLUTION ADOPTING THE TOWN OF NEW BOSTON, NH HAZARD MITIGATION PLAN UPDATE 2016

WHEREAS, the Town of New Boston, NH has historically experienced severe damage from natural hazards and it continues to be vulnerable to the effects of - only those natural hazards profiled in the plan (i.e. *flooding, thunderstorm, high wind, winter storms, earthquakes, and dam failure*), resulting in loss of property and life, economic hardship, and threats to public health and safety; and

WHEREAS, the Town of New Boston, NH, has developed and received conditional approval from the Federal Emergency Management Agency (FEMA) for its Hazard Mitigation Plan Update 2016 under the requirements of 44 CFR 201.6; and

WHEREAS, public and committee meetings were held between October 2015 and March 2016 regarding the development and review of the Hazard Mitigation Plan Update 2016; and

WHEREAS, the Plan specifically addresses hazard mitigation strategies and Plan maintenance procedure for the Town of New Boston, NH; and

WHEREAS, the Plan recommends several hazard mitigation actions/projects that will provide mitigation for specific natural hazards that impact the Town of New Boston, NH, with the effect of protecting people and property from loss associated with those hazards; and

WHEREAS, adoption of this Plan will make the Town of New Boston, NH eligible for funding to alleviate the impacts of future hazards; now therefore be it

RESOLVED by the Board of Selectmen:

The Plan is hereby adopted as an official plan of the Town of New Boston, NH

1. The respective official identified in the mitigation strategy of the Plan are hereby directed to pursue implementation of the recommended actions assigned to them;
2. Future revisions and Plan maintenance required by 44 CFR 201.6 and FEMA are hereby adopted as part of this resolution for a period of five (5) years from the date of this resolution.
3. An annual report on the progress of the implementation elements of the Plan shall be presented to the Board of Selectmen by April 1st of each year.

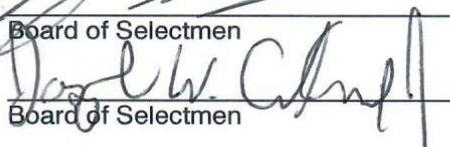
Adopted, this August 12 day of August, 2016.


Board of Selectmen, Chairman


Authorizing Signature


Board of Selectmen

Selectman
Authorizing Title


Board of Selectmen

ACRONYMNS

BMP – Best Management Practices
CDBG - Community Development Block Grant
CRS – Community Rating System
DES – Department of Environmental Services
DHS – Department of Homeland Security
DMA – Disaster Mitigation Act
DOT – Department of Transportation
EAP – Emergency Action Plan
EMD – Emergency Management Director
EMPG – Emergency Management Performance Grant
EMS – Emergency Medical Services
EOC – Emergency Operations Center
EOP – Emergency Operations Plan
FEMA – Federal Emergency Management Agency
FIRM – Flood Insurance Related Maps
FMA – Flood Mitigation Assistance Program
GIS – Geographic Information System
HAZMAT – Hazardous Material
HMGP – Hazard Mitigation Grant Program
HSEM – Homeland Security and Emergency Management
ICC – International Code Council
NFIP – National Flood Insurance Program
NH HSEM – NH Homeland Security and Emergency Management
PDM – Pre-Disaster Mitigation
OEP – Office of Energy Planning
RC&D – Resource Conservation and Development
USGS – United State Geological Survey

APPENDICES

Appendix A
Appendix B
Appendix C

Hazard Mitigation Resources
Documentation of Planning Process
Approval Letter from FEMA

APPENDIX A

Hazard Mitigation Resources

◆ HAZARD MITIGATION GRANT PROGRAM - "Section 404 Mitigation"

The Hazard Mitigation Grant Program (HMGP) in New Hampshire is administered in accordance with the 404 HMGP Administration Plan which was derived under the authority of Section 404 of the Stafford Act in accordance with Subpart N. of 44 CFR.

The program receives its funding pursuant to a Notice of Interest submitted by the Governor's Authorized Representative (or GAR, i.e. the Director of NH HSEM) to the FEMA Regional Director within 60 days of the date of a Presidentially Declared Disaster.

The amount of funding that may be awarded to the State/Grantee under the HMGP may not exceed 15% of (over and above) the overall funds as are awarded to the State pursuant to the Disaster Recovery programs as are listed in 44 CFR Subpart N. Section 206.431 (d) (inclusive of all Public Assistance, Individual Assistance, etc.). Within 15 days of the Disaster Declaration, an Inter-Agency Hazard Mitigation Team is convened consisting of members of various Federal, State, County, Local and Private Agencies with an interest in Disaster Recovery and Mitigation. From this meeting, a Report is produced which evaluates the event and stipulates the State's desired Mitigation initiatives.

Upon the GAR's receipt of the notice of an award of funding by the Regional Director, the State Hazard Mitigation Officer (SHMO) publishes a Notice of Interest (NOI) to all NH communities and State Agencies announcing the availability of funding and solicits applications for grants. The 404 Administrative Plan calls for a State Hazard Mitigation Team to review all applications. The Team is comprised of individuals from various State

Eligible Subgrantees include:

- State and Local governments,
- Certain Not for Profit Corporations
- Indian Tribes or authorized tribal organizations
- Alaskan corporations not privately owned.

Minimum Project Criteria

- Must conform with the State's "409" Plan
- Have a beneficial impact on the Declared area
- Must conform with:
 - NFIP Floodplain Regulations
 - Wetlands Protection Regulations
 - Environmental Regulations
 - Historical Protection Regulations
- Be cost effective and substantially reduce the risk of future damage
- Not cost more than the anticipated value of the reduction of both direct damages and subsequent negative impacts to the area if future disasters were to occur i.e., min 1:1 benefit/cost ratio
- Both costs and benefits are to be computed on a "net present value" basis
- Has been determined to be the most practical, effective and environmentally sound alternative after a consideration of a range of options
- Contributes to a long-term solution to the problem it is intended to address
- Considers long-term changes and has manageable future maintenance and modification requirements

Agencies.

Eligible Projects may be of any nature that will result in the protection to public or private property and include:

- Structural hazard control or protection projects
- Construction activities that will result in protection from hazards
- Retrofitting of facilities
- Certain property acquisitions or relocations
- Development of State and local mitigation standards
- Development of comprehensive hazard mitigation programs with implementation as an essential component
- Development or improvement of warning systems

◆ FLOOD MITIGATION ASSISTANCE (FMA) PROGRAM

New Hampshire has been a participant in the Flood Mitigation Assistance Program (FMA or FMAP) since 1996/97. In order to be eligible, a community must be a participant in the National Flood Insurance Program.

In 1997, the State was awarded funds to assist communities with Flood Mitigation Planning and Projects. A Planning Grant from the 1996/97 fund was awarded to the City of Keene in 1998. In preparation for the development of the Flood Mitigation Plan, the Planning Department of the City of Keene created a digital data base of its floodplain including the digitizing of its tax assessing maps as well as its Special Flood Hazard Areas in GIS layers. The Plan Draft was submitted to FEMA for review and approval in March of 2000. The Plan includes a detailed inventory of projects and a "model" project prioritization approach.

In 1998, the FMAP Planning Grant was awarded to the Town of Salem. Given the complexity of the issues in the Spicket River watershed, the Town of Salem subcontracted a substantial portion of the development of its Flood Mitigation Planning to SFC Engineering Partnership of Manchester, NH, a private engineering firm. Salem submitted a Plan and proposed projects to the State and FEMA in May of 1999 which were approved by FEMA. This made Salem the first community in NH to have a FEMA/NFIP approved Flood Mitigation Plan.

Flood Mitigation Assistance Program

- NFIP Funded by a % of Policy Premiums
- Planning Grants
- Technical Assistance Grants to States (10% of Project Grant)
- Project Grants to communities
- Communities must have FEMA approved Flood Mitigation Plan to receive Project Funds

Eligible Projects

(44 CFR Part 78)

- Elevation of NFIP insured residential structures
- Elevation and dry-proofing of NFIP insured non-residential structures
- Acquisition of NFIP insured structures and underlying real property
- Relocation of NFIP insured structures from acquired or restricted real property to sites not prone to flood hazards
- Demolition of NFIP insured structures on acquired or restricted real property
- Other activities that bring NFIP insured structures into compliance with statutorily authorized floodplain management requirements
- Beach nourishment activities that include planting native dune vegetation and/or the installation of sand-fencing.
- Minor physical mitigation projects that do not duplicate the flood prevention activities of other Federal agencies and lessen the frequency of flooding or severity of flooding and decrease the predicted flood damages in localized flood problem areas. These include: modification of existing culverts and bridges, installation or modification of flood gates, stabilization of stream banks, and creation of small debris or flood/storm water retention basins in small watersheds (not dikes, levees, seawalls etc.)

◆ PRE-DISASTER MITIGATION PROGRAM (PDM)

FEMA has long been promoting disaster resistant construction and retrofit of facilities that are vulnerable to hazards in order to reduce potential damages due to a hazard event. The goal is to reduce loss of life, human suffering, economic disruption, and disaster costs to the Federal taxpayer. This has been, and continues to be accomplished, through a variety of programs and grant funds.

Although the overall intent is to reduce vulnerability before the next disaster threatens, the bulk of the funding for such projects actually has been delivered through a "post-disaster" funding mechanism, the Hazard Mitigation Grant Program (HMGP). This program has successfully addressed the many hazard mitigation opportunities uniquely available following a disaster. However, funding of projects "pre-disaster" has been more difficult, particularly in states that have not experienced major disasters in the past decade. In an effort to address "pre-disaster mitigation", FEMA piloted a program from 1997-2001 entitled "Project Impact" that was community based and multi-hazard oriented.

Through the Disaster Mitigation Act of 2000, Congress approved creation of a national Pre-disaster Hazard Mitigation program to provide a funding mechanism that is not dependent on a Presidential disaster declaration. For FY2002, \$25 million has been appropriated for the new grant program entitled the ***Pre-Disaster Mitigation Program (PDM)***. This new program builds on the experience gained from Project Impact, the HMGP, and other mitigation initiatives.

Eligible projects include:

- State and local hazard mitigation planning
- Technical assistance [e.g. risk assessments, project development]
- Mitigation Projects
 - Acquisition or relocation of vulnerable properties
 - Hazard retrofits
 - Minor structural hazard control or protection projects
- Community outreach and education [up to 10% of state allocation]

The funding is 75% Federal share, 25% non-Federal, except as noted below. The grant performance periods will be 18 months for planning grants, and 24 months for mitigation project grants. The PDM program is available to regional agencies and Indian tribes. Special accommodation will be made for "small and impoverished communities", who will be eligible for 90% Federal share, 10% non-Federal.

◆ COMMUNITY DEVELOPMENT BLOCK GRANT PROGRAM

These Federal funds are provided through the U.S. Department of Housing and Urban Development (HUD) and are administered by the CDBG Program of the New Hampshire Office of State Planning.

Some CDBG disaster related funding has been transferred to FEMA recently and the SHMO is scheduled to receive guidance as to which specific funds and, new program management criteria.

The specific CDBG funds designated for hazard mitigation purposes are made available to address "unmet needs" pursuant to a given Disaster Declaration to States which request them. For these funds, project selection guidance is provided by NH HSEM and NHOSP administers the grant.

Pursuant to Declaration DR-1144-NH, \$557,000.00 was made available to the State and pursuant to DR-1199-NH, the grant award is targeted at \$1,500,000.00.

In October of 1998, HUD announced the program guidelines for the expenditure of the DR-1144-NH related funding and the community of Salem applied for, and has received preliminary approval for funding to acquire a 19 unit trailer park in the Floodplain.

Community Development Block Grant

- *U.S. Dept. of Housing and Urban Development*
- *Funds for a Declared Disaster's "Unmet Needs"*
- *Projects must meet one of three National Objectives*
- *Provide a direct benefit to low and moderate income persons or households*
- *Prevent or eliminate slums and blight*
- *Eliminate conditions which seriously and immediately threaten the public health and welfare*

Additional conditions with respect to the expenditure of these funds includes the provision that at least 50% of the grant award must be expended in a manner which benefits individuals who earn 80% or less than the area's (county's) median income.

| WEBSITES FOR MITIGATION RESOURCES | |
|--|---|
| American Planning Association | http://planning.org |
| Community Rating System | http://www.fema.gov/national-flood-insurance-program-community-rating-system |
| FEMA Mitigation Planning | http://www.fema.gov/multi-hazard-mitigation-planning |
| FEMA Public Assistance Program | https://www.fema.gov/public-assistance-local-state-tribal-and-non-profit |
| Flood Mitigation Assistance Program | http://www.fema.gov/flood-mitigation-assistance-program |
| Hazard Mitigation Grant Program | http://www.fema.gov/hazard-mitigation-grant-program |
| HAZUS and HAZUS–MH | https://www.fema.gov/hazus |
| Mitigation Success Stories | http://www.fema.gov/mitigation-best-practices-portfolio |
| National Flood Insurance Program | http://www.fema.gov/nfip |
| National Hurricane Program | http://www.fema.gov/hazards/hurricanes/nhp.shtm |
| NOAA Storm Events | http://www.ncdc.noaa.gov/stormevents/ |
| NH Homeland Security & Emergency Management | http://www.nh.gov/safety/divisions/hsem/ |
| Pre-Disaster Mitigation Program | https://www.fema.gov/pre-disaster-mitigation-grant-program |
| Small Business Administration | http://www.sba.gov/disaster |
| U.S. Army Corps of Engineers | http://www.usace.army.mil |
| U.S. Department of Agriculture (USDA) | http://www.usda.gov/da/disaster/nda.htm |
| USDA , Natural Resources Conservation Service | http://www.nrcs.usda.gov |
| U.S. Department of Housing and Urban Development | http://portal.hud.gov/hudportal/HUD |

APPENDIX B

Documentation of Planning Process

Including:

Agendas

Attendance Sheets

Public Notices / Email Notices

Mitigation Project Identification Matrix

Prioritized Mitigation Projects

New Boston, NH Hazard Mitigation Plan

October 20, 2015

Committee/Public Meeting AGENDA

1. Introductions
2. Review/Update Goals
3. Review/Update Hazard History
4. Review/Update Risk Matrix
5. MISC:
 - a. Any significant changes in development since fall of 2010, especially in hazard prone areas?
 - b. Participation/activities in NFIP since 2010?
 - c. Was the HMP incorporated into other planning mechanisms? If not, why?
6. Review for next meeting:
 - Update Critical Facilities (Chap. 4)
 - Update Capability Assessment (Chap.5)
 - Distribute Sample Mitigation Projects

ATTENDEES

| | |
|--------------------|--|
| Dan MacDonald | New Boston Fire Chief/EMD |
| Dick Perusse | New Boston Road Agent |
| Ed Hunter | New Boston Building Department |
| Eric Dubowik | New Boston Fire Inspector |
| James Brace | New Boston Police Department |
| Peter Flynn | New Boston Town Administrator |
| Shannon Silver | New Boston Planning Department |
| Tori Underwood | New Boston Central School |
| Jane Hubbard | Hubbard Consulting LLC, Consultant |
| Bonnie M. Lockwood | McGrew Management Services LLC, Consultant |

New Boston, NH Hazard Mitigation Plan

November 10, 2015

Committee/Public Meeting AGENDA

1. Review/Update Critical Facilities
2. Review/Update Capabilities
3. Update Mitigation Projects
4. Review for next meeting:
Identify NEW mitigation projects

ATTENDEES

| | |
|--------------------|---|
| Dan MacDonald | New Boston Fire Chief/EMD |
| Danielle Morse | NH Homeland Security and Emergency Management |
| Dick Perusse | New Boston Road Agent |
| Ed Hunter | New Boston Building Department |
| James Brace | New Boston Police Department |
| Nic Strong | New Boston Planning Coordinator |
| Tori Underwood | New Boston Central School |
| Jane Hubbard | Hubbard Consulting LLC, Consultant |
| Bonnie M. Lockwood | McGrew Management Services LLC, Consultant |

New Boston, NH Hazard Mitigation Plan

December 15, 2015

Committee/Public Meeting AGENDA

1. Review STAPLEE Criteria and FEMA Mitigation Ideas manual
2. Identify NEW mitigation projects, using the ‘Problem Statements to Projects’ worksheet and STAPLEE Methodology.

Next Meeting:

Prioritize Mitigation Projects
Complete Mitigation Action Plan

ATTENDEES

| | |
|--------------------|--|
| Dan MacDonald | New Boston Fire Chief/EMD |
| Ed Hunter | New Boston Building Department |
| Eric Dubowik | New Boston Fire Inspector |
| James Brace | New Boston Police Department |
| Peter Flynn | New Boston Town Administrator |
| Shannon Silver | New Boston Planning Department |
| Tori Underwood | New Boston Central School |
| Jane Hubbard | Hubbard Consulting LLC, Consultant |
| Bonnie M. Lockwood | McGrew Management Services LLC, Consultant |

New Boston, NH Hazard Mitigation Plan

January 19, 2016

Committee/Public Meeting AGENDA

1. Vote for Mitigation Projects

2. Complete the Mitigation Action Plan

Next Meeting:
Review FINAL DRAFT of the Mitigation Plan

ATTENDEES

| | |
|----------------|------------------------------------|
| Dan MacDonald | New Boston Fire Chief/EMD |
| Dick Perusse | New Boston Road Agent |
| Ed Hunter | New Boston Building Department |
| Eric Dubowik | New Boston Fire Inspector |
| James Brace | New Boston Police Department |
| Peter Flynn | New Boston Town Administrator |
| Shannon Silver | New Boston Planning Department |
| Tori Underwood | New Boston Central School |
| Jane Hubbard | Hubbard Consulting LLC, Consultant |

New Boston, NH Hazard Mitigation Plan

March 1, 2016

Committee/Public Meeting AGENDA

1. Review Final Draft of Hazard Mitigation Plan Update 2016

ATTENDEES

| | |
|----------------|---|
| Dan MacDonald | New Boston Fire Chief/EMD |
| Danielle Morse | NH Homeland Security and Emergency Management |
| Dick Perusse | New Boston Road Agent |
| Ed Hunter | New Boston Building Department |
| Eric Dubowik | New Boston Fire Inspector |
| James Brace | New Boston Police Department |
| Peter Flynn | New Boston Town Administrator |
| Tori Underwood | New Boston Central School |

PUBLIC NOTICE TO THE RESIDENTS OF NEW BOSTON, NH

PUBLIC NOTICE

New Boston Town Office New Boston, NH

The Town of New Boston, with the Hazard Mitigation Planning Committee, is currently working to update New Boston's *Hazard Mitigation Plan*. The *Plan* identifies potential natural and man-made hazards throughout the town and various projects and/or strategies to mitigate their effects. The President signed into law, the Disaster Mitigation Act of 2000 (DMA), Section 322-Mitigation Planning. It requires all local governments to prepare and adopt jurisdiction-wide hazard mitigation plans as a condition of receiving Hazard Mitigation Grant Program (HMGP) and Pre-Disaster Mitigation (PDM) project grants.

All residents, neighboring communities, businesses, and interested parties are formally invited to review a draft of the Updated *Plan* and publicly comment on their concerns regarding the *Plan*.

For more information please contact Jane Hubbard, via email at jhubb_99@yahoo.com.

The above notice was posted at the New Boston Town Hall, Dodge's Store, the bank, Post Office and town website. In addition email notices were sent to neighboring towns, chamber of commerce and the regional planning commission, as shown below.

The following was emailed on 10/2/15, 10/21/15, 12/10/15, 1/10/16 and 2/26/16: The Town of New Boston, NH is in the process of updating its Hazard Mitigation Plan. This Plan is a tool to be used by the Town, as well as other local, state and federal governments, to reduce the effects of natural and man-made hazards. Our communities and organizations share common hazards which do not respect governmental boundaries. Therefore, we are personally inviting you to participate in the planning process to update the Town's Hazard Mitigation Plan.

We encourage you to attend the first Committee meeting on October 6, 2015 at 10:00am at the New Boston Town Hall (Conference Room). Please RSVP by 10/5. If you are unable to attend this meeting you may access a copy of the planning documents and/or comment on hazard mitigation issues by emailing Jane Hubbard with Hubbard Consulting LLC at jhubb_99@yahoo.com or at [603-848-8801](tel:603-848-8801).

For further information on mitigation planning, we are attaching a fact sheet. We look forward to hearing your ideas on how to mitigate future hazards for the community.

Thank you, on behalf of the Town of New Boston,
Jane Hubbard

Matt Conley
Amherst EMD
mconley@amherstnh.gov

Scott Wiggin
Bedford EMD
swiggin@bedfoordnh.org

Kevin Holdredge
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Sylvia Von Aulock
Southern NH Planning Commission
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Greater Manchester Chamber of Commerce
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Parker Moore
State Hazard Mitigation Officer
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Danielle Morse
NH HSEM Field Rep
Danielle.Morse@dos.nh.gov

Jennifer Gilbert, NFIP Coord.
Office of Energy & Planning
jennifer.gilbert@nh.gov

| Hazard | Problem Statements | Projects <i>BOLD are existing projects from last edition of plan</i> <i>RED are NOT 'Mitigation'</i> <i>???</i> are suggested items for discussion | Social | Technical | Administrativ | Political | Legal | Economic | Environment |
|--------------|--|--|--------|-----------|---------------|-----------|-------|----------|-------------|
| | | | | | | | | | |
| Dam Breach | 1. There are no hazardous dams located in New Boston, however the Everett Dam in Weare could cause significant flooding on the North Branch Piscataquog River in New Boston. | Post seasonal articles for specific hazards in local media outlets regarding emergency preparedness. | + | + | + | + | + | + | + |
| | | Obtain inundation map for Everett Dam | + | + | + | + | + | + | + |
| Earthquake | 2. Critical facilities and structures of un-reinforced masonry, as well as buried utilities, are susceptible to earthquake damage. | Conduct retrofitting of critical facilities. | + | + | + | - | + | - | + |
| Erosion | 3. Areas of steep slopes and erosion prone soils are a potential risk to infrastructure. | Map erosion hazard areas | + | + | + | + | + | - | + |
| | | Bank stabilization | + | + | + | + | + | + | + |
| Extreme Heat | 4. Special populations (elderly, medical) are at risk during periods of extreme heat. | Post seasonal articles for specific hazards in local media outlets regarding emergency preparedness. | + | + | + | + | + | + | + |
| | | Generator for Library | + | + | + | + | + | + | + |
| Flood | 5. Heavy and prolonged rain events cause flood damage to roads and culverts and bridges and has the potential for residential flooding. | Install river gauges at vulnerable locations on Piscataquog River. | + | + | + | + | + | + | + |
| | | Require all culvert replacement and other road projects to be conducted in accordance with NFIP standards. | + | + | + | + | + | + | + |
| | | Develop an inventory and maintenance program for retention/detention ponds in subdivisions. | + | + | - | + | + | + | + |
| | 6. There a numerous structures (residential, public and businesses) that are located in the floodplain and prone to flooding. | Participate in the Community Rating System. | + | + | + | + | + | + | + |
| | | Continue to enforce floodplain regulations, including substantially improved structures; and | + | + | + | + | + | + | + |

| Hazard | Problem Statements | Projects <i>BOLD are existing projects from last edition of plan</i> <i>RED are NOT 'Mitigation'</i> <i>???</i> are suggested items for discussion | Social | Technical | Administrativ | Political | Legal | Economic | Environment |
|-------------------------------------|--|--|--------|-----------|---------------|-----------|-------|----------|-------------|
| | | | | | | | | | |
| | | amend regulations as necessary per federal requirements. | | | | | | | |
| | | Upgrade Bedford Road Culvert | + | + | + | + | + | + | + |
| | 7. The South Branch of the Piscataquog River is prone to ice jams and can cause damage to structures and infrastructure. | Coordinate with NH DES on Removal of Downed trees that increase potential for ice jam. | + | + | + | - | + | + | + |
| Hail | 8. Hail can cause minor to moderate damage to property and people. | Post seasonal articles for specific hazards in local media outlets regarding emergency preparedness. | + | + | + | + | + | + | + |
| Hurricane | 9. Power outages from downed utilities, minor structural damage, limited access and flooding can affect the town as a result of a hurricane. | Establish a local tree maintenance program to clear trees and hanging limbs from roadways and utilities. | + | + | + | + | + | + | + |
| | 10. Debris removal is an added expense to town. | Generator for the School | + | + | + | + | + | + | + |
| | | None | + | + | + | + | + | + | + |
| Landslide | 11. All areas of steep slope greater than 15% are at risk to landslide. | Soil stabilization | + | + | + | + | + | + | + |
| Lightning | 12. Populations involved in outdoor activities are at risk from lightning strikes. | Post seasonal articles for specific hazards in local media outlets regarding emergency preparedness. | + | + | + | + | + | + | + |
| | 13. Critical facilities and utilities (i.e. communication towers) are at risk to lightning strikes. | Review and Develop program for installing lightning protection for critical facilities. | + | + | + | + | + | + | + |
| Severe Wind (Tornado /Downburst) | 14. Wind damage can result in downed utilities causing power outages and limited access. | Promote family and/or company severe weather action plan (i.e. 'Survival in the Country' program). | + | + | + | + | + | + | + |
| | | Assess critical facilities for risk to tree damage. | + | + | + | + | + | + | + |

| Hazard | Problem Statements | Projects <i>BOLD are existing projects from last edition of plan</i> <i>RED are NOT 'Mitigation'</i> <i>???</i> are suggested items for discussion | Social | Technical | Administrativ | Political | Legal | Economic | Environment |
|----------------------|--|--|--------|-----------|---------------|-----------|-------|----------|-------------|
| | | | | | | | | | |
| | 15. Populations involved in activities in outdoor recreation areas are at high risk in severe wind events. | Post seasonal articles for specific hazards in local media outlets regarding emergency preparedness. Coordinate with organizations on awareness. | + | + | + | + | + | + | + |
| Wild/Forest Fire | 16. There is a need for additional water supply for fire suppression in minimal fire suppression areas. | Continue maintenance of water sources and fire ponds to ensure fire suppression capabilities. | + | + | + | + | + | + | + |
| | 17. The urban/wildland interface creates a potential for wildfires to impact developed areas in town. | Consider joining the 'Firewise' that promotes effective wildland urban interface management. | + | + | + | + | + | + | + |
| | | Provide public information related to mitigating chimney fires and "brush pits". | + | + | + | + | + | + | + |
| Winter Weather | 18. Extended power outages due to winter storms may require activation of a shelter. | Identify at-risk populations with special needs (i.e. medical) during disasters. | + | + | + | + | + | + | + |
| | 19. Special populations would be at risk during an extended period of extreme cold. | Coordinate with CERT on training and supplies. | + | + | + | + | + | + | + |
| Human Caused Hazards | 20. Communications interoperability is limited in certain areas of town. 21. Governmental buildings, including schools, are at risk to human caused hazards. 22. Transportation related hazardous materials related incidents are likely to occur. | Complete radio infrastructure update for police, fire and highway departments. | + | + | + | + | + | + | + |
| | | Update the School Evacuation Plan on an annual basis. | + | + | + | + | + | + | + |
| | | Purchase and install a generator at the Central School and the Library. | + | + | + | + | + | + | + |
| | | Conduct a needs analysis of New Boston Town Hall for an emergency generator. | + | + | + | + | + | + | + |
| | | Evaluation and strategy development for the transfer station non-stop operation. | + | + | + | + | + | + | + |
| | | Build a new salt shed. | + | + | + | + | + | + | + |

For purposes of prioritizing the mitigation projects listed in the table below, each committee member should vote for half of the projects (total of 9) by placing a check mark in the "# of votes" column. The projects will be prioritized based upon the total number of votes received for each project.

| PRIORITIZED MITIGATION PROJECTS | # OF VOTES |
|---|-------------------|
| 1. Post season article for specific hazards in local media outlets regarding mitigation strategies. | 3 |
| 2. Conduct seismic retrofit if critical facilities. | 2 |
| 3. Map erosion prone hazard areas. | 3 |
| 4. Install bank Stabilization along Christy Road and Bog Road. | 5 |
| 5. Participate in the Community Rating System (CRS) which potential reduces premiums for flood insurance policy holders. | 3 |
| 6. Continue to enforce floodplain regulations, including substantially improved structures; and amend regulations as necessary per federal requirements. | 5 |
| 7. Upgrade culvert on Bedford Road. | 8 |
| 8. Establish a local tree maintenance program to clear trees and hanging limbs from roadways and utilities. | 6 |
| 9. Install soil stabilization methods along Middle Branch Road in the area of the conservation land. | 3 |
| 10. Review and develop program for installing lightning protection for critical facilities. | 4 |
| 11. Promote family and/or company severe weather action plan (i.e. 'Survival in the Country' program). | 5 |
| 12. Assess critical facilities for risk to damage from falling trees. | 4 |
| 13. Continue maintenance of water sources and fire ponds to ensure fire suppression capabilities. | 7 |
| 14. Investigate joining the Firewise Program that emphasizes community responsibility for planning in the design of a safe community as well as effective emergency response, and individual responsibility for safer home construction and design, landscaping, and maintenance. | 1 |
| 15. Provide public information related to mitigating chimney fires and "brush pits". | 2 |
| 16. Identify at-risk populations with special needs (i.e. medical) during disasters. | 4 |
| 17. Implement a drainage/catchment system to divert and capture runoff at the High Department site, which may contain chemical substances (i.e. salt, road treatment chemicals, hydraulic fluids/oils, etc). | 7 |

High: 6-8 Medium: 3-5 Low: 0-2

NON MITIGATION PROJECTS

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|--|
| 1. Obtain inundation map for the Everett Dam |
| 2. Install river gauges at vulnerable locations on the Piscataquog River. |
| 3. Develop an inventory and maintenance program for retention/detention ponds in subdivisions. |
| 4. Coordinate with NH DES on the removal of downed tree debris that increases potential for Ice Jams on the South Branch of the Piscataquog River. |
| 5. Install a backup generator at the library. |
| 6. Install a backup generator at the school for a shelter. |
| 7. Coordinate with CERT on training and supplies. |
| 8. Complete radio infrastructure update for police, fire and highway departments. |
| 9. Update the School Evacuation Plan on an annual basis. |
| 10. Conduct a needs analysis of New Boston Town Hall for an emergency generator. |
| 11. Evaluation and strategy development for the transfer station non-stop operation. |
| 12. Build a new salt shed. |
| 13. Implement school security measures (i.e. radios, internal notification, door locks, etc.) |
| 14. Purchase portable LED traffic signs for Fire, Police and DPW. |
| 15. Purchase portable radios for the Police Department. |
| 16. Purchase PPE for Police (i.e. tactical vests, ballistic shields and helmets, etc.) |

APPENDIX C

Approval Letter from FEMA



U.S. Department of Homeland Security
FEMA Region I
99 High Street, Sixth Floor
Boston, MA 02110-2132

FEMA

AUG 29 2016

Heather Dunkerely
State Hazard Mitigation Officer
Homeland Security & Emergency Management
33 Hazen Drive
Concord, NH 03303

Dear Ms. Dunkerely:

Thank you for the opportunity to review the Town of New Boston New Hampshire Hazard Mitigation Plan Update 2016. The Department of Homeland Security (DHS), Federal Emergency Management Agency (FEMA) Region I has evaluated the plan for compliance with 44 C.F.R. Pt. 201. The plan satisfactorily meets all of the mandatory requirements set forth by the regulations.

With this plan approval, the Town of New Boston is eligible to apply to New Hampshire Homeland Security and Emergency Management for mitigation grants administered by FEMA. Requests for mitigation funding will be evaluated individually according to the specific eligibility requirements identified for each of these programs. A specific mitigation activity or project identified in your community's plan may not meet the eligibility requirements for FEMA funding; even eligible mitigation activities or projects are not automatically approved.

Approved mitigation plans are eligible for points under the National Flood Insurance Program's Community Rating System (CRS). Complete information regarding the CRS can be found at <http://www.fema.gov/national-flood-insurance-program-community-rating-system>, or through your local floodplain administrator.

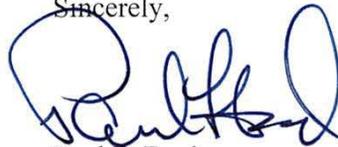
The Town of New Boston New Hampshire Hazard Mitigation Plan Update 2016 must be reviewed, revised as appropriate, and resubmitted to FEMA for approval within **five years of the plan approval date of August 26, 2016** in order to maintain eligibility for mitigation grant funding. We encourage the Town to continually update the plan's assessment of vulnerability, adhere to its maintenance schedule, and implement, when possible, the mitigation actions proposed in the plan.

Heather Dunkerely
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AUG 29 2016

Once again, thank you for your continued dedication to public service demonstrated by preparing and adopting a strategy for reducing future disaster losses. Should you have any questions, please do not hesitate to contact Melissa Surette at (617) 956-7559.

Sincerely,

A handwritten signature in blue ink, appearing to read "Paul F. Ford". The signature is stylized with large, sweeping loops.

Paul F. Ford
Regional Administrator

PFF: ms

cc: Leigh Cheney, Chief of Planning, New Hampshire
Whitney Welch, Hazard Mitigation Planner, New Hampshire
Jennifer Gilbert, Asst. New Hampshire State NFIP Coordinator

Enclosure