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Town of Campton, NH

All-Hazards Mitigation Plan

Prepared by:

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Town of Campton All Hazards Mitigation Planning Team

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

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Executive Summary

The Campton All Hazards Mitigation Plan was compiled to assist Campton in reducing and mitigating future losses from natural and man-made hazard events. The plan was developed by the North Country Council (NCC) and participants from the town of Campton All Hazards Mitigation Team. The plan contains the tools necessary to identify specific hazards and aspects of existing and future mitigation efforts. This all hazards plan and the town's wildfire plan was conducted simultaneously. Refer to the Campton Wildfire Mitigation Plan (16 October 2007) for detailed documentation of that planning process.

The following natural and man-made hazards are addressed:

- Flooding
- Drought
- Extreme Heat
- Wildfire
- Earthquake
- Tornado/Severe Wind
- Hurricane
- Lightning
- Severe Winter Weather
- Man-Made Hazards

The list of critical infrastructure/key resources (CI/KR) includes:

- Necessary for Emergency Response Facilities (ERF)
- Not Necessary for Emergency Response Facilities (NERF)
- Facilities/Populations to Protect (FPP)
- Potential Resources (PR)

The Campton All Hazards Mitigation Plan is considered a work in progress. As a minimum it should be reviewed annually or after any emergency event to assess whether the existing and suggested mitigation strategies are successful. Copies have been distributed to municipal departments, including schools, libraries, and a copy remains on file at the North Country Council (NCC).

The Campton All Hazards Mitigation Plan was designed with Appendix J, The Campton Wildfire Mitigation Plan, designed as a "stand alone" plan. Subsequent to the construction and team approval of this concept, it was determined that having a separate annex is not as efficient and having one combined plan. The team has agreed that the Campton Wildfire Mitigation Plan will be completely integrated with the Campton All Hazards Mitigation Plan before this plan is submitted to FEMA for the formal five year update.

Chapter I: Introduction

A. Background

New Hampshire Homeland Security Emergency Management (HSEM) has a goal for all communities in New Hampshire to establish local hazard mitigation plans as a means to reduce future losses from natural or man-made hazard events before they occur. HSEM outlined a process whereby communities throughout the state may be eligible for grants and other assistance upon completion of a local hazard mitigation plan. HSEM created a handbook entitled “Hazard Mitigation Planning for New Hampshire Communities” to assist communities in developing local plans. The state’s Regional Planning Commissions (RPCs) are charged with providing assistance to selected communities to develop local plans.

This All Hazards Mitigation Plan was prepared in accordance with the Disaster Mitigation Act of 2000 (DMA), Section 322, Mitigation Planning. Accordingly, plan will be referred to as the “plan”. The Campton All Hazards Mitigation Plan was prepared by the Campton All Hazards Mitigation Committee with the assistance and professional service of NCC under contract with the HSEM operating under the guidance of Section 206.405 of 44 CFR Chapter 1 (10-1-97 Edition). After notification of conditional approval from HSEM and FEMA, a public hearing will be held. Upon completion of the public hearing the plan will be adopted by the Campton Select Board.

B. Funding Sources

This Plan was funded in part by HSEM through grants from FEMA. Funds from town dues and matching funds for team members time was also part of the funding formula.

C. Purpose

The Campton All Hazards Mitigation Plan is a planning tool for use by the town of Campton in its efforts to reduce future losses from natural and/or man-made hazards. This plan **does not** constitute a section of the Town Master Plan.

D. History

On October 30, 2000, President Clinton signed into law the Disaster Mitigation Act of 2000 (DMA

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2000). The ultimate purpose of DMA 2000 is to:

Establish a national disaster hazard mitigation program that will reduce loss of life and property, human suffering, economic disruption, and disaster assistance costs resulting from disasters, and Provide a source of pre-disaster hazard mitigation funding that will assist states and local governments in accomplishing that purpose.

DMA 2000 amends the Robert T. Stafford Disaster Relief and Emergency Assistance Act by, among other things, adding a new section, 322 – Mitigation Planning. This places new emphasis on local mitigation planning. ***It requires local governments to prepare and adopt jurisdiction-wide hazard mitigation plans as a condition to receiving Hazard Mitigation Grant Program (HMGP) project grants.*** Local governments must review and if necessary, update the mitigation plan annually to continue program eligibility.

Why develop a Mitigation Plan? The full cost of the damage resulting from natural hazards – personal suffering, loss of lives, disruption of the economy, loss of tax base – is difficult to measure. The state is subject to many types of natural hazards: floods, hurricanes, nor'easters, winter storms, earthquakes, tornadoes and wildfires, all of which can have significant economic and social impacts. Some, such as hurricanes, are seasonal and strike in predictable locations. Others, such as floods, can occur anytime of the year and almost anywhere in the state.

E. Scope of Plan

The Campton All Hazards Mitigation Plan addresses the areas of natural hazards, which were identified by the Campton All Hazards Mitigation Team under the following general categories:

Flood, Drought, Extreme Heat and Wildfire
Geological Hazards (Earthquake, Landslide, Volcanism and Radon)
Severe Wind (Tornado, Hurricane, Thunderstorm and Lightning)
Winter Weather (Snow, Ice Storm, Extreme Cold)

In addition, the team discussed issues related to man-made hazards. Further development of this topic should be included in any future revisions to this Plan.

F. Methodology

The plan was developed with substantial local, state and federal coordination. This was a joint planning process in which the All Hazards Mitigation Plan, the Wildfire Plan, and the Water Resource Plan were completed in a single planning process. Over the course of seven months,

three separate planners worked as a cohesive unit to assist the community in their planning efforts. This saved the community numerous hours of planning time had each plan been done separately.

The Campton All Hazards Mitigation team developed the contents of this plan by using the “Hazard Mitigation Planning for New Hampshire Communities Guide” that was prepared by the Southwest Region Planning Commission for HSEM. The team held a several meetings from April 2007 through October 2007 to develop and approve the plan. Following conditional approval from HSEM and FEMA and a public hearing, the Campton Select Board will formally adopt the plan. The team followed the planning step process outlined in the Hazard Mitigation Guide. Agendas for all team meetings are included in Appendix E.

Step 1 – Form a Committee **(April 20, 2007)**

Prior to the first full team meeting, NCC and NCRC&D planners and technicians met with the EMD/fire chief, police chief, and road agent to provide information about the planning process and guidelines in selecting a representative team. Following the meeting, David Tobine (EMD/Campton Fire Chief) actively sought team members and successfully contacted and recruited key members.

Step 2a – Identify Hazards **(June 26, 2007)**

The team members started to identify areas where damage from natural disasters had occurred in the past, areas of potential risk in the future (Map 3.1) and man-made facilities that were at risk of loss of life, property damage or other risk factors (Map 3.2). NCC provided GIS base maps which were used to identify areas of concern. The final maps identify past hazards and areas at risk and are presented in this plan along with a list of past hazards and high risk areas.

The purpose of this step was to “map the hazards”. Each hazard was discussed and reviewed for its past history as well as potential occurrence. The results of this step can be found in Chapter 3 and on the “Hazard Identification Maps.”

Step 2b – Identify CI/KR **(June 26, 2007)**

The team members started the preliminary process of identification of the town’s critical infrastructure/key resources (CI/KR): facilities needed for emergency response (ERF); facilities not necessary for emergency response (NERF); facilities and populations the town wishes to protect in the event of a disaster (FPP); and potential resources for services or supplies in the event of a disaster (PR). NCC provided GIS base maps, which were used to locate these facilities. The final map identifies all CI/KR in town and is presented in Chapter 4 of this Plan along with a list of those facilities and their functions.

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Step 3 - Assessing Vulnerability **(July 24, 2007)**

The team discussed potential vulnerabilities, reviewed past hazards, and discussed potential future vulnerabilities during this session. HSEM and FEMA all-hazard assessment formats were used to estimate potential losses within the community in the event of a natural hazard episode.

Step 4a – Identify Existing Mitigation Strategies **(July 24, 2007)**

The team identified all existing hazard mitigation strategies (Table 6.1) including the town's mutual aid agreements, regulatory documents, and emergency operations plan. The matrix, including the work done in Step 4a and 4b, are included in this plan.

Step 4b – Identify the Gaps in Existing Mitigation Strategies **(August 14, 2007)**

The team reviewed each of the existing measures and their effectiveness, coverage area, responsible parties and needs in the future were discussed. The summary of results can be found on the existing hazard mitigation measures chart in this plan.

Step 5 – Identify Potential Mitigation Strategies **(August 14, 2007)**

The team had a brainstorming session where they listed other possible hazard mitigation actions in the categories of prevention, training, structural projects, equipment purchases and public information (Table 7.1).

Step 6a – Prioritize and Develop the Action Plan **(August 28, 2007)**

The proposed hazard mitigation actions and strategies were reviewed and each strategy was rated for its effectiveness according to 7 factors (e.g., technical and administrative applicability, political and social acceptability, legal authority, environmental impact, financial feasibility). Each factor was then scored and all scores were totaled for each strategy. Strategies were ranked by overall score for preliminary prioritization then reviewed again under Step 6b (Table 8.1).

Step 6b – Prioritizing Actions **(September 13, 2007)**

The preliminary prioritization list was reviewed in order to make changes and determine a final prioritization for new hazard mitigation actions and existing protection strategy improvements identified in previous steps. The team members individually "ranked" their priorities based on the needs of the community. The team then discussed the reasoning on why they chose their priorities and a list of the overall prioritized actions was created.

Step 7 – Develop Implementation Strategy **(September 13, 2007)**

Using the chart provided in the Hazard Mitigation Handbook, the team created an implementation strategy which included person(s) responsible for implementation (who), a schedule for completion (when), and a funding source and/or technical assistance source (how) for each identified hazard mitigation action (Table 9.1).

Step 8 – Adopt and Monitor the Plan **(October 16, 2007)**

NCC compiled Steps 1 through 7 in a draft document, as well as helpful and informative materials from The State of New Hampshire Community Hazard Mitigation Planning Guide. After the team's acceptance, the plan will be made available for public review at the town offices. The plan will then be submitted to HSEM and FEMA for formal conditional approval. When this approval is received the team will hold a public hearing and the select board will consider public input and approve the plan. Appendix F contains the approval resolution.

Monitoring the plan also necessitates the plan's timely update and review. Although specifically addressed in Chapter X, the plan will be reviewed annually or after an emergency situation. It will be formally updated every five years. This update will be submitted to FEMA. Additionally any substantial changes made as a result of an annual update or update after an emergency event will also be submitted to FEMA for approval. Any update to the plan will include public involvement and will address issues such as the efficiency of the plan, a review of the goals, what was accomplished during the review period, an assessment of the plan's success over the review period, how to incorporate any new post-disaster analysis, and obstacles, problems or delays and how they can be corrected.

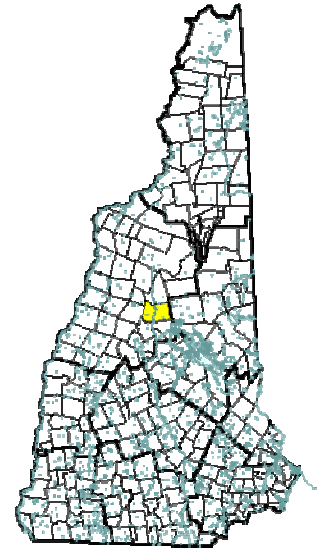
Note: Public involvement was encouraged throughout this process and must continue to be stressed in future updates. In initial meetings with town officials, they were given a recommended list of people to invite to participate in this process (Appendix E). A press release was also disseminated (Appendix E) which encouraged public involvement in this process. It was also stressed as part of the Memorandum of Understanding signed by the Select Board that public attendance is strongly encouraged. Finally, once conditional approval for this plan is received, a public hearing will be held before the Select Board formally adopts the plan and the public has the opportunity for future involvement as the plan is periodically reviewed. The public will be included in all future revisions to this plan. The public will be notified through press releases and/or notices in local papers, posting meeting information on the town web site, sending letters to federal, state, and local organizations impacted by the plan, and posting notices in public places in the town. There will also be a public hearing before the annual and five year revision is sent to FEMA to ensure public comments will be considered in revisions before FEMA reviews the update.

Chapter II: Community Profile

A. Introduction

Campton is located at the southern edge of the White Mountains in central New Hampshire. Campton includes the villages of Blair, Campton Hollow, Lower Campton and West Campton. New Hampshire has two state forests in Campton: Blair State Forest and Livermore Falls State Forest. It is also located in the foothills of the White Mountains and part of the White Mountain National Forest are in the northeast.

The town was originally granted in 1761 to General Jabez Spencer of East Haddam, Connecticut. It was first settled about 1765, but General Spencer died before the terms of charter, which required settlement by 50 families, each farming 5 acres for every 50 received, was complete. Therefore, his heirs and others were given a new grant in 1767. Campton may take its name from Spencer Compton who was a friend of colonial governor Benning Wentworth who had been instrumental in helping Wentworth attain his post in 1741.



Location Map of Campton

The topography of Campton can be characterized as transitional between the high peaks of the White Mountains and low rolling hills of the Lakes Region. The northeast corner is dominated by Mt. Weetamoo (2,548'). The major feature of the southeast corners are Mt. Percival (2,235') and Mt. Morgan (2,243'). Bald Mountain (2,212') occupies the northeast corner of town. The mean town elevation is 1,100' which reflects the upland nature of most of the land. Twenty-two percent of the town is over 1,400 feet. Sixty five percent of the land in Campton has slopes greater than 15%. These factors are important consideration in wildfire protection.

By contrast to the mountains, the Pemigewasset River, which flows nearly north-south for more than 7.5 miles through the geographic center of town, has an average elevation 424 feet. The steep mountain slopes are interspersed with flood plains and gentle rises. From the settlement, Campton's center of activity and more densely populated areas have been in the Pemigewasset Valley and remain so today with the eastern and western portions of the town being historically less densely populated rural farming areas and forest land.

There is no lasting evidence of permanent aboriginal activity within the boundaries of Campton. Abenaki would have both passed through on paths along the Pemigewasset River and used its valley soils to establish agricultural settlements. Europeans were the first to permanently settle the area. Until 1840 most of Campton's residents were engaged in self-sufficient agriculture because poor transportation prevented the cash sale of perishables. Campton's population decreased from 1845 through 1900 because of declining agriculture but rose until 1920 when it stabilized. Stabilization of the population in the twentieth center can be attributed to the increased importance of location mills and secondarily to the service industry associated with the tourist trade and summer homes.

A three member Select Board governs Campton. The town maintains a full time fire chief, police department,

public works department, water and sewer and health and recreation department.

B. Past Development Trends

Major population shifts began in the 1970's with the completion of Interstate 93. The town experienced rapid growth with a 45% increase in population between 1970 and 1980. Population continued to grow at the rate of about 30% from 1980 until 1990, and 14.4% between 1990 and 2000. The growing population occurred mainly in the construction and service industries supported by the development of tourism that resulted from the construction of I-93. Easy access to the urban areas of southern New Hampshire and the Boston metropolitan area allowed Campton to serve as a bedroom community for the more industrialized regions to the south. At the same time, the second home market serving people living mostly in the greater Boston area grew rapidly fueled primarily by the growing skiing industry.

Over the last twenty years, contrast can best express land use development in Campton. On one side the town has experienced growth in low cost mobile home site and parks. On the other hand the has been significant development in vacation and second homes. Several developments have been started and some are on steep terrain. These high value homes are very susceptible to wildfires based on the forest cover and the steep slopes. Roads are adequate for emergency response capability but need to be improved.

Large tracts of land have been sold by residents for development of single and multifamily homes. Waterville Estates is a heavily wooded development which consists primarily second and vacation homes. This development is also situated on very steep terrain, surrounded by forests with trees encroaching on homes. There are no transition zones to prevent wildfires from spreading. Emergency entrances are limited and emergency evacuation would be very difficult should a wildfire occur. There are over twenty smaller developments ranging from five to twenty homes. These developments have prompted an addition of over 30 miles of additional town roads. Several of these road are dead end roads.

C. Current/Future Development Trends

The present allocation of commercial and industrial zoning along the central axis defined by Routes 49, 3, and 175 appears adequate for future commercial and industrial development. Small enterprises including high tech enterprises would suite the town best in terms of traffic and environmental impact. Any development should avoid a single industry of enterprise economy.

The current undeveloped, roadless areas of Campton provide much wildlife habitat and provide much appreciated acreage for recreation. These undeveloped areas allow wildlife corridors that provide homes for the deer, bear, moose and other large animals and which help to make Campton a truly rural place.

The areas off existing roads, both major and minor, are likely places for new housing, and where there is already significant housing density. Significant housing density, zoning regulations might be changed to permit even

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higher density, in either cluster housing or fill-in housing. Such higher density housing should meet high standards of construction and architectural coherence with neighboring housing. Strip malls and large commercial enterprises are not desired in the present commercially zoned areas. The town also urges the possible return of rural/residential land to agricultural land for farms, tree farms, or logging lots and the setting aside land to be protected from future development through conservation easements and the like.

D. Town Statistics of Interest

County: Grafton	RPC: North Country Council	Labor Market Area: Plymouth, NH LMA	Tourism Region: White Mountains
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Demographics:					Population by age (2000)	
Population	2005	2000	1990	1980	Age under 5	156
Community	2,947	2,723	2,379	1,694	Age 5 to 19	556
County	84,708	81,826	74,998	65,806	Age 20 to 34	484
					Age 35 to 54	940
					Age 55 to 64	259
					Age 65 and over	324

Municipal Services Planning Board Appointed Industrial Plans reviewed by Planning Board Zoning 2001 Master Plan 2004 Capital Improvement Plan No	Utilities Electric Supplier PSNH/NH Electric Coop Water Supplier Campton Village Precinct/Waterville Valley, Beebe River Sanitation Private Septic Municipal Treatment Plant No Telephone Company Verizon Cellular Telephone Access Yes
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Income (1999)		Housing (2005)	
Per Capita Income	\$20,189	Single-Family Units	1,406
Median 4-person Family Income	\$46,492	Multi-Family Units	362
Median Household Income	\$39,123	Manufactured Homes	301
		Total	2,069

Transportation	Emergency Services
Nearest Interstate Exit I-93, Exit 27-28 (Local Access)	Police Department Full-time
Railroad State Owned Line	Fire Department Full-time Chief/Volunteer firefighters
Public Transportation No	Town Fire Insurance Rating 6/9
Nearest Airport Plymouth Regional, 2380 turf runway	Emergency Medical Service Full-time
Nearest Commercial Airport Lebanon Municipal (52 miles)	Nearest Hospital Speare Memorial Hospital, Plymouth (9 miles)

³-Community Profiles maintained by the NH Department of Employment Security, Economic and Labor Market Information Bureau

Chapter III. Hazard Identification

A. What are the hazards?

The first step in hazard mitigation is to identify what hazards may affect Campton. These include: flooding, severe wind events (hurricane residuals and tornado activity), wildfire, earthquake, downburst, drought, ice storms, and severe winter storms. The hazards that are most applicable to New Hampshire and Campton are:

Flooding, including hurricanes, 100-year floodplain events, debris-impacted infrastructure, erosion, rapid snow pack melt;

Wind, including hurricanes, tornadoes and lightning;

Fire, including drought, forest fires and issues with isolated homes and residential areas;

Severe Winter Weather, including heavy snow storms, ice storms and “Nor-Easters”

Appendix A includes more in depth definitions of these hazards that have occurred or could occur in New Hampshire and/or Campton.

B. Profile of Past and Potential Hazard Events in Campton

The next step in hazard mitigation planning is to identify where hazard events have occurred in the past and, if possible, what facilities or areas were impacted. The team started with a base map that included the 100-year floodplain, political boundaries, water bodies, the road network and aerial photos. The team then located all of the past hazard events on the base map. This step in the planning process serves as a stepping stone for predicting where future hazards could potentially occur in the future. The team identified past events in Campton and Grafton County. These past events are listed in Table 3.1 below. Note: Events with numbers in parenthesis indicate specific local events.

Table 3.1: Past and Potential Hazard Events in Campton and Grafton County

Type of Event	Date	Location	Impact
Flooding	On going	(1) Blair Road off the Pemi	Building and private road damage
Flooding	On going	(2) Bumps Intervale (Beebe River)	Road damage, covered bridge damage, impact on pasture
Flooding	On going	(3) Turnpike Road	Road damage
Flooding	On going	(4) Branch Brook	Ice jams and regular seasonal flooding, homes and businesses impacted
Flooding	On going	(5) The Woods	State road damage, impedes emergency vehicle access to S & SE Campton
Flooding	2004	(6) Brayman Road	Culvert washout caused road damage
Flooding	Every spring	(7) Spokesfield/Springfield intersection	Culvert washout
Flooding	On going	(8) Cook's corner	Ice jams
Flooding	On going	(9) Route 175 (near Campton Hollow)	Ice jams, damages to houses and roads
Flooding	1927	Pemi, Baker, Merrimack, Ammonoosuc and Connecticut Rivers	Severe flooding in upper Pemi and Baker, diminishing in severity towards Plymouth.
Flooding	1936	State-wide	Double flood; first due to rains and snowmelt; second, due to large rainfall.
Flooding (Hurricane)	1938	State-wide	Stream stages similar to those of March 1936.
Flooding	July and August 1986	State-wide	Severe summer storms with heavy rain, flash floods and severe winds.
Flooding (Heavy rain)	August 1990	State-wide	A series of storm events from August 7-10, 1990 with moderate to heavy rains produced widespread flooding in New Hampshire.

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Type of Event	Date	Location	Impact
Flooding	1995	Grafton, Carroll, Coos counties	The East Branch of the Pemigewasset River flooded and eroded the banks close to the Lagoons.
<p>POTENTIAL FLOODING HAZARDS: Riverine flooding is the most common disaster event in the State of New Hampshire (aside from frequent inconveniences from rather predictable moderate winter storms). Significant riverine flooding impacts upon some areas in the State in less than ten year intervals. Grafton County, and indeed the entire State of New Hampshire, has a high flood risk.</p>			

Type of Event	Date	Location	Impact
Wildfire	05-86	(1) East of Beebee River (Old Railroad Grade) (Local)	Class C (12 Acres): Arson
Wildfire	09-79	(2) Waterville Estates off Summit Drive (Local)	Class B (3 Acres): Arson
Wildfire	04-89	(3) Eastern Corner Road (Local)	Class B (6 Acres): Brush pile burning out of control
Wildfire	06-91	(4) Route 3 near Camp-ton/Thorton town line (Local)	Class C (14 Acres): Campfire
Wildfire	07-04	(5) Waterville Estates off Hodgeman Hill Road (Local)	Class B (3 Acres): Improper disposal of wood ashes
Wildfire	05-07	(6) Route 175 and Ken-mar Drive (Local)	Class B (1/4 acres): Children playing with matches
Wildfire	05-07	(7) Route 49 and Mobile Station (Local)	Class A: Arson

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Type of Event	Date	Location	Impact
Wildfire	06-07	(8) Six Flags Trailer Park (Local)	Class A: Arson
Wildfire	03-30-02	(9) 28 McCoy Ct (Local)	Class A: Out of control brush fire
Wildfire	09-02-02	(10) 72 Pine Cove Road (Local)	Class A: Unattended brush fire
Wildfire	04-16-03	(11) 37 Front Street (Local)	Class A: Out of control brush fire
Wildfire	05-04-03	(12) 25 Virginia Ave (Local)	Class B: Improper disposal of wood ash
Wildfire	05-10-03	(13) 522 NH Route 175 (Local)	Class B: Out of control brush fire
Wildfire	11-12-03	(14) Cascade Drive (Local)	Class A: Unattended fire
Wildfire	02-19-04	(15) 189 Owl Street (Local)	Class B: Child and matches
Wildfire	03-28-04	(16) Strong Road (Local)	Class A: Unattended fire
Wildfire	06-15-04	(17) 1119 NH Route 175 (Local)	Class A: Brush pile
Wildfire	07-18-04	(18) Lower Beech Hill Road (Local)	Class B: Unattended fire
Wildfire	08-13-04	(19) 310 NH Route 175 (Local)	Class B: Child matches
Wildfire	10-10-04	(20) 1249 NH Route 175 (Local)	Class A: Brush fire
Wildfire	11-16-04	(21) Perch Pond Road (Local)	Class B: Out of control brush fire
Wildfire	03-26-05	(22) 82 Susie Driscoll Road (Local)	Class B: Welding
Wildfire	04-22-07	(23) 56 Beebe River Road (Local)	Class B: Child matches

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Type of Event	Date	Location	Impact
Wildfire	04-24-07	(24) Ken Marc Road (Local)	Class B: Child matches
Wildfire	05-13-07	(25) Route 49 Campton/ Six Flags (Local)	Class B: Child matches
Wildfire	04-15-05	(26) 1486 Route 3 (Local)	Class B: Electric lines
Wildfire	05-03-02	(27) Bumps Intervale Road (Local)	Class B: Unattended brush fire
Wildfire	06-11-04	(28) Pond Road (Local)	Class B: Improper ash disposal
Wildfire	07-19-05	(29) Page Road (Local)	Class B: Out of control brush fire
Wildfire	08-17-05	(30) Vintinner Road (Local)	Class B: Child matches
Wildfire	10-05-06	(31) 1301 NH Route 175 (Local)	Class A: Unattended campfire
Wildfire	06-25-07	(32) Riverside Drive (Local)	Class B: Child matches

POTENTIAL WILDFIRE HAZARDS: New Hampshire is heavily forested and is therefore vulnerable to wildfire, particularly during periods of drought. The proximity of many populated areas to the state's forested lands exposes these areas and their populations to the potential impact of Wildfire.

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Type of Event	Date	Location	Impact
Severe Wind	April 2007	(11) Town-wide	Tree and power line damage
Severe Wind	2003	Town-wide	Trees down, power outages
Severe Wind	2007	Town-wide	Trees down, telephones out, power outages of up to 5 days.

Tornado	1816	Grafton County	Unknown
Tornado	1821	Grafton County	Unknown
Tornado	1880	Grafton County	F2 on the Fujita Scale
Hurricane	1938	State-wide	186 mph winds
Tornado	1966	Grafton County	F2 on the Fujita Scale
Tornado	1973	Grafton County	F2 on the Fujita Scale
Hurricane	1985	State-wide	Hurricane Gloria, >70 mph winds
Hurricane	1991	State-wide	Hurricane Bob, >60 mph winds
Tornado	1999	Grafton County	F1 on the Fujita Scale
Downburst	1999	Merrimack, Grafton, and Hillsborough Counties	Macroburst, 2 roofs blown off structures, downed trees, widespread power outages, and damaged utility poles & wires.

POTENTIAL TORNADO, DOWNBURST & HURRICANE HAZARDS: Tornadoes are spawned by thunderstorms and, occasionally by hurricanes, and may occur singularly or in multiples. A downburst is a severe localized wind blasting down from a thunderstorm. Downburst activity is very prevalent throughout the State, yet most go unrecognized unless significant damage occurs. Hurricanes develop from tropical depressions which form off the coast of Africa. New Hampshire's exposure to direct and indirect impacts from hurricanes is real, but modest, as compared to other states in the region.

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Type of Event	Date	Location	Impact
Ice Storm	1929	State-wide	Unprecedented disruption and damage to telephone, telegraph, and power system.
Ice Storm	1979	State-wide	Major disruptions to power and transportation.
Ice Storm	1998	(10) Town and state-wide	Severe ice storm that spread throughout New England and Canada causing major damage to public and private utilities.
Snowstorms	1958, 1960, 1961, 1969, 1978, 1982	State-wide	Events marked by snowfalls exceeding 2' in parts of the State.

POTENTIAL SEVERE WINTER WEATHER HAZARDS: Severe winter weather in New Hampshire may include heavy snow storms, blizzards, Nor'easters, and ice storms. Generally speaking, New Hampshire will experience at least one of these hazards during any winter season. Like Groton, most New Hampshire communities are well prepared for such hazards.

Type of Event	Date	Location	Impact
Drought	1929-1936	State-wide	Regional
Drought	1939-1944	State-wide	Most severe in southeast
Drought	1947-1950	State-wide	Moderate
Drought	1960-1969	State-wide	Regionally, longest recorded continuous spell of less than normal precipitation
Drought	2001-2002	State-wide	Third worst drought on record.

POTENTIAL DROUGHT HAZARDS: Droughts are generally not as damaging or disruptive as floods, but are more difficult to define. A drought is a natural hazard that evolves over months or even years and can last as long several years to as short as a few months. Fortunately, droughts are rare in New Hampshire.

IV. Critical Infrastructure/Key Resources

The CI/KR section is divided into four categories. The first category contains CI/KR needed for emergency response in the event of a disaster (ERF); CI/KR that are not utilized for emergency response (NERF); CI/KR that contains people and facilities the team wishes to protect in the event of a disaster (FPP); and CI/KR that have been considered as potential resources for services or supplies in the event of a disaster (PR). The critical facilities map at the end of this chapter identifies the facilities in all categories.

Table 4.1: All Hazards Critical Facilities in Campton

Critical Facilities Necessary for Emergency Response (ERF)	
Town Buildings	
1	Fire Station/EMS (Ambulance)/Command Control
2	Police Station/Secondary Command Control
3	Public Works Garage
4	Town Offices
Bridges	
5	Route 175 to Route 49
6	Near Persons Concrete
7	Blair Bridge (Historic Covered Bridge)
8	Beach Hill Road by Bog Pond
9	(N to S) I-93: Campton/Thornton Exit
10	Owl Street Overpass
11	Exit 28/Route 49 Overpass
12	Train Tracks under bypass on I-93
13	Mad River Bridge
14	Bridge Across the Pemi
15	Bridge at Exit 27
16	Beaver Brook Bridge at I-93 Eastern Corner Road Perch Pond Road – ¼ miles east of Page Road
Evacuation Routes	
17	Primary: I—93 (North/South)
18	Route 49 (East – West)/Primary for Waterville Valley
19	Route 3 (North/South)
20	Route 175 (North/South)
21	Ellsworth Hill Road (East/West)/Primary for Ellsworth

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Critical Facilities Necessary for Emergency Response

Medical Facilities

- 22 Mid State Health (Plymouth)
- 23 Speare Memorial Hospital (Plymouth)
- 24 Pemi-Baker Home Health (Plymouth)

Utilities

- 25 Telephone Switch Station/Owl Street
- 26 Public Service Substation (Route 175)
- 27 NH Electric Co-op Substation (Thornton Route 3)
- 28 Town Water Supply Pumping Station (Vintinner Road)
- 29 Water Tanks/Town Water Storage (Off Mad River Road-Thornton)
- 30 Well at Beebe River (Beebe Water District Supply)
- 31 Beebe River Septic System

Landfill

- 32 Route 175 (Campton)

Communications

- 33 Fire/EMS Radio Tower at Pegwood Hill
- 34 Plymouth Police Department (Plymouth)
- 35 Off Southmayd Rd (Cell Tower)
- 36 Off Bog Road (Cell Tower)
- 37 Dispatch Center (Lakes Region Dispatch—Laconial)

Post Office

- 38 Campton Post Office

Newspapers

- 39 Plymouth Record
 - Laconia Citizen
 - Penny Saver

Radio Stations

- 40 WPNH 100.1 FM/1400 AM (Plymouth)
- 41 Public Radio 97.3
- 42 National Weather Service Static Repeater Smith Road (Holderness)

Other Areas

- 43 Helicopter LZ (Pike Industries)
- 44 Helicopter LZ (State DOT Garage (Thornton-Exit 29))

ERF's are facilities that are necessary for emergency response or that if impacted by a natural or man-made hazard, it would create a second disaster.

Critical Facilities Not Necessary for Emergency Response

Shelters

- 45 Campton Elementary School
- 46 Baptist Church
- 47 Congregational Church

Food

- 48 Campton Cupboard
- 49 Lower Village Market
- 50 Chesley's (Route 3) (Gas & Diesel Fuel As well)
- 51 Mad River Tavern
- 52 Sunset Grill
- 53 Country Cow

Transportation and Fuel

- 54 Robertson Transit Mad River Road (Route 175)
- 55 White Mountain Propane
- 56 Mobil at Exit 28
- 57 Citgo at Exit 28

Culverts

- 58 Winter Brook (36")
- 59 Miclon Road (2)
- 60 Route 175 - 1 mile south of Blair Road
- 61 Ellsworth Hill Road by Cascade Lodge

NERF's are facilities that would not create a second disaster if impacted, but still important resources to the town.

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Populations and Facilities to Protect

Schools

- 45 Campton School
- 62 Beckett School
- 63 Montessori School (Southmayd Road)
- 64 Te-lo-ca (Telcoa Road)
- 41 Baptist Church
- 45 Campton Pre-School
- 65 The Woods (Retirement Community) (Route 175)

Dams

- 66 Campton Dam
- 67 Robart Wood/Bog Pond
- 68 Waterville Estates

PPRs are facilities that need to be protected because they are vital for the town or residents that could need help in case of a disaster.

Potential Resources

Commercial Facilities

- 69 Northway Bank (Route 49)
- 70 Community Guarantee Savings Bank (Tower Road)
- 71 Cask Craft (Caskets)
- 72 White Mountain Industries (Commercial Facility)
Campton Plaza (Several Stores)

Construction

- 73 Andrews Construction (Variety of Construction)
- 74 Pike Industry (Paving/Gravel/Sand)
- 75 Handy Man Hardware
- 76 LE Johnston Construction and Gravel (Heavy Equipment)
- 77 Cargill Construction (Building Trades)
- 78 Grady Built (Building Trades)

Other Buildings of Note

- 79 Bumps Bridge (Covered Bridge)
- 80 Turkey Jim (Covered Bridge)
- 81 Historical Society Building (Route 175)
- 82 Livermore Falls (Historical Factory Site)
- 83 School House (Livermore)
- 84 School House (Blair Road)
- 85 Little Red School House (Route 3)
- 86 School House on Route 175 and Perch Pond Road
- 87 Blair Cemetery
- 88 Campton Farm
- 89 Cemetery at Exit 27

PRs are potential resources in case of a disaster and would be vital for emergency response and other operations.

Chapter V. Vulnerability

A. Identifying Vulnerable Facilities

It is important to determine which CI/KR are most vulnerable and to estimate their potential loss. The first step is to identify the facilities most likely to be damaged in a flood event. To do this, structures falling within the FEMA flood map for the town were assessed for potential flood damage. For all other hazards, a table formatted by HSEM is used to evaluate likelihood and potential impact of each hazard.

B. Calculating the Potential Loss

Campton has been impacted in the past by natural disasters, including flooding, wildfires, river ice jams, severe winter storms and severe wind. This section estimates potential loss. It is difficult to ascertain the amount of damage caused by a natural hazard because the damage will depend on the hazard's extent and severity, making each hazard event somewhat unique. In addition, human loss of life was not included in the potential loss estimates, but could be expected to occur, depending on the severity of the hazard.

Table 5.1 provides estimates of the level of impact each listed hazard could have on humans, property and business and averages them to establish an index of "severity". An estimate of "probability" for each hazard is multiplied by severity to establish an overall "relative threat" factor.

Because hazards other than floods cannot be associated with particular areas of differential likelihood or impact on Campton, no effective analysis can be conducted which makes a distinction between one area of town from another. Based on an assumption that hazards other than floods would result in damage to 1-5% of Campton's structures, potential loss from any of these hazards would range from \$2,384,163 to \$11,920,150. (This data is based on the 2006 assessed value for structures in Campton at \$238,416,300. It should also be noted that the equalized valuation rate was 74.2% for 2006. Land was valued at \$98,378,270.) Refer to the Campton Wildfire Hazard Mitigation Plan for specific loss information regarding wildfires.

C. Flooding

Flooding is often associated with hurricanes, ice jams, rapid snow melt in the spring and heavy rains. Campton has been impacted in the past by natural disasters, including flooding, river ice jams, severe winter storms and hurricanes.

The replacement value was calculated by adding up the assessed values of all structures in the

Town of Campton, NH

FEMA flood zone by the percent of damage expected from the hazard event. The costs for repairing or replacing bridges, railroads, power lines, telephone lines, and contents of structures are not included in this estimate.

In determining percent damage from flooding, FEMA provides 3 risk levels; high risk assumes incurred damage to total 49% of total structure value, medium risk assumes damage of 28 %, and low risk assumes 20%.

Table 5.1: Campton Hazard Vulnerability

Score	0=NA 1=Low 2=moderate 3=High	0=NA 1=Low 2=moderate 3=High	0=NA 1=Low 2=moderate 3=High	0=NA 1=Low 2=moderate 3=High		
Flooding	3	3	2	3	2.67	8.00
Coastal Flooding	1	1	1	1	1.00	1.00
Dam Failure	3	3	2	1	2.67	2.67
Drought	2	1	2	2	1.67	3.33
Wild Fire	3	3	3	2	3.00	6.00
Earthquake	1	2	1	2	1.33	2.67
Landslide	1	1	1	1	1.00	1.00
Radon	1	1	1	2	1.00	2.00
Tornado/Downburst	3	3	3	2	3.00	6.00
Tsunmai	1	1	1	1	1.00	1.00
Hurricane	3	3	3	2	3.00	6.00
Lightning	3	3	3	3	3.00	9.00
Severe Winter Weather	3	3	3	3	3.00	9.00
Snow Avalanche	1	1	1	1	1.00	1.00
Epidemic	1	1	1	1	1	1

Chapter VI: Existing Hazard Mitigation Programs

After researching past hazards, potential future hazards and the associated losses from these potential hazards, the next step is to determine what mitigation strategies are currently in place to protect against such hazard events. This section involves identifying existing mitigation strategies for the hazards likely to affect the town and evaluate their effectiveness. It outlines those programs and recommends improvements and changes to these programs to ensure the highest quality emergency service possible.

Table 6.1: Existing Mitigation Strategies in Campton

Existing Program or Activity	Description	Area of Town Covered	Enforcing Department	Effectiveness	Improvements or Changes Needed
Emergency Operation Plan (2006) Updated yearly	This plan offers all members of the emergency management team a better understanding of procedures in case of a disasters	Town-wide	Emergency Management Director/ Select Board	Good	Annual review and update as needed
Master Plan (2005)	Includes goals, objectives and expectations for future development of the town.	Town-wide	Planning Board	Excellent	Update in 2010
Subdivision Regulations	Includes fire and emergency access, drainage, floodplain and bonding provisions	Town-wide	Planning Board	Very good	Annual review (Amended as needed)
Zoning Ordinance	Regulations dealing with land use including rural, residential, agriculture	Town-wide	Zoning Board of Adjustment	Good	Annual review (Amended as needed)
Flood Plain Ordinance	Regulations compliant with the National Flood Insurance Program (NFIP)	Town-wide	Planning Board	Good	Not unless federal government directs it
Federal Building Codes	Federal and state regulations to ensure buildings meet fire codes	Town-wide	State FMO/Fire Chief	Good	Updates as needed by state and federal direction

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Existing Program or Activity	Description	Area of Town Covered	Enforcing Department	Effectiveness	Improvements or Changes Needed
Training of Emergency Personnel	Fire and police have received ICS, HAZMAT, and NIMS training	Town-wide	Fire/Police/EMD	Good	On-going re-fresher training/ensure all town officials & staff are trained
Police and Fire/EMS Mutual Aid Agreements	Offers access to resources appropriate to the scope of the emergency	Town-wide	Fire/EMS Department, Police Department	Good	Updated as needed
State Division of Forest and Lands/Fire Permits	State regulations for open burning	Town-wide	Police Department Fire Chief Fire Wardens	Very Good	Updated as needed
School Emergency Response Plan (SERP) (2006)	Insures preparedness and response for school and emergency personnel in the event of a disaster	Schools	School board	Good	Yearly updates/Annual drills required
Wellhead Protection Program	Land around town well is protected. Building within 1000 feet of the well is prohibited by DES	Water district	State of NH	Good	Continue current procedures/attempting to buy adjacent land for additional protection
Road Design Standards	Standards and specifications for construction of roads. Town will not assume ownership of sub-standard roads	All town roads	Select Board	Good	Implement standards for non-subdivision single family residences
Flood Warning of a Dam Breach	Mad River Power Associates has a plan to ensure proper notification of dam breach	Land adjacent to Mad River	FERC (Federal Energy Regulatory Commission)	Good	Investigation alternative warning systems like Reverse 911
Campton/Thornton Fire/EMS Shared Resources	Responsible for fire and emergency response medical services	Campton, Thornton, Ellsworth	Fire Chief	Good	Contracts updated every three years

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Existing Program or Activity	Description	Area of Town Covered	Enforcing Department	Effectiveness	Improvements or Changes Needed
Capital Improvements Program	Each department has their own plan which the selectmen consider and evaluate during the budget process	Town-wide	Select Board	Good	Plan is being finalized
Building Codes	Adhere to national, state, and local codes	Town-wide	Code Enforcement Officer	Fair	Updated annually
Power Generation	Currently in place at Campton Elementary School	Elementary School	School Board	Very good	New or expanded town facilities should include provisions for emergency generators
Pagers	Emergency response personnel use pagers as a response warning system	Town-wide	Fire Department	Good	Upgrade antenna sites
Radio Communications (Fire/Police)	Provides interoperability. Uses Lakes Region Mutual Fire Aid/Plymouth Police Dispatch	Town-wide	Police/Fire	Very good	Police radios are digital and have added three new radio towers. Upgrade antenna sites/Examine interoperability (analog/digital)
Central NH Special Operations Unit	A tactical police team unit that can also help respond to natural disasters	Town-wide	Police Chief	Very good	Updated as needed
Lakes Region State Wide Task Force Fire/Emergency/Medical	Respond to natural disaster, wildfires throughout New England	New England towns	Fire Chief	Good	Annual Updates
National Guard (Plymouth)	Unit has been used to help in emergency situations like floods	Town-wide	EMD/Governor	Good	None needed

Chapter VII: Newly Identified Mitigation Strategies/Actions

A. Campton All Hazards Mitigation Goals

Before identifying new mitigation actions to be implemented by Campton, the team established and adopted the following goals. These goals were based on the State of New Hampshire Natural Hazards Mitigation Plan, which was prepared and is maintained by HSEM.

1. To improve upon the protection of the general population, the citizens of the town of Campton and visitors, from all natural and man-made hazards.
2. To reduce the potential impact of natural and man-made disasters on Campton's critical support services.
3. To reduce the potential impact of natural and man-made disasters on Campton's critical infrastructure and key resources.
4. To reduce the potential impact of natural and man-made disasters on Campton's infrastructure.
5. To improve emergency preparedness.
6. To improve the Campton's disaster response and recovery capability.
7. To reduce the potential impact of natural and man-made disasters on private property.
8. To reduce the potential impact of natural and man-made disasters on Campton's economy.
9. To reduce the potential impact of natural and man-made disasters on Campton's natural environment.
10. To reduce Campton's liability with respect to natural and man-made hazards generally.
11. To reduce the potential impact of natural and man-made disasters on the Town of Groton's specific historic treasures and interests as well as other tangible and intangible characteristics, which add to the quality of life of the citizens and visitors of the Town of Groton.
12. To identify, introduce and implement cost effective hazard mitigation measures so as to accomplish the Campton's goals and objectives and to raise the awareness of, and acceptance of hazard mitigation opportunities generally.
13. To identify, introduce and implement improvements to establish and maintain a reliable communication system.

B. Potential Mitigation Strategies

The following list of mitigation strategies was developed by analyzing the town's development patterns, vulnerabilities and existing mitigation programs. A brainstorming session resulted in a list of actions that could be taken to mitigate future hazards. These results are compiled in Table 7.1.

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B. Potential Mitigation Strategies

The following list of mitigation strategies was developed by analyzing the town’s development patterns, vulnerabilities and existing mitigation programs. A brainstorming session resulted in a list of actions that could be taken to mitigate future hazards. These results are compiled in Table 7.1.

Table 7.1: Potential Mitigation Strategies in Campton

New Mitigation Strategy	Type of Hazard	Description of New Strategy	Affected Location	Type of Activity
Water Resource	Wildfire	(1) Gather information relevant for hydrant construction (seasonal water level, area available for apparatus, static lift) at “Palmer Draft Site” (CA #3)	South end of Campton around Route 3	Prevention
Water Resource	Wildfire	(2) Gather information relevant for hydrant construction (seasonal water level, area available for apparatus, static lift) at “Old Waterville Road Draft Site” (CA #12)	Campton Village	Prevention
Water Resource	Wildfire	(3) Gather information relevant for hydrant construction (seasonal water level, area available for apparatus, static lift) at “Branch Brook Draft Site” (CA #13)	West Campton	Prevention
Water Resource	Wildfire	(4) Site and construct a cistern =/ <30,000 gallons in area of strategic advantage	Town-wide	Prevention
Water Resource	Wildfire	(5) Establish a dry hydrant/ fire pond construction and maintenance program that will include records kept of semi-annual or annual flow test on each hydrant and cleaning or maintenance dredging of fire ponds.	Town-wide	Prevention

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New Mitigation Strategy	Type of Hazard	Description of New Strategy	Affected Location	Type of Activity
Water Resource	Wildfire	(6) Amend or include money in the Capital Improvement Plan for water drafting, site development, and fire equipment	Town-wide	Planning
Zoning Ordinance	Wildfire	(7) Consider establishment of a Steep Slopes Ordinance to restrict and/or prohibit development in difficult to reach areas.	Town-wide	Planning
Subdivision Regulations	Wildfire	(8) Review of current subdivision regulations to require onsite water storage, minimum fire flow, fire breaks in WUI.	Town-wide	Planning
Subdivision Regulations	Wildfire	(9) Encourage referral to Water Resource Plan and maps by Planning Board when reviewing subdivision proposals	Town-wide	Planning
Water Resource	Wildfire	(10) Map and assess water sites and other resources along woods roads and trails for wildland fire fighting.	Town-wide	Planning
Fire Department Training	Wildfire	(11) Implement program to provide training to fire personnel on wildland fire suppression, dry hydrant design, and site evaluations of water resources	Town-wide	Education
Subdivision Regulations	Wildfire	(12) Consider establishing driveway standards that address slope, width, access. Emergency response to residential homes in remote access areas is often hampered by design of driveways	Town-wide	Planning
Water Resource	Wildfire	(13) Initiate a program to construct and maintain a series of dry hydrants to upgrade current draft sites and/or augment the municipal hydrant system.	Town-wide	Structural Project

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New Mitigation Strategy	Type of Hazard	Description of New Strategy	Affected Location	Type of Activity
Plan Coordination	Wildfire	(14) Ensure the US Forest Service approves this wildfire plan as a Community Wildfire Protection Program.	Town-wide	Prevention
Communications	Wildfire	(15) Ensure people living in WUI areas outside of Class V roads are notified of FEMA pre-mitigation standards	Town-wide	Education
Planning Action	Wildfire	(16) Ensure developers install cisterns, dry hydrants, or fire ponds in developments	New developments	Planning/ Education
Update Master Plan	All Hazards	(17) Update Master Plan to reflect changing needs of the community and to maintain public health and safety. Next update planned for 2010.	Town-wide	Planning
Training of emergency personnel	All Hazards	(18) On ICS,HAZ-MAT, NIMS and other appropriate training.	Town-wide	Training
Training of town officials and staff	All Hazards	(19) ICS, NIMS, and other appropriate training	Town-wide	Training
Table top exercises	All Hazards	(20) Integration of several different activities. Test town EOP.	Town-wide	Training
SERP drills	All Hazards	(21) Run drills to ensure readiness for response to school emergencies	Campton Elementary School	Training
Wellhead protection	Public health	(22) Purchase adjacent land for additional protection	Public wellheads	Planning

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New Mitigation Strategy	Type of Hazard	Description of New Strategy	Affected Location	Type of Activity
Broaden scope of road design standards	All Hazards	(23) Implement standards for non-subdivision single-family residential development	Town-wide	Planning
Public warning systems	All Hazards	(24) Investigate alternative warning systems for instances like reverse 911, dam breach etc.	Town-wide	Planning
Campton/Thornton Fire/EMS shared resources	All Hazards	(25) Maintain and update contracts as needed	Town-wide	Planning
Finalize Capital Improvements Plan	All Hazards	(26) Integrate needs of all municipal departments	Town-wide	Planning
Power generation	All Hazards	(27) New or expanded town facilities should include provisions for emergency power generation.	Town buildings	Planning
Upgrade antenna sites	All Hazards	(28) Update sites to improve reception and coverage area for emergency response personnel who use pagers as a response system.	Town-wide	Infrastructure
Emergency notification of emergency personnel	All Hazards	(29) Investigate cell phone plan for town staff.	Town-wide	Planning
Radio interoperability	All Hazards	(30) Ensure all police/fire/EMS/highway radios/cell phones are programmed for both analog and digital frequencies	Town-wide	Planning
Radio frequency allocation	All Hazards	(31) Obtain one town-wide frequency for all departments	Town-wide	Planning
Update EOP—ESF 16 (Animal Health)	All Hazards	(32) Update that section of the EOP to ensure farm and domestic animals are provided for in case of emergency evacuation	Town-wide	Planning

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New Mitigation Strategy	Type of Hazard	Description of New Strategy	Affected Location	Type of Activity
Provide for centralized EOC	All Hazards	(33) Ensure town response to emergencies is increased through enhancing the centralized emergency operations center	Town-wide	Planning
Replace culvert at intersection of Pond Road and Route 175	Flooding/ Sinkhole	(34) Upgrade/replace existing culvert	Pond Road	Infrastructure
Review pass ability of possible emergency response roads	All Hazards	(35) Review possible emergency roads for potential upgrade to fire lanes to provide for fire/emergency equipment response and access ability	Town-wide	Infrastructure
Check all roads for overhanging tree canopy	All Hazards	(36) Tree growth has caused damaged to emergency vehicles and may hinder movement of the vehicles	Town-wide	Infrastructure
Protection of Historic Covered Bridges	All Hazards	(37) Provide fire detection/protection for these historic bridges	Blair Bridge/ Bump Bridge	Planning

IMPLEMENTATION THROUGH EXISTING PROGRAMS

The team should work with the planning board on amendments to the master plan and possibly the zoning ordinance to reflect the necessary actions identified in the hazards mitigation plan. For instance, identifying areas where future development may not be suitable due to excessive flooding or potential of large disasters may be considered. Looking into making their flood ordinance more stringent than required by state statutes is another possibility. The team should work with the planning board to identify what changes could be made and what is necessary to add to the master plan and zoning ordinance.

Chapter VIII: Feasibility and Prioritization of Proposed Mitigation Strategies

The goal of each strategy is reduction or prevention of damage from a hazard event. In order to determine their effectiveness in accomplishing this goal, a set of criteria was applied to each proposed strategy. The STAPLEE method analyses the Social, Technical, Administrative, Political, Legal, Economic and Environmental aspects of a project and is commonly used by public administration officials and planners for making planning decisions. The following questions were about the proposed mitigation strategies discussed in Table 7.1:

Social: Is the proposed strategy socially acceptable to the community? Are there equity issues involved that would mean that one segment of the community is treated unfairly?

Technical: Will the proposed strategy work? Will it create more problems than it solves?

Administrative: Can the community implement the strategy? Is there someone to coordinate and lead the effort?

Political: Is the strategy politically acceptable? Is there public support both to implement and to maintain the project?

Legal: Is the community authorized to implement the proposed strategy? Is there a clear legal basis or precedent for this activity?

Economic: What are the costs and benefits of this strategy? Does the cost seem reasonable for the size of the problem and the likely benefits?

Environmental: How will the strategy impact the environment? Will the strategy need environmental regulatory approvals?

Each proposed mitigation strategy was evaluated and assigned a score based on the above criteria. The Social, Administrative, Political and Economic criteria have been awarded the following scores (Good = 3, Average = 2, Poor = 1). An evaluation chart with total scores for each strategy can be found in the collection of individual tables under Table 8.1.

The ranking of strategies with the scores displayed in the following pages was merely a guideline for further prioritizing. The team then prioritized the strategies and prepared the action plan using additional criteria:

- Does the action reduce damage?
- Does the action contribute to community objectives?
- Does the action meet existing regulations?
- Does the action protect historic structures?
- Can the action be implemented quickly?

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The prioritization exercise helped the team seriously evaluate the new hazard mitigation strategies that they had brainstormed throughout the hazard mitigation planning process. While the actions would all help improve the town's disaster responsiveness capability, funding availability will be a driving factor in determining what and when new mitigation strategies are implemented. The team decided to prioritize the new strategies from high priority (1) to low priority (3) as they felt the need to implement a few simultaneously, and attributed the same importance to many strategies.

Table 8.1: STAPLEE Analysis of Proposed Mitigation Strategies in Campton

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Mitigation Action (1): Gather information relevant for hydrant construction (seasonal water level, area availability for apparatus, static lift) at “Palmer Draft Site” (CA#3)

CRITERIA	EVALUATION RATING	SCORE
S Is it S ocially acceptable?		3
T Is it T echnically feasible and potentially successful?		3
A Is it A dministratively workable?		3
P Is it P olitically acceptable?		3
L Is there L egal authority to implement?	Private property owner may have concern and town would need to get deeded access or right of way	2
E Is it E conomically beneficial?		3
E Are other E nvironmental approvals required (e.g., EPA)?	Department of Environmental Service approval needed	2
FINAL SCORE		19

Mitigation Action (2): Gather information relevant for hydrant construction (seasonal water level, area availability for apparatus, static lift) at “Old Waterville Road Draft Site” (CA#12)

CRITERIA	EVALUATION RATING	SCORE
S Is it S ocially acceptable?		3
T Is it T echnically feasible and potentially successful?		3
A Is it A dministratively workable?		3
P Is it P olitically acceptable?	Location is on government property and environmental groups may resist any effort to change use of land	2
L Is there L egal authority to implement?	Federal property	2
E Is it E conomically beneficial?		3
E Are other E nvironmental approvals required (e.g., EPA)?	State and federal approvals needed	2
FINAL SCORE		18

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Mitigation Action (3): Gather information relevant for hydrant construction (seasonal water level, area availability for apparatus, static lift) at “Branch Brook Draft Site” (CA#13)

CRITERIA	EVALUATION RATING	SCORE
S Is it S ocially acceptable?		3
T Is it T echnically feasible and potentially successful?		3
A Is it A dministratively workable?		3
P Is it P olitically acceptable?		3
L Is there L egal authority to implement?	Private property but landowner has been cooperative in past	2
E Is it E conomically beneficial?		3
E Are other E nvironmental approvals required (e.g., EPA)?	State approval needed	2
FINAL SCORE		19

Mitigation Action (4): Site and construct a cistern= \leq 30,000 gallons in area of strategic advantage

3 CRITERIA	EVALUATION RATING	SCORE
S Is it S ocially acceptable?	Only issue would be location. If location is acceptable everything will work fine.	3
T Is it T echnically feasible and potentially successful?		3
A Is it A dministratively workable?		3
P Is it P olitically acceptable?		3
L Is there L egal authority to implement?		3
E Is it E conomically beneficial?	Grants could be used to help pay for effort	3
E Are other E nvironmental approvals required (e.g., EPA)?		3
FINAL SCORE		21

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Mitigation Action (5): Establish a dry hydrant/fire pond construction and maintenance program that will include records kept of semi-annual or annual flow test on each hydrant and cleaning or maintenance dredging for fire ponds.

CRITERIA	EVALUATION RATING	SCORE
S Is it S ocially acceptable?		3
T Is it T echnically feasible and potentially successful?		3
A Is it A dministratively workable?		3
P Is it P olitically acceptable?		3
L Is there L egal authority to implement?		3
E Is it E conomically beneficial?		3
E Are other E nvironmental approvals required (e.g., EPA)?		3
FINAL SCORE		21

Mitigation Action (6): Amend or include money in the Capital Improvement Plan for water drafting and site development

3 CRITERIA	EVALUATION RATING	SCORE
S Is it S ocially acceptable?		3
T Is it T echnically feasible and potentially successful?		3
A Is it A dministratively workable?		3
P Is it P olitically acceptable?		3
L Is there L egal authority to implement?		3
E Is it E conomically beneficial?		3
E Are other E nvironmental approvals required (e.g., EPA)?		3
FINAL SCORE		21

All-Hazard Mitigation Plan

Mitigation Action (7): Consider establishment of a Steep Slopes Ordinance to restrict and/or prohibit development in difficult to reach areas

CRITERIA		EVALUATION RATING	SCORE
S	Is it S ocially acceptable?	Developers and people want to build on steep slope for the views	2
T	Is it T echnically feasible and potentially successful?	Ordinance can be written but concerns about success revolve around whether it is politically acceptable	2
A	Is it A dministratively workable?		3
P	Is it P olitically acceptable?	There has been discussion but there appears to be localized areas of strong resistance	1
L	Is there L egal authority to implement?		3
E	Is it E conomically beneficial?	Generally felt that it would be a “wash”	2
E	Are other E nvironmental approvals required (e.g., EPA)?		3
FINAL SCORE			16

Mitigation Action (8): Review of current subdivision regulations to require onsite water storage and minimum fire flow (did not include firebreaks in WUI because already have roads and trails that serve as firebreaks and would be difficult to create firebreak in other areas)

3 CRITERIA		EVALUATION RATING	SCORE
S	Is it S ocially acceptable?		3
T	Is it T echnically feasible and potentially successful?		3
A	Is it A dministratively workable?		3
P	Is it P olitically acceptable?	As long as its not retro active	3
L	Is there L egal authority to implement?		3
E	Is it E conomically beneficial?		3
E	Are other E nvironmental approvals required (e.g., EPA)?		3
FINAL SCORE			21

Town of Campton, NH

Mitigation Action (9): Encourage referral to Water Resource Plan and maps by Planning Board when reviewing sub-division proposals

CRITERIA	EVALUATION RATING	SCORE
S Is it S ocially acceptable?		3
T Is it T echnically feasible and potentially successful?		3
A Is it A dministratively workable?		3
P Is it P olitically acceptable?		3
L Is there L egal authority to implement?		3
E Is it E conomically beneficial?		3
E Are other E nvironmental approvals required (e.g., EPA)?		3
FINAL SCORE		21

Mitigation Action (10): Map and assess water sites and other resources along woods, roads, and trails for wildfire fire fighting

3 CRITERIA	EVALUATION RATING	SCORE
S Is it S ocially acceptable?		3
T Is it T echnically feasible and potentially successful?		3
A Is it A dministratively workable?		3
P Is it P olitically acceptable?		3
L Is there L egal authority to implement?		3
E Is it E conomically beneficial?		3
E Are other E nvironmental approvals required (e.g., EPA)?		3
FINAL SCORE		21

All-Hazard Mitigation Plan

Mitigation Action (11): Implement program to provide training to fire personnel on wildland fire suppression, dry hydrant design, and site evaluations of water resources

CRITERIA	EVALUATION RATING	SCORE
S Is it S ocially acceptable?		3
T Is it T echnically feasible and potentially successful?		3
A Is it A dministratively workable?		3
P Is it P olitically acceptable?		3
L Is there L egal authority to implement?		3
E Is it E conomically beneficial?		3
E Are other E nvironmental approvals required (e.g., EPA)?		3
FINAL SCORE		21

Mitigation Action (12): Consider establishing driveway standards that address slope, width, and access. Emergency response to residential homes in remote access areas is often hampered by design of driveways.

3 CRITERIA	EVALUATION RATING	SCORE
S Is it S ocially acceptable?	You are on private property and are trying to legislate how people will use their own property. May be more successful on new property developments.	1
T Is it T echnically feasible and potentially successful?	Based on potentially successfully - it isn't	1
A Is it A dministratively workable?		3
P Is it P olitically acceptable?	Strong resistance to regulate private land	1
L Is there L egal authority to implement?		3
E Is it E conomically beneficial?		3
E Are other E nvironmental approvals required (e.g., EPA)?		2
FINAL SCORE		14

Town of Campton, NH

Mitigation Action (13): Initiate a program to construct and maintain a series of dry hydrants to upgrade current draft sites and/or augment the municipal hydrant system

CRITERIA	EVALUATION RATING	SCORE
S Is it S ocially acceptable?		3
T Is it T echnically feasible and potentially successful?		3
A Is it A dministratively workable?		3
P Is it P olitically acceptable?		3
L Is there L egal authority to implement?		3
E Is it E conomically beneficial?		3
E Are other E nvironmental approvals required (e.g., EPA)?		3
FINAL SCORE		21

Mitigation Action (14): Ensure the US Forest Service approves this wildfire plan as a Community Wildfire Protection Program

3 CRITERIA	EVALUATION RATING	SCORE
S Is it S ocially acceptable?		3
T Is it T echnically feasible and potentially successful?		3
A Is it A dministratively workable?		3
P Is it P olitically acceptable?		3
L Is there L egal authority to implement?		3
E Is it E conomically beneficial?		3
E Are other E nvironmental approvals required (e.g., EPA)?		3
FINAL SCORE		21

All-Hazard Mitigation Plan

Mitigation Action (15): Ensure people living the WUI areas outside of Class V roads are notified of FEMA pre-mitigation standards

CRITERIA	EVALUATION RATING	SCORE
S Is it S ocially acceptable?		3
T Is it T echnically feasible and potentially successful?		3
A Is it A dministratively workable?		3
P Is it P olitically acceptable?		3
L Is there L egal authority to implement?		3
E Is it E conomically beneficial?		3
E Are other E nvironmental approvals required (e.g., EPA)?		3
FINAL SCORE		21

Mitigation Action (16): Ensure developers install cisterns, dry hydrants, or fire ponds in developments

3 CRITERIA	EVALUATION RATING	SCORE
S Is it S ocially acceptable?		3
T Is it T echnically feasible and potentially successful?		3
A Is it A dministratively workable?		3
P Is it P olitically acceptable?		3
L Is there L egal authority to implement?		3
E Is it E conomically beneficial?		3
E Are other E nvironmental approvals required (e.g., EPA)?		3
FINAL SCORE		21

Town of Campton, NH

Mitigation Action (17): Update the Master Plan to reflect changing needs of the community and to maintain public health and safety. Next update planned for 2010.

CRITERIA	EVALUATION RATING	SCORE
S Is it S ocially acceptable?		3
T Is it T echnically feasible and potentially successful?		3
A Is it A dministratively workable?		3
P Is it P olitically acceptable?		3
L Is there L egal authority to implement?		3
E Is it Economically beneficial?		3
E Are other E nvironmental approvals required (e.g., EPA)?		3
FINAL SCORE		21

Mitigation Action (18): Ensure emergency personnel are trained on ICS, HAZMAT, NIMS and other appropriate training

3 CRITERIA	EVALUATION RATING	SCORE
S Is it S ocially acceptable?		3
T Is it T echnically feasible and potentially successful?		3
A Is it A dministratively workable?		3
P Is it P olitically acceptable?		3
L Is there L egal authority to implement?		3
E Is it E conomically beneficial?		3
E Are other E nvironmental approvals required (e.g., EPA)?		3
FINAL SCORE		21

All-Hazard Mitigation Plan

Mitigation Action (19): Ensure town officials and staff are trained on ICS, NIMS, and other appropriate topics

CRITERIA	EVALUATION RATING	SCORE
S Is it S ocially acceptable?		3
T Is it T echnically feasible and potentially successful?		3
A Is it A dministratively workable?		3
P Is it P olitically acceptable?		3
L Is there L egal authority to implement?		3
E Is it E conomically beneficial?		3
E Are other E nvironmental approvals required (e.g., EPA)?		3
FINAL SCORE		21

Mitigation Action (20): Use table top exercises to integrate several different emergency activities like testing the town EOP

CRITERIA	EVALUATION RATING	SCORE
S Is it S ocially acceptable?		3
T Is it T echnically feasible and potentially successful?		3
A Is it A dministratively workable?		3
P Is it P olitically acceptable?		3
L Is there L egal authority to implement?		3
E Is it E conomically beneficial?		3
E Are other E nvironmental approvals required (e.g., EPA)?		3
FINAL SCORE		21

Town of Campton, NH

Mitigation Action (21): Conduct drills to ensure readiness for response to school emergencies

CRITERIA	EVALUATION RATING	SCORE
S Is it S ocially acceptable?		3
T Is it T echnically feasible and potentially successful?		3
A Is it A dministratively workable?		3
P Is it P olitically acceptable?		3
L Is there L egal authority to implement?		3
E Is it E conomically beneficial?		3
E Are other E nvironmental approvals required (e.g., EPA)?		3
FINAL SCORE		21

Mitigation Action (22): Purchase land adjacent to the town well head for additional protection

CRITERIA	EVALUATION RATING	SCORE
S Is it S ocially acceptable?		3
T Is it T echnically feasible and potentially successful?		3
A Is it A dministratively workable?		3
P Is it P olitically acceptable?		3
L Is there L egal authority to implement?		3
E Is it E conomically beneficial?		3
E Are other E nvironmental approvals required (e.g., EPA)?		3
FINAL SCORE		21

All-Hazard Mitigation Plan

Mitigation Action (23): Implement road design standards for non-subdivision single-family residential development

CRITERIA	EVALUATION RATING	SCORE
S Is it S ocially acceptable?	Some people will say no	2
T Is it T echnically feasible and potentially successful?		3
A Is it A dministratively workable?		3
P Is it P olitically acceptable?	This is a private land issue	2
L Is there L egal authority to implement?		3
E Is it E conomically beneficial?		3
E Are other E nvironmental approvals required (e.g., EPA)?		3
FINAL SCORE		20

Mitigation Action (24): Investigate alternative warning systems like reverse 911, sirens for dam breaches, etc.

3 CRITERIA	EVALUATION RATING	SCORE
S Is it S ocially acceptable?		3
T Is it T echnically feasible and potentially successful?		3
A Is it A dministratively workable?		3
P Is it P olitically acceptable?		3
L Is there L egal authority to implement?		3
E Is it E conomically beneficial?		3
E Are other E nvironmental approvals required (e.g., EPA)?		3
FINAL SCORE		21

Town of Campton, NH

Mitigation Action (25): Maintain and update contract for Campton/Thornton fire and EMS shared resources as needed

CRITERIA	EVALUATION RATING	SCORE
S Is it S ocially acceptable?		3
T Is it T echnically feasible and potentially successful?		3
A Is it A dministratively workable?		3
P Is it P olitically acceptable?		3
L Is there L egal authority to implement?		3
E Is it E conomically beneficial?		3
E Are other E nvironmental approvals required (e.g., EPA)?		3
FINAL SCORE		21

Mitigation Action (26): Integrate needs of all municipal departments in the Capital Improvement Plan

3 CRITERIA	EVALUATION RATING	SCORE
S Is it S ocially acceptable?		3
T Is it T echnically feasible and potentially successful?		3
A Is it A dministratively workable?		3
P Is it P olitically acceptable?		3
L Is there L egal authority to implement?		3
E Is it E conomically beneficial?		3
E Are other E nvironmental approvals required (e.g., EPA)?		3
FINAL SCORE		21

All-Hazard Mitigation Plan

Mitigation Action (27): Ensure power generators are included in planning for new or existing town facilities

CRITERIA	EVALUATION RATING	SCORE
S Is it S ocially acceptable?		3
T Is it T echnically feasible and potentially successful?		3
A Is it A dministratively workable?		3
P Is it P olitically acceptable?		3
L Is there L egal authority to implement?		3
E Is it E conomically beneficial?		3
E Are other E nvironmental approvals required (e.g., EPA)?		3
FINAL SCORE		21

Mitigation Action (28): Update antenna sites to improve reception and coverage areas for emergency response personnel who use pagers as a response system

3 CRITERIA	EVALUATION RATING	SCORE
S Is it S ocially acceptable?		3
T Is it T echnically feasible and potentially successful?		3
A Is it A dministratively workable?		3
P Is it P olitically acceptable?		3
L Is there L egal authority to implement?		3
E Is it E conomically beneficial?		3
E Are other E nvironmental approvals required (e.g., EPA)?		3
FINAL SCORE		21

Town of Campton, NH

Mitigation Action (29): Investigate cell phone plan for town/Emergency operations staff

CRITERIA	EVALUATION RATING	SCORE
S Is it S ocially acceptable?		3
T Is it T echnically feasible and potentially successful?		3
A Is it A dministratively workable?		3
P Is it P olitically acceptable?		3
L Is there L egal authority to implement?		3
E Is it E conomically beneficial?		3
E Are other E nvironmental approvals required (e.g., EPA)?		3
FINAL SCORE		21

Mitigation Action (30): Ensure all police, fire, and EMS radios are programmed for both analog and digital frequencies

3 CRITERIA	EVALUATION RATING	SCORE
S Is it S ocially acceptable?		3
T Is it T echnically feasible and potentially successful?		3
A Is it A dministratively workable?		3
P Is it P olitically acceptable?		3
L Is there L egal authority to implement?		3
E Is it E conomically beneficial?		3
E Are other E nvironmental approvals required (e.g., EPA)?		3
FINAL SCORE		21

All-Hazard Mitigation Plan

Mitigation Action (31): Obtain one town-wide frequency for all departments

CRITERIA	EVALUATION RATING	SCORE
S Is it S ocially acceptable?		3
T Is it T echnically feasible and potentially successful?		3
A Is it A dministratively workable?		3
P Is it P olitically acceptable?		3
L Is there L egal authority to implement?	FCC approval needed	2
E Is it E conomically beneficial?		3
E Are other E nvironmental approvals required (e.g., EPA)?		3
FINAL SCORE		20

Mitigation Action (32): Update ESF 16

3 CRITERIA	EVALUATION RATING	SCORE
S Is it S ocially acceptable?		3
T Is it T echnically feasible and potentially successful?		3
A Is it A dministratively workable?		3
P Is it P olitically acceptable?		3
L Is there L egal authority to implement?		3
E Is it E conomically beneficial?		3
E Are other E nvironmental approvals required (e.g., EPA)?		3
FINAL SCORE		21

Town of Campton, NH

Mitigation Action (33): Ensure town response to emergencies is increased through enhancing the centralized emergency operations center

CRITERIA	EVALUATION RATING	SCORE
S Is it Socially acceptable?		3
T Is it Technically feasible and potentially successful?		3
A Is it Administratively workable?	Cost and planning process limitation	2
P Is it Politically acceptable?		3
L Is there Legal authority to implement?		3
E Is it Economically beneficial?		3
E Are other Environmental approvals required (e.g., EPA)?		3
FINAL SCORE		20

Mitigation Action (34): Upgrade/replace existing culvert at Pond Road

CRITERIA	EVALUATION RATING	SCORE
S Is it Socially acceptable?		3
T Is it Technically feasible and potentially successful?		3
A Is it Administratively workable?		3
P Is it Politically acceptable?		3
L Is there Legal authority to implement?		3
E Is it Economically beneficial?		3
E Are other Environmental approvals required (e.g., EPA)?	Potential issues with dam, DES involvement, US Forest Service and state owns some adjacent land	2
FINAL SCORE		20

All-Hazard Mitigation Plan

Mitigation Action (35): Review possible emergency roads for potential upgrade to fire lanes to provide for fire/emergency equipment response and accessibility

CRITERIA	EVALUATION RATING	SCORE
S Is it S ocially acceptable?	May be issues with abutting landowners and/or environmentalists	2
T Is it T echnically feasible and potentially successful?		3
A Is it A dministratively workable?		3
P Is it P olitically acceptable?		3
L Is there L egal authority to implement?	Has to get through reclassification if town decides to upgrade	2
E Is it E conomically beneficial?		3
E Are other E nvironmental approvals required (e.g., EPA)?		3
FINAL SCORE		19

Mitigation Action (36): Tree growth has caused damage to emergency vehicles and many hinder movement of the vehicles

CRITERIA	EVALUATION RATING	SCORE
S Is it S ocially acceptable?		3
T Is it T echnically feasible and potentially successful?		3
A Is it A dministratively workable?		3
P Is it P olitically acceptable?		3
L Is there L egal authority to implement?		3
E Is it E conomically beneficial?		3
E Are other E nvironmental approvals required (e.g., EPA)?		3
FINAL SCORE		21

Town of Campton, NH

Mitigation Action (37): Provide fire detection/protection for two historic covered bridges (Blair Bridge/Bump Bridge)

CRITERIA	EVALUATION RATING	SCORE
S Is it S ocially acceptable?		3
T Is it T echnically feasible and potentially successful?		3
A Is it A dministratively workable?		3
P Is it P olitically acceptable?		3
L Is there L egal authority to implement?		3
E Is it E conomically beneficial?		3
E Are other E nvironmental approvals required (e.g., EPA)?		3
FINAL SCORE		21

Chapter IX: Implementation Schedule for Priority Mitigation Strategies

After prioritization of each of the strategies using the STAPLEE system and other criteria, the team developed the actual action plan that outlines who is responsible for implementing each strategy, as well as when and how the actions will be implemented. The following questions were asked to develop an implementation schedule for the identified priority mitigation strategies.

WHO?	Who will lead the implementation efforts? Who will put together funding requests and applications?
WHEN?	When will these actions be implemented, and in what order?
HOW?	How will the community fund these projects? How will the community implement these projects? What resources will be needed to implement these projects?

In addition to the prioritized mitigation projects, Table 9.1 includes the responsible party (WHO), how the project will be supported (HOW), and what the timeframe is for implementation of the project (WHEN).

As demonstrated in Table 9.1, most major structural mitigation projects would be funded through federal and state grants, as well as local money when a match is required. Some projects, including most training and education of residents on emergency and evacuation procedures, could be tied into the Emergency Operation Plan and implemented through that planning effort.

In reviewing the potential mitigation strategy chart and STAPLEE ratings, the EMD provided a rationale for dividing these potential mitigation strategies into three groups. This prioritization was based on three categories with “Priority 1” being items that were already underway but needed to be completed, “Priority 2” consisted of items that could require more funds than the town currently has available and would take more time to investigate and complete, and “Priority 3” were items that needed significant study, coordination and funding.

Table 9.1: Campton Implementation Strategy

Rank	Project	Responsibility/ Oversight	Funding/ Support	Timeframe
1-1	(18) Train emergency personnel on ICS, MASMAT, NIMS and other appropriate training	EMD/Fire Chief	Grants	12-30-07
1-2	(21) Run drills to ensure readiness for response to school emergencies	Campton School Board	Local/School Budget	06-30-08
1-3	(16) Ensure developers install cisterns, dry hydrants, or fire ponds in developments	Planning Board/Fire Chief	Local/Developer	12-30-07
1-4	(10) Map and assess water sites and other resources along woods roads and trails for wildland fire fighting	Fire Chief	Grant	09-30-08
1-5	(14) Ensure the US Forest Service approves this wildfire plan as a Community Wildfire Protection Plan	North Country Council	Grant	12-30-07
1-6	(25) Maintain and update Campton/Thornton Fire and EMS shared resource contracts as needed	Select Board	Local	12-30-07
1-7	(32) Update that section of the EOP to ensure farm and domestic animals are provided for in case of emergency evacuation	EMD	Local	09-30-08
1-8	(20) Integrate several different activities into table top exercises	EMD/HSEM	Grant	01-20-08
1-9	(9) Encourage referral to Water Resource Plan and map by Planning Board when reviewing subdivision proposals	Conservation Commission	Local	12-30-07
1-10	(11) Implement program to provide training to fire personnel on wildland fire suppression, dry hydrant design, and site evaluations of water resources	Fire Chief	Local	09-20-08
1-11	(28) Update antenna sites to improve reception and coverage for emergency personnel who use pagers as a response system	Fire Chief	Local	06-30-08
1-12	(29) Investigate cell phone plan for town staff	Select Board	Local	06-30-08
1-13	(8) Review current subdivision regulations to require onsite water storage, minimum water flow, and fire breaks in WUI	Planning Board/Fire Chief	Local	12-30-07
1-14	(26) Integrate needs of all municipal departments in the Capital Reserve Plan	Planning Board/Select Board	Local	12-30-07
1-15	(15) Ensure people living in WUI areas outside of Class V roads are notified of FEMA pre-mitigation standards	Select Board	Local	06-30-08

All-Hazard Mitigation Plan

Rank	Project	Responsibility/ Oversight	Funding/ Support	Timeframe
2-1	(30) Ensure all police, fire, EMS, and highway radios and cell phones are programmed for both analog and digital frequencies	Fire/Police Chief/ Highway	Local	12-30-09
2-2	(31) Obtain one town-wide frequency for all town departments	EMD	Local	12-30-09
2-3	(13) Initiate a program to construct and maintain a series of dry hydrants to upgrade current draft sites and/or augment the municipal hydrant system	Fire Chief	Local	11-30-09
2-4	(6) Amend or include money in the Capital Improvement Program for water drafting, site development, and fire equipment	Select Board	Local	12-30-08
2-5	(19) Train town official and staff on ICS, NIMS, and other appropriate emergency communications training	EMD	Local	11-01-08
2-6	(12) Consider establishing driveway standards that address slope, width, and access. Emergency response to residential homes in remote access areas is often hampered by driveway design	Select Board/Planning Board	Local	10-01-09
2-7	(24) Investigate alternative warning systems like reverse 911 or sirens for emergency notifications especially dam breaches	EMD	Local/Grant	10-30-09
2-8	(23) Implement standards for non-subdivision single-family residential developments	Select Board/Planning	Local	06-01-09
2-9	(36) Tree growth has caused damage to emergency vehicles and may hinder movement of the vehicles	Road Agent	Local	10-20-09
2-10	(35) Review possible emergency roads for potential upgrade to fire lanes to provide for fire/emergency response movement of vehicles	Select Board/Highway/ Fire Chief	Local/Grant	06-20-09
2-11	(37) Provide fire detection/protection for the Blair and Bump historic covered bridges	Select Board/Highway/ Historical Society	Local/Grant	12-30-08
2-12	(3) Gather information relevant for hydrant construction (seasonal water level, area available for apparatus, and static lift at "Branch Brook Draft Site" (CA 13)	Fire Chief	Local/Grant	07-31-09
2-13	(5) Establish a dry hydrant/fire pond construction and maintenance program that will include records kept of semi-annual or annual flow test on each hydrant and cleaning or maintenance dredging of fire ponds	Fire Chief	Local	12-31-08
2-14	(1) Gather information relevant for hydrant construction (seasonal water level, area available for apparatus, and static lift at "Palmer Draft Site" (CA 13)	Fire Chief	Local/Grant	12-31-09

Town of Campton, NH

Rank	Project	Responsibility/ Oversight	Funding/ Support	Timeframe
3-1	(7) Consider establishment of a Steep Slopes Ordinance to restrict and/or prohibit development in difficult to reach areas	Planning Board	Local	08-30-09
3-2	(34) Upgrade/replace existing culvert at Pond Road	Highway Department	Local/Grant	09-30-11
3-3	(4) Site and construct a cistern= \leq 30,000 gallons in area of strategic advantage	Fire Chief	Local/Grant	12-31-12
3-4	(27) New or expanded town facilities should include provisions for emergency power generation	Select Board/EMD	Local/Grant	12-30-11
3-5	(33) Ensure town response to emergencies are increased enhancing the centralized emergency operations center	Select Board/EMD	Local/Grant	12-30-11
3-6	(22) Purchase adjacent land for additional protection around the town wellhead	Conservation Commission/Water Commission	Local/Grant	12-30-15
3-7	(2) Gather information relevant for hydrant construction (seasonal water level, area available for apparatus, and static lift at "Old Waterville Valley Road Draft Site" (CA 12))	Fire Chief	Local/Grant	09-09-11
3-8	(17) Update master plan to reflect changing needs of the community and to maintain public health and safety. Next update planned for 2010.	Planning Board	Local/Grant	12-30-10

X. Monitoring, Evaluating and Updating the Plan

A. Introduction

Recognizing that many mitigation projects are ongoing, and while in the implementation stage communities may suffer budget cuts, experience staff turnover, or projects may fail altogether, a good plan needs to provide for periodic monitoring and evaluation of its successes and failures and allow for updates to the plan where necessary.

B. All Hazards Mitigation Plan Monitoring, Evaluation and Updates

To track programs and update the mitigation strategies identified through this process, the town will revisit the All Hazards Mitigation Plan annually or after a hazard event. The Emergency Management Director is responsible for initiating this review and needs to consult with members of the All Hazards Mitigation Planning Team identified in this plan.

Changes should be made to the plan to accommodate projects that have failed or are not considered feasible after a review for their consistency with STAPLEE, the timeframe, the community's priorities and funding resources. Priorities that were not ranked high, but identified as potential mitigation strategies, should be reviewed as well during the monitoring and update of this plan to determine feasibility of future implementation. In keeping with the process of adopting this All Hazards Mitigation Plan, a public hearing to receive public comment on plan maintenance and updating will be held during the annual review period and the final product adopted by the Select Board. Appendix F provides a draft resolution for the town of Campton to use once a response from FEMA is received.

Prior to initiating this process, the town of Campton entered into a MOU stating that they would follow up on this process and ensure that the funds necessary for certain mitigation strategies were addressed in the CIP.

C. Integration With Other Plans

This all hazards plan will only enhance emergency planning and mitigation if balanced with all other town plans. This plan must be integrated with all other town planning documents on a regular basis. All plans will be modified as necessary to incorporate the all hazard issues as identified in this or subsequent revisions of this plan.

Appendices

APPENDIX A

Definition of Hazards

DEFINITIONS OF HAZARDS

Flooding

Floods are defined as a temporary overflow of water onto lands that are not normally covered by water. Flooding results from the overflow of major rivers and tributaries, storm surges, and/or inadequate local drainage. Floods can cause loss of life, property damage, crop/livestock damage, and water supply contamination. Floods can also disrupt travel routes on roads and bridges.

Inland floods are most likely to occur in the spring due to the increase in rainfall and melting of snow; however, floods can occur at any time of the year. A sudden thaw in the winter or a major downpour in the summer can cause flooding because there is suddenly a lot of water in one place with nowhere to go.

Hurricanes

A hurricane is a tropical cyclone in which winds reach speeds of 74 miles per hour or more and blow in a large spiral around a relatively calm center. Flooding is often caused from the coastal storm surge of the ocean and torrential rains, both of which accompany the storm. These floods can result in loss of lives and property.

100-year Floodplain Events

Floodplains are usually located in lowlands near rivers, and flood on a regular basis. The term 100 year flood does not mean that flood will occur once every 100 years. It is a statement of probability that scientists and engineers use to describe how one flood compares to others that are likely to occur. It is more accurate to use the phrase "1% annual chance flood". What this means is that there is a 1% chance of a flood of that size happening in any year.

Erosion and Mudslides

Erosion is the process of wind and water wearing away soil. Typically in New Hampshire, the land along river is relatively heavily developed. Mudslides may be formed when a layer of soil atop a slope becomes saturated by significant precipitation and slides along a more cohesive layer of soil or rock.

Erosion and mudslides become significant threats to development during floods. Floods speed up the process of erosion and increase the risk of mudslides.

Rapid Snow Pack Melt

Warm temperatures and heavy rains cause rapid snowmelt. Quickly melting snow coupled with moderate to heavy rains are prime conditions for flooding.

River Ice Jams

Rising waters in early spring often breaks ice into chunks, which float downstream and often pile up, causing flooding. Small rivers and streams pose special flooding risks because they are easily blocked by jams. Ice in riverbeds and against structures present significant flooding threats to bridges, roads, and the surrounding lands.

Dam Breach and Failure

Dam failure results in rapid loss of water that is normally held by the dam. These kinds of floods are extremely dangerous and pose a significant threat to both life and property.

Severe Storms

Flooding associated with severe storms can inflict heavy damage to property. Heavy rains during severe storms are a common cause of inland flooding.

Wind

Significantly high winds occur especially during hurricanes, tornadoes, winter storms and thunderstorms. Falling objects and downed power lines are dangerous risks associated with high winds. In addition, property damage and downed trees are common during high wind occurrences.

Hurricanes

A hurricane is a tropical cyclone in which winds reach speeds of 74 miles per hour or more and blow in a large spiral around a relatively calm center. The eye of the storm is usually 20-30 miles wide and may extend over 400 miles. High winds are a primary cause of hurricane-inflicted loss of life and property damage.

Tornadoes

A tornado is a violent windstorm characterized by a twisting, funnel shaped cloud. They develop when cool air overrides a layer of warm air, causing the warm air to rise rapidly. The atmospheric conditions required for the formation of a tornado include great thermal instability, high humidity and the convergence of warm, moist air at low levels with cooler, drier air aloft. Most tornadoes remain suspended in the atmosphere, but if they touch down they become a force of destruction.

Tornadoes produce the most violent winds on earth, at speeds of 280 mph or more. In addition, tornadoes can travel at a forward speed of up to 70 mph. Damage paths can be in excess of one mile wide and 50 miles long. Violent winds and debris slamming into buildings cause the most structural damage.

The Fujita Scale is the standard scale for rating the severity of a tornado as measured by the damage it causes. A tornado is usually accompanied by thunder, lightning, heavy rain, and a loud “freight train” noise. In comparison with a hurricane, a tornado covers a much smaller area but can be more violent and destructive.

Severe Thunderstorms

All thunderstorms contain lightning. During a lightning discharge, the sudden heating of the air causes it to expand rapidly. After the discharge, the air contracts quickly as it cools back to ambient temperatures. This rapid expansion and contraction of the air causes a shock wave that we hear as thunder, which can damage building walls and break glass.

Lightning

Lightning is a giant spark of electricity that occurs within the atmosphere or between the atmosphere and the ground. As lightning passes through air, it heats the air to a temperature of about 50,000 degrees Fahrenheit, considerably hotter than the surface of the sun. Lightning strikes can cause death, injury and property damage.

Hail

Hailstones are balls of ice that grow as they're held up by winds, known as updrafts, that blow upwards in thunderstorms. The updrafts carry droplets of supercooled water – water at a below freezing temperature – but not yet ice. The supercooled water droplets hit the balls of ice and freeze instantly, making the hailstones grow. The faster the updraft, the bigger the stones can grow. Most hailstones are smaller in diameter than a dime, but stones weighing more than a pound have been recorded. Details of how hailstones grow are complicated, but the results are irregular balls of ice that can be as large as baseballs, sometimes even bigger. While crops are the major victims, hail is also a hazard to vehicles and windows.

Wildfire

Wildfire is defined as an uncontrolled and rapidly spreading fire.

Forest Fires and Grass Fires

A forest fire is an uncontrolled fire in a woody area. They often occur during drought and when woody debris on the forest floor is readily available to fuel the fire. Grass fires are uncontrolled fires in grassy areas.

Ice & Snow Events

Ice and snow events typically occur during the winter months and can cause loss of life, property damage and tree damage.

Heavy Snow Storms

A winter storm can range from moderate snow to blizzard conditions. Blizzard conditions are considered blinding wind-driven snow over 35 mph that lasts several days. A severe winter storm deposits four or more inches of snow during a 12-hour period or six inches of snow during a 24-hour period.

Ice Storms

An ice storm involves rain, which freezes upon impact. Ice coating at least one-fourth inch in thickness is heavy enough to damage trees, overhead wires and similar objects. Ice storms also often produce widespread power outages.

Earthquakes/Landslides

Geologic events are often associated with California, but New England is considered a moderate risk earthquake zone.

Earthquake

An earthquake is a rapid shaking of the earth caused by the breaking and shifting of rock beneath the earth's surface. Earthquakes can cause buildings and bridges to collapse, disrupt gas, electric and phone lines, and often cause landslides, flash floods, fires, and avalanches. Larger earthquakes usually begin with slight tremors but rapidly take the form of one or more violent shocks, and end in vibrations of gradually diminishing force called aftershocks. The underground point of origin of an earthquake is called its focus; the point on the surface directly above the focus is the epicenter. The magnitude and intensity of an earthquake is determined by the use of scales such as the Richter scale and Mercalli scale.

Landslides

A landslide is the downward or outward movement of slope forming materials reacting under the force of gravity including: mudflows, mudslides, debris flows, rockslides, debris avalanches, debris slides and earth flows. Landslides have damaged or destroyed roads, railroads, pipelines, electrical and telephone lines, mines, oil wells, buildings, canals, sewers, bridges, dams, seaports, airports, forests, parks and farms.

Drought

A drought is defined as a long period of abnormally low precipitation, especially one that adversely affects growing of living conditions. Droughts are rare in New Hampshire. They generally are not as damaging and disruptive as floods and are more difficult to define. The effect of drought is indicated through measurements of soil moisture, groundwater levels and streamflow. However, not all of these indicators will be minimal during a drought. For example, frequent minor rainstorms can replenish the soil moisture without raising groundwater levels or increasing streamflow. Low streamflow also correlates with low groundwater levels because groundwater discharge to streams and rivers maintains streamflow during extended dry periods. Low streamflow and low groundwater levels commonly cause diminished water supply.

APPENDIX B

Summary of Possible Hazard Mitigation Strategies

I. RIVERINE MITIGATION

A. Prevention

Prevention measures are intended to keep the problem from occurring in the first place, and/or keep it from getting worse. Future development should not increase flood damage. Building, zoning, planning, and/or code enforcement offices usually administer preventative measures.

1. Planning and Zoning

Land use plans are put in place to guide future development, recommending where - and where not - development should occur. Sensitive and vulnerable lands can be designated for uses that would not be incompatible with occasional flood events - such as parks or wildlife refuges. A Capital Improvements Program can recommend the setting aside of funds for public acquisition of these designated lands. The zoning ordinance can regulate development in these sensitive areas by limiting or preventing some or all development - for example, by designating floodplain overlay, conservation, or agricultural districts.

2. Open Space Preservation

Preserving open space is the best way to prevent flooding and flood damage. Open space preservation should not, however, be limited to the flood plain, since other areas within the watershed may contribute to controlling the runoff that exacerbates flooding. Land Use and Capital Improvement Plans should identify areas to be preserved by acquisition and other means, such as purchasing easements. Aside from outright purchase, open space can also be protected through maintenance agreements with the landowners, or by requiring developers to dedicate land for flood flow, drainage and storage.

3. Floodplain Development Regulations

Floodplain development regulations typically do not prohibit development in the special flood hazard area, but they do impose construction standards on what is built there. The intent is to protect roads and structures from flood damage and to prevent the development from aggravating the flood potential. Floodplain development regulations are generally incorporated into subdivision regulations, building codes, and floodplain ordinances.

Subdivision Regulations: These regulations govern how land will be divided into separate lots or sites. They should require that any flood hazard areas be shown on the plat, and that every lot has a buildable area that is above the base flood elevation.

Building Codes: Standards can be incorporated into building codes that address flood proofing for all new and improved or repaired buildings.

Floodplain Ordinances: Communities that participate in the National Flood Insurance Program are required to adopt the minimum floodplain management regulations, as developed by FEMA. The regulations set minimum standards for subdivision regulations and building codes. Communities may adopt more stringent standards than those set forth by FEMA.

4. Stormwater Management

Development outside of a floodplain can contribute significantly to flooding by covering impervious surfaces, which increases storm water runoff. Storm water management is usually addressed in subdivision regulations. Developers are typically required to build retention or detention basins to minimize any increase in runoff caused by new or expanded impervious surfaces, or new drainage systems. Generally, there is a prohibition against storm water leaving the site at a rate higher than it did before the development. One technique is to use wet basins as part of the landscaping plan of a development. It might even be possible to site these basins based on a watershed analysis. Since detention only controls the runoff rates and not volumes, other measures must be employed for storm water infiltration - for example, swales, infiltration trenches, vegetative filter

strips, and permeable paving blocks.

5. Drainage System Maintenance

Ongoing maintenance of channel and detention basins is necessary if these facilities are to function effectively and efficiently over time. A maintenance program should include regulations that prevent dumping in or altering watercourses or storage basins; regrading and filling should also be regulated. Any maintenance program should include a public education component, so that the public becomes aware of the reasons for the regulations. Many people do not realize the consequences of filling in a ditch or wetland, or regrading

B. Property Protection

Property protection measures are used to modify buildings subject to flood damage, rather than to keep floodwaters away. These may be less expensive to implement, as they are often carried out on a cost-sharing basis. In addition, many of these measures do not affect a building's appearance or use, which makes them particularly suitable for historical sites and landmarks.

1. Relocation

Moving structures out of the floodplain is the surest and safest way to protect against damage. Relocation is expensive, however, so this approach will probably not be used except in extreme circumstances. Communities that have areas subject to severe storm surges, ice jams, etc. might want to consider establishing a relocation program, incorporating available assistance.

2. Acquisition

Acquisition by a governmental entity of land in a floodplain serves two main purposes: 1) it ensures that the problem of structures in the floodplain will be addressed; and 2) it has the potential to convert problem areas into community assets, with accompanying environmental benefits. Acquisition is more cost effective than relocation in those areas that are subject to storm surges, ice jams, or flash flooding. Acquisition, followed by demolition, is the most appropriate strategy for those buildings that are simply too expensive to move, as well as for dilapidated structures that are not worth saving or protecting. Relocation can be expensive, however, there are government grants and loans that can be applied toward such efforts.

3. Building Elevation

Elevating a building above the base flood elevation is the best on-site protection strategy. The building could be raised to allow water to run underneath it, or fill could be brought in to elevate the site on which the building sits. This approach is cheaper than relocation, and tends to be less disruptive to a neighborhood. Elevation is required by law for new and substantially improved residences in a floodplain, and is commonly practiced in flood hazard areas nationwide.

4. Floodproofing

If a building cannot be relocated or elevated, it may be floodproofed. This approach works well in areas of low flood threat. Flood proofing can be accomplished through barriers to flooding, or by treatment to the structure itself.

Barriers: Levees, floodwalls and berms can keep floodwaters from reaching a building. These are useful, however, only in areas subject to shallow flooding.

Dry Flood proofing: This method seals a building against the water by coating the walls with waterproofing compounds or plastic sheeting. Openings, such doors, windows, etc. are closed either permanently with removable shields or with sandbags.

Wet Flood proofing: This technique is usually considered a last resort measure, since water is intentionally allowed into the building in order to minimize pressure on the structure. Approaches range from moving valuable items to higher floors to rebuilding the floodable area. An advantage over other approaches is that simply by moving household goods out of the range of floodwaters, thousands of dollars can be saved in damages.

5. Sewer Backup Protection

Storm water overloads can cause backup into basements through sanitary sewer lines. Houses that have any kind of connection to a sanitary sewer system - whether it is downspouts, footing drain tile, and/or sump pumps, can be flooded during a heavy rain event. To prevent this, there should be no such connections to the system, and all rain and ground water should be directed onto the ground, away from the building. Other

protections include:

- Floor drain plugs and floor drain standpipe, which keep water from flowing out of the lowest opening in the house.
- Overhead sewer - keeps water in the sewer line during a backup.
- Backup valve - allows sewage to flow out while preventing backups from flowing into the house.

6. Insurance

Above and beyond standard homeowner insurance, there is other coverage a homeowner can purchase to protect against flood hazard. Two of the most common are National Flood Insurance and basement backup insurance.

National Flood Insurance: When a community participates in the National Flood Insurance Program, any local insurance agent is able to sell separate flood insurance policies under rules and rates set by FEMA. Rates do not change after claims are paid because they are set on a national basis.

Basement Backup Insurance: National Flood Insurance offers an additional deductible for seepage and sewer backup, provided there is a general condition of flooding in the area that was the proximate cause of the basement getting wet. Most exclude damage from surface flooding that would be covered by the NFIP.

C. Natural Resource Protection

Preserving or restoring natural areas or the natural functions of floodplain and watershed areas provide the benefits of eliminating or minimizing losses from floods, as well as improve water quality and wildlife habitats. Parks, recreation, or conservation agencies usually implement such activities. Protection can also be provided through various zoning measures that are specifically designed to protect natural resources.

1. Wetlands Protection

Wetlands are capable of storing large amounts of floodwaters, slowing and reducing downstream flows, and filtering the water. Any development that is proposed in a wetland is regulated by either federal and/or state agencies. Depending on the location, the project might fall under the jurisdiction of the U.S. Army Corps of Engineers, which in turn, calls upon several other agencies to review the proposal. In New Hampshire, the N.H. Wetlands Board must approve any project that impacts a wetland. And, many communities in New Hampshire also have local wetland ordinances.

Generally, the goal is to protect wetlands by preventing development that would adversely affect them. Mitigation techniques are often employed, which might consist of creating a wetland on another site to replace what would be lost through the development. This is not an ideal practice, however, since it takes many years for a new wetland to achieve the same level of quality as an existing one.

2. Erosion and Sedimentation Control

Controlling erosion and sediment runoff during construction and on farmland is important, since eroding soil will typically end up in downstream waterways. And, because sediment tends to settle where the water flow is slower, it will gradually fill in channels and lakes, reducing their ability to carry or store floodwaters.

Practices to reduce erosion and sedimentation have two principal components: (1) minimize erosion with vegetation and; (2) capture sediment before it leaves the site. Slowing the runoff increases infiltration into the soil, thereby controlling the loss of topsoil from erosion and the resulting sedimentation. Runoff can be slowed by vegetation, terraces, contour strip farming, no-till farm practices, and impoundments (such as sediment basins, farm ponds, and wetlands).

3. Best Management Practices

Best Management Practices (BMPs) are measures that reduce non-point source pollutants that enter waterways. Nonpoint source pollutants are carried by storm water to waterways, and include such things as lawn fertilizers, pesticides, farm chemicals, and oils from street surfaces and industrial sites. BMPs can be incorporated into many aspects of new developments and ongoing land use practices. In New Hampshire, the Department of Environmental Services has developed Best Management Practices for a range of activities,

from farming to earth excavations.

D. Emergency Services

Emergency services protect people during and after a flood. Many communities in New Hampshire have emergency management programs in place, administered by an emergency management director (very often the local police or fire chief).

1. Flood Warning

On large rivers, the National Weather Service handles early recognition. Communities on smaller rivers must develop their own warning systems. Warnings may be disseminated in a variety of ways, such as sirens, radio, television, mobile public address systems, or door-to-door contact. It seems that multiple or redundant systems are the most effective, giving people more than one opportunity to be warned.

2. Flood Response

Flood response refers to actions that are designed to prevent or reduce damage or injury, once a flood threat is recognized. Such actions and the appropriate parties include:

- activating the emergency operations center (emergency director)
- sandbagging designated areas (public works department)
- closing streets and bridges (police department)
- shutting off power to threatened areas (public service)
- releasing children from school (school district)
- ordering an evacuation (selectmen/city council/emergency director)
- opening evacuation shelters (churches, schools, Red Cross, municipal facilities)

These actions should be part of a flood response plan, which should be developed in coordination with the persons and agencies that share the responsibilities. Drills and exercises should be conducted so that the key participants know what they are supposed to do.

3. Critical Facilities Protection

Protecting critical facilities is vital, since expending efforts on these facilities can draw workers and resources away from protecting other parts of town. Critical facilities fall into two categories:

Buildings or locations vital to the flood response effort:

- emergency operations centers
- police and fire stations
- hospitals
- highway garages
- selected roads and bridges
- evacuation routes

Buildings or locations that, if flooded, would create secondary disasters

- hazardous materials facilities
- water/wastewater treatment plants
- schools
- nursing homes

All such facilities should have their own flood response plan that is coordinated with the community's plan. Nursing homes, other public health facilities, and schools will typically be required by the state to have emergency response plans in place.

4. Health and Safety Maintenance

The flood response plan should identify appropriate measures to prevent danger to health and safety. Such measures include:

- Patrolling evacuated areas to prevent looting
- Providing safe drinking water

- Vaccinating residents for tetanus
- Clearing streets
- Cleaning up debris

The plan should also identify which agencies will be responsible for carrying out the identified measures. A public information program can be helpful to educate residents on the benefits of taking health and safety precautions.

E. Structural Projects

Structural projects are used to prevent floodwaters from reaching properties. These are all man-made structures, and can be grouped into the six types discussed below. The shortcomings of structural approaches are that:

- They can be very expensive
- They disturb the land, disrupt natural water flows, and destroy natural habitats.
- They are built to an anticipated flood event, and may be exceeded by a greater-than expected flood
- They can create a false sense of security

1. Reservoirs

Reservoirs control flooding by holding water behind dams or in storage basins. After a flood peaks, water is released or pumped out slowly at a rate the river downstream can handle.

Reservoirs are suitable for protecting existing development, and they may be the only flood control measure that can protect development close to a watercourse. They are most efficient in deeper valleys or on smaller rivers where there is less water to store. Reservoirs might consist of man-made holes dug to hold the approximate amount of floodwaters, or even abandoned quarries. As with other structural projects, reservoirs:

- are expensive;
- occupy a lot of land;
- require periodic maintenance;
- may fail to prevent damage from floods that exceed their design levels; and
- may eliminate the natural and beneficial functions of the floodplain.

Reservoirs should only be used after a thorough watershed analysis that identifies the most appropriate location, and ensures that they would not cause flooding somewhere else. Because they are so expensive and usually involve more than one community, they are typically implemented with the help of state or federal agencies, such as the Army Corps of Engineers.

2. Levees/Floodwalls

Probably the best known structural flood control measure is either a levee (a barrier of earth) or a floodwall made of steel or concrete erected between the watercourse and the land. If space is a consideration, floodwalls are typically used, since levees need more space. Levees and floodwalls should be set back out of the floodway, so that they will not divert floodwater onto other properties.

3. Diversions

A diversion is simply a new channel that sends floodwater to a different location, thereby reducing flooding along an existing watercourse. Diversions can be surface channels, overflow weirs, or tunnels. During normal flows, the water stays in the old channel. During flood flows, the stream spills over the diversion channel or tunnel, which carries the excess water to the receiving lake or river. Diversions are limited by topography; they won't work everywhere. Unless the receiving water body is relatively close to the flood prone stream and the land in between is low and vacant, the cost of creating a diversion can be prohibitive. Where topography and land use are not favorable, a more expensive tunnel is needed. In either case, care must be taken to ensure that the diversion does not create a flooding problem somewhere else.

4. Channel Modifications

Channel modifications include making a channel wider, deeper, smoother, or straighter. These techniques will result in more water being carried away, but, as with other techniques mentioned, it is important to ensure that the modifications do not create or increase a flooding problem downstream.

Dredging: Dredging is often cost-prohibitive because the dredged material must be disposed of

somewhere else, and the stream will usually fill back in with sediment. Dredging is usually undertaken only on larger rivers, and then only to maintain a navigation channel.

Drainage modifications: These include man-made ditches and storm sewers that help drain areas where the surface drainage system is inadequate or where underground drainage ways may be safer or more attractive. These approaches are usually designed to carry the runoff from smaller, more frequent storms.

5. Storm Sewers

Mitigation techniques for storm sewers include installing new sewers, enlarging small pipes, street improvements, and preventing back flow. Because drainage ditches and storm sewers convey water faster to other locations, improvements are only recommended for small local problems where the receiving body of water can absorb the increased flows without increased flooding. In many developments, streets are used as part of the drainage system, to carry or hold water from larger, less frequent storms. The streets collect runoff and convey it to a receiving sewer, ditch, or stream. Allowing water to stand in the streets and then draining it slowly can be a more effective and less expensive measure than enlarging sewers and ditches.

F. Public Information

Public information activities are intended to advise property owners, potential property owners, and visitors about the particular hazards associated with a property, ways to protect people and property from these hazards, and the natural and beneficial functions of a floodplain.

1. Map Information

Flood maps developed by FEMA outline the boundaries of the flood hazard areas. These maps can be used by anyone interested in a particular property to determine if it is flood-prone. These maps are available from FEMA, the NH Office of Emergency Management, the NH Office of State Planning, or your regional planning commission.

2. Outreach Projects

Outreach projects are proactive; they give the public information even if they have not asked for it. Outreach projects are designed to encourage people to seek out more information and take steps to protect themselves and their properties. Examples of outreach activities include:

- Mass mailings or newsletters to all residents.
- Notices directed to floodplain residents.
- Displays in public buildings, malls, etc.
- Newspaper articles and special sections.
- Radio and TV news releases and interview shows.
- A local flood proofing video for cable TV programs and to loan to organizations.
- A detailed property owner handbook tailored for local conditions.
- Presentations at meetings of neighborhood groups.

Research has shown that outreach programs work, although awareness is not enough. People need to know what they can do about the hazards, so projects should include information on protection measures. Research also shows that locally designed and run programs are much more effective than national advertising.

3. Real Estate Disclosure

Disclosure of information regarding flood-prone properties is important if potential buyers are to be in a position to mitigate damage. Federally regulated lending institutions are required to advise applicants that a property is in the floodplain. However, this requirement needs to be met only five days prior to closing, and by that time, the applicant is typically committed to the purchase. State laws and local real estate practice can help by making this information available to prospective buyers early in the process.

4. Library

Your local library can serve as a repository for pertinent information on flooding and flood protection. Some libraries also maintain their own public information campaigns, augmenting the activities of the various governmental agencies involved in flood mitigation.

5. Technical Assistance

Certain types of technical assistance are available from the NFIP Coordinator, FEMA, and the Natural Resources Conservation District. Community officials can also set up a service delivery program to provide one-on-one sessions with property owners.

An example of technical assistance is the *flood audit*, in which a specialist visits a property. Following the visit, the owner is provided with a written report, detailing the past and potential flood depths, and recommending alternative protection measures.

6. Environmental Education

Education can be a great mitigating tool, if people can learn what not to do before damage occurs. The sooner the education begins, the better. Environmental education programs for children can be taught in the schools, park and recreation departments, conservation associations, or youth organizations. An activity can be as involved as course curriculum development or as simple as an explanatory sign near a river.

Education programs do not have to be limited to children. Adults can benefit from knowledge of flooding and mitigation measures. Decision-makers, armed with this knowledge, can make a difference in their communities.

II. EARTHQUAKES

A. Preventive

1. Planning/zoning to keep critical facilities away from fault lines
2. Planning, zoning and building codes to avoid areas below steep slopes or soils subject to liquefaction
3. Building codes to prohibit loose masonry, overhangs, etc.

B. Property Protection

1. Acquire and clear hazard areas
2. Retrofitting to add braces, remove overhangs
3. Apply mylar to windows and glass surfaces to protect from shattering glass
4. Tie down major appliances, provide flexible utility connections
5. Earthquake insurance riders

C. Emergency Services

1. Earthquake response plans to account for secondary problems, such as fires and hazardous materials spills

D. Structural Projects

1. Slope stabilization

III. DAM FAILURE

A. Preventive

1. Dam failure inundation maps
2. Planning/zoning/open space preservation to keep area clear
3. Building codes with flood elevation based on dam failure
4. Dam safety inspections
5. Draining the reservoir when conditions appear unsafe

B. Property Protection

1. Acquisition of buildings in the path of a dam breach flood
2. Flood insurance

C. Emergency Services

1. Dam conditioning monitoring
2. Warning and evacuation plans based on dam failure

D. Structural Projects

1. Dam improvements, spillway enlargements

2. Remove unsafe dams

IV. WILDFIRES

A. Preventive

1. Zoning districts to reflect fire risk zones
2. Planning and zoning to restrict development in areas near fire protection and water resources
3. Requiring new subdivisions to space buildings, provide firebreaks, on-site water storage, wide roads multiple accesses
4. Building code standards for roof materials, spark arrestors
5. Maintenance programs to clear dead and dry bush, trees
6. Regulation on open fires

B. Property Protection

1. Retrofitting of roofs and adding spark arrestors
2. Landscaping to keep bushes and trees away from structures
3. Insurance rates based on distance from fire protection

C. Natural Resource Protection

1. Prohibit development in high-risk areas

D. Emergency Services

1. Fire Fighting

V. WINTER STORMS

A. Prevention

Building code standards for light frame construction, especially for wind-resistant roofs.

B. Property Protection

1. Storm shutters and windows
2. Hurricane straps on roofs and overhangs
3. Seal outside and inside of storm windows and check seals in spring and fall.
4. Family and/or company severe weather action plan & drills:
 - include a **NOAA** Weather Radio
 - designate a shelter area or location
 - keep a disaster supply kit, including stored food and water
 - keep snow removal equipment in good repair; have extra shovels, sand, rock, salt and gas
 - know how to turn off water, gas, and electricity at home or work

C. Natural Resource Protection

Maintenance program for trimming tree and shrubs

D. Emergency Services

1. Early warning systems/NOAA Weather Radio
2. Evacuation Plans

APPENDIX C

List of Contacts

I. Agencies

New Hampshire Office of Emergency Management	271-2231
Hazard Mitigation Section	271-2231
Federal Emergency Management Agency	617-223-4175
NH Regional Planning Commissions:	
Central NH Regional Planning Commission.....	796-2129
Lakes Region Planning Commission	279-8171
Nashua Regional Planning Commission	883-0366
North Country Council	444-6303
Rockingham Planning Commission	778-0885
Southern New Hampshire Planning Commission	669-4664
Southwest Region Planning Commission	357-0557
Strafford Regional Planning Commission.....	742-2523
Upper Valley Lake Sunapee Regional Planning Commission	448-1680
NH Executive Department:	
Governor's Office of Energy and Community Services	271-2611
New Hampshire Office of State Planning	271-2155
NH Department of Cultural Affairs	271-2540
Division of Historical Resources	271-3483
NH Department of Environmental Services	271-3503
Air Resources	271-1370
Waste Management	271-2900
Water Resources	271-3406
Water Supply and Pollution Control.....	271-3504
Rivers Management and Protection Program	271-1152
Bureau of Dams.....	271-3503
NH Fish and Game Department	271-3421
NH Department of Resources and Economic Development	271-2411
Natural Heritage Inventory.....	271-3623
Division of Forests and Lands.....	271-2214
Division of Parks and Recreation.....	271-3255
NH Department of Transportation	271-3734
US Department of Commerce:	
National Oceanic and Atmospheric Administration:	
National Weather Service; Gray, Maine	207-688-3216
US Department of Interior:	
US Fish and Wildlife Service	225-1411
US Geological Survey	225-4681
US Department of Agriculture:	
Natural Resource Conservation Service.....	868-7581

Grafton County Sheriff's Department1-800-564-6911

New Hampshire State Police846-3333

II. Websites

Sponsor	Internet Address	Summary of Contents
NH Office Emergency Management	http://www.nhoem.state.nh.us	Searchable website with references and links to emergency sites. (State's Plan)
Natural Hazards Research Center, U. of Colorado	http://www.colorado.edu/litbase/hazards/	Searchable database of references and links to many disaster-related web sites.
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-Goodard 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://www.gsfc.nasa.gov/ndrd/main/html	Searchable database of worldwide natural disasters.
U.S. State & Local Gateway	http://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	http://fema.gov/fema/csb.htm	Searchable site for access of

Program, Community Status Book		Community Status Books
Florida State University Atlantic Hurricane Site	http://met.fsu.edu/explores/tropical.html	Tracking and NWS warnings for Atlantic Hurricanes and other Links
National Lightning Safety Institute	http://lightningsafety.com	Information and listing of appropriate publications regarding lightning safety.
NASA Optical Transient Detector	http://www.ghcc.msfc.nasa.gov/otd.html	Space-based sensor of lightning strikes
LLNL Geologic & Atmospheric Hazards	http://www-ep.es.llnl.gov/www-ep/ghp.html	General hazard information developed for the Dept. of Energy
The Tornado Project Online	http://www.tornadoproject.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.ix.com/ndcmap.htm	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 D

Technical and Financial Assistance for Hazard Mitigation

◆ HAZARD MITIGATION GRANT PROGRAM - “SECTION 404 MITIGATION”

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

The program receives its funding pursuant to a Notice of Interest submitted by the Governor’s Authorized Representative (or GAR, i.e. the Director of NHOEM) to the FEMA Regional Director within 60 days of the date of a Presidentially Declared Disaster. The amount of funding that may be awarded to the State/Grantee under the HNGP may not exceed 15% of (over and above) the overall funds as are awarded to the State pursuant to the Disaster Recovery programs as are listed in 44 CFR Subpart N. Section 206.431 (d) (inclusive of all Public Assistance, Individual Assistance, etc.). Within 15 days of the Disaster Declaration, an Inter-Agency Hazard Mitigation Team is convened consisting of members of various Federal, State, County, Local and Private Agencies with an interest in Disaster Recovery and Mitigation. From this meeting, a Report is produced which evaluates the event and stipulates the State’s desired Mitigation initiatives.

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

- Eligible Subgrantees include:***
- State and Local governments
 - Certain Not for Profit Corporations
 - Indian Tribes or authorized tribal organizations
 - Alaskan corporations not privately owned

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

- Eligible Projects*** may be of any nature that will result in the protection to public or private property and include:
- Structural hazard control or protection projects
 - Construction activities that will result in protection from hazards
 - Retrofitting of facilities
 - Certain property acquisitions or relocations
 - Development of State and local mitigation standards
 - Development of comprehensive hazard mitigation programs with implementation as an essential component
 - Development or improvement of warning systems

◆ FLOOD MITIGATION ASSISTANCE (FMA) PROGRAM

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

In 1997, the State was awarded funds to assist communities in Flood Mitigation Planning and Projects. A prerequisite of accessing the project funds under FMAP is that a community have a FEMA approved Flood Mitigation Plan in place. A Planning Grant from 1996/97 was awarded to the City of Keene in 1998.

In preparation for the development of the Flood Mitigation Plan, the Planning Department of the City of Keene created a GIS database of its floodplain and digitized its tax assessing maps as well as its Special Flood Hazard Areas in GIS layers. The Keene Flood Hazard Mitigation Plan is considered a Model in the State and its Project development and prioritization approach is especially noteworthy.

In 1998, the FMAP Planning Grant was awarded to the Town of Salem. Given the complexity of the issues in the Spicket River watershed, The Town of Salem sub-contracted a substantial portion of the development of its Plan to a private engineering firm. Salem submitted the State's first Plan and proposed projects in May, 1999 that were approved by FEMA.

The 1999 FMA Planning Grant was awarded to the Town of Hampton, the State's highest policy-holding community and the highest "repetitive loss" community. Hampton employed the services of a Planner from the Rockingham RPC and delivered its Plan to FEMA for review in May.

The 2000 FMA Planning Grant was awarded to Gorham and a Plan is expected by October 2000. Gorham is undertaking its Flood Hazard mitigation planning initiative under FMAP in coordination with its Project Impact inspired All Hazards Mitigation planning process. The program has been (essentially) level funded for federal fiscal year 2001 which began on October 1, 2000.

The State has received and approved a Planning grant application from the Town of Holderness. The Town intends to work with the Lakes Region Planning Commission in the creation of their FMA plan.

FMA Program

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

Eligible Projects (44 CFR Part 78)

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

◆ PRE-DISASTER MITIGATION PROGRAM (PDM)

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

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

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

Here are the high points of the FY2003 PDM program:

The program will be administered by each State, with a base allocation of \$248,375 and additional funds available for competitive pre-disaster mitigation grants, technical assistance and program support for PDM.

Eligible projects include:

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

The emphasis for FY2003 will be on mitigation planning, to help localities meet the new planning requirements of the Disaster Mitigation Act of 2000.

Each State establishes grant selection criteria and priorities base on:

- The State Hazard Mitigation Plan
- The degree of commitment of the community to hazard mitigation
- The cost effectiveness of the proposed project
- The type and degree of hazard being addressed
- For project grants, “good standing” of the community in the National Flood Insurance Program

The funding is 75% Federal share, 25% non-Federal, except as noted below. The grant performance periods will be 24 months for planning grants. Draft mitigation plans must be submitted for review by FEMA within 18 months of award, and final mitigation plans must be submitted to FEMA before the end of the performance period. Special accommodations will be made for “small and impoverished communities”, who will be eligible for 90% Federal share, 10% non-Federal.

◆ DISASTER PREPAREDNESS IMPROVEMENT GRANT (DPIG)

FEMA and the State co-sponsor the DPIG Program, which supports the development and updating of disaster assistance plans and capabilities and promotes educational opportunities with respect to preparedness and mitigation. Authority: See Subchapter E. of 44 CFR.

Past DPIG initiatives include:

- Support of the position of Protection Planner/Hazard Mitigation Officer
- Installation of river gauges
- Support of the NH State Environthon School Program
- Coordinate the Voluntary Organizations Active in Disasters (VOAD) Program (See Resource Profile Annex) NHOEM via the DPIG has sponsored annual meetings with training workshops
- Sponsoring Dam Safety Training initiatives and work shops
- Production and distribution of a handbook for small embankment dam owners
- Inventory of the State's Dams
- Review of Dam Plans
- Sponsored extensive statewide, two day workshops for Granite State Incident Stress Debriefing Teams and funded educational materials
- Community visits and production of informational materials
- Assist with Plan Annex update for local Hazard Mitigation planning.
- Funding workshops for NH Road Agents in cooperation with the T2 program of the Technology Transfer Center at the University of New Hampshire

Present DPIG funded Hazard Mitigation initiatives

- Support the position of Protection Planner/Hazard Mitigation Officer
- Continued support of the Environthon Program
- Development of this Plan
- Providing Technical Assistance to State and local officials
- Development of Emergency Operations Plans (EOPs) for Significant and High Hazard dams

Future DPIG funded Hazard Mitigation initiatives

- Continued Support of the position of Protection Planner/Hazard Mitigation Officer
- Continued support of the Environthon Program
- Update and maintenance of this Plan
- Provide Technical Assistance to State and local officials
- Support of other planning, technical assistance and training as indicated
- Digitization of EOPs for the State's "Significant" and "High Hazard" dams to provide rapid access to information in Emergency situations and to facilitate Plan maintenance

Disaster Preparedness Improvement Grant

- Evaluate natural hazards on a continuing basis and develop programs and actions required to mitigate such hazards
- Provide Technical Assistance
- Grants to States of up to \$50,000 annually
- (50% State match - cash or in kind)

Eligible Projects Include:

- Evaluations of Natural Hazards
- Hazard Mitigation activities (i.e. Plan/policy/program/strategy development)
- Plan updates
- Handbooks: publications & distribution
- Creating exercise materials
- Developing standard Operating Procedures
- Training state employees
- Report of formal analysis of State Enabling legislation and authorities
- Update inventory of State/Local Critical Facilities
- Develop a tracking system of critical actions to be taken post-event
- Creating Damage Assessment Plans and defining procedures
- Developing Plans for Procedures when no Federal Aid is forthcoming
- Creating Plans for Search and Rescue Operations
- Developing Disaster accounting procedures

This list is not exhaustive

◆ COMMUNITY DEVELOPMENT BLOCK GRANT PROGRAM

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

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

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

Pursuant to Declaration DR-1199-NH, \$557,000 was made available to the State and pursuant to DR-119-NH, the grant award is targeted at \$1,500,000.

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

Community Development Block Grant

Projects must meet one of the three National Objectives:

- ◆ Provide a direct benefit to low and moderate income persons or households
- ◆ Prevent or eliminate slums and blight
- ◆ Eliminate conditions which seriously and immediately threaten the public health and welfare

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

Mitigation Programs of Other NH State Agencies

The following agencies of the State of New Hampshire are directly or indirectly involved in activities that include Hazard Mitigation Planning and/or program implementation.

NH Department of Transportation Bureau of Repair and Maintenance

NH OSP/NFIP Program

NH OSP Coastal Program

NH DRED Division of Forests and Lands

NH DES Water Resources Division—Dam Safety Program

NH DES Wetlands Program

NH DES Shoreline Protection Program

Appendix E: Documentation of the Planning Process

Recommended All Hazard/Fire Mitigation Committee Composition

Position	Level/ Group
US Forest Service	Federal
Fish and Game	State
Department of Transportation	State
DRED	State
RC&D (Non-Profit)	State
BEM	State
Commissioner	County
Planning Commission	County
Financial Planners	County
Agricultural/Farm Bureau	County
Sheriff	County
Disaster Management Coordinator	County
Grant Coordinators	County
University/College Forestry	County
Selectmen (Past/Present)	Local
Town Manager/Administrator	Local
Town Planner	Local
Police Chief	Local
Fire Chief	Local
EMD	Local
Emergency Services	Local
Fire Warden	Local
Health Services	Local
Education/School	Local
Recreation Directors	Local
Public Works Director	Local
Road Agent	Local
Water Management	Local
Public Utilities	Local
Zoning Board	Local
Communications Specialists	Local
Waste Management	Local
Dam Operators	Local

Recommended All Hazard/Fire Mitigation Committee Composition

Position	Level/ Group
Business Community	Local
Insurance	Local
Building Contractors	Local
Realtors	Local
Lodging	Local
Restaurant	Local
Sporting Goods	Local
Community Leaders	Local
Spiritual/Religious	Local
Citizens Groups	Local
Chamber of Commerce	Local
Knights of Columbus	Local
Masons	Local
Kiwanis	Local
Grange	Local
Special Interest	Local
Media	Local
Land Owners	Local
Home Owners	Local
Environmental	Local
Developers	Local
Builders	Local
Forest Management	Local
Timber Management	Local
Land Trust	Local
Sportsman's Groups	Local
Tourism Group	Local
Experts	Local
GIS	Local
Terrain	Local
Weather	Local
Geography	Local
Air Pollution	Local
Watershed Oversight	Local

***North Country Council, Inc.
Cottage at the Rocks
107 Glessner Road
Bethlehem, NH 03547
News Release***

FOR IMMEDIATE RELEASE

05-18-07

Contact: Dan Shallow
603-444-6303 ext 16

**TOWN OF CAMPTON COMMENCES
HAZARD MITIGATION PLANNING**

Starting on June 5th, the Town of Campton will be conducting a series of Hazard Mitigation Planning strategy meetings over the next two months. On April 20th, 2007, Dan Tobine the Campton Fire Chief and Emergency Management Director, Christopher Warn the Campton Police Chief and Robert Bain the Campton Road Agent met with a representative for the North Country Council to discuss three planning tools for the Town.

In the first program of its kind in the Northeast, North Country Council and the North Country (NCRC&D) and Southern New Hampshire Resource & Conservation Districts will work together with state and federal agencies to produce three plans under a single planning process. These planning processes are made possible through grants from the Federal Emergency Management Administration (FEMA) and the town's local dues.

North Country Council has been creating All-Hazard Mitigation Plans for communities in the North Country for more than five years. All-Hazard Planning is important to reduce losses resulting from natural disasters. The Federal Government has mandated that all local communities complete a local All-Hazard Mitigation Plan in order to qualify for FEMA funding needed to abate natural disasters when they occur. Disasters that will be addressed by the Planning Team that will be formed include issues such as flooding, hurricanes, drought, landslides and wild-fires.

New to the Council and the North Country is a Wildfire pilot program that the Council has developed with the coordination of the US Forest Service, DRED Division of Forests & Lands and the New Hampshire Bureau of Emergency Management. The ecological, social and economic costs of wildfires are escalating in the United States. In 2005, federal agencies alone spent \$875,713,000 for wildland fire suppression. While large scale wildfires are generally associated with western states, New Hampshire reported 495 wildfires in 2006. The Wildfire Mitigation plan will be an addendum to the All-Hazards Mitigation Plan that will be more in-depth and take the community through a sophisticated hazard planning analysis mapping a number of risk criteria to determine priorities in wild-fire mitigation.

The third component of the community planning process will be guided by NCRC&D through their Rural Fire Protection Initiative and support the Wildfire Plan. NCRC&D will develop a Water Resource Plan that will identify, evaluate and map water resource sites available, and prioritize adequate water drafting facilities for local and mutual aid fire personnel. The Water Resource Plan will provide additional analysis to assist in prioritizing projects within a community.

A Planning Team is currently being formed that will address all these issues through one planning process. The Planning Team will establish priorities, collaborate on activities, and increase public awareness and participation to reduce the hazard impacts within communities and surrounding lands. The first official meeting will held at 9:00 a.m. on 5 June 2007 at the Campton Fire Department. This meeting will cover an introduction to the planning process, formally introduce the Planning Team, discuss data collection, provide an overview of the process, consider all hazard and fire mitigation goals, review requirements for a list of critical facilities, and identify past hazards. This meeting is open to the public.

The general public is encouraged to attend all meetings. Information that would be beneficial to the planning process includes valuable knowledge of fire and other natural hazard history. Local site-specific knowledge of and experience with the terrain, past emergency issues, could save lives, time and money during emergencies.

If you are interested in participating or wish to be kept informed of the process please contact Chief David Tobine at 726-3300.

In an effort to reduce some of the costs of suppression and reduce the incidents of potential losses, the New Hampshire Bureau of Emergency Management has awarded both North Country Council and NCRC&D funding to assist communities in developing these plans. If you wish to have your community participate in this process please contact Dan Shallow at 444-6303 ext 16.

Founded in 1973, North Country Council is a non-profit regional planning commission serving 51 communities and 24 unincorporated places in the northern part of New Hampshire. North Country Council provides planning and economic development professional services and technical assistance to member communities made possible through numerous states, federal and private grant sources and membership dues.

All Hazards, Wildfire Mitigation & Water Resource Planning
Campton (Pre-Meeting Agenda)
04-29-07/9:00 a.m.—10:30 a.m.
Campton Fire Station

1. (5) Introductions
 2. (30) Review of Wildfire Planning Documents/Requirements
 - a. Attendance (Review Committee Membership Matrix)
 - There needs to be public input in the process.
 - NCC will ensure appropriate state, federal, and non-profit agencies are invited.
 - EMD or designated rep will identify community members to invite.
 - Understand you can't force people to attend; inviting may be best you can do
 - b. Wildfire Mitigation Goals
 - State or suggested goals but can be modified as community desires
 - Approval at first meeting
 - c. Meeting Agendas
 - Combining plans is a new process
 - We modify based on community desires
 - Need to be flexible
 - d. Critical Facility List
 - Create as part of All Hazard Plan
 - Example of how we try to make things easier for you
 - e. Property Assessment
 - Most time intensive portion for community
 - Identify assessed value of all parcels in WUI (Wildland/Urban Interface)
 - f. Review Memorandum of Understanding (MOU)
 3. (20) Water Resource Planning Process (Pat Tarpey/Karl Berardi)
 - Integrated within Wildfire Mitigation Process
 - Will need a couple of days with fire chief/representative to survey water issues
 4. (10) Key Planning Concepts
 - a. NCC will do everything to make this process as easy and efficient as possible
 - You are our customer
 - b. Preparation for meeting makes meetings more productive and efficient
 - Meeting with US Forest Service and NH Forests and lands for historic wildfires
 - Already have some data from US Forest Service
 - c. Community will determine the process and we will adapt our "model"
 - d. Communication process
 - Keep everyone in the loop
 - Don't step on anyone's toes
 - One POC (Point of Contact for community) NCC
 - e. Cost
 - No cost to community other than time invested
 - Grants pay for all three plans
 5. (5) Next Step (For Community)
 - a. Get MOU approved/signed
 - b. Select committee membership
 - c. Establish first meeting date, time, and location. (Length of first meeting depends on what you want to accomplish – generally overall introduction takes about one hour.)
 - Would be nice if area could support power point and has tables
 - Difficult thing is to establish date when most people can meet
 - Monday evenings generally don't work
 - Establish definite dates for balance of meetings at first meeting
 - d. Consider lead time for first meeting
 - Preparing to prepare is key to success
 - e. Obtain 911 Map Addresses
 6. (5) Next Step (NCC)
 - a. Press release
 - b. Letters for committee members with agendas and attachments (if POC wants)
 7. (15) Questions/Discussion
- James D. "Dan" Shallow, NCC Mitigation Planner, 444-6303 Ext 16, dshallow@nccouncil.org

All Hazards Mitigation, Wildfire Mitigation, Water Resource Planning Committee Meeting 1

Campton

06/05/07

Campton Fire Department

9:00 a.m. – 10:30 a.m.

1. (10) Introductions
 2. (15) Purpose/Establishment of Committee (Planning Step 1)
 - o Why selected to serve on the Committee?
 - o What we're doing and why?
All Hazard and Wildland
 3. (30) What is Hazard Mitigation Planning?
 - o Discussion on Hazard Mitigation
 - o Relationship of Hazard Mitigation and Fire Mitigation
 - o Roles and responsibilities
 - o Funding Sources
 - o Agency Coordination
What will we accomplish?
 4. (10) What must we do to prepare a Hazard Mitigation Plan?
 - o Agree on next committee meeting date
Review all meeting dates
 5. (10) Review and Adopt/Modify State Goals (Planning Step 1)
- For questions call: Dan Shallow, 444-6303 Ext 16

All Hazards Mitigation, Wildfire Mitigation, Water Resource Planning Committee

Campton Meeting #2 Agenda

Date: 06-26-07

Campton Fire Station

9:00 a.m. – 11:00 a.m.

1. (10) Introduction/Overview of Meeting
 2. (10) Address Water Resource Planning Issues
 - a. Determine Current Water Resource Locations
 - b. Review Process for Additional Locations
 3. (45) Identify Critical Resources
 - a. Review Chart and Plot on Map
 4. (45) Identify and Map Past Hazards
 - a. Wildfire
 - b. All Hazards
 5. (10) Discussion of WUI
 - a. Review WUI requirements
 - b. Explain and Review Draft Map
 6. (05) Wrap Up
 - a. Review accomplishments
 - b. Review tasks for next meeting
- For questions call: Dan Shallow, 444-6303 Ext 16

All Hazards Mitigation, Wildfire Mitigation, Water Resource Planning Committee
Campton Meeting #3 Agenda

Date: 07-24-07
Campton Fire Station
9:00 a.m. – 11:00 a.m.

1. (10) Introductions/Overview of Meeting
2. (10) Address Water Resource Planning Issues
 - a. Determine Current Water Resource Locations
 - b. Review Process for Additional Locations
3. (20) Review CI/KR for All Hazards
 - a. Select Wildfire CI/KR
 - b. Mapping will most likely not be completed by this meeting
4. (30) Identify and Map Past Hazards
 - a. Wildfire
 - b. All Hazards (We didn't get to this last meeting.)
5. (10) Discussion of WUI (If map is available.)
 - a. Review WUI requirements
 - b. Explain and Review Draft Map
6. (20) Discussion of Current Mitigation Strategies
7. (10) Wrap Up
 - a. Review accomplishments
 - b. Review tasks for next meeting

For questions call: Dan Shallow, 444-6303 Ext 16

All Hazards Mitigation, Wildfire Mitigation, Water Resource Planning Committee
Campton Meeting #4 Agenda

Date: 08-14-07
Campton Fire Station
9:00 a.m. – 11:00 a.m.*

1. (10) Introductions/Overview of Meeting
2. (10) Address Water Resource Planning Issues
 - a. Determine Current Water Resource Locations
 - b. Review Process for Additional Locations
3. (10) Review Updates Since Last Meeting
4. (40) Discussion of Current Mitigation Strategies
5. (40) Discussion Potential Mitigation Strategies
6. (10) Wrap Up
 - a. Review accomplishments
 - b. Review tasks for next meeting

*Pre-Meeting at 8:30 a.m. to discuss wildfire locations/causes.

For questions call: Dan Shallow, 444-6303 Ext 16

All Hazards Mitigation, Wildfire Mitigation, Water Resource Planning Committee
Campton Meeting #5 Agenda

Date: 08-28-07
Campton Fire Station
9:00 a.m. – 11:00 a.m.

1. (10) Introductions/Overview of Meeting
2. (10) Address Water Resource Planning Issues
 - a. Determine Current Water Resource Locations
 - b. Review Process for Additional Locations
3. (10) Review Updates Since Last Meeting
 - a. Map Review
4. (20) Discussion of Current Mitigation Strategies
5. (30) Discussion Potential Mitigation Strategies
6. (30) STAPLEE Process
6. (10) Wrap Up
 - a. Review accomplishments
 - b. Review tasks for next meeting

For questions call: Dan Shallow, 444-6303 Ext 16

All Hazards Mitigation, Wildfire Mitigation, Water Resource Planning Committee
Campton Meeting #6 Agenda

Date: 09-13-07
Campton Fire Station
9:00 a.m. – 11:00 a.m.

1. (10) Introductions/Overview of Meeting
2. (10) Address Water Resource Planning Issues
 - a. Determine Current Water Resource Locations
 - b. Review Process for Additional Locations
3. (20) Finalization of Potential Mitigation Strategies
4. (20) STAPLEE on Additional Potential Mitigation Strategies
5. (50) Categorization and Implementation Plan
6. (10) Wrap Up
 - a. Review accomplishments
 - b. Review tasks for next meeting

For questions call: Dan Shallow, 444-6303 Ext 16

All Hazards, Wildfire Mitigation, Water Resource Planning Committee
Campton Meeting # 7 Agenda

Date: 10-16-07
Campton Fire Station
9:00 a.m. – 11:00 a.m.

1. (45) Review of Campton All Hazards Mitigation Plan
 2. (45) Review of Campton Wildfire Mitigation Plan
 3. (15) North Country Council Overview
 4. (15) Team Feedback Opportunity
- For questions call: Dan Shallow, 444-6303 Ext 16

APPENDIX F

Approval letters from Campton Select Board, HSEM, and FEMA

Town of Campton, NH
A Resolution Approving the
Campton All-Hazards Mitigation Plan

Date _____, 2007

WHEREAS, the town of Campton received funding from the NH Homeland Security Emergency Management to assist in the preparation of the Campton All-Hazards Mitigation Plan; and

WHEREAS, several public meetings and committee meetings were held between April 2007 and October 2007 regarding the development and review of the Campton All-Hazards Mitigation Plan; and

WHEREAS, the Campton All-Hazards Mitigation Plan contains several potential future projects to mitigate hazard damage in the Town of Campton; and

WHEREAS, a public meeting was held by the Select Board on _____ to formally approve and adopt the Campton All-Hazards Mitigation Plan.

NOW, THEREFORE, BE IT RESOLVED that the Select Board approves the Campton All-Hazard Mitigation Plan.

APPROVED and SIGNED this _____

Chairman Select Board

Emergency Management Director

Seal of Authority

APPENDIX G: Campton Past and Present Hazards

See Inset Map

APPENDIX G: Critical Infrastructure/Key Resources

See Inset Map

APPENDIX H: Bibliography

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Town of Pittsburg, 2007

Town of Bethlehem, 2007

<http://www.fs.fed.us>

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