

The Town of Cummington

Local Natural Hazards Mitigation Plan

Adopted by the Cummington Board of Selectmen on

Prepared by:

The Cummington Natural Hazards Mitigation Planning Committee

and

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This project was funded by a grant received from the Massachusetts Emergency Management Agency (MEMA) and the Massachusetts Department of Conservation Services (formerly the Department of Environmental Management)

Acknowledgements

The Cummington Board of Selectmen extends special thanks to the Cummington Natural Hazards Mitigation Planning Committee as follows:

Bernard Forgea, Emergency Management Director, Fire Department Chief

Dennis Forgea, Police Chief

James Drawe, Selectman

Robert Dextraze, Highway Superintendent

The Cummington Board of Selectmen offers thanks to the Massachusetts Emergency Management Agency (MEMA) for developing the Commonwealth of Massachusetts Natural Hazards Mitigation Plan (www.state.ma.us/dem/programs/mitigate/index.htm), which served as a model for this plan. In addition, special thanks are extended to the staff of the Pioneer Valley Planning Commission for professional services, process facilitation and preparation of this document.

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1: INTRODUCTION

Hazard Mitigation

The Federal Emergency Management Agency (FEMA) and the Massachusetts Emergency Management Agency (MEMA) define Hazard Mitigation as any sustained action taken to reduce or eliminate long-term risk to people and property from natural hazards such as flooding, storms, high winds, hurricanes, wildfires, earthquakes, etc. Mitigation efforts undertaken by communities will help to minimize damages to buildings and infrastructure, such as water supplies, sewers, and utility transmission lines, as well as natural, cultural and historic resources.

Planning efforts, like the one undertaken by the Town of Cummington and the Pioneer Valley Planning Commission, make mitigation a proactive process. Pre-disaster planning emphasizes actions that can be taken before a natural disaster occurs. Future property damage and loss of life can be reduced or prevented by a mitigation program that addresses the unique geography, demography, economy, and land use of a community within the context of each of the specific potential natural hazards that may threaten a community.

Preparing a local natural hazard mitigation plan before a disaster occurs can save the community money and facilitate post-disaster funding. Costly repairs or replacement of buildings and infrastructure, as well as the high cost of providing emergency services and rescue/recovery operations, can be avoided or significantly lessened if a community implements the mitigation measures detailed in the plan. FEMA requires that a community adopt a pre-disaster mitigation plan as a condition for mitigation funding. For example, the Hazard Mitigation Grant Program (HMGP), the Flood Mitigation Assistance Program (FMA), and the Pre-Disaster Mitigation Program are programs with this requirement.

Planning Process

Planning for natural hazard mitigation in Cummington has involved a four-member committee: Bernard Forgea, Emergency Management Director, Fire Department Chief; Dennis Forgea, Police Chief; James Drawe, Selectman; Robert Dextraze, Highway Superintendent

The natural hazard mitigation planning process for the Town included the following tasks:

- Reviewing and incorporating existing plans and other information (Appendix E lists documents consulted)
- Identifying the natural hazards that may impact the community.

- Conducting a Vulnerability/Risk Assessment to identify the infrastructure at the highest risk for being damaged by the identified natural hazards, particularly flooding.
- Identifying and assessing the policies, programs, and regulations a community is currently implementing to protect against future disaster damages.
- Identifying deficiencies in the current strategies and establishing goals for updating, revising or adopting new strategies.
- Adopting and implementing the final Local Natural Hazards Mitigation Plan.

The key product of this process is the development of an Action Plan with a Prioritized Implementation Schedule.

Committee Meetings

Public meetings of the planning committee were all held at the Cummington Community House on the dates listed below. Agendas for these meetings are included in Appendix E. The Town posted agendas for public notice in advance of all meetings.

April 30, 2008, 9 a.m.: Working meeting with Natural Hazards Mitigation Committee

May 20, 2008, 9 a.m.: Working meeting with Natural Hazards Mitigation Committee

June 17, 2008, 9 a.m.: Working meeting with Natural Hazards Mitigation Committee

A mailing was made to each committee member prior to each meeting that contained an agenda sheet, and information to be covered.

Participation by Public & Entities in Surrounding Communities

On December 15, 2007 the Pioneer Valley Planning Commission sent a press release to all area media outlets to inform private citizens that the planning process for Cummington's Hazard Mitigation Plan had commenced and that all residents of Cummington were invited to attend plan development sessions. This press release (Appendix F) resulted in a series of news articles that enhanced awareness of the Hazard Mitigation Planning Process.

On June 30, 2008 the Pioneer Valley Planning Commission sent a press release (see Appendix F) to all area media outlets to inform the public that a draft of Cummington's Hazard Mitigation Plan had had been placed on PVPC's website and hard copies were available at PVPC's offices and that all residents, businesses and other concerned parties of Cummington and adjacent communities were encouraged to comment on the plan. The plans were made available in this manner for 30 days. Citizens from adjacent municipalities were also encouraged to comment on Cummington's plan and on the plans of four other communities (Westfield, Palmer, Southampton, & Westhampton) that were available for the same period.

In addition to media outreach, all public meetings were posted at Cummington's Town Hall (Appendix E) in compliance with the Commonwealth of Massachusetts' open meeting law.

Public Meetings with the Board of Selectmen

On November 16, 2005 The Board of Selectmen agreed to begin the process of developing a Local Hazard Mitigation Plan.

Once the plan is provisionally approved by FEMA, the Board of Selectmen will hold a public hearing on the plan and then adopt the plan. Public notice will involve a legal advertisement in the local paper 2 weeks in advance of the hearing.

On _____, 2009: The Board of Selectmen adopted the Local Natural Hazard Mitigation Plan. Meeting held at Cummington Town Offices.

2: LOCAL PROFILE

Community Setting

Covering about 23 square miles, the rural Town of Cummington is located in Hampshire County in western Massachusetts. Nestled at the foothills of the Berkshires, Cummington is known as one of the “hilltowns.” Cummington is situated in the uplands west of the Connecticut River Valley, northwest of Northampton, and east of Pittsfield with an elevation range from 918 feet to 2,080 feet above sea level. Cummington is bordered by the Towns of Ashfield, to the northeast; Goshen, to the East; Chesterfield, to the southeast; Worthington, to the south; Peru, to the southwest; Windsor, to the west-northwest; and Plainfield, to the north.

Because of its fairly remote location, the Town has been able to maintain a quiet, country character. Most current development consists of single-family homes; the remainder of land in Cummington is hilly and forested, with scattered open fields. The Old Creamery Grocery is the Town's only grocery store and gas station. The William Cullen Bryant Homestead is an important historical landmark and is protected by the Trustees of Reservations, and the Westfield River – a federally-designated Wild and Scenic River, flows through stretches of town.

Woolen and cotton mills and the making of palm leaf hats were the main industries in the 19th Century, but when the railroad bypassed the town, many industries vacated. Small family farms with dairy, fruit, or maple syrup operations were active and remain so today. The town's history is rich with artists and performers who made their home in Cummington, a tradition that also continues today.

This rural, residential community, with its scenic landscape and rural character has experienced significant residential population growth in recent years. Between 1990 and 2000, the town saw population increase of 25% to 978 residents, and a 10% increase in housing units. Today, Cummington still maintains its traditionally rural roots, but this could be on the verge of changing.

Infrastructure

Cummington's infrastructure reflects its historically rural heritage, with limited town-wide development.

Roads and Highways

The town is traversed by Route 9 from east to west and Route 112 from north to south. But these two routes converge for the majority of their stretch through Town, making for primarily one main thoroughfare into neighboring Goshen.

Transit

The Pioneer Valley Transit Authority (PVTA) contracts through MV Transportation to offer paratransit, a door-to-door demand responsive van service throughout Town.

Public Water and Sewer Service

Cummington's water supply comes from groundwater sources through two public water supply wells and individual private wells. The two public water supply systems, the Cummington Water system and the West Cummington Water system, provide nearly 100 connections in Town. Cummington also has five transient non-community (TNC) wells and one non-transient non-community well.

Cummington does not have a public sewer system or any publicly owned wastewater treatment plants. All residences and businesses are served by on-site septic systems.

Natural Resources

Cummington has been heavily shaped by its natural resources and landscape. Its rocky slopes and remoteness were key factors predicating its rural character originally, now they are sought-after home sites.

Water Resources

Surface waters cover a total of approximately 98 acres of the Town. These water resources provide valuable wildlife habitat and unique natural environments that provide Cummington's residents with prime recreational opportunities and exceptional water quality.

Cummington lies entirely within the northern portion of the Westfield River watershed with over half the Town draining directly into the river. The Westfield River flows southeast across the entire width of the Town for ten miles and the Swift River runs north to south before draining into the Westfield. Other prominent streams in Town include: Bronson Brook, Child's Brook, Kearney Brook, Meadow Brook, Mill Brook, Powell Brook, Swift River, Tower Brook, Westfield Brook, and Wolf Brook.

There are approximately 76 acres of wetlands in Cummington, which occur primarily along the streams and rivers in Town.

Forests and Fields

Over three-quarters (82%) of the total acreage of Cummington is forested, approximately 12,071 acres. Much of the forest is hardwood, consisting of red and white oak, red and sugar maple, cherry, ash, and birch. The majority conifers are white pine and hemlock, with some spots of cedar, red pine, and, rarely, spruce.

Additionally, there are about 1,651 acres of abandoned fields and orchards, this constitutes approximately 12% of Town land. These foregone agricultural lands provide good wildlife habitats. Shrub swampland and meadows each have their unique trees and grasses.

Development

Cummington's pattern of land use evolved from its rural heritage, remoteness of location and rocky terrain, and more recent increase in population.

In addition to other factors, zoning and other land use regulations constitute Cummington's "blueprint" for its future. Land use patterns over time will continue to look more and more like the town's zoning map until the town is finally "built out"—that is, there is no more developable land left. Therefore, in looking forward over time, it is critical that the town focus not on the current use and physical build-out today, but on the potential future uses and build-out that are allowed under the town's zoning map and zoning bylaws. Zoning is the primary land use tool that the town may use to manage development and direct growth to suitable and desired areas while also protecting critical resources and ensuring that development is in keeping with the town's character.

The Cummington Zoning Bylaw establishes two base zones, and two overlay districts:

- Rural-residential (RR) district – base zone district for residential, agricultural, and small business uses;
- Village (V) district – base zone district for light retail and service establishments;
- Floodplain and Westfield River Protection (FP) district – overlay district including all special flood hazard areas and/or 100 feet from the banks of the Westfield River;
- Water Supply Protection district – overlay district including all lands lying within the primary recharge areas of groundwater aquifers.

Although appropriate zoning is all relevant to protecting the health and safety of the Town residents, Cummington's two overlay districts are specifically relevant to natural hazard mitigation. The Floodplain district limits development within the floodplain, and prevents potential flood damage, while the Water Supply Protection district prohibits and restricts potentially hazardous uses to prevent groundwater contamination.

The Zoning Bylaw also establishes a Site Plan/Special Permit Approval procedure for specific uses and structures within Cummington. This review allows the Special Permit Granting Authority the ability to review development to ensure that the basic safety and welfare of the people of Cummington are protected.

Current Development Trends

Cummington contains 23 square miles or 14,720 acres of land. The vast majority of this—12,242 acres—is undeveloped.. Agricultural land is the second most prolific land use, at approximately 1,642 acres, and there is about one-third as much residential land (almost 550 acres). Land characterized as outdoor recreational land comprises 132 acres, and land characterized as urban open/public land comprises 40 acres. Cummington also has very small and equal amounts of commercial land and industrial land, 16 acres each. Finally, water comprises over 98 acres in Cummington. Currently, development in Cummington is strongly encouraged by existing zoning and other land

use regulations to seek areas where the environmental conditions and existing public utilities support such development.

Development in Hazard Areas

Most of the hazards identified in this plan are regional risks and, as such, all new development falls into the hazard area. The exception to this is flooding. According to the Community Information System (CIS) of FEMA, there were 80 structures located within the Special Flood Hazard Area (SFHA) in Cummington as of April 2004, the most current records in the CIS for the Town of Cummington.

3: HAZARD IDENTIFICATION & ANALYSIS

Profiling the Natural Hazards

Historical research, conversations with local officials and emergency management personnel, available hazard mapping and other weather-related databases were used to identify and profile the natural hazards which are most likely to have an impact on Cummington.

Each of these hazards was assessed by the Committee for previous occurrences, location of occurrence, extent of impacts, and probability of future events. (See Appendix C for sources, methodology.) This resulted in a ranking of hazard by risk, with 1 being high risk and 5 being low risk (see Table 3.1 below). More detailed descriptions of each of the points of analysis are included in the Identification and Vulnerability Assessment (below).

Table 3.1: Hazard Profiling and Risk Index Worksheet

Type of Hazard	Previous Occurrences	Location of Occurrence	Extent of Impacts	Probability of Future Events	Hazard Risk Index Rating
Flooding (100-year)	Yes	Large	Critical to Catastrophic	Low	1
Flooding (localized)	Yes(extensive)	Medium	Limited	Very High	1
Severe Snow/Ice Storms	Yes	Large	Limited	Very High	1
Hurricanes/Severe Wind	Yes	Large	Minor	Low	4
Tornado/Microburst	Yes (microburst)	Small	Critical	Low	4
Wildfire/Brushfire	Yes	Small	Minor	Very High	3
Earthquake	No	Large	Catastrophic	Very Low	4
Dam Failure	Yes	Small	Minor	Very Low	5
Drought	No	Small	Minor	Very Low	5
Man-Made Hazard: Hazardous Materials	Yes	Medium	Limited	Low	2

Natural Hazard Identification and Vulnerability Assessment

The following is a description of natural and manmade disasters, and the areas affected by them, that have or could affect the Town of Cummington. . These natural and manmade disasters are: floods, severe snowstorms/ice storms, hurricanes/severe winds, tornadoes/microbursts, wildland fires/brushfires, earthquakes, dam failure, drought, man-made hazards-hazardous materials. The *Past and Potential Hazards/Critical Facilities Map* (Appendix D) reflects the contents of this analysis.

Vulnerability Assessment Methodology

In order to determine estimated losses due to natural hazards in Cummington, each hazard area was analyzed with results shown below. The data below was calculated using FEMA's *Understanding Your Risks: Identifying Hazards and Estimating Losses*, August 2001.

Total value of all structures in Cummington (2006): \$127,875,812

Median value of a home in Cummington (2006): \$140,000

Average household size: 2.4 persons

Human losses are not calculated during this exercise, but could be expected to occur depending on the type and severity of the hazard. Most of these figures exclude both the land value and contents of the structure. The damage calculations are rough estimate and likely reflect worst-case scenarios. Computing more detailed damage assessment based on assessor's records is a labor-intensive task and beyond the scope of this project.

Flooding

The average annual precipitation for Cummington and surrounding areas in northwestern Massachusetts is 46 inches. There are three major types of storms that bring precipitation to Cummington. Continental storms that originate from the west continually move across the region. These storms are typically low-pressure systems that may be slow-moving frontal systems or more intense, fast-moving storms. Precipitation from coastal storms, also known as nor'easters, that travel into New England from the south constitute the second major storm type. In the late summer or early fall, the most severe type of these coastal storms, hurricanes, may reach Massachusetts and result in significant amounts of rainfall. The third type of storm is the result of local convective action. Thunderstorms that form on warm, humid summer days can cause locally significant rainfall.

Floods can be classified as either flash floods, which are the product of heavy, localized precipitation in a short time period over a given location or general floods, which are

caused by precipitation over a longer time period in a particular river basin. There are several local factors that determine the severity of a flooding event, including: stream and river basin topography, precipitation and weather patterns, recent soil moisture conditions, amount of impervious surface area, and the degree of vegetative clearing. Furthermore, flooding can be influenced by larger, global climate events. Global warming and climate change have the potential to shift current rainfall and storm patterns. Increased precipitation is a realistic result of global warming, and could potentially increase the frequency and intensity of flooding in the region. Currently, floods occur and are one of the most frequent and costly natural hazards in the United States.

Flash flooding events typically occur within minutes or hours after a period of heavy precipitation, after a dam or levee failure, or from a sudden release of water from an ice jam. Most often, flash flooding is the result of a slow-moving thunderstorm or the heavy rains from a hurricane. In rural areas, flash flooding often occurs when small streams spill over their banks. However, in urbanized areas, flash flooding is often the result of clogged storm drains (leaves and other debris) and the higher amount of impervious surface area (roadways, parking lots, roof tops).

In contrast, general flooding events may last for several days. Excessive precipitation within a watershed of a stream or river can result in flooding particularly when development in the floodplain has obstructed the natural flow of the water and/or decreased the natural ability of the groundcover to absorb and retain surface water runoff (e.g., the loss of wetlands and the higher amounts of impervious surface area in urban areas).

A floodplain is the relatively flat, lowland area adjacent to a river, lake or stream. Floodplains serve an important function, acting like large “sponges” to absorb and slowly release floodwaters back to surface waters and groundwater. Over time, sediments that are deposited in floodplains develop into fertile, productive farmland like that found in the Connecticut River valley. In the past, floodplain areas were also often seen as prime locations for development. Industries were located on the banks of rivers for access to hydropower. Residential and commercial development occurred in floodplains because of their scenic qualities and proximity to the water. Although periodic flooding of a floodplain area is a natural occurrence, past and current development and alteration of these areas will result in flooding that is a costly and frequent hazard. In addition to damage of buildings directly in the floodplain, development can result in a loss of natural flood storage capacity and can increase the water levels in water bodies. Flood levels may then increase, causing damage to structures not normally in the flood path.

The major floods recorded in Western Massachusetts during the 20th century have been the result of rainfall alone or rainfall combined with snowmelt.

The Floodplain Map for the Town of Cummington shows the 100-year and 500-year flood zones identified by FEMA flood maps. The 100-year flood zone is the area that will be covered by water as a result of a flood that has a one percent chance of occurring in any given year. Likewise, the 500-year flood has a 0.2 percent chance of occurring in

any given year. In Cummington, there are several floodplain areas. Hundred year floodplains are located primarily along the Westfield River, but also along Westfield Brook, Shaw Brook, Meadow Brook and the Swift River. There are some smaller 500-year floodplains mapped as well. These are located primarily along the Westfield River, but there is also a small stretch along the Swift River. Much of Cummington's residential development is located in or near these flood areas. .

Flooding (100-year base flood): High Risk

Town-wide flooding with the hurricanes of 1938 and 1955 had significant impacts throughout town. In 1938, all the bridges on Route 9 were lost. Photos from the time show that any roads with any slope turned into stream beds and were washed out, particularly Porter Hill Road, Luther Shaw Road, Bug Hill Road, and Lower Bryant Road. (Since these events, the Town has legally discontinued the maintenance of the upper portion of Bug Hill Road.) There were also many evacuations along Main and West Main streets. In 1955, the damage was much the same as in 1938. Following this later hurricane event, the state relocated the road bed for Route 9. The Cummington Natural Hazards Mitigation Planning Committee has noted that the scale of these events were significant, but residents were much more self sufficient in those years and worked with neighbors to make it through tough times. Families back then often had at least a year's worth of food supply on hand, and most families heated with wood (not electricity) and had a good supply of fuel. In addition, most families worked locally and a labor force was ready and able to help respond to the flood event. Farmers came out with dump trucks, tractors and other equipment to help repair roads.

There are approximately 500 acres of land within the FEMA mapped 100-year floodplain and 65 acres of land within the 500-year floodplain within the Town of Cummington. According to the Community Information System (CIS) of FEMA, there were 80 structures (60 residential) located within the Special Flood Hazard Area (SFHA)/100-year floodplain in Cummington as of April 2004, the most current records in the CIS for the Town of Cummington. Therefore, a vulnerability assessment for a 100-year flood equals approximately \$8.4 million of damage, with approximately 144 people impacted.

Specific vulnerability assessments were estimated for sites within the SFHA which have been susceptible to 100-year floods in the past, they are described below. At this time the Town of Cummington has no repetitive loss properties as defined by FEMA's NFIP at this time.

West Main Street and Bush Road

- Road located along floodplain of Westfield River;
- Segments of road tend to experience flooding in heavy rains;
- Approximately 28 residential structures in this area that have been affected or could be affected by a flood incident;
- Vulnerability assessment: \$3,920,000 (assuming 100% damage to 100% of the structures);

- This assessment does not include the apartment building and restaurant located in this area.

West Cummington Road

- Road located along floodplain of Westfield River;
- Segments of road tend to experience flooding in heavy rains;
- Approximately 21 residential structures in this area that have been affected or could be affected by a flood incident;
- Vulnerability assessment: \$2,940,000 (assuming 100% damage to 100% of the structures);
- This area is entirely residential.

Main Street (formerly Route 9)

- Road located along floodplain of Westfield River;
- Segments of road tend to experience flooding in heavy rains;
- Approximately 31 residential structures in this area that have been affected or could be affected by a flood incident;
- Vulnerability assessment: \$4,340,000 (assuming 100% damage to 100% of the structures);
- This assessment does not account for the church, school, Community House, post office, Cummington Supply, Cummington Garage, Verizon's switch center, museum and housing for the elderly (16 residential units) located in this area.

Route 9

- Road located along floodplain of Westfield River;
- Segments of road tend to experience flooding in heavy rains;
- Approximately 31 residential structures in this area that have been affected or could be affected by a flood incident;
- Vulnerability assessment: \$4,340,000 (assuming 100% damage to 100% of the structures);
- This assessment does not include the two commercial structures located in this area.

Porter Hill Road, Luther Shaw Road, and Lower Bryant Road

- All 3 roads have steep slopes that lead into floodplain of Westfield River;
- Segments of road tend to wash out in heavy rains;
- Approximately 28 residential structures in this area that have been affected or could be affected by a flood incident;
- Vulnerability assessment: \$3,920,000 (assuming 100% damage to 100% of the structures);
- This area is entirely residential.

Flooding (localized) – High Risk

In addition to the floodplains mapped by FEMA for the 100-year and 500-year flood, Cummington often experiences minor flooding at isolated locations due to drainage problems, or problem culverts. Generally, these small floods have had minor impacts, temporarily impacting roads and residents' yards. A storm in 2007 caused widespread damage to roadways in Town. Roads were undermined by floodwaters and caved in. Extensive damage occurred in association with culverts and ditches where there had been little maintenance over a 25-year period. No homes were damaged during this event.

The total number of problem culverts in Town has not been identified. Several areas are subject to localized flooding. Most of the flood hazard areas listed here were identified due to known past occurrence in the respective area. There are many areas with no record of previous flood incidents that could be affected in the future by heavy rain and runoff. Additionally, some of the culverts tend to be impacted by beavers..

To determine the vulnerability of the Town to localized flood events, Hazard Mitigation Committee members identified and tallied the number of structures. Specific vulnerability assessments were estimated for sites which have been susceptible to localized flooding in the past, and are described below.

Grout Road

This road has washed out with heavy rainfall, most recently in 1985. There are no critical facilities and no residences located near this trouble spot.

Stage Road

During a 2003 rainfall, sections of this road were lost. Waters rose to about seven to eight feet. There are approximately 36 residences along the entire length of Stage Road. With 100% damage to 100% of the structures, the estimated cost of repairing or replacing would be \$5,040,000. Cost for repairing or replacing any contents of structures are not included. Damage to the roadway is also not included.

Severe Snow/Ice Storm – High Risk

Severe winter storms can pose a significant risk to property and human life because the rain, freezing rain, ice, snow, cold temperatures and wind associated with these storms can disrupt utility service, phone service, and make roadways extremely hazardous. Severe winter storms can also be deceptive killers. The types of deaths that can occur as a result of a severe winter storm include: traffic accidents on icy or snow-covered roads, heart attacks while shoveling snow, and hypothermia from prolonged exposure to cold temperatures. Infrastructure and other property are also at risk from severe winter storms and the associated flooding that can occur following heavy snow melt. Power and telephone lines, trees, and telecommunications structures can be damaged by ice, wind, snow, and falling trees and tree limbs. Icy road conditions or roads blocked by fallen trees may make it difficult to respond promptly to medical emergencies or fires. Prolonged, extremely cold temperatures can also cause inadequately insulated potable water lines and fire sprinkler pipes to rupture and disrupt the delivery of drinking water and cause extensive property damage.

New England generally experiences at least one or two severe winter storms each year with varying degrees of severity. Research on climate change indicates that there is great potential for stronger, more frequent storms as the global temperature increases. Severe winter storms typically occur during January and February; however, they can occur from late September through late April.

The Northeast Snowfall Impact Scale (NESIS) developed by Paul Kocin of The Weather Channel and Louis Uccellini of the National Weather Service (Kocin and Uccellini, 2004) characterizes and ranks high-impact Northeast snowstorms. These storms have large areas of 10 inch snowfall accumulations and greater. NESIS has five categories: Extreme, Crippling, Major, Significant, and Notable. The index differs from other meteorological indices in that it uses population information in addition to meteorological measurements. Thus NESIS gives an indication of a storm's societal impacts.

NESIS scores are a function of the area affected by the snowstorm, the amount of snow, and the number of people living in the path of the storm. The aerial distribution of snowfall and population information are combined in an equation that calculates a NESIS score which varies from around one for smaller storms to over ten for extreme storms. The raw score is then converted into one of the five NESIS categories. The largest NESIS values result from storms producing heavy snowfall over large areas that include major metropolitan centers.

Cummington's recent history has not recorded any loss of life due to the extreme winter weather, but there are usually several incidents of property damage or personal injury each winter. In addition, during heavy snow years, accumulations can reach several feet deep. Cummington's mountainous terrain creates some steep grades, sometimes making plowing difficult and causing snow and ice hazards. Also, many of the farms and open meadows and fields throughout town cause snow drifts.

The Cummington Natural Hazards Mitigation Planning Committee has noted that power service to the town has not historically been very strong as the town feeds out of a substation in Plainfield. With severe winter storms, power outages caused loss of home heating in many cases, and loss of other electrical utilities, including water supply to all homes outside the village area (all of these homes are on private well). Over the past several years, however, the system has been strengthened and tremendously upgraded. Main line feeders are very strong and responses by the electric company have been good. The hope is that due to the new construction and equipment that the duration of power outages will be significantly shorter than before.

Committee members also agreed that many of the problems these days have to do with residents trying to get out and about in unsafe conditions. In the past during big snowstorms, they noted, people stayed put so there were few problems.

Severe winter weather occurs regionally and therefore would impact the entire town, although several specific locations are more susceptible to damage. These problem areas have been identified and assessed for vulnerability.

Bryant Farm, Joyners Farm and Howes Farm

Perhaps the greatest risk during a big snow storm in town is economic. There are three major milk farmers who must get their supply to processors or they stand to lose significant monies. The town works to assist these farmers in clearing all access roads to their farms so that trucks transporting milk can get in and out.

Bryant Road, Brickhouse Lane, Lyman Flats, west and east end of Stage Road, and Harlow Road

Any severe winter weather incident can cause significant snow drifting on these streets. This is due to large open fields that allow the wind to move swiftly across these expanses, moving snow into big drifts along these roadways.

Nash Hill Road, Porter Hill Road, Luther Shaw Road, Trouble Street, Mountain Road, Stage Road, Andrew Shaw Road, Harlow Road

Steep grades along all of these road can be severely impacted by winter weather, making travel treacherous. These roads are narrow and there is little room to push accumulated snow.

Hurricanes/Severe Wind – Medium-Low Risk

Hurricanes are violent rainstorms with strong winds that can reach speeds of up to 200 miles per hour, and large amounts of precipitation. Hurricanes generally occur between June and November and can result in flooding and wind damage to structures and above-ground utilities. Severe wind can also occur in the absence of a hurricane, especially impacting mountain tops. Global warming will increase the threat of hurricanes and severe wind as oceans and the atmosphere warms. Climate change

research indicates that storms like hurricanes will become more intense and more frequent in the future.

The intensity of a hurricane is measured using a 1-5 rating called the Saffir-Simpson Hurricane Scale. According to NOAA's National Hurricane Center, Saffir-Simpson "...is used to give an estimate of the potential property damage and flooding expected along the coast from a hurricane landfall. Wind speed is the determining factor in the scale..."

The 5 categories are:

Category 1—winds at 74-95 mph, with storm surge generally 4-5 feet above normal;

Category 2 —winds at 96-110 mph, with storm surge generally 6-8 feet above normal;

Category 3—winds at 111-130 mph, with storm surge generally 9-12 feet above normal;

Category 4—winds at 131-155 mph, with storm surge generally 13-18 feet above normal;

Category 5—winds greater than 155 mph, with storm surge generally greater than 18 feet above normal.

In Massachusetts, sixteen hurricanes have had landfall since 1851, two of which impacted Western Massachusetts. These include Hurricane Carol in 1954 and Hurricane Gloria in 1985. Hurricanes are usually ranked category 1-5, using the Saffir-Simpson Scale, with category 5 hurricanes being the most severe. Both Hurricane Carol and Gloria were category 1-2 storms, meaning winds ranged from 74-110 mph with the potential for some roofing or window damage to buildings, damage to unanchored mobile homes, trees, or poor construction, and/or some minor flooding.

Cummington's location in Western Massachusetts reduces the risk of extremely high winds that are associated with hurricanes, although it can experience some high wind events. During severe wind events, the Town has experienced small blocks of downed timber and uprooting of trees onto structures. The Natural Hazards Mitigation Committee reports that downed limbs has been a particular problem where roadways in town are lined with ancient maple trees. Hurricanes can and do create flooding, and except for the Hurricanes of 1938 and 1955 (Diane), damages from flooding have been minor according to Hazard Mitigation team members.

- Estimated wind damage: 5% of the structures with 10% damage, \$639,379;
- Estimated flood damage: 10% of the structures with 20% damage, \$2,557,516;
- Vulnerability assessment for a hurricane event (both wind and flood damages): \$3,196,895;
- Cost of repairing or replacing the roads, bridges, utilities, and contents of structures is not included.

Major Hurricanes and Cummington Area

Hurricane/Storm Name	Year	Saffir/Simpson Category (when reached MA)
Great Hurricane of 1938	1938	3
Great Atlantic Hurricane	1944	1
Carol	1954	3
Edna	1954	1
Diane	1955	Tropical Storm
Donna	1960	Unclear, 1 or 2
Groundhog Day Gale	1976	Not Applicable
Gloria	1985	1
Bob	1991	2
Floyd	1999	Tropical Storm

Tornadoes/Microbursts – Medium-Low Risk

Tornadoes are swirling columns of air that typically form in the spring and summer during severe thunderstorm events. In a relatively short period of time and with little or no advance warning, a tornado can attain rotational wind speeds in excess of 250 miles per hour and can cause severe devastation along a path that ranges from a few dozen yards to over a mile in width. The path of a tornado may be hard to predict because they can stall or change direction abruptly.

For more than three decades, the method for evaluating the severity of a tornado involved relating the degree of damage to the intensity of the wind, using the Fujita Scale, known as the F-scale (1 through 6 with 6 being the most severe). This generalized method has been problematic, according to information from NOAA's Storm Prediction Center, as different winds may be needed to cause the same damage depending on how well-built a structure is, wind direction, wind duration, battering by flying debris, and a bunch of other factors. The process of rating the damage itself is largely a judgment call, according to NOAA's Storm Prediction Center. Even meteorologists and engineers highly experienced in damage survey techniques often came up with different F-scale ratings for the same damage.

As of February 2007, an enhanced F-Scale should be used. NOAA's Storm Prediction Center reports,

The Enhanced F-scale is a much more precise and robust way to assess tornado damage. It classifies F0-F5 damage as calibrated by engineers and meteorologists across 28 different types of damage indicators (mainly various kinds of buildings, but also a few other structures as well as trees). The idea is that a "one size fits all" approach just doesn't work in rating tornado damage, and that a tornado scale needs to take into account the typical strengths and weaknesses of different types of construction....In the Enhanced F-scale, there will be different, customized standards for assigning any given F rating to a well built, well anchored wood-frame house compared to a garage, school, skyscraper, unanchored house, barn, factory, utility

pole or other type of structure. In a real-life tornado track, these ratings can be mapped together more smoothly to make a damage analysis. Of course, there still will be gaps and weaknesses on a track where there was little or nothing to damage, but such problems will be less common than under the original F-scale. As with the original F-scale, the enhanced version will rate the tornado as a whole based on most intense damage within the path. *There are no plans to systematically re-evaluate historical tornadoes using the Enhanced F-scale.*

Within Massachusetts, tornadoes have occurred most frequently in Worcester County and in communities west of Worcester, including towns in Hampshire County.

Of additional concern are microbursts, which often do tornado-like damage and can be mistaken for tornadoes. In contrast to the upward rush of air in a tornado, air blasts rapidly downward from thunderstorms to create microbursts. Microbursts and tornadoes are expected to become more frequent and more violent as the earth's atmosphere warms, due to predictions of climate change from global warming.

No known tornados have ever touched down in Cummington, and there have been several high-wind storms and hail events. In Western Massachusetts, the majority of sighted tornadoes have occurred in a swath east of Cummington, known as "tornado alley." Thirteen incidents of tornado activity (all F2¹ or less) occurred in Hampshire County between 1959 and 2005. A microburst in 1995 flattened trees and left residents with no electrical power for 5 days. This led several residents to purchase their own emergency generators.

Because tornadoes and microbursts rarely occur in this part of the country, assessing damages is difficult. Furthermore, buildings have not been built to Zone 2, Design Wind Speed Codes. The entire Town of Cummington is vulnerable.

- Tornadoes/microburst hazard estimates 20% damage to 10% of structures in Town;
- Vulnerability assessment estimates in damages; \$2,557,516;
- Estimated cost does not include building contents, land values or damages to utilities.

Wildfires/Brushfire – Medium Risk

Wildland fires are typically larger fires, involving full-sized trees as well as meadows and scrublands. Brushfires are uncontrolled fires that occur in meadows and scrublands, but do not involve full-sized trees. Both wildland fires and brushfires can consume homes, other buildings and/or agricultural resources. Typical causes of brushfires and wildfires are lightning strikes, human carelessness, and arson.

According to FEMA, there are three different classes of wildland fires: surface fires, ground fires and crown fires. The most common type of wildland fire is a surface fire

¹ F2 refers to the commonly used Fujita Tornado Damage Scale which ranks tornados F0-F5 depending on estimated wind speeds and damages, with F5 the most severe.

that burns slowly along the floor of a forest, killing or damaging trees. A ground fire burns on or below the forest floor and is usually started by lightening. Crown fires move quickly by jumping along the tops of trees. A crown fire may spread rapidly, especially under windy conditions. While wildfires or brushfires have not been a significant problem in Cummington, there is always a possibility that changing land use patterns and weather conditions will increase a community's vulnerability. For example, drought conditions can make forests and other open, vegetated areas more vulnerable to ignition. Once the fire starts, it will burn hotter and be harder to extinguish. Soils and root systems starved for moisture are also vulnerable to fire. Residential growth in rural, forested areas increases the total area that is vulnerable to fire and places homes and neighborhoods closer to areas where wildfires are more likely to occur. Global climate changes may also influence precipitation patterns, making the region more susceptible to drought and therefore, wildfires.

Hampshire County has approximately 252,000 acres of forested land, which accounts for 72% of total land area. Forest fires are therefore a potentially significant issue. In Cummington, approximately 82% of the town's total land area is in forest, or about 12,071 acres, and is therefore at risk of fire.

Cummington has not had a brush fire since the 1950s when a large blaze burned up many forested acres near Dodwell Street and Brickhouse Flats. The whole town is wooded and damage from a fire could be high. Most of the residences in Town, however, are located along West Main Street and Main Street where fields and open spaces tend to provide a break between homes and the forest. Illegal brushfires are kept to a minimum in Cummington through a very limited burn season and through serious enforcement on permits. According to the Cummington Fire Department, there are on average approximately two to three unauthorized burns (or brushfires) per year.

Moderate risk exists for potential wildfire incidents, especially near some of the town's forested, agricultural, and recreational lands. Forested and agricultural areas with high fuel content have more potential to burn. In addition, it is often very difficult to access some of the locations to extinguish the brushfire.

- Up to 2 structures could be impacted by a wildfire in one of the Town's agricultural areas;
- Assuming 100% damage to 100% of the structures, not including costs repairing or replacing any power lines, telephone lines, and contents of structures;
- Vulnerability assessment estimates approximately \$280,000 in damages for a wildfire. This does not include the costs of fighting the fire.

Earthquakes – Medium-Low Risk

An earthquake is a sudden, rapid shaking of the ground that is caused by the breaking and shifting of rock beneath the Earth's surface. The magnitude of an earthquake is measured using the Richter Scale, which measures the energy of an earthquake by determining the size of the greatest vibrations recorded on the seismogram. On this

scale, one step up in magnitude (from 5.0 to 6.0, for example) increases the energy more than 30 times.

The intensity of an earthquake is measured using the Modified Mercalli Scale. This scale quantifies the effects of an earthquake on the Earth's surface, humans, objects of nature, and man-made structures on a scale of I through XII, with I denoting a weak earthquake and XII denoting a earthquake that causes almost complete destruction.

Nineteen earthquakes, of an intensity of V or greater on the Modified Mercalli scale, have centered in Massachusetts since it was colonized by Europeans. An earthquake of an intensity of V is felt by nearly everyone; many folks are awakened. Some dishes and windows are broken. Unstable objects are overturned, and clocks may stop. A shock in 1755 reached intensity VIII at Boston and was felt across the state. In addition, Massachusetts was affected by some of the more severe Canadian shocks plus the earthquake of 1929 that centered on Grand Banks of Newfoundland.

Strong earthquakes in the St. Lawrence Valley in 1638, 1661, 1663, and 1732 were felt in Massachusetts. The 1638 and 1663 shocks damaged chimneys at Plymouth, Salem, and Lynn. On June 11, 1643, Newbury, Massachusetts, was strongly shaken. Again in 1727 (November 9) an earthquake described as "tremendous" in one report and "violent" in another caused much damage at Newbury. The shock was felt from the Kennebec River to the Delaware River and from ships at sea to the extreme western settlements. Several strong aftershocks were reported from the area through February 1728.

Ground shaking from earthquakes can rupture gas mains and disrupt other utility service, damage buildings, bridges and roads, and trigger other hazardous events such as avalanches, flash floods (dam failure) and fires. Un-reinforced masonry buildings, buildings with foundations that rest on filled land or unconsolidated, unstable soil, and mobile homes not tied to their foundations are at risk during an earthquake. Earthquakes can occur suddenly, without warning, at any time of the year. New England experiences an average of 30 to 40 earthquakes each year although most are not noticed by people.

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

Plattsburg, NY	April 20, 2002	5.1
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Table 3.3: New England States Record of Earthquakes²		
State	Years of Record	Number of Earthquakes
Connecticut	1568 - 1989	137
Maine	1766 - 1989	391
Massachusetts	1627 - 1989	316
New Hampshire	1728 - 1989	270
Rhode Island	1766 - 1989	32
Vermont	1843 - 1989	69
New York	1737 - 1985	24
Total Earthquakes in New England (1568-1989)		1,239

Massachusetts introduced earthquake design requirements into their building code in 1975. However, these specifications apply only to new buildings or to extensively-modified existing buildings. Buildings, bridges, water supply lines, electrical power lines and facilities built before 1975 may not have been designed to withstand the forces of an earthquake. The seismic standards have also been upgraded with the 1997 revision of the State Building Code.

- Moderate potential for serious damage to historic structures in Cummington, particularly the Bryant Homestead and the Community Center;
- Structures are mostly wood frame construction, so loss estimates predict 20% of town assessed value, not including costs of repairing or replacing roads, bridges, power lines, telephone lines, or the contents of the structures;
- Vulnerability assessment estimates approximately \$25,575,162.

Dam Failure – Low Risk

Although dams and their associated impoundments provide many benefits to a community, such as water supply, recreation, hydroelectric power generation, and flood control, they also pose a potential risk to lives and property. Dam failure is not a common occurrence but dams do represent a potentially disastrous hazard. When a dam fails, the potential energy of the stored water behind the dam is released. Often dam breaches lead to catastrophic consequences as the water ultimately rushes in a torrent downstream flooding an area engineers refer to as an “inundation area.” The number of casualties and the amount of property damage will depend upon the timing of the warning provided to downstream residents, the number of people living or working in the inundation area, and the number of structures in the inundation area.

Many dams in Massachusetts were built in the 19th century without the benefit of modern engineering design and construction oversight. Dams can fail because of structural problems due to age and/or lack of proper maintenance. Dam failure can also be the result of structural damage caused by an earthquake or flooding brought on by severe storm events. Most earthen dam failures occur when floodwaters above overtop and erode the material components of the dam.

The Massachusetts Department of Conservation and Recreation (MA DCR) was the agency responsible for regulating dams in the state (M.G.L. Chapter 253, Section 44 and the implementing regulations 302 CMR 10.00). Until 2002, DCR was also responsible for conducting dam inspections but then state law was changed to place the responsibility and cost for inspections on the owners of the dams. This means that individual dam owners are now responsible for conducting inspections.

The state has three hazard classifications for dams:

- High Hazard: Dams located where failure or improper operation will likely cause loss of life and serious damage to homes, industrial or commercial facilities, important public utilities, main highways, or railroads.
- Significant Hazard: Dams located where failure or improper operation may cause loss of life and damage to homes, industrial or commercial facilities, secondary highways or railroads or cause interruption of use or service of relatively important facilities.
- Low Hazard: Dams located where failure or improper operation may cause minimal property damage to others. Loss of life is not expected.

The inspection schedule for dams is as follows:

- Low Hazard dams – 10 years
- Significant Hazard dams – 5 years
- High Hazard dams – 2 years

The time intervals represent the maximum time between inspections. More frequent inspections may be performed at the discretion of the state. Dams and reservoirs licensed and subject to inspection by the Federal Energy Regulatory Commission (FERC) are excluded from the provisions of the state regulations provided that all FERC-approved periodic inspection reports are provided to the DCR. All other dams are subject to the regulations unless exempted in writing by DCR.

According to DCR sources, as well as local knowledge, there are currently two (2) dams in Cummington³. The follow table identifies the dams within the town as well as whether they are classified as low, significant, or high hazard.

Table 3.4: Cummington Dams, Classified by Hazard Risk

Dam name/ date built	ID	Owner	Purpose	Condition/last inspected	Hazard Risk
West Cummington Reservoir Dam*	MA02311	Town of Cummington		Fair	Downgraded from Significant to Non jurisdictional
Cummington Activity Center Dam @ Swift River Academy	MA01848	Graeme Dawson			Downgraded from Low to Non jurisdictional
Dam @ Bryant Homestead	Not on state list	Trustees of the Reservations	Fire Pond		
Dam @ Shire Village	Not on state list				

* Committee members note that this dam was dismantled and removed 10 years ago.

Cummington has a history of one dam failure, during the 1955 flood. The dam, which was located on the Westfield and generated power for Paper Mill Village in West Cummington, was never reconstructed. There are several minor dams or other water-control devices throughout town, mostly owned privately. However, none of the current dams hold significant amounts of water.

Drought – Low Risk

Drought is a normal, recurrent feature of climate. It occurs almost everywhere, although its features vary from region to region. In the most general sense, drought originates from a deficiency of precipitation over an extended period of time, resulting in a water shortage for some activity, group, or environmental sector.

Reduced crop, rangeland, and forest productivity; increased fire hazard; reduced water levels; increased livestock and wildlife mortality rates; and damage to wildlife and fish habitat are a few examples of the direct impacts of drought. Of course, these impacts can have far-reaching effects throughout the region and even the country.

In Massachusetts, six major droughts have occurred statewide since 1930. They range in severity and length, from three to eight years. In many of these droughts, water-supply systems were found to be inadequate. Water was piped in to urban areas, and water-supply systems were modified to permit withdrawals at lower water levels.

When evaluating the region's risk for drought on a national level, utilizing a measure called the Palmer Drought Severity Index, Massachusetts is historically in the lowest

percentile for severity and risk of drought. Even so, there have been several years of drought-like conditions in Western Massachusetts: 1940-1952, 1980-1983, and 1995-2001. Furthermore, global warming and climate change may have an effect on drought risk in the region. With the projected temperature increases, some scientists think that the global hydrological cycle will also intensify. This would cause, among other effects, the potential for more severe, longer-lasting droughts. Additionally, even minor droughts will increase the risk of wildfire, especially in areas of high recreational use.

Cummington has had limited experience with severe drought conditions. Drought conditions in the late 1980s led to the development of a new main well for the Cummington Water System. The town has not experienced a threat to its groundwater supply, and doesn't anticipate any severe water shortages throughout town. Several households had been dependent on local springs for water supply. There were several cases where springs did go dry. As these households have converted to wells, there seem to be few problems. The Water Department does have a "water buffalo" that it uses to supply water when necessary. The Shire Village Camp, for example, had a contaminated well. So during the summer months, the town provided a new tank of water to the camp every 3 days.

Man-Made Hazards/Hazardous Materials – Medium-High Risk

Hazardous materials are chemical substances, which if released or misused can pose a threat to the environment or health. These chemicals come in the form of explosives, flammable and combustible substances, poisons, and radioactive materials. Hazardous materials in various forms can cause death, serious injury, long-lasting health effects, and damage to buildings, homes, and other property. Many products containing hazardous chemicals are used and stored in homes and businesses routinely. These products are also shipped daily on the nation's highways, railroads, waterways, and pipelines.

Although there are no Tier II Hazardous Materials storage facilities in Cummington, varying quantities of hazardous materials are manufactured, used, or stored at an estimated 4.5 million facilities in the United States--from major industrial plants to local dry cleaning establishments or gardening supply stores. These hazardous materials are transported regularly over our highways and by rail and if released can spread quickly to any community. Incidents can occur at any time without warning. Human error is the probable cause of most transportation incidents and associated consequences involving the release of hazardous materials.

Cummington relies on the state response team out of Pittsfield or Chicopee for responding to incidents involving hazardous materials. The State wide Haz Mat Response team is setup through the Fire Marshal's Office with the Department of Fire Services. There is no history of any major accidents involving some sort of oil or chemical spill, but transportation of chemicals and bio-hazardous materials by vehicle transport on Route 9 and Route 112 is a significant concern. Natural Hazard Mitigation Committee members expressed particular concern about an area on Route 9 where the roadside gas tanks owned by the Hampshire County Housing for the Elderly

coincide with a shady corner and low-salt stretch of roadway. They believe the combination presents the potential for a serious event.

In addition, the East Branch of the Westfield River flows all along Route 9 with six or seven bridge crossings. The chances of any spill on Route 9 reaching this river and then flowing on to Chesterfield, Huntington and Westfield are very high. Contamination and cleanup would cost millions due to the lack of access once the river turns in at the Swift River and goes behind the mountains toward Chesterfield. Cummington's water supplies are located along the river as well so contamination potential is significant.

Town officials are also concerned with the recent closing of a local gas station. This means now that residents must travel some distance, to either Goshen, Worthington, Williamsburg, or Windsor to buy gas. They are troubled with the thought of residents traveling home with a container of gas (for lawn mowers, etc.) in a car filled with their Saturday morning groceries and kids.

4: CRITICAL FACILITIES

A Critical Facility is defined as a building, structure, or location which:

- is vital to the hazard response effort.
- Maintains an existing level of protection from hazards for the community.
- Would create a secondary disaster if a hazard were to impact it.

Critical Facilities within Hazard Areas

Hazards identified in this plan are regional risks and, as such, all critical facilities fall into the hazard area. The exception to this is flooding. There are several critical facilities that fall within the 100-year floodplain as shown in the table at the end of this section.

The Critical Facilities List for the Town of Cummington has been identified utilizing a Critical Facilities List provided by the State Hazard Mitigation Officer. Cummington's Hazard Mitigation Committee has broken up this list of facilities into four categories:

- The first category contains facilities needed for Emergency Response in the event of a disaster.
- The second category contains Non-Emergency Response Facilities that have been identified by the Committee as non-essential. These are not required in an emergency response event, but are considered essential for the everyday operation of Cummington.
- The third category contains Facilities/Populations that the Committee wishes to protect in the event of a disaster.
- The fourth category contains Potential Resources, which can provide services or supplies in the event of a disaster.

The critical facilities and evacuation routes potentially affected by hazard areas are identified in Table 4-1, following this list. The Past and Potential Hazards/Critical Facilities Map (Appendix D) identifies these facilities.

Category 1 – Emergency Response Services

The Town has identified the Emergency Response Facilities and Services as the highest priority in regards to protection from natural and man-made hazards.

Emergency Operations Center

Primary: Public Safety Complex, 8 Fairgrounds Road (under construction)

Secondary: Community House, 33 Main Street

Tertiary: Highway Department, 20 Fairgrounds Road

Volunteer Fire Department ,16 Main Street

Police Department, 18 A Main Street

Community House, 33 Main Street (houses essential town records)

Water Supply

- Savoy Road Well
- Pettingill Memorial Field Well (along Westfield River), drive is between 12 and 16 Main Street
- Fanny Rogers Spring, off Dodwell Hill Road

Water Supply (other public sources)

- Greenwood School of Music, 32 Harlow Road
- Farmstand
- Old Creamery, 445 Berkshire Trail (Route 9)
- Shire Village Camp, Mellor Road
- Academy at Swift River, 151 South Street

Water Storage Tanks

- Bush Road, Plainfield
- Dodwell Water Storage Tank, Dodwell Hill Road
- Village Storage Tank, Route 9

Emergency Fuel Stations

- Town Garage @ Highway Department, 20 Fairgrounds Road

Emergency Electrical Power (portable units)

- Cummington Volunteer Fire Department ,16 Main Street (5 portable units)

Emergency Shelters (* indicates emergency generators)

- Berkshire Trail Elementary School, 2 Main Street
- *Community House, 33 Main Street
- Fairgrounds (in summer)
- Greenwood School of Music, 32 Harlow Road
- Ladies Benevolent Society
- *Public Safety Complex, 8 Fairgrounds Road (under construction)
- Shire Village Camp, Mellor Road
- *Academy at Swift River, 151 South Street
- Village Church, 31 Main Street
- West Cummington Congregational Church, 1 Church Lane

*Shelters also have generators.

Transfer Station, 12 Fairgrounds Road

Helicopter Landing Sites

- Pettingill Memorial Field, drive is between 12 and 16 Main Street (3 season only)
- Route 9 (if Pettingill Memorial Field covered in snow)

Communications

- Cell tower—12 Andrew Shaw Road (to be built)
- Cell tower—Stage Road
- Public Safety Complex, 8 Fairgrounds Road (under construction)

Primary Evacuation Routes

- Route 9 (to the east and west)
- Route 112 (to the south)
- Plainfield Road (to the north—if on north side of Westfield River)
- Fairground Road to Porter Hill Road to Route 112 (to the south)
- West Main to Bush Road
- West Cummington Road

Bridges/Culverts Located on Evacuation Routes

- Route 9— number of culverts TBD
- Route 112— number of culverts TBD
- Plainfield Road—25 culverts
- Fairgrounds Road—11 culverts
- Porter Hill Road—23 culverts
- West Main— number of culverts TBD
- Bush Road—5 culverts
- West Cummington Road— number of culverts TBD

Category 2 – Non Emergency Response Facilities

The town has identified these facilities as non-emergency facilities; however, they are considered essential for the everyday operation of Cummington.

1) Problem Culverts

The Town's Highway Superintendent has begun to develop a list of problem culverts. This task will be included in the mitigation actions for the Town. To date, this list includes the following:

- Bush Road, four of the five culverts are problematic
- West Cummington Road, stream crossing east of Luther Shaw Road (5' steel)
- Fairgrounds Road, south of house #57 (15" steel)
- Porter Hill Road near intersection of Dodwells Road (5' steel)
- Porter Hill Road 330 feet west of intersection with Clark Road
- Porter Hill Road 770 feet west of intersection with Clark Road

Category 3 – Facilities/Populations to Protect

The third category contains people and facilities that need to be protected in event of a disaster.

Elderly Housing/Assisted Living

- Hillside Manor--Hampshire County Housing for the Elderly, 37 Main Street

Public Buildings/Areas

- Community House, 33 Main Street (home to the Senior Center, Town Offices, Emergency Operations Center back-up, family center, records storage facility for Town, T1 connection)
- Bryant Free Library, 455 Berkshire Trail

Schools

- Berkshire Trail Elementary School, 2 Main Street
- Academy at Swift River, 151 South Street

Camps and Campgrounds

- Greenwood School of Music, 32 Harlow Road
- Shire Village Camp, Mellor Road
- Morey's Campground, 81 West Cummington Road
- Fairgrounds, 97 Fairgrounds Road
- Warner Farm Retreat

Churches

- Village Church, 31 Main Street
- West Cummington Congregational Church, 1 Church Lane

Historic Buildings/Sites

- Bryant Homestead
- Kingman Tavern Museum, 41 Main Street
- All of Main Street in Cummington and West Cummington (working on state designation)

Apartment Complexes

- Elm Tree, 48 Main Street
- Kellogg family house, 30 Main Street
- Deer Hill House, 36 West Main Street
- 17 Main Street
- Todd Moden Estates, Stage Road

Category 4 – Potential Resources

Contains facilities that provide potential resources for services or supplies.

1) Food

- Berkshire Trail Elementary School, 2 Main Street
- Old Creamery, 445 Berkshire Trail (Route 9)
- Farmstand, 135 Plainfield Road
- Farmstand, 609 Berkshire Trail

Hospitals/Medical Supplies (nearest)

- Ambulance Station, Goshen
- Worthington Medical Center, Worthington
- Cooley Dickinson Hospital, Northampton
- Berkshire Medical Center, Pittsfield

Gas

- Town Garage @ Highway Department, 20 Fairgrounds Road

Building Materials Suppliers

- Cummington Supply, Main Street

Heavy & Small Equipment Suppliers (no commercial operations)

- Peter Marcoux, 470 Stage Road (contracted with the Town)
- Volunteer Fire Department, 16 Main Street
- Bacon's, Williamsburg (closest supplier of small equipment)

Table 4.1: Critical Facilities and Evacuation Routes Potentially Affected by Hazard Areas

Hazard Type	Hazard Area	Critical Facilities Affected	Evacuation Routes Affected
Flooding (100-year)	All along Westfield River	<ul style="list-style-type: none"> ▪ Savoy Road Wells ▪ Pettingill Memorial Field Wells ▪ Ladies Benevolent Society (shelter) 	<ul style="list-style-type: none"> ▪ Route 9 ▪ West Cummington Road ▪ West Main to Bush Road
	Westfield River at confluence with Swift River	None	Route 9
Flooding (localized)	Warner Farm, south end of Fairgrounds Road--beaver activity	None	<ul style="list-style-type: none"> ▪ Fairgrounds to Porter Hill Road
	Westfield River on west end of town	<ul style="list-style-type: none"> ▪ Ladies Benevolent Society (shelter) 	<ul style="list-style-type: none"> ▪ West Main to Bush Road
Severe Snow/Ice Storm	Entire town	All facilities	All routes affected, though Route 9 usually in best condition
Hurricane/Severe Wind	Entire town	All facilities	Possibly all
Wildfire/Brushfire	Entire town	Depends on magnitude/location	Depends on location
Earthquake	Entire town	Depends on magnitude	Possibly all
Dam Failure	Bryant Homestead (Trustees of Reservation seeking permits to dredge fire pond and restore dam); Shire Village	None	<ul style="list-style-type: none"> ▪ Route 9 ▪ West Cummington Road
Drought	Entire town	Depends on magnitude	NA
Hazardous Materials	Route 9 corridor, especially Kings Corner, Arch Bridge, West Main Street Bridge, stretch of road behind elderly housing	Water supplies of both villages Hillside Manor (LPG tanks)	Route 9

(Past & Potential Hazards/Critical Facilities Map Located In Appendix D)

5: MITIGATION STRATEGIES

One of the steps of this Natural Hazard Mitigation Plan is to evaluate all of the town's existing policies and practices related to natural hazards and identify potential gaps in protection. Once these gaps in protection are identified, future mitigation strategies can be crafted and recommended. This is done by evaluating existing and future measures in comparison to the Town's goal statement for natural hazard mitigation.

Goal Statement

To minimize the loss of life, damage to property, and the disruption of governmental services and general business activities due to natural disasters. To provide adequate shelter, water, food and basic first aid to displaced residents in the event of a natural disaster and to provide adequate notification and information regarding evacuation procedures, etc., to residents in the event of a natural disaster.

For the extent of this analysis, the Committee reviewed the following Town documents:

- Zoning By-Laws
- Subdivision Regulations
- Cummington Community Development Plan
- CEM Plan
- Other relevant By-Laws as identified (Fire Department Burn Permit Procedures, Building Code, etc.)

This section of the plan serves to identify current mitigation strategies and recommend future mitigation strategies. This is done both generally, and by hazard type.

General Mitigation Measures

Several of the recommended mitigation measures have multiple benefits because, if implemented, they will mitigate or prevent damages from more than one type of natural hazard. These do not fall under one hazard type, but could be put into place for facilitation of better natural hazard protection generally.

Some of these general hazard-related strategies and measures do not fall specifically under the category of "mitigation," but are instead tools for

What's the CEM Plan?

An important existing general preparedness and response tool is Cummington's Comprehensive Emergency Management Plan (CEM Plan). Although the CEM Plan is focused on the procedural response to an emergency, it organizes information, includes supply and information inventories, and outlines detailed steps for increasing

preparedness. The Hazard Mitigation Planning Committee recognizes that these are also important recommendations for the Town, and has included them here:

Action Item: Establish system to inventory supplies at existing shelters and develop a needs list and storage requirements. Establish arrangements with local or neighboring vendors for supplying shelters at Community House and new Public Safety Complex with food and first aid supplies in the event of a natural disaster.

Responsible Department/Board: Emergency Management Director, and Board of Selectmen

Proposed Completion Date: Ongoing

Action Item: Collect and distribute emergency information from Red Cross and MEMA on what to include in a 'home survival kit,' how to prepare homes and other structures to withstand flooding and high winds, and the proper evacuation procedures to follow during a natural disaster, pending availability of funding.

Responsible Department/Board: Emergency Management Director, and Board of Selectmen

Proposed Completion Date: 2008

Action Item: Examine current notification system including feasibility of new siren warning system, internet radio system, or Reverse 911. Develop a preliminary project proposal and cost benefit analysis.

Responsible Department/Board: Emergency Management Director, and Board of Selectmen

Proposed Completion Date: 2009

Flooding

The key factors in flooding are the water capacity of water bodies and waterways, the regulation of waterways by flood control structures, and the preservation of flood storage areas and wetlands. As more land is developed, more flood storage is demanded of the town's water bodies and waterways.

Current Mitigation Measures

The Town currently addresses this problem with a variety of mitigation tools and strategies. Flood-related regulations and strategies are included in the Town's zoning by-law, subdivision regulations, as well as a proposed stormwater management by-law. Relevant goals are included in the adopted Open Space and Recreation Plan. Infrastructure like dams and culverts are in place to manage the flow of water. These current mitigation strategies are outlined in the following table.

Table 5-1: Existing Flood Hazard Mitigation Measures

Existing Strategy		Description	Effectiveness	Potential Changes
Zoning By-Law	Floodplain and Westfield River Protection District	Areas delineated as part of the 100-year floodplain and/or within 100 feet of the Westfield River are protected by strict use regulations.	Effective for preventing incompatible development within the flood prone areas.	Consider prohibiting all new residential development within district.
	Water Supply Protection District	Overlay district to protect groundwater resources by regulating certain uses, drainage, and special permit procedures.	Very effective for preventing groundwater contamination and for controlling stormwater runoff.	Revise definitions for clarification, using state model from DEP.
Subdivision Regulations	Definitive Plan	Plan must show storm drainage easements.	Somewhat effective for managing stormwater runoff.	Consider creating more performance-based evaluations.
	Design Standards	Easement – if water body traverses property, stormwater drainage easement required.		
		Protection of Natural Resources – “due regard” must be shown for significant natural features, including water bodies.	Somewhat effective for preserving open spaces and limiting impervious surfaces, protecting waterbodies.	
	Required Improvements	Street and Roadway – Adequate disposal of surface water is required.	Somewhat effective for managing drainage.	
Cummington Open Space Plan		Open Space and Recreation Element inventories natural resources and promotes their preservation, including areas in the floodplain; such as wetlands, groundwater recharge areas, farms and open space, rivers, streams and brooks.	Effective in identifying sensitive resource areas, including floodplains. Encourages forest, farmland protection, help conserve the town's flood storage capacity.	Work to implement relevant goals and policies in Plan.
National Flood Insurance Program Participation		As of 2006, there were 5 homeowners with flood insurance policies.	Somewhat effective, provided that the town remains enrolled in the National Flood Insurance Program.	Evaluate whether to become a part of FEMA's Community Rating System.

Future Mitigation Measures

Several potential changes to the Town's current strategies have been identified in the above table, and these, as well as recommendations for other future mitigation strategies, are compiled below:

Action Item: Develop list of priority culverts for replacement and identify other roadway construction projects to effectively manage flooding.

Responsible Department/Board: Highway Superintendent

Proposed Completion Date: 2009

Action Item: Replace culverts on priority list, pending availability of funding.

Responsible Department/Board: Highway Department

Proposed Completion Date: Ongoing

Action Item: Conduct cost benefit analysis of purchasing equipment to maintain culverts, namely a backhoe/bucket loader.

Insert itemized list of priority culvert replacements here.

Responsible Department/Board: Highway Superintendent

Proposed Completion Date: 2009

Action Item: Prohibit all new residential development within Floodplain and Westfield River Protection District.

Responsible Department/Board:

Proposed Completion Date:

Action Item: Review stormwater management provisions within Subdivision Regulations and consider more performance-based evaluations.

Responsible Department/Board: Planning Board

Proposed Completion Date: 2011

Action Item: Implement the goals and strategies of the Cummington Open Space and Recreation Plan dealing with protection of floodplain, forests, and farmland.

Responsible Department/Board: Conservation Commission, Planning Board, Board of Selectmen, Agricultural Commission

Proposed Completion Date: Ongoing

Action Item: Inventory bridges, and develop estimate of what would cost to replace with major events, pending availability of funding.

Responsible Department/Board: Highway Department, Board of Assessors

Proposed Completion Date: 2010

Action Item: Evaluate whether to become a part of FEMA's Community Rating System, pending availability of funding.

Responsible Department/Board: Board of Selectmen, Board of Assessors, Emergency Management Director

Proposed Completion Date: 2009

Action Item: Educate citizens living in the floodplain about the NFIP, pending availability of funding.

Responsible Department/Board: Building Inspector

Proposed Completion Date: 2009

Action Item: Update the definitions used in the Water Supply Protection district, utilizing the state model from DEP.

Responsible Department/Board: Water Commission

Proposed Completion Date:

Severe Snow/Ice Storm

Winter storms can be especially challenging for emergency management personnel. The Massachusetts Emergency Management Agency (MEMA) serves as the primary coordinating entity in the statewide management of all types of winter storms and monitors the National Weather Service (NWS) alerting systems during periods when winter storms are expected. Even though the storm has usually been forecast, there is no certain way for predicting its length, size or severity. Therefore, mitigation strategies must focus on preparedness prior to a severe snow/ice storm.

Current Mitigation Measures

The Town's current mitigation tools and strategies focus on preparedness, with many regulations and standards established based on safety during storm events. These current mitigation strategies are outlined in the following table.

Note: To the extent that some of the damages from a winter storm can be caused by flooding, all of the flood protection mitigation measures described in Table 5-1 in the previous section can also be considered as mitigation measures for severe snow/ice storms.

Table 5-2: Existing Severe Snow/Ice Storm Hazard Mitigation Measures

Existing Strategy		Description	Effectiveness	Potential Changes
Subdivision Regulations	Design Standards	Standards include street grade regulations (minimum 0.5%; maximum 12%).	Effective.	
	Required Improvements	Street and Roadway – Adequate disposal of surface water is required.	Somewhat effective for preventing ice.	
State Building Code		The Town of Cummington has adopted the Massachusetts State Building Code.	Effective.	

Backup Electric Power	There are 3 mobile generators that can be used at Community House and school backup power	Effective in case of power loss.	Determine if mobile generators for use at shelters are effective. Also, install emergency generator at new public safety complex
Tree Management	Tree warden phones WMECO immediately when danger with power lines due to tree	Very effective, preventative collaboration.	
Town Bylaws	Bylaws prohibit residents from putting snow in roadway. Penalty is \$150 fine.	Very effective.	

Future Mitigation Measures

Several potential changes to the Town's current strategies have been identified in the above table, and these, as well as recommendations for other future mitigation strategies, are compiled below: **Action Item:**

Determine if generators for use at shelters are effective, replace if not effective, pending availability of funding.

Responsible Department/Board: Emergency Management Director

Proposed Completion Date: 2013

Action Item: Install emergency generator at new public safety complex, pending availability of funding.

Responsible Department/Board: Emergency Management Director, Board of Selectmen

Proposed Completion Date: 2009

Action Item: In upgrading roads, implement design and construction where feasible that mitigates ice buildup and snow removal.

Responsible Department/Board: Emergency Management Director, Board of Selectmen

Proposed Completion Date: ongoing

Hurricanes/Severe Wind

Of all the natural disasters that could potentially impact Cummington, hurricanes provide the most lead warning time because of the relative ease in predicting the storm's track and potential landfall. MEMA assumes "standby status" when a hurricane's location is 35 degrees North Latitude (Cape Hatteras) and "alert status" when the storm reaches 40 degrees North Latitude (Long Island). Even with significant warning, hurricanes can do significant damage – both due to flooding and severe wind.

The flooding associated with hurricanes can be a major source of damage to buildings, infrastructure and a potential threat to human lives. Therefore, all of the flood protection mitigation measures described in Table 5-1 can also be considered hurricane mitigation measures.

The high winds that oftentimes accompany hurricanes can also damage buildings and infrastructure. But regulations can be put into place to help minimize the extent of wind damages.

The Town's current mitigation strategies to deal with severe wind are equally applicable to wind events such as tornadoes and microbursts. Therefore, the analysis of severe wind strategies is coupled with this hazard.

Tornadoes/Microbursts

The location and extent of potential damaging impacts of a tornado are completely unpredictable. Most damage from tornadoes or microbursts comes from high winds that can fell trees and electrical wires, generate hurtling debris and, possibly, hail. According to the Institute for Business and Home Safety, the wind speeds in most tornadoes are at or below design speeds that are used in current building codes. In addition, current land development regulations can also help prevent wind damages.

The following table outlines the Town's existing mitigation strategies that help prevent wind damages, whether from hurricanes, tornadoes, microbursts, or any other event.

**Table 5-3: Existing Severe Wind Hazard Mitigation Measures
(Including Hurricane, Tornado, Microburst Hazards)**

Existing Strategy		Description	Effectiveness	Potential Changes
Zoning By-Law	Use Regulations	Mobile homes are allowed by special permit in all zone districts for six months	Low effectiveness, mobile homes are very susceptible to flood damages.	Consider prohibiting mobile homes from floodplains.
	Personal Wireless Service Facilities and Repeaters	Wireless communication towers/facilities standards restrict height and setbacks.	Very effective for preventing damage to nearby property	Clarify terms used in bylaw.
State Building Code		The Town has adopted the MA State Building Code.	Effective.	
Tree Management		Tree warden phones WMECO immediately when danger with power lines due to tree	Very effective, preventative collaboration.	

Future Mitigation Measures

Several potential changes to the Town's current strategies have been identified in the above table, and these, as well as recommendations for other future mitigation strategies, are compiled below:

Action Item: Clarify terms used in zoning by-law regarding personal wireless and service facilities and repeaters.

Responsible Department/Board: Planning Board

Proposed Completion Date: 2009

Action Item: Prohibit mobile homes from Floodplain Protection district altogether, as they are more susceptible to damage from natural hazards

Responsible Department/Board: Planning Board

Proposed Completion Date: 2010

Wildfire/Brushfire

Although somewhat common, the vast majority of brushfires in Cummington are small and quickly contained. However, as with any illegal fire or brushfire, there is always the risk that a small brushfire could grow into a larger, more dangerous wildfire, especially if conditions are right. Therefore, it is important to take steps to prevent wildfires and brushfires from turning into natural disasters.

Current Mitigation Measures

The following table identifies what the Town is currently doing to manage brushfires and makes some suggested potential changes and recommendations for decreasing the Town's likelihood of being heavily impacted by a wildfire or brushfire.

Table 5-4: Existing Wildfire/Brushfire Hazard Mitigation Measures

Existing Strategy	Description	Effectiveness	Potential Changes
Burn Permits	Residents must obtain burn permits, and personnel provide information on safe burn practices.	Very effective.	Put annual reminder notice in newspaper about burn regulations.
Public Education/ Outreach	The Fire Department has an ongoing educational program in the schools.	Effective.	None.

Future Mitigation Measures

Several potential changes to the Town's current strategies have been identified in the above table, and these, as well as recommendations for other future mitigation strategies, are compiled below:

Action Items: Put reminder notice in newspaper about burn regulations.

Responsible Department/Board: Fire Chief

Proposed Completion Date: Annually, starting 2008

Earthquake

Although there are five mapped seismological faults in Massachusetts, there is no discernable pattern of previous earthquakes along these faults nor is there a reliable way to predict future earthquakes along these faults or in any other areas of the state. Consequently, earthquakes are arguably the most difficult natural hazard to plan for.

Most buildings and structures in the state were constructed without specific earthquake resistant design features. In addition, earthquakes precipitate several potential devastating secondary effects such as building collapse, utility pipeline rupture, water contamination, and extended power outages. Therefore, many of the mitigation efforts for other natural hazards identified in this plan may be applicable during the Town's recovery from an earthquake.

Current Mitigation Measures

The Town's most relevant existing mitigation measures are described in the following table.

Table 5-5: Existing Earthquake Hazard Mitigation Measures

Existing Strategy		Description	Effectiveness	Potential Changes
Zoning By-law	Personal Wireless Service Facilities and Repeaters	Wireless communication towers/facilities standards restrict height and setbacks.	Very effective for preventing damage to nearby property.	Clarify terms used in bylaw.
	State Building Code	The Town of Cummington has adopted the State Building Code.	Effective for new buildings only.	

Future Mitigation Measures

Potential changes to the Town's current strategies have been identified in the above table, and these are compiled below:

Action Item: Clarify terms used in zoning by-law regarding personal wireless and service facilities and repeaters.

Responsible Department/Board: Planning Board

Proposed Completion Date: 2009

Action Item: Ensure that all identified shelters have sufficient back-up utility service in the event of primary power failure.

Responsible Department/Board: Emergency Management Director

Proposed Completion Date: 2009

Dam Failure

Dam failure is a highly infrequent occurrence, but a severe incident could prove catastrophic. In addition, dam failure most often coincides with flooding, so its impacts can be multiplied, as the additional water has no where to flow.

Current Mitigation Measures

The only mitigation measures currently in place are the state regulations governing the construction, inspection, and maintenance of dams. This is managed through the Office of Dam Safety at the Department of Conservation and Recreation.

Table 5-6: Existing Dam Failure Hazard Mitigation Measures

Existing Strategy	Description	Effectiveness	Potential Changes
New Dam Construction Permits	State law requires a permit for the construction of any dam.	Effective. Ensures dams are adequately designed.	None.
Dam Inspections	DCR has an inspection schedule that is based on the hazard rating of the dam (low, medium, high hazard).	Low. The responsibility for this is now on dam owners, who may not have sufficient funding to comply.	

Future Mitigation Measures

Recent changes in legislation have shifted some of the responsibility of dam safety onto dam owners. The Town recognizes the need to adjust to this change. Since the few dams in Cummington pose little hazard, there are no changes to the Town's current strategies.

Drought

Although Massachusetts does not face extreme droughts like many other places in the country, it is susceptible to dry spells and drought. And unlike other places, drought can most likely be effectively mitigated in regions like the Pioneer Valley if measures are put into place.

Current Mitigation Measures

Cummington has several water protection regulations in place, as evidenced in the section on flooding. Additional regulations and mitigation options, specific to drought mitigation, are included here.

Table 5-7: Existing Drought Hazard Mitigation Measures

Existing Strategy		Description	Effectiveness	Potential Changes
Zoning By-law	Water Supply Protection District	Overlay district to protect groundwater resources by regulating certain uses, drainage, and special permit procedures.	Very effective for preventing groundwater contamination and for controlling stormwater runoff.	Consider revising definitions for clarification – utilize state model from DEP.
Subdiv Regs	Definitive Plan	Proposed water supply must be included in plan.	Effective for ensuring sufficient water supply prior to development.	
Cummington Open Space Plan		Makes recommendations for protecting Cummington's water quality/supply.	Somewhat effective for raising awareness about protecting water quality, supply, and conservation.	Implement plan goals.

Future Mitigation Measures

Potential changes to the Town's current strategies have been identified in the above table, and these, as well as recommendations for other future mitigation strategies, are compiled below:

Action Item: Remind residents of water conservation guidelines through information that accompanies water bills and with notice in newspaper.

Responsible Department/Board: Water Commission

Proposed Completion Date: 2009

Action Item: Implement the goals and strategies of the Cummington Open Space and Recreation Plan dealing with protection of floodplain, forests, and farmland.

Responsible Department/Board: Conservation Commission, Planning Board, Board of Selectmen, Agricultural Commission

Proposed Completion Date: Ongoing

Hazardous Materials

Hazardous materials are in existence throughout Town, and are constantly being moved on Cummington's roads and highways, particularly Routes 9 and 112. However, there is no way to anticipate where and when a hazardous materials spill or explosion could take place. Therefore, it makes is somewhat difficult to determine mitigation strategies, but Cummington has some regulations currently in place to mitigate the impacts of a hazardous materials disaster.

Table 5-8: Existing Hazardous Materials Hazard Mitigation Measures

Existing Strategy		Description	Effectiveness	Potential Changes
Zoning By-law	Water Supply Protection District	No hazardous materials disposal or hazardous wastes permitted within district, very strict regulations for storage or use of hazardous materials.	Somewhat effective for preventing groundwater contamination.	Update definitions for hazardous materials and wastes. Require that all storage tanks replaced in Water Supply Protection District—other than those for water—be replaced with tanks that are double walled with interstitial space.

Future Mitigation Measures

Potential changes to the Town's current strategies have been identified in the above table, and these are compiled below:

Action Items: Require that all storage tanks replaced in Water Supply Protection District be replaced with tanks that are double walled with interstitial space.

Responsible Department/Board: Planning Board, Fire Department

Proposed Completion Date: 2009 and ongoing

Action Items: Update the definitions for hazardous materials/wastes in the Water Supply Protection district, utilizing the state model from DEP, pending availability of funding.

Responsible Department/Board: Planning Board, Conservation Commission

Proposed Completion Date: 2009

6: PRIORITIZED IMPLEMENTATION SCHEDULE

Summary of Critical Evaluation

The Cummington Hazard Mitigation Planning Committee reviewed each of the recommendation future mitigation measures identified, and used the following factors to prioritize mitigation projects. This list of factors is derived from FEMA's STAPLE+E criteria.

- Ability to reduce loss of life
- Ability to reduce disaster damage
- Social acceptability
- Ability to complete or be combined w/other actions
- Technical feasibility / potential success
- Impact on the environment
- Administrative workability
- Ability to meet regulations
- Political acceptability
- Ability to save or protect historic structures
- Legal implementation
- Ability to meet other community objectives
- Economic impact
- The duration of its implementation period
- Environmental compatibility

Project Prioritization

The Cummington Hazard Mitigation Planning Committee created the following prioritized schedule for implementation of prioritized items. The table lists items in order of priority.

Note: As additional information becomes available regarding project leadership, timeline, funding sources, and/or cost estimates, the Plan will be reviewed and amended accordingly.

Table 6.1: Prioritized Implementation Schedule – Action Plan

Mitigation Action	Responsible Department/Board	Proposed Completion Date/ Reporting Date	Funding Source	Estimated Cost
Develop list of priority culverts for replacement and identify other roadway construction projects to effectively manage flooding.	Highway Superintendent	2008	Town Staff	NA
Replace culverts on priority list, pending availability of funding. Insert itemized list of priority culvert replacements here.	Highway Department	Ongoing	Hazard Mitigation Grant Program	TBD
Conduct cost benefit analysis of purchasing equipment to maintain culverts, namely a backhoe/bucket loader.	Highway Superintendent	2008	Town Staff	NA
Require that all storage tanks replaced in Water Supply Protection District be replaced with tanks that are double walled with interstitial space.	Planning Board, Fire Department	2009 and ongoing	Town Staff/Volunteers	NA
Establish system to inventory supplies at existing shelters and develop a needs list and storage requirements. Establish arrangements with local or neighboring vendors for supplying shelters at Community House and new Public Safety Complex with food and first aid supplies in the event of a natural disaster.	Emergency Management Director, and Board of Selectmen	Ongoing	Town Staff/Volunteers	NA
Implement the goals and strategies of the Cummington Open Space and Recreation Plan dealing with protection of floodplain,	Conservation Commission, Planning Board, Board of Selectmen, Agricultural	Ongoing	Town Staff/Volunteers	NA

forests, and farmland.	Commission			
Collect and distribute emergency information from Red Cross and MEMA on what to include in a 'home survival kit,' how to prepare homes and other structures to withstand flooding and high winds, and the proper evacuation procedures to follow during a natural disaster, pending availability of funding.	Emergency Management Director, and Board of Selectmen	2009	Town Staff/Volunteers	\$5,000
Examine current notification system including feasibility of new siren warning system, internet radio system, or Reverse 911. Develop a preliminary project proposal and cost benefit analysis.	Emergency Management Director, and Board of Selectmen	2009	Town Staff/Volunteers	NA
Inventory bridges, and develop estimate of what would cost to replace with major events, pending availability of funding.	Highway Department, Board of Assessors	2010	Town Staff/Volunteers	NA
Determine if generators for use at shelters are effective, replace if not effective, pending availability of funding.	Emergency Management Director	2013	Town Staff/Volunteers, Grants	TBD
Prohibit mobile homes from Floodplain Protection district altogether, as they are more susceptible to damage from natural hazards	Planning Board	2010	Town Staff/Volunteers	NA
Install emergency generator at new public safety complex, pending availability of funding.	Emergency Management Director, Board of Selectmen, Fire Chief, Police Chief	2009	Town Staff/Volunteers, Grants	TBD
In upgrading roads, implement design and construction where feasible that mitigates ice buildup and snow removal.	Emergency Management Director, Board of Selectmen, Highway Superintendent	ongoing	Town Staff/Volunteers,	NA

Clarify terms used in zoning by-law regarding personal wireless and service facilities and repeaters.	Planning Board	2010	Volunteers	NA
Prohibit mobile homes from Floodplain Protection district altogether, as they are more susceptible to damage from natural hazards	Planning Board	2010	Volunteers	NA
Put reminder notice in newspaper about burn regulations.	Fire Chief	Annually, starting 2008	Town Staff/Volunteers	NA
Ensure that all identified shelters have sufficient back-up utility service in the event of primary power failure.	Emergency Management Director	2009	Town Staff/Volunteers	NA
Remind residents of water conservation guidelines through information that accompanies water bills and with notice in newspaper.	Water Commission	2009	Town Staff/Volunteers	\$1,000
Update the definitions for hazardous materials/wastes in the Water Supply Protection district, utilizing the state model from DEP, pending availability of funding.	Planning Board, Conservation Commission	2009	Town Staff/Volunteers	NA
Review stormwater management provisions within Subdivision Regulations and consider more performance-based evaluations.	Planning Board	2009	Volunteers/LTA from PVPC	\$2,500

7: PLAN ADOPTION & IMPLEMENTATION

Plan Adoption

Upon completion, copies of the Draft Local Hazards Mitigation Plan for the Town of Cummington were distributed to the town boards for their review and comment. A public meeting was held by the Cummington Board of Selectmen to present the draft copy of the Cummington Local Natural Hazards Mitigation Plan to town officials and residents and to request comments from this committee and the general public. The Natural Hazards Mitigation Plan was formally approved by the Board of Selectmen and forwarded to the Massachusetts Emergency Management Agency (MEMA) and the Federal Emergency Management Agency (FEMA) for their approval.

Plan Implementation

The implementation of the Cummington Local Natural Hazards Mitigation Plan will begin following its formal adoption by the Cummington Board of Selectmen and approval by MEMA and FEMA. Those town departments and boards responsible for ensuring the development of policies, bylaw revisions, and programs as described in Sections 5 and 6 of this plan will be notified of their responsibilities immediately following approval and will integrate their hazard mitigation responsibilities into their annual work plans as appropriate. Cummington's Board of Selectmen will oversee the implementation of the plan.

Plan Monitoring and Evaluation

The Cummington Board of Selectmen will monitor and evaluate plan progress annually at one of the quarterly "all boards meetings." These review meetings will occur on an annual basis in each of the following years: 2009, 2010, 2011, 2012, 2013, and as needed (*i.e.*, following a natural disaster). The public will be notified of these meetings in advance through a posting of the agenda at Town Hall. In addition, responsible parties identified for specific mitigation actions will be asked to submit their reports in advance of the meeting. Meetings of the committee will be organized and facilitated by the Emergency Management Director. Meetings will entail the following actions:

- Review events of the year to discuss and evaluate major issues, effectiveness of current mitigation, and possible mitigation for future events.
- Review and evaluate progress toward implementation of the current mitigation plan based on reports from responsible parties.
- Amend current plan to improve mitigation practices.

Following these discussions, it is anticipated that the committee may decide to reassign the roles and responsibilities for implementing mitigation strategies to different town departments and/or revise the goals and objectives contained in the plan. The committee will review and update the Cummington Local Natural Hazards Mitigation

Plan every five years. The first updated plan will be submitted to MEMA and FEMA in the fall of 2013.

CERTIFICATE OF ADOPTION
TOWN OF CUMMINGTON, MASSACHUSETTS
BOARD OF SELECTMEN
A RESOLUTION ADOPTING THE CUMMINGTON
NATURAL HAZARD MITIGATION PLAN

WHEREAS, the Town of Cummington established a Committee to prepare the Cummington Hazard Mitigation plan; and

WHEREAS, several public planning meetings were held between January and May 2007 regarding the development and review of the Cummington Hazard Mitigation Plan; and

WHEREAS, the Cummington Hazard Mitigation Plan contains several potential future projects to mitigate hazard damage in the Town of Cummington, and

WHEREAS, a duly-noticed public hearing was held by the Cummington Board of Selectmen on _____, 2008 to formally approve and adopt the Cummington Hazard Mitigation Plan.

NOW, THEREFORE BE IT RESOLVED that the Cummington Board of Selectmen adopts the Cummington Hazard Mitigation Plan.

ADOPTED AND SIGNED this _____, 2008.

[Russell L. Sears III](#), Chair
Cummington Board of Selectmen

[James Drawe](#)
Cummington Board of Selectmen

[Monica Vandoloski](#)
Cummington Board of Selectmen

ATTEST

APPENDICES

Appendix A – Technical Resources

1) Agencies

Massachusetts Emergency Management Agency (MEMA).....	508/820-2000
Hazard Mitigation Section	617/626-1356
Federal Emergency Management Agency (FEMA)	617/223-4175
MA Regional Planning Commissions:	
Berkshire Regional Planning Commission (BRPC).....	413/442-1521
Cape Cod Commission (CCC).....	508/362-3828
Central Massachusetts Regional Planning Commission (CMRPC).....	508/693-3453
Franklin Regional Council of Governments (FRCOG).....	413/774-3167
Martha's Vineyard Commission (MVC).....	508/693-3453
Merrimack Valley Planning Commission (MVPC).....	978/374-0519
Metropolitan Area Planning Council (MAPC).....	617/451-2770
Montachusett Regional Planning Commission (MRPC).....	978/345-7376
Nantucket Planning and Economic Development Commission (NP&EDC).....	508/228-7236
Northern Middlesex Council of Governments (NMCOG).....	978/454-8021
Old Colony Planning Council (OCPC).....	508/583-1833
Pioneer Valley Planning Commission (PVPC).....	413/781-6045
Southeastern Regional Planning and Economic Development District (SRPEDD).....	508/823-1803
MA Board of Building Regulations & Standards (BBRS).....	617/227-1754
MA Coastal Zone Management (CZM).....	617/626-1200
DCR Water Supply Protection.....	617/626-1379
DCR Waterways.....	617/626-1371
DCR Office of Dam Safety.....	508/792-7716
DFW Riverways.....	617/626-1540
MA Dept. of Housing & Community Development.....	617/573-1100
Woods Hole Oceanographic Institute.....	508/457-2180
UMass-Amherst Cooperative Extension.....	413/545-4800
National Fire Protection Association (NFPA).....	617/770-3000
New England Disaster Recovery Information X-Change (NEDRIX – an association of private companies & industries involved in disaster recovery planning).....	781/485-0279
MA Board of Library Commissioners.....	617/725-1860
MA Highway Dept, District 2.....	413/582-0599
MA Division of Marine Fisheries.....	617/626-1520
MA Division of Capital & Asset Management (DCAM).....	617/727-4050
University of Massachusetts/Amherst.....	413/545-0111
Natural Resources Conservation Services (NRCS).....	413/253-4350
MA Historical Commission.....	617/727-8470
U.S. Army Corps of Engineers.....	978/318-8502
Northeast States Emergency Consortium, Inc. (NESEC).....	781/224-9876
National Oceanic and Atmospheric Administration: National Weather Service; Tauton, MA.....	508/824-5116
US Department of the Interior: US Fish and Wildlife Service	413/253-8200
US Geological Survey	508/490-5000

2) Mitigation Funding Resources

404 Hazard Mitigation Grant Program (HMGP)	Massachusetts Emergency Management Agency
406 Public Assistance and Hazard Mitigation	Massachusetts Emergency Management Agency

Community Development Block Grant (CDBG).....DHCD, also refer to RPC
 Dam Safety Program.....MA Division of Conservation and Recreation
 Disaster Preparedness Improvement Grant (DPIG)Massachusetts Emergency Management Agency
 Emergency Generators Program by NESEC†Massachusetts Emergency Management Agency
 Emergency Watershed Protection (EWP) Program.....USDA, Natural Resources Conservation
 Service Flood Mitigation Assistance Program (FMAP)Massachusetts Emergency Management Agency
 Flood Plain Management Services (FPMS).....US Army Corps of Engineers
 Mitigation Assistance Planning (MAP).....Massachusetts Emergency Management Agency
 Mutual Aid for Public Works.....Western Massachusetts Regional Homeland Security Advisory Council
 National Flood Insurance Program (NFIP) †Massachusetts Emergency Management Agency
 Power of Prevention Grant by NESEC†Massachusetts Emergency Management Agency
 Roadway Repair & Maintenance Program(s).....Massachusetts Highway Department
 Section 14 Emergency Stream Bank Erosion & Shoreline ProtectionUS Army Corps of Engineers
 Section 103 Beach Erosion.....US Army Corps of Engineers
 Section 205 Flood Damage Reduction.....US Army Corps of Engineers
 Section 208 Snagging and ClearingUS Army Corps of Engineers
 Shoreline Protection Program.....MA Department of Conservation and Recreation
 Various Forest and Lands Program(s).....MA Department of Environmental Protection
 Wetlands ProgramsMA Department of Environmental Protection

†NESEC – Northeast States Emergency Consortium, Inc. is a 501 (c)(3), not-for-profit natural disaster, multi-hazard mitigation and emergency management organization located in Wakefield, Massachusetts. Please, contact NESEC for more information.

† Note regarding National Flood Insurance Program (NFIP) and Community Rating System (CRS): The National Flood Insurance Program has developed suggested floodplain management activities for those communities who wish to more thoroughly manage or reduce the impact of flooding in their jurisdiction. Through use of a rating system (CRS rating), a community's floodplain management efforts can be evaluated for effectiveness. The rating, which indicates an above average floodplain management effort, is then factored into the premium cost for flood insurance policies sold in the community. The higher the rating achieved in that community, the greater the reduction in flood insurance premium costs for local property owners. MEMA can provide additional information regarding participation in the NFIP-CRS Program.

3) Internet Resources

Sponsor	Internet Address	Summary of Contents
Natural Hazards Research Center, U. of Colorado	http://www.colorado.edu/litbase/hazards/	Searchable database of references and links to many disaster-related websites.
Atlantic Hurricane Tracking Data by Year	http://wxp.eas.purdue.edu/hurricane	Hurricane track maps for each year, 1886 – 1996
National Emergency Management Association	http://nemaweb.org	Association of state emergency management directors; list of

		mitigation projects.
NASA – Goddard Space Flight Center “Disaster Finder:	http://www.gsfc.nasa.gov/ndrd/disaster/	Searchable database of sites that encompass a wide range of natural disasters.
NASA Natural Disaster Reference Database	http://ftpwww.gsfc.nasa.gov/ndrd/main/html	Searchable database of worldwide natural disasters.
U.S. State & Local Gateway	http://www.statelocal.gov/	General information through the federal-state partnership.
National Weather Service	http://nws.noaa.gov/	Central page for National Weather Warnings, updated every 60 seconds.
USGS Real Time Hydrologic Data	http://h20.usgs.gov/public/realtime.html	Provisional hydrological data
Dartmouth Flood Observatory	http://www.dartmouth.edu/artsci/geog/floods/	Observations of flooding situations.
FEMA, National Flood Insurance Program, Community Status Book	http://www.fema.gov/fema/csb.html	Searchable site for access of Community Status Books
Florida State University Atlantic Hurricane Site	http://www.met.fsu.edu/explores/tropical.html	Tracking and NWS warnings for Atlantic Hurricanes and other links
The Tornado Project Online	http://www.tornadoroject.com/	Information on tornadoes, including details of recent impacts.
National Severe Storms Laboratory	http://www.nssl.uoknor.edu/	Information about and tracking of severe storms.
Independent Insurance Agents of America IIAA Natural Disaster Risk Map	http://www.iaa.iix.com/ndcmap.html	A multi-disaster risk map.
Earth Satellite Corporation	http://www.earthsat.com/	Flood risk maps searchable by state.
USDA Forest Service Web	http://www.fs.fed.us/land	Information on forest fires and land management.

Appendix B – List of Acronyms

FEMA	Federal Emergency Management Agency
MEMA	Massachusetts Emergency Management Agency
PVPC	Pioneer Valley Planning Commission
EPA	Environmental Protection Agency
DEP	Massachusetts' Department of Environmental Protection
NWS	National Weather Service
HMGP	Hazard Mitigation Grant Program
FMA	Flood Mitigation Assistance Program
SFHA	Special Flood Hazard Area
CIS	Community Information System
DCR	Massachusetts Department of Conservation and Recreation
FERC	Federal Energy Regulatory Commission
TRI	Toxics Release Inventory
FIRM	Flood Insurance Rate Map
NFIP	National Flood Insurance Program
CRS	Community Rating System
BOS	Board of Selectmen
BOH	Board of Health
LEPC	Local Emergency Planning Committee
EMD	Emergency Management Director
Con Com	Conservation Commission
EOC	Emergency Operations Center
CEM Plan	Comprehensive Emergency Management Plan
WMECO	Western Massachusetts Electric Company
HAZMAT	Hazardous Materials

Appendix C – Natural Hazard Profiling Methodology⁴

In order to adeptly profile each of the hazards, a Hazard Identification and Analysis Matrix was prepared to organize the information that was gathered for this project.

The matrix is organized into the following sections: Type of Hazard, Location of Occurrence, Extent of Impacts, Previous Occurrences, Probability of Future Events, and Hazard Risk Index Rating. The Hazard Risk Index Rating was completed to rank the hazards according to the frequency of occurrence and the amount of potential damage likely to occur. The Hazard Risk Index Rating forms the basis for concentrating the future mitigation efforts outlined in this plan. A description of each of the matrix categories is provided below. The completed Matrix is shown as Table 3.1 in Section 3.

Previous Occurrences

Whether or not previous hazard events had occurred is also included, with detailed descriptions of specific previous occurrences within the hazard identification and vulnerability assessments, if necessary.

Location of Occurrence

The classifications are based on the area of the Town of Cummington that would potentially be affected by the hazard. The following scale was used:

Table C.1: Location of Occurrence, Percentage of Town Impacted of Given Natural Hazard	
Location of Occurrence	Percentage of Town Impacted
Large	More than 50% of the town affected
Medium	10 to 50% of the town affected
Small	Less than 10% of the town affected

Extent of Impacts

The extent of direct impacts an affected area could potentially suffer were classified according to the following scale:

Table C.2: Extent of Impacts, Magnitude of Multiple Impacts of Given Natural Hazard	
Extent of Impacts	Magnitude of Multiple Impacts
Catastrophic	Multiple deaths and injuries possible. More than 50% of property in affected area damaged or destroyed. Complete shutdown of facilities for 30 days or more.
Critical	Multiple injuries possible. More than 25% of property in affected area damaged or destroyed. Complete shutdown of facilities for more than 1 week.

Limited	Minor injuries only. More than 10% of property in affected area damaged or destroyed. Complete shutdown of facilities for more than 1 day.
Minor	Very few injuries, if any. Only minor property damage and minimal disruption on quality of life. Temporary shutdown of facilities.

Probability of Future Events

The likelihood of a future event for each natural hazard was classified according to the following scale:

Table C.3: Frequency of Occurrence and Annual Probability of Given Natural Hazard	
Frequency of Occurrence	Probability of Future Events
Very High	70-100% probability in the next year
High	40-70% probability in the next year
Moderate	10-40% probability in the next year
Low	1-10% probability in the next year
Very Low	Less than 1% probability in the next year

Hazard Risk Index Rating

The hazard risk index ratings were determined after assessing the frequency, location and impact classifications for each hazard. The hazard risk index ratings are based on a scale of 1 (highest risk) through 5 (lowest risk). The ranking is qualitative and is based, in part, on local knowledge of past experiences with each type of hazard. The size and impacts of a natural hazard can be unpredictable however; many of the mitigation strategies currently in place and many of those proposed for implementation can be applied to the expected natural hazards, regardless of their unpredictability.

The Hazard Risk Ratings are labeled as follows:

- 1 – High Risk
- 2 – Medium-High Risk
- 3 – Medium Risk
- 4 – Medium Low Risk
- 5 – Low Risk

Appendix D – Past & Potential Hazards/Critical Facilities Map

Appendix E – Documentation of the Planning Process

Town of Cummington–Hazard Mitigation Planning

c/o Pioneer Valley Planning Commission, 26 Central Street West Springfield, MA 01089

MEETING NOTICE

Date: Wednesday, April 30, 2008
Time: 9 to 11 a.m.
Place: Community House, Cummington

Agenda

1) Hazards Mitigation Planning Overview

2) Identify Critical Facilities (Chap. 4, draft plan)

The following list contains items that should be clearly identified in the plan's narrative and on the accompanying map, as they apply to Cummington:

- Emergency Operations Center
- Emergency Fuel Facilities
- Town/City Hall
- Police Station
- Fire Station
- Public Works Garages
- Water Treatment Facilities
- Sewage Treatment Plants
- Water Tower/Supply Pumps
- Power Plants
- Electrical Power Substations
- Schools
- Major Highways and Roadways
- Bridges
- Dams
- Nursing Homes
- Elderly Housing
- Day-Care Facilities
- Correctional Facilities
- Other Congregate Care Facilities
- Shelters
- Special Needs Populations
- Hazardous Materials Facilities
- Access Roads to Critical Facilities
- Evacuation Routes
- Unique or Historic Resources
- Commercial Economic Impact Areas
- Socio-Economic Impact Areas
- Areas with Second Language Needs
- Hospitals

3) Review Evacuation Routes Potentially Affected by Hazard Areas (Chap. 4, draft plan)

4) Discuss and describe history of natural hazard events (Chap. 3, draft plan)

Flooding (100-year)	Flooding (localized)	Severe Snow/Ice Storm
Hurricanes/Severe Wind	Tornadoes/Microbursts	Wildfires/Brushfires
Earthquakes	Dam Failure	Drought
Man-Made Hazards		

5) Schedule next meeting

City/Town Clerk: Please post this notice per M.G.L., Chapter 39, Section 23b.

Town of Cummington–Hazard Mitigation Planning

c/o Pioneer Valley Planning Commission, 26 Central Street West Springfield, MA 01089

MEETING NOTICE

Date: Tuesday, May 20, 2008
Time: 9 to 11 a.m.
Place: Community House, Cummington

Agenda

1. Review updates to draft plan from 4-30-08 meeting
Critical Facilities (including list of culverts from Rob Dextraze); and
Evacuation Routes Potentially Affected by Hazard Areas
2. Discuss and describe history of natural hazard events (Chap. 3, draft plan)
Flooding (100-year) Flooding (localized) Severe Snow/Ice Storm
Hurricanes/Severe Wind Tornadoes/Microbursts Wildfires/Brushfires
Earthquakes Dam Failure Drought
Man-Made Hazards
3. Review Vulnerability Assessment Methodology and Potential Loss Estimates (Chapter 3)
4. Profile Hazards (Chapter 3 and Appendix C)
5. Discuss development trends to inform narrative in Chapter 2 of draft
(Are there planned and proposed subdivisions and other common developments? Is planned development at risk by natural hazards? Are there mitigation measures that can be taken to prevent loss of life, property damage, and disruption of governmental services and general business activities?)
6. Review and discuss goal statement (Chapter 5 of draft)
7. Begin identifying Mitigation Strategies (Chapter 5)
8. Schedule next meeting

City/Town Clerk: Please post this notice per M.G.L., Chapter 39, Section 23b.

Town of Cummington–Hazard Mitigation Planning

c/o Pioneer Valley Planning Commission, 26 Central Street West Springfield, MA 01089

MEETING NOTICE

Date: Tuesday, June 17, 2008
Time: 9 to 11 a.m.
Place: Community House, Cummington

Agenda

1. Profile Hazards (Chapter 3 and Appendix C)—15 minutes
2. Discuss development trends to inform narrative (Chapter 2, page 6)—10 minutes
Are there planned and proposed subdivisions and other common developments? Is planned development at risk by natural hazards?
Are there mitigation measures that can be taken to prevent loss of life, property damage, and disruption of governmental services and general business activities?
3. Review and discuss goal statement (Chapter 5)—5 minutes
4. Identify Mitigation Strategies for Natural Hazards (Chapter 5)—1 hour
5. Prioritize and Schedule Mitigation Strategies (Chapter 6)—10 minutes
6. Review Plan Adoption and Implementation (Chapter 7)—15 minutes
7. Discuss draft plan review process—5 minutes

City/Town Clerk: Please post this notice per M.G.L., Chapter 39, Section 23b.

Incorporation of existing plans and other information

Existing plans, studies, reports and technical information were reviewed and incorporated throughout the planning process. This included significant information from the following key documents:

- ☞ *Cummington Comprehensive Emergency Management Plan* (particularly the Critical Infrastructure Section) – the Critical Infrastructure section was used to identify those infrastructure components in Cummington that have been identified as crucial to the function of the Town; also, this resource was used to identify special needs populations as well as potential emergency shortcomings.
- ☞ *Cummington Open Space and Recreation Plan* – this Plan was used to identify the natural context within which mitigation planning would take place. This proved useful insofar as it identified water bodies, rivers, streams, infrastructure components (i.e. water and sewer, or the lack thereof), as well as population trends. This was incorporated to ensure that the Town's mitigation efforts would be sensitive to the surrounding environment.
- ☞ *Cummington Community Development Plan*—this Plan was used to identify any action items that might prove successful, based on previous planning efforts.
- ☞ *Cummington Zoning Bylaws* - The Town's Zoning Bylaw was used to gather and identify those actions that the Town is already taking that are reducing the potential impacts of a natural hazard (i.e. floodplain regulations) to avoid duplicating existing successful efforts.
- ☞ *Draft State of Massachusetts' Multi-Hazard Mitigation Plan* - This plan was used to ensure that the Town's Hazard Mitigation Plan is consistent with the State's Plan.

Appendix F—Public Outreach

PRESS RELEASE

CONTACT: Catherine Miller, Pioneer Valley Planning Commission, (413) 781-6045

FOR IMMEDIATE RELEASE
December 14, 2007

Pre-Disaster Mitigation Plans Under Development

The Pioneer Valley Planning Commission is beginning the process of drafting pre-disaster mitigation plans for the Communities of Amherst, Belchertown, Brimfield, Chicopee, Cummington, Goshen, Granby, Huntington, Palmer, Southampton, Springfield, Westfield, West Springfield, Westhampton, Williamsburg, and Worthington.

This planning effort is being undertaken to help communities assess the risks they face from natural hazards, identify action steps that can be taken to prevent damage to property and loss of life, and prioritize funding for mitigation efforts. A mitigation action is any action taken to reduce or eliminate the long-term risk to human life and property from hazards.

Individuals interested in their community's Hazard Mitigation plan can contact PVPC to request information on their community's plan development. In 2006-2007, PVPC facilitated development of plans for 16 communities in Hampshire and Hampden counties. Following completion of this second round of 16 hazard mitigation plans, PVPC will be developing a regional Hazard Mitigation plan. Communities with approved plans will be eligible for Hazard Mitigation Grant Program funding from the Massachusetts Emergency Management Agency.

These pre-disaster mitigation plans are being developed with assistance from the Pioneer Valley Planning Commission with funding provided by the Massachusetts Emergency Management Agency. For additional information, please contact Catherine Miller at (413) 781-6045 or cmiller@pvpc.org.

PRESS RELEASE

CONTACT: Catherine Miller, Pioneer Valley Planning Commission, (413) 781-6045

FOR IMMEDIATE RELEASE

June 30, 2008

Pre-Disaster Mitigation Plans Public Comment Period

The Pioneer Valley Planning Commission is produced drafts of pre-disaster mitigation plans for the communities of Cummington, Palmer, Southampton, Westfield and Westhampton. Residents, business owners and other concerned parties of the named municipalities as well as of adjacent communities are encouraged to comment on each and all of the plans. The plans are currently able to be viewed on the Pioneer Valley Planning Commission website (under Projects and Plans) and the websites of the municipalities, where possible. Paper copies of the plans may be obtained at the Pioneer Valley Planning Commission offices at 26 Central Street, West Springfield or at the individual City/Town Halls. The plans will be available for the next 30 days.

Over the upcoming months pre-disaster mitigation plans will be developed for Amherst, Belchertown, Brimfield, Chicopee, Goshen, Granby, Huntington, Springfield, West Springfield, Williamsburg, and Worthington and will also be available for public comment as they are developed.

This planning effort is being undertaken to help communities assess the risks they face from natural hazards, identify action steps that can be taken to prevent damage to property and loss of life, and prioritize funding for mitigation efforts. A mitigation action is any action taken to reduce or eliminate the long-term risk to human life and property from hazards.

In 2006-2007, PVPC facilitated development of plans for 16 communities in Hampshire and Hampden counties. Following completion of this second round of 16 hazard mitigation plans, PVPC will be developing a regional Hazard Mitigation plan. Communities with approved plans are eligible for Hazard Mitigation Grant Program funding from the Massachusetts Emergency Management Agency.

These pre-disaster mitigation plans are being developed with assistance from the Pioneer Valley Planning Commission with funding provided by the Massachusetts Emergency Management Agency. For additional information, please contact Catherine Miller at (413) 781-6045 or cmiller@pvpc.org.