TOWN OF MORETOWN

HAZARD MITIGATION PLAN

Prepared by the Moretown Select Board
and Central Vermont Regional Planning Commission

March 2012

Adopted October 1, 2012

Town of Moretown, VT

Local Hazard Mitigation Plan Update

March 2012

Prepared by Town of Moretown and CVRPC

Contents

1. Introduction

The impact of expected, but unpredictable natural and human-caused events can be reduced through community planning. The goal of this Plan is to provide an all-hazards local mitigation strategy that makes the communities of Central Vermont more disaster resistant.

Hazard mitigation is any sustained action that reduces or eliminates long-term risk to people and property from natural and human-caused hazards and their effects. Based on the results of previous Project Impact efforts, FEMA and State agencies have come to recognize that it is less expensive to prevent disasters than to repeatedly repair damage after a disaster has struck. This Plan recognizes that communities have opportunities to identify mitigation strategies and measures during all of the other phases of emergency management – preparedness, response, and recovery. Hazards cannot be eliminated, but it is possible to determine what the hazards are, where the hazards are most severe and identify local actions that can be taken to reduce the severity of the hazard.

Hazard mitigation strategies and measures alter the hazard by eliminating or reducing the frequency of occurrence, avert the hazard by redirecting the impact by means of a structure or land treatment, adapt to the hazard by modifying structures or standards, or avoid the hazard by preventing or limiting development.

2. Purpose

The purpose of this Local Hazard Mitigation Plan is to assist the Town of Moretown in recognizing hazards facing the region and their community and identify strategies to begin reducing risks from acknowledged hazards.

Moretown strives to be in accordance the strategies, goals and objectives of the State Hazard Mitigation Plan, including an emphasis on proactive pre-disaster flood mitigation for public infrastructure, good floodplain and river management practices, and fluvial erosion risk assessment initiatives.

The 2012 Moretown Local Hazard Mitigation Plan is an update of the 2007 plan. The plan has been reorganized and new sections have been added regarding:

- Plan Update Process
- Plan Maintenance
- Dam Failure Hazard
- Hurricane/Tropical Storm/Severe Storm Hazard
- Winter Storm/Ice Storm Hazard
- Updates of Local Areas of Concern and Hazard Analysis Map
- Status update of 2007 mitigation strategies
- Identification of new mitigation strategies

3. Community Profile

The Town of Moretown is a small, rural, and residential, community located in west-central Washington County. It is bounded to the east by Berlin, to the south by Waitsfield and Northfield, to the west by Duxbury, and to the north by Waterbury and Middlesex. According to the 2010 Census, Moretown has a total population of 1,658 people living in 696 housing units. According to the Moretown Town Plan Moretown has a relatively dispersed population and is a rural community comprised of approximately 797 homes, nearly 90% of which are occupied on a year round basis. The Town's population has increased by less than 1% from the 2000 Census. The number of housing units has increased by 9.1% since 2000.

Moretown's 40.2 square miles are situated within the Winooski River watershed and due to the defining mountains and river valleys, stream tributaries drain into both the Dog River sub basin and the Mad River sub basin. To the east of the village rises Chase Mountain to an elevation of 2,080 feet, and to the northwest Mt Cobb, elevation 1,592 feet. As stated in the Moretown Town Plan "historically, the town's settlement patterns have been influenced by natural land forms and the distribution of natural features. Moretown is bisected by Route 100B which traverses a valley formed by the Mad River, running northeast to southwest. It is within this valley, in the southwestern region of the town, the Village of Moretown was settled in the late 1700's. The town garage, the town hall, the general store, the town offices, and the local elementary school are all located within the village, amongst a cluster of historic and contemporary homes. However, today the largest numbers of private residences are widely dispersed throughout the Town's rural lands. Residential development continues to be scattered in rural areas. Commercial development is occurring along Route 2 and at the intersection of Route 2 and 100 near the Waterbury and Duxbury town lines.

In Moretown, electricity is primarily provided by Washington Electric with Green Mountain Power servicing clients along the northern, eastern and western town boundaries. The majority of Moretown is dependent upon groundwater for its domestic water supply and individual on-site septic systems for wastewater treatment.

The Town's principal fire coverage is provided by the Moretown Volunteer Fire Department (WVFD), which also provides support to portions of the Town of Duxbury. Moretown has also entered into agreements with the Waterbury Fire Department to assist with emergencies that are in proximity to Waterbury. According to Moretown's 2010 Town Report the WVFD responded to 29 calls for emergency assistance. Montpelier Ambulance Service and the Mad River Valley Ambulance Service provide ambulance service to Moretown. The ambulance services responded to 49 calls for assistance within the Town of Moretown in 2010. In regards to law enforcement, the Washington County Sheriff's Department, the Vermont State Police and the Town Constable provide law enforcement for the Town of Moretown. The Town of Moretown has an approved Rapid Response Plan that was adopted in 2011 plus the Moretown Elementary School has an emergency evacuation plan which is in the process of being updated.

The Town Plan includes descriptions, goals, policies, tasks and strategies in regards to flooding, groundwater protection, steep slope development, and transportation and emergency services.

Moretown Zoning Regulations, last amended in March 2011, include a Flood Hazard Area Overlay District (last amended in March 2008), the purpose of which is to promote public health, safety and welfare by preventing or minimizing hazards to life or property due to flooding and provisions for stream, stream bank and wetland protection.

4. Planning Process and Maintenance

4.1 Planning Process

The Central Vermont Regional Planning Commission (CVRPC) coordinated the Moretown Local Hazard Mitigation Plan process. Cheryl Brown, Select Board Assistant, contacted CVRPC to set up a hazard mitigation meeting. CVRPC sent Town-Specific hazard mitigation material for review. After assessing the material, Cheryl and CVRPC staff held a meeting along with members of the community on January 13, 2012 at the Municipal Offices. The Moretown Hazard Mitigation Meeting focused on assessing past mitigation projects and compiling information on its current and future hazard mitigation programs, projects and activities.

Attendees included:

- Cheryl Brown, Select Board Administrative Assistant
- Jonathan Siegel, Planning Commission Chair
- Deborah Feldman, Zoning Administrator
- Jen Mojo, CVRPC

The meeting indicated that the Town is most vulnerable to flooding and hurricanes/severe storms. Moderate threat hazards include landslide and extreme cold/winter storms/ice storm. Previously identified hazards include flooding, dam failure, transportation accidents, and hazardous materials. Moretown feels dam failure, transportation accidents, and hazardous materials are no longer significant hazards because of Town wide changes that have been made over the course of the past 5 years (see appendix A for description of previous hazards.) Dam failure is not considered a hazard due to ongoing communications with Green Mountain Power. The Rapid Response plan addresses issues with hazardous materials and transportation accidents. The Town is now focusing on flooding hazards as these events are the most common.

Once the draft was updated, CVRPC placed a notice for public comments of the draft update on the CVRPC blog and newsletter. The draft update was also available was at Moretown Municipal offices and by request from CVRPC for public review and comments from 1/24/2012 to 2/1/2012. The announcement of the draft update in the CVRPC newsletter reached over 150 people and businesses in the Region's 23 towns, including the adjacent towns of Waterbury, Duxbury, Middlesex, Berlin, Waitsfield, and Northfield. No comments were received. Public comments submitted in the future will be reviewed by the Planning Commission Chair (and CVRPC Staff dependant on funding) and attached as an appendix. In the future, the draft plan will be made available during Town Meeting Day and local meetings with State and local officials to allow for more public comment and review. After Approval Pending Adoption, the plan will go before the Select Board for adoption.

4.2 Plan Update Process

The Moretown Local Mitigation Plan was originally adopted by the Town as an Annex to the Central Vermont Regional Pre Disaster Mitigation Plan in September 2007 and received FEMA final approval in October 2007. The 2012 update is intended to be submitted as a single jurisdiction local mitigation plan.

The current plan is an extensive update of the 2007 plan. Below is a list of the revisions that have been made from the past plan and the appropriate sections for reference. New hazards identified include dam failures and hurricanes/tropical storms/severe storms.

General Updates

- General reorganization/restructuring of the plan according to future FEMA/VEM checklist
    - New sections added – 4.2 Plan Update Process, 4.3 Plan Maintenance, 5.2 Hurricane/Severe Storms, 5.3 Moderate Threat Hazards – Landslide, Extreme Cold/Winter Storm/Ice Storm
- Update of all data and statistics using 2010 Town Report and US Census Data (Section 3)
- Revaluation, identification and analysis of all significant hazards (Section 5)
- Acknowledgment of implemented mitigation strategies since 2007 – see matrix below (section 4.2)
- Identification of on-going mitigation projects and strategies – see Existing Mitigation Programs, Projects and Activities section (section 4.2)

Hazard Analysis Updates (Sections 5 and 6)

- New hazards added – hurricane/severe storms, landslide, extreme cold/winter storm/ice storm
- Added location/vulnerability/extent/impact/likelihood table for each hazard to summarize hazard description (Section 5.1-5.3 – after each hazard)
- Review of Vermont Hazard Mitigation Plan (Section 5 – hazard analysis table)

Maps

- Review of 2007 Areas of Concern map

Preparation for the meeting included a review of Moretown's adopted planning documents, including the Moretown Town Plan, the Moretown Zoning Regulations, the Moretown Rapid Response Plan, Mad River Corridor Plan, and Mad River Phase II SGA 2008.

The following chart provides an overview of Moretown's proposed 2007 local hazard mitigation actions along with their current status. Additionally since the 2007 plan, Moretown has revised their flood hazard area regulations to maintain NFIP compliance.

2007 Mitigation Action	2012 Status
Raise the section of River Road between Route 100B and Jacob Road above area of local flooding.	Phases I – III completed. Looking for funding to completed Phase IV
Gain American Red Cross shelter certified for the Moretown Elementary School and purchase emergency food supplies for the interim.	Still interested, working with school
Revise the School Emergency Evacuation Plan.	Still interested
Purchase a back-up generator for the Moretown Elementary School.	Still interested – lack of funding
Undertake a floodplain study within the village to more accurately delineate floodplain. Then develop a flood proofing program for local government buildings, emergency service facilities.	Zoning administrator is working with ANR and State NFIP coordinator on new floodplain maps and identifying flood proofing strategies
Undertake a dam breaching study to outline potential damage and emergency response for the Moretown /Middlesex hydro-electric facility and the Mad River hydro-electric facility. Then remove structures from risk.	Dam is responsibility of power company, low priority
Realign or relocate dangerous intersections and sections of roads to decrease the threat of transportation related hazardous materials spills.	High priority – town needs funding to purchase property at Route 100b/Moretown Mtn Rd, traffic study was performed in 2009 Traffic study being performed at Route 100/2 intersection
Ensure active hazardous waste sites are investigated and remediated in a timely fashion and install equipment or include processes at the facility to prevent a release of hazardous	Town has worked with DEC to improve communications amongst State, Town and landfill owners. Town is now informed when hazardous materials are considered being sent to landfill.

materials, or minimize the amount of materials actually reaching the town.	

Existing Hazard Mitigation Programs, Projects & Activities

The ongoing or recently completed programs, projects and activities are listed by mitigation strategy.

Community Preparedness Activities

- Rapid Response Plan – 2011
- Capital Improvement Plan
- Elementary School Evacuation Plan

Hazard Control & Protective Works

- Culvert & Bridge Inventory - 2011
- Mutual Aid Agreement

Insurance Programs

- Participation in NFIP

Land use Planning/Management

- Town Plan
    - Transportation Policies (specifically in reference to High Accident Locations and locally identified accident locations, see Hazard Analysis and Areas of Local Concern maps)
        - 3) The Planning Commission should encourage the Select Board to adopt the Vermont State Standards for the Design of Transportation Construction and Rehabilitation on Freeways, Roads and Street, October 1997.
        - 7) Conduct a road inventory and develop a long-term road maintenance program.
- Zoning Ordinance
    - Table 2.4 Preserve District
        - The Purpose of the Preserve District is to protect significant forest resources and water supply watersheds at higher elevations and to limit development in areas with steep slope, shallow soils, unique or fragile resources, and poor access to Town roads and community facilities and services.
    - Table 2.5 Flood Hazard Overlay District
        - The Purpose of the Flood Hazard Overlay District is to promote public health, safety and welfare by preventing or minimizing hazards to life or property due to flooding.

- Section 4.11 Protection of Streams, Stream banks and Wetlands
  - To prevent soil erosion, protect wildlife habitat and maintain water quality, land development hall be setback a minimum of twenty five feet from all streams and rivers to create a buffer strip
  - A naturally vegetated buffer strip shall be maintained, of at least fifty feet in uniform width, for Class Two wetlands, and one hundred feet in uniform, for Class One wetlands.
- Section 4.13 Storage of Flammable Commodities
  - The storage of any highly flammable liquid or gas in tanks above ground, excluding tanks for residential purposes, with unit capacity greater than two thousand (2,000) gallons shall be prohibited, unless such tanks up to and including ten thousand (10,000) gallon capacity are placed not less than eighty (80) feet from all property lines, and unless all such tanks of more than ten thousand (10,000) gallon capacity are placed not less than two hundred (200) feet from all property lines.
  - All tanks (containing flammable liquids) having a capacity greater than two thousand (2,000) gallons shall be properly retained with dikes having a capacity not less than one and one-half (1.5) times the capacity of the tanks surrounded.

- Assessment of Fluvial Geomorphology in Relation to Erosion and Landslides in the Mad River Watershed in Central Vermont, June 3, 2003.
- Mad River Phase I and II SGA – March, 2008

Protection/Retrofit of Infrastructure and Critical Facilities

- New Fire Station constructed in 2005

Public Awareness, Training & Education

- Fire safety educational programs
- Motor vehicle accident response training
- First responder CPR & hazmat trainings

4.3 Plan Maintenance Process

The Moretown Local Hazard Mitigation Plan will be updated and evaluated annually at an April Planning Commission and Select Board meeting. Updates and evaluation by the Planning Commission Chair will also occur within three months after every federal disaster declaration and as updates to town plan/zoning and river corridor plans come into effect. The plan will be reviewed by the Planning Commission, Select Board and public at the abovementioned April Select Board meeting. CVRPC will help with updates or if no funding is available, the Planning Commission Chair will update the plan.

The process of evaluating and updating the plan will include continued public participation through public notices posted on the municipal website, notice in the municipal building, Front Porch Forum, Valley Report, Times Argus, Waterbury Record, 3 public notice bulletin boards in Moretown and CVRPC newsletter and blog inviting the public to the scheduled Select Board (or specially scheduled) meeting. Additional stakeholders invited to the meeting will be the School, library, Irene affected residents, Friends of the Mad River, and the landfill owners. Also invited in the future will be the VT Agency of Natural Resources (VT ANR), as they are able to provide assistance with NFIP outreach activities, models for stricter floodplain zoning regulations, delineation of fluvial erosion hazard areas, and other applicable initiatives. These efforts will be coordinated by the Planning Commission Chair

Monitoring of plan progress, implementation, and the 5 year update process will be undertaken by the Planning Commission Chair. Monitoring updates may include changes in community mitigation strategies; new town bylaws, zoning and planning strategies; progress of implementation of initiatives and projects; effectiveness of implemented projects or initiatives; and evaluation of challenges and opportunities. If new actions are identified in the five year interim period, the plan can be amended without formal re-adoption during regularly scheduled Select Board meetings. After a five year period, the plan will be submitted for re-adoption following the process outlined the schematic found in the Attachments section.

Moretown shall also consider incorporation of mitigation planning into their long term land use and development planning documents. It is recommended the Town review and incorporate elements of the Local Hazard Mitigation Plan when updating the municipal plan, zoning regulations, and flood hazard/FEH bylaws. The incorporation of the Local Hazard Mitigation Plan into the municipal plan, zoning regulations and flood hazard/FEH bylaws will also be considered after declared or local disasters. The Town shall also consider reviewing future Mad River Corridor planning documents for ideas on future mitigation projects and hazard areas.

5. Risk Assessment

5.1 Hazard Identification and Analysis

The following natural disasters were discussed and the worst threat hazards were identified based upon the likelihood of the event and the community's vulnerability to the event. Hazards not identified as a "worst threat" may still occur. Greater explanations and mitigation strategies of moderate threat hazards can be found in the State of Vermont's Hazard Mitigation Plan.

Hazard	Likelihood [1]	Community Vulnerability [2]	Worst Threat
Landslide	Med	No	
Dam Failures	Low	No	
Drought	Low	No	
Earthquake	Low	No	
Extreme Cold/Winter Storm/Ice Storm/Power Failure	High	No	
Flash Flood/Flood/Fluvial Erosion	High	Yes	X
High Wind	Low	No	
Ice Jam	Med	no	
Hurricane/Tropical Storm/Severe Storms	Med	Yes	X
Structure Fire	Low	No	
Tornado	Low	No	
Water Supply Contamination	Low	No	
Wildfire/Forest Fire	Low	No	

The following hazards were found to be most significant in the Town of Moretown:

- Flood/flash flood/fluvial erosion
- Hurricane/tropical storm/severe storms

Moderate threat hazards include:

- Landslide
- Extreme cold/winter storm/ice storm
- Ice jam

A discussion of each significant hazard is included in the proceeding subsections and a map identifying the location of each hazard is attached (See map titled *Areas of Local Concern.*) Each subsection includes a list of past occurrences based upon County-wide FEMA Disaster Declarations (DR-#) plus information from local records, a narrative description of the hazard and a hazard matrix containing the following overview information:

[1] High likelihood of happening: Near 100% probability in the next year.
Medium likelihood of happening: 10% to 100% probability in the next year or at least once in the next 10 years.
Low likelihood of happening: 1% to 10% probability in the next year or at least once in the next 100 years.

[2] Does the hazard present the threat of disaster (Yes)? Or is it just a routine emergency (No)?

Hazard	Location	Vulnerability	Extent	Impact	Probability
Type of hazard	General areas within municipality which are vulnerable to the Identified hazard.	Types of structures impacted	Magnitude of hazard: Scale dependent on hazard	Dollar value or percentage of damages	Likelihood of hazard occurring based upon past events: HIGH = 10% to 100% probability within the next year or at least once in the next 10 years. MED = less than 10% to 100% probability within the next year or less than once in the next 10 years.

5.2 Worst Threat Hazards

Flood/Flash Flood/Fluvial Erosion

History of Occurrences: (Mad River Valley encompasses the towns of Waitsfield, Warren, Moretown and Fayston. The Mad River flood gauge is located in Moretown. Information from NCDC website)

Date	Event	Location	Extent
8/28/2011	Flash Flood (TS Irene)	Moretown; Washington County	Mad River flood gauge at 19.07 feet; 10.07 feet above flood stage (flood stage is 9 feet) DR 4022
5/20/2011	Flash Flood	Washington County, Moretown	4" of rain, not a historical crest - DR 1995
3/6/2011	Flood; ice jams	Moretown; Washington County	1-2" of rain followed by ~15" of snow
10/1/2010	Flood	Moretown, Washington County	4-5" of rain, Mad river gauge at 10.39 ft
8/2/2008	Flash Flood	Washington County (Mad River Valley)	Mad River gauge at 7.89 feet – DR 1790
3/15/2007	Flood; ice jams	Mad River Valley	Mad River Gauge at 13.5 ft
12/24/2003	Flood	Mad River Valley	Mad River flood gauge at 14.17 feet DR 1448
12/17/2000	Flood	Mad River Valley	3" of rain; no data for Mad River gauge
6/27/1998	Flash Flood	Mad River Valley	3-6" of rain over 2 day period – Mad River flood gauge at 14.13 feet, 2-3 ft of water on Rte 100b

			through Moretown Village - DR1228
8/6/1995	Flood	Mad River Valley	Mad River flood gauge at 8.12 feet DR 1063
3/31/1987	Flood	Mad River Valley	Mad River flood gauge at 11.97 feet
3/13/1977	Flood; ice jams	Mad River Valley	Mad River flood gauge at 13.72 feet
8/5/1976	Flood	County Wide	Mad River flood gauge at 13.47 feet DR 518
9/22/1938	Flood	County Wide	Mad River flood gauge at 16.34 feet
11/03/1927	Flood	County Wide	Mad River flood gauge at 19.40 feet

Flooding/flash flooding/fluvial erosion is Moretown's most commonly recurring hazard. Flooding is the overflowing of rivers, streams, drains and lakes due to excessive rain, rapid snow melt or ice. Flash flooding is a rapidly occurring flood event usually from excessive rain. Fluvial erosion is the process of natural stream channel adjustments. Fluvial erosion causes erosion of sediment in some areas, while causing aggradation of sediment in other. Fluvial erosion processes occur more quickly and severely during flood events.

The worst anticipated flooding is unknown in the low lying areas in Town of Moretown. The worst flooding event in Moretown's recorded history occurred in 1927, followed closely by T.S. Irene in 2011. The Mad River flood gauge readings during these events were 19.4 and 19.07, respectively. Detailed historical records relating to the extent of the 1927 flood in Moretown are not available, but were believed to be 2-3 feet higher than Irene; during T.S. Irene up to 7 feet of flooding occurred in Moretown Village. Lesser but more regular flooding occurs in Moretown, with generally 1 foot of flooding in low lying areas every two or three years. In the future, Moretown can better gather data for flooding extent by having individuals call in flood levels in areas around the Town. According to the Moretown River gauge, at the following water levels, the impact to the surrounding areas will be:

Water level (ft)	Impact
13.5	ABOUT 4 FEET OF WATER WILL COVER ROUTE 100 SOUTH OF MORETOWN...NEARLY REACHING A TRAILER PARK.
12	AT 12 FEET...ROUTE 100 WILL BE COVERED WITH WATER IN MORETOWN...ROUTE 100B WILL BE PARTIALLY COVERED. WATER WILL INUNDATE TELEPHONE FLATS NEAR WAITSFIELD.

9	AT 9 FEET...THE MAD RIVER BEGINS TO LEAVE ITS BANKS. FIELD FLOODING OCCURS BETWEEN WAITSFIELD AND MORETOWN...AND SOME LOCAL ROADS WILL FLOOD.

With approximately 7.5 miles of the main stem flowing through the Moretown, the Mad River is the most prominent body of water with the town boundaries. The Mad River originates in Granville Gulf and flows in a northerly direction through Moretown Village and along Vermont Route 100B. The town's northern boundary is formed by over 7 miles of frontage on the Winooski River. Several streams originating in Moretown's upland areas converge with the Mad and Winooski River.

The majority of Moretown's development is located in the Mad River valley. Based on the results of overlaying the FIRM flood maps with the location of E911 points, there are 430 properties that are located within the National Flood Insurance Program's designated 100- year floodplain. The estimated loss for a severe flooding event for all properties located within the town's 100-year floodplain is approximately $64,779,500. There are no repetitive loss properties in Moretown. Moretown's FIRM was effective starting 3/1/1984. The Hazard Analysis Map (attached) identifies the Moretown Town Offices, the Catholic Church, and Moretown Fire Department, all within the designated flood plain. (See area of local concern.) The Town participates in the NFIP program and has a total of 28 active policies with a total coverage amount of $6,813,800. The Zoning Administrator is responsible for enforcing the flood hazard regulations.

As previous events have made clear, however, even areas beyond the NFIP designated 100-year floodplain may be vulnerable to flood related hazards. The Town has 25 properties in the fluvial erosion hazard zone, totaling $3,766,250. Information gathered from the Moretown Planning Commission indicated the following stretches of road have experienced flood-induced washouts. They are:

1) A small stretch of road on River Road by (phase IV of River Road project);
2) Low lying area of Lovers Lane;
3) Section of Route 100B north of Murphy Road; and
4) Section of Route 100b south of Moretown Bridge B2

During the spring thaw Moretown roads are also susceptible to flooding due to ice jams. Natural geological features and flood-plain encroachments restrict ice to move freely downstream and cause water to back up on to the following stretches of road:

1) Section of Route 100B south of the Ward swimming hole;
2) Section of Route 100B at the northern intersection of Old Route 100B Road;
3) Section of Route 100 B between Bridge Road and Stevens Brook Road.

Natural geologic features, flood-plain encroachments, seasonal flash flooding and undersized culverts flooding in Moretown undermines the stability of low lying roads and isolates rural residents from emergency services. (See Areas of Local Concern Map)

Moretown experienced heavy flooding in August 2008 event (DR 1790). During that event several roads and associated culverts were severely damaged due to flash flooding of smaller brooks. These areas include:

- Moretown Mountain Road (20 foot gorges along length of road, box culvert damaged and replaced)
- Dickerson Road – impassable for about a month
- Ward Brook Rd

The records for all events were lost in TS Irene. It is believed the Town incurred over $200,000 of damages during the August 2008 event.

During the May 2011 event, Moretown experienced minimal damages on Herring Brook Road. The road was undermined and several culverts were washed out. The damages cost $35,000.

During Tropical Storm Irene, Moretown experienced flooding of up to 8 feet within the Village from the Mad River. Route 2 along the Winooski River was also severely flooded with floodwaters up to 20 feet in some areas. Flood waters were above normal predicated levels due to debris blocking bridges and culverts.

The following roads and buildings were damaged during TS Irene:

- Moretown Fire Station (8 ft of water)
- Moretown Town Hall (5 ft of water on ground level)
- Ward Brook Rd
- Route 2
- Bridge Rd – lost entire bridge – est. $1 million to replace
- Moretown Mountain Rd
- Moretown Common Rd
- Route 100b (3 bridges)
- Williams Rd
- Tarts Rd
- Lovers Lane
- Butternut Hill Rd
- Dickerson Rd
- Gove Rd
- Jones Brook Rd
- Doctor's Brook Rd
- Herring Brook Rd
- Howes Rd
- McGibbons Rd
- Hathaway Rd
- Salaki Rd

It is estimated that Moretown incurred $1.8 million in public infrastructure damage. Private property damages have yet to be calculated; however, 52 homes were flooded.

Hazard	Location	Vulnerability	Extent	Impact	Probability
Flooding	Floodplain and see above road locations	Culverts, bridges, road infrastructure, private property	TS Irene - ~6" of rain, Mad River flood gauge at 19.07 feet; 9 ft is flood stage	Over $1.8 million from TS Irene; ~$65 million in floodplain properties	High

Hurricane/Tropical/Severe Storms

History of Occurrence: (Mad River Valley encompasses the towns of Waitsfield, Warren and Fayston)

Date	Event	Location	Extent
8/28/2011	Tropical Storm, Flash Flood (TS Irene)	Moretown; Washington County	Mad River flood gauge at 19.07 feet; 10.07 feet above flood stage (flood stage is 9 feet) – DR 4022
7/06/2011	Thunderstorm	Washington County	50 knot winds; 15,000 people in VT lost power
5/26/2011	Hail/Thunderstorms/Flash Flooding	Moretown; Washington County	1" hail, 25,000 customers lost power in VT, 3-5" of rain, not a historical Mad river crest DR 4001
8/9/2010	Thunderstorm/Wind/Hail	Moretown	50 knot winds
7/21/2010	Hail	Washington County (Mad River Valley)	1" Hail
7/18/2008	Hail	Mad River Valley	1" Hail, 30 knot winds
7/9/2007	Hail, thunderstorms	Mad River Valley	Baseball sized hail DR 1715
7/1/2006	Hail, thunderstorms	Mad River Valley	1" Hail, severe t-storms
9/29/2005	Severe thunderstorms	Mad River Valley	Downed trees and power lines, 35 knot winds
9/16/1999	Tropical Storm Floyd	Statewide	Tropical storm winds and flooding
7/22/1999	Hail, Thunderstorms	Mad River Valley	1.5" hail, severe t-storms
6/27/1998	Severe Storms	County Wide	Mad River gauge 14.13 ft DR 1228
7/15/1997	Severe Storms	County Wide	3-5" of rain, Not a historical crest

5/19/1982	Thunderstorm winds	County Wide	56 knot winds
7/3/1964	Hail	County Wide	1.5" hail
9/22/1938	Hurricane	Statewide	Category 1 force winds

Hurricanes and tropical storms are violent rain storms with strong winds that have large amounts of rainfall and can reach speeds up to 200 mph. Hurricane season is between the months of June and November. These types of storms originate in the warm waters of the Caribbean and move up the Eastern seaboard where they lose speed in the cooler waters of the North Atlantic. A severe thunderstorm is a thunderstorm that contains any one or more of the following three weather conditions: hail that is 3/4 of an inch or greater in diameter, winds 58 miles per hour or greater, and/or tornadoes. Severe storm events can occur late spring and early summer as temperatures increase in the summer season. The frequency and intensity of hurricanes, tropical storms, and severe storms is expected to increase with climate change.

Similar to flooding, the extent of severe storms is not well documented in the Town of Moretown. The Town lost all of its records during Irene. The impact of storms is usually flood related. See flood extent description in flood section above. Wind extent from storms is not well documented as there is no monitoring station in Moretown. Estimates for wind are gathered from county wide data off the NCDC website. In the future, Moretown could consider installing a monitoring station or training staff as spotters to better gather data for wind and severe storm events.

On Aug 28, 2011, Tropical Storm Irene hit Vermont and proceeded to deposit 4-5" of rain over Moretown. See the flooding section for damage from Irene and other flooding and severe storm events.

The Town adopted new road and culvert standards and is now focusing on upsizing all culverts and having hydraulic studies performed on culverts that are repeatedly flooded. Wind during Irene was not a problem; however, high winds can knock down trees and power lines causing power loss.

Hazard	Location	Vulnerability	Extent	Impact	Probability
Hurricane/ Tropical/ Severe Storms	Town Wide for Wind impacts, see flooding above for locations	Large trees, power lines, culverts/ bridges	~6" rain – TS Irene ; Mad River flood gauge at 19.07 feet; 9 ft is flood stage	Data gap – depends on severity	Medium

5.3 Moderate Threat Hazards

Landslide

A landslide is the sliding of a large mass of rock material, soil, etc., down the side of a mountain or cliff. Landslides can be caused by rainstorms, fires, alternate freezing or thawing and/or by the steepening of slopes by erosion or human modification.

To date Moretown has not had a major landslide. The extent of the landslides cannot be determined as there is no historical data to base estimates. Extensive soil and geological studies have yet to be performed as well. In the future, Moretown can more closely monitor areas which are determined to be susceptible to landslides. The worse landslide Moretown could experience would be a level 7 on the Alexander Scale for Landslide Damage. Landslides that do occur can be recorded using the following Alexander scale to ensure accuracy and continuity of records:

Alexander Scale for Landslide Damage

Level	Damage	Description
0	None.	Building is intact
1	Negligible.	Hairline cracks in walls or structural members; no distortion of structure or detachment of external architectural details
2	Light.	Buildings continue to be habitable; repair not urgent. Settlement of foundations, distortion of structure, and inclination of walls are not sufficient to compromise overall stability.
3	Moderate.	Walls out of perpendicular by one or two degrees, or there has been substantial cracking in structural members, or the foundations have settled during differential subsidence of at least 15 cm; building requires evacuation and rapid attention to ensure its continued life.
4	Serious.	Walls out of perpendicular by several degrees; open cracks in walls; fracture of structural members; fragmentation of masonry; differential settlement of at least 25 cm compromising foundations; floors may be inclined by one or two degrees or ruined by heave. Internal partition walls will need to be replaced; door and window frames are too distorted to use; occupants must be evacuated and major repairs carried out.
5	Very Serious.	Walls out of plumb by five or six degrees; structure grossly distorted; differential settlement has seriously cracked floors and walls or caused major rotation or slewing of the building [wooden buildings are detached completely from their foundations]. Partition walls and brick infill will have at least partly collapsed; roofs may have partially collapsed; outhouses, porches, and patios may have been damaged more seriously than the principal structure itself. Occupants will need to be re-housed on a long-term basis, and rehabilitation of the building will probably not be feasible.
6	Partial Collapse.	Requires immediate evacuation of the occupants and cordoning of the site to prevent accidents with falling masonry.
7	Total Collapse.	Requires clearance of the site.

The location Moretown is concerned about is on the backside of the Moretown Common Rd. The area is about 150 feet in length and undergoing rapid soil erosion. The affected area is on the lower side of the road, which may lead to the eventual undermining and loss of that portion of road.

Hazard	Location	Vulnerability	Extent	Impact	Probability
Landslide	Moretown Common Rd	Road infrastructure	Data gap	Data gap	Medium

Extreme Cold/Winter Storm/Ice Storm

History of Occurrences (county wide)

Snow and/or ice events occur on a regular basis during the winter months. Recent significant events have included:

Date	Event	Location	Extent
3/6/2011	Winter storm	County wide	15-25" of snow, 10,000 customers lost power statewide
2/23/2010	Winter Storm	County wide	20" of snow and 50,000 customers lost power statewide
2/22/2009	Winter Storm	County Wide	16" of snow, 30 mph wind gusts
2/1/2008	Winter storm	County wide	3-7" of snow and ice ¼-1/2"thick, 50 mph wind gusts
2/14/2007	Winter storm	County wide	22" of snow
2/14/2006	Winter storm	Moretown, County Wide	30" of snow
1/4/2003	Winter storm	County wide	19" of snow
3/5/2001	Winter storm	County wide	15-30" of snow
12/31/2000	Winter storm	County wide	10" of snow
1/15/1998	Winter storm	County wide	10-12" snow (not a DR in Washington County)
12/29/1997	Winter storm	County wide	21" of snow
12/7/1996	Winter Storm	County wide	12" of snow
3/21/1994	Winter storm	County Wide	5-11" of snow
11/1/1993	Winter storm	County wide	15" of snow
1/3/1993	Freezing Rain	Statewide	¼-1/2" of ice formed

A winter storm is defined as a storm that generates sufficient quantities of snow, ice or sleet to result in hazardous conditions and/or property damage. Ice storms are sometimes incorrectly referred to as sleet storms. Sleet is similar to hail only smaller and can be easily identified as frozen rain drops (ice pellets) that bounce when hitting the ground or other objects. Sleet does

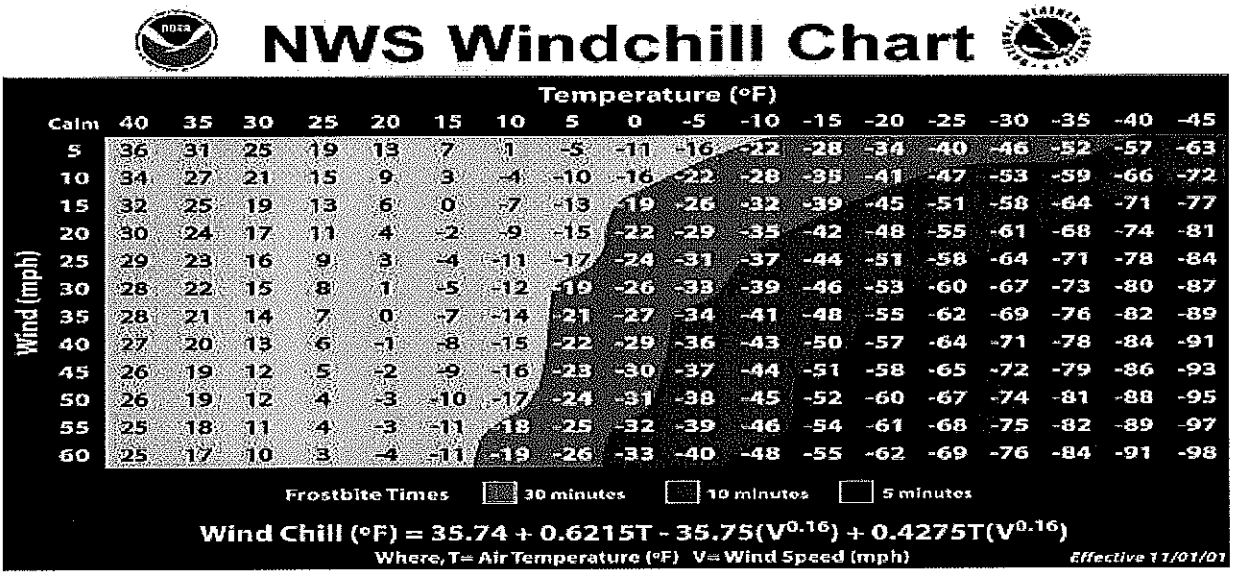
not stick to wires or trees, but in sufficient depth, can cause hazardous driving conditions. Ice storms are the result of cold rain that freezes on contact with the surfaces coating the ground, tress, buildings, overhead wires and other exposed objects with ice, sometimes causing extensive damage. Periods of extreme cold tend to occur with these events.

The extent of winter storms on Moretown is difficult to estimate as it is dependent on the size and path of the storm. The physical impacts of winter storms are town wide due to the expansive nature of winter storms. Based on past occurrences, the worst anticipated winter weather Moretown could experience would be 2-3' of snow with more at higher elevations. The worst recent storm was in March 2011, and after that the Blizzard of 1888. For the next plan update, Moretown will more closely monitor winter storms to determine the worst impacts possible on the Town. Scales to measure the extent of winter storms are:

Extent Scale - Winter Weather Alerts

Winter Weather advisory	This alert may be issued for a variety of severe conditions. Weather advisories may be announced for snow, blowing or drifting snow, freezing drizzle, freezing rain, or a combination of weather events.
Winter storm watch	Severe winter weather conditions may affect your area (freezing rain, sleet or Heavy snow may occur separately or in combination).
Winter Storm Warning	Severe winter weather conditions are imminent.
Freezing rain or freezing drizzle	Rain or drizzle is likely to freeze upon impact, resulting in a coating of ice Glaze on roads and all other exposed objects.
Sleet	Small particles of ice usually mixed with rain. If enough sleet accumulates on the ground, it makes travel hazardous.
Blizzard Warning	Sustained wind speeds of at least 35 mph are accompanied by considerable falling or blowing snow. This alert is the most perilous winter storm with visibility dangerously restricted.
Frost/freeze warning	Below freezing temperatures are expected and may cause significant damage to plants, crops and fruit trees.
Wind Chill	A strong wind combined with a temperature slightly below freezing can have the same chilling effect as a temperature nearly 50 degrees lower in a calm atmosphere. The combined cooling power of the wind and temperature on exposed flesh is called the wind-chill factor.

Wind Chill Extent Scale



One of the major problems associated with ice storms is the loss of electrical power. Major electric utility companies have active, ongoing programs to improve system reliability and protect facilities from damage by ice, severe winds and other hazards. Typically, these programs focus on trimming trees to prevent encroachment of overhead lines, strengthening vulnerable system components, protecting equipment from lightning strikes and placing new distribution lines underground.

Other major problems include closed roads and restricted transportation.

By observing winter storm watches and warnings, adequate preparations can usually be made to lessen the impact of snow, ice and sleet, and below freezing temperature conditions on the Town of Moretown. Providing for the mass care and sheltering of residents left without heat or electricity for an extended time and mobilizing sufficient resources to clear broken tree limbs from roads, are the primary challenges facing community officials. Moretown should plan and prepare for these emergencies. That planning and preparedness effort should include the identification of mass care facilities and necessary resources such as cots, blankets, food supplies and generators, as well as debris removal equipment and services. Moretown Elementary and Municipal Offices are the town shelters. Additional shelters are located in the neighboring town of Waitsfield at Harwood Union High School.

Hazard	Location	Vulnerability	Extent	Impact	Likelihood
Winter Storm/Ice Storm	Town Wide	Utilities, trees, roads, old/under insulated structures	18+" snow in March 2011 storm, depends on severity	5-10% damages – routine emergencies	High

6. Mitigation

6.1 Town Plan (2002) Policies that Support Hazard Mitigation

- Prevent the fragmentation and/or destruction of fragile natural resources, including wetlands, and floodplains. (Natural & Cultural Resources Chapter)
- Prevent the further degradation of water resources and improve the quality of groundwater and rivers and streams. (Natural & Cultural Resources Chapter)
- Manage roads and bridges to meet community safety needs and the preservation of the roads' rural character. (Transportation Chapter)
- Ensure safe and efficient traffic movement along principal highways by controlling highway access, concentrating development within designated centers and avoiding strip development. (Transportation Chapter)
- Though town bylaws require new development to accommodate emergency service needs, including adequate access, pull-outs, turn-around space and the provision of fire protection facilities as deemed necessary. (Facilities & Services Chapter)

The next time the Town of Moretown updates its Town Plan, it may consider adding additional mitigation goals. The goal of this Local Hazard Mitigation plan is:

- To take actions to reduce or eliminate the long-term risk to human life and property from flood/flash flood/fluvial erosion, hurricanes/tropical storms/severe storms, winter storms and landslides.

Specific hazard mitigation strategies related to the goals of the plan include:

- Ensure existing and future drainage systems are adequate and functioning properly
- Ensure that all residents and business owners are aware of the hazards that exist within Moretown and ways they can protect themselves and insure their property
- Ensure that emergency response services and critical facilities functions are not interrupted by natural hazards
- Provide adequate communication systems for emergency personnel and response units
- Provide residents with adequate warning of potential hazards

6.2 Proposed Hazard Mitigation Programs, Projects & Activities

Hazard mitigation programs, projects and activities that were identified for implementation at the Town Local Hazard Mitigation meeting:

Hazards Mitigated	Mitigation Action	Local Leadership	Prioritization	Possible Resources	Time Frame
Flooding, severe storms	Upgrade and expansion of 2 box culverts on Ward Brook Rd	Select Board, Road Foreman	High	HMGP	1 year
Flooding, Severe Storms	Widening of bridge south of Village on S-curves	Select Board, VTrans	High	HMGP, VTrans	2 years
Flooding, Severe Storms	Blasting of lower part of gorge to open bottleneck north of Village	Select Board, ANR	High	EPA, ANR	2-3 years
Flooding, Severe Storms	Phase IV of River Rd/Jacobs Rd project – raise additional section	Select Board, VTrans, Road Foreman	Med	HMGP, VTrans	2-3 years
Flooding, Severe Storms	Upgrade and expansion box culvert on backside of Common Rd at Foster Turn	Select Board, Road Foreman	Med	VTrans	2-3 years
Flooding, Severe Storms	Upgrade and expansion box culvert at Canoe Access	Select Board, Road Foreman	Med	VTrans, ANR	3 years
Flooding, Severe Storms	Work with ANR and CVRPC to develop Lower Mad River Corridor Plan	Planning Commission, CVRPC, ANR	High	ANR	1-2 years
Landslide	Reinforce and stabilize low side of Moretown Common Road with rip rap	Select Board, Road Foreman	Med	USDA, HMGP, VTrans	2-3 years
Severe Storms, Winter Storms	Install generator at Moretown Elementary	Select Board, Fire Dept	Med	EMGP	2 years
Extreme Cold/ Winter Storms, Severe Storms	Generator education and training for residents	Select Board, Fire Dept	Low	General Funds, EMGP	2-3 years

Winter storms/ extreme cold/ice storms	Upgrade electrical systems in municipal buildings and shelters to prevent surge/equipment damage from fluctuating current during ice and wind storms	Fire Dept, Select Board	Med	General Funds, EMGP, DPIG	3-4 years
NFIP Compliance	Work with elected officials, the State and FEMA to correct existing compliance issues and prevent any future NFIP compliance issues through continuous communications, training and education	P.C, ANR, S.B, Road Foremen	Med	Town, USDA	2-3 years

VEM also emphasizes a collaborative approach to achieving mitigation on the local level, by partnering with ANR, VTrans, ACCD, Regional Planning Commissions, FEMA Region 1 and other agencies, all working together to provide assistance and resources to towns interested in pursuing mitigation projects and planning initiatives.

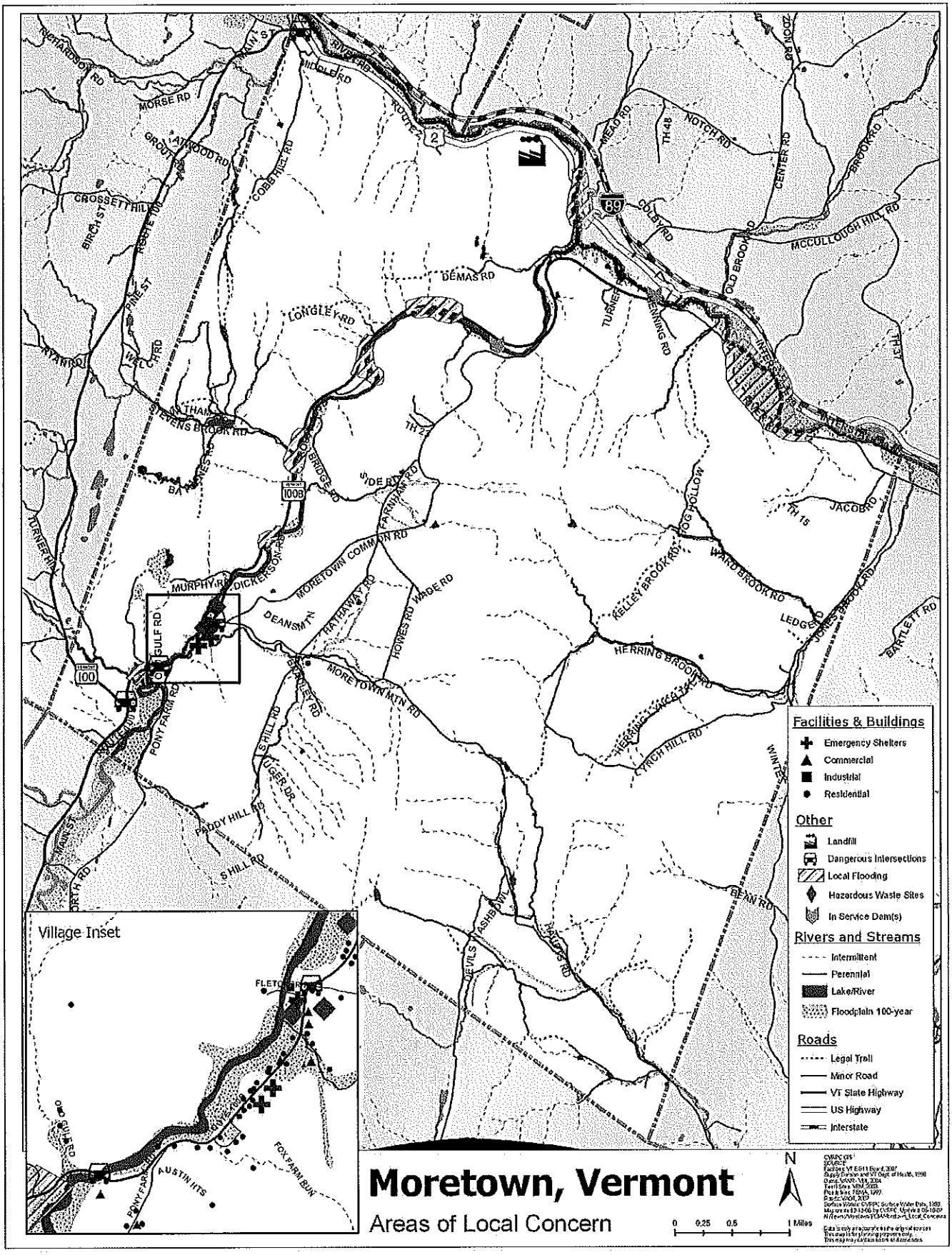
The mitigation activities are listed in regards to local leadership, possible resources, implementation tools, and prioritization. Prioritization was based upon the economic impact of the action, the Community's need to address the issue, the action's cost, and the availability of potential funding. The action's cost was evaluated in relation to its benefit as outlined in the STAPLEE guidelines.

Moretown understands that in order to apply for FEMA funding for mitigation projects that a project must meet FEMA benefit cost criteria. The Town must also have a FEMA approved Hazard Mitigation Plan as well.

A High prioritization denotes that the action is either critical or potential funding is readily available and should have a timeframe of implementation of less than two years. A Medium prioritization is warranted where the action is less critical or the potential funding is not readily available and has a timeframe for implementation of more than two years but less than four. A Low prioritization indicates that the timeframe for implementation of the action, given the action's cost, availability of funding, and the community's need to address the issue, is more than four years.

Attachments

- Areas of Local Concern Map
- Appendix A
- 5 year plan maintenance and review process
- Town Resolution Adopting the Plan


Moretown, Vermont
Areas of Local Concern
Village Inset
Facilities & Buildings
Emergency Shelters
Commercial
Industrial
Residential
Other
Landfill
Dangerous Intersections
Local Flooding
Hazardous Waste Sites
In Service Dam(s)
Rivers and Streams
Intermittent
Perennial
Lake/River
Floodplain 100-year
Roads
Legal Trail
Minor Road
VT State Highway
US Highway
Interstate
N
0 0.25 0.5 1 Miles
MORSE RD
GROUT HOOD RD
CROSSETT HILL RD
BIRCH ST
COBB HILL RD
MIDDLE RD
RIVER RD
ROUTE 2
MEAD RD
TH 48
NOTCH RD
CENTER RD
BROOK RD
89
GOLF RD
MCCULLOUGH HILL RD
OLD BROOK RD
DEMAS RD
LONGLEY RD
TURNER RD
FENNING RD
PINE ST
WEST RD
STEVENS BROOK RD
BATTLES RD
COBB BRIDGE RD
100B
TH 24
FARNHAM RD
HOG HOLLOW
TH 15
JACOB RD
TURNER HILL
MURPHY RD
DICKERSON RD
MORETOWN COMMON RD
KELLEY BROOK RD
WARD BROOK RD
GULF RD
DEAN MTN
HATHAWAY RD
HOWES RD
WADE RD
LEDGE RD
JONES BROOK RD
BARTLETT RD
100
HERRING BROOK RD
MORETOWN MTN RD
BARLEY RD
PONY FARM RD
STILL RD
LUGER DR
LYNCH HILL RD
WINTER
PADDY HILL RD
MAIN ST
NORTH RD
S HILL RD
BEAN RD
MARSH RD
FLETCHER RD
AUSTIN HITS
FOX FARM RUN

6.2 Dam Failure

In addition to flooding events, two in service dams exist in the Town of Moretown. The Moretown/Middlesex hydro-electric facility which is owned and operated by Green Mountain Power is located on the Winooski River, on the town's northern boundary. It is classified by the Agency of Natural Resources *Vermont Dam Inventory (VDI)* as a "Dam of Concern" meaning it is a dam where failure or mis-operation will result in a high probability of a loss of human life and/or can cause economic loss, environmental damage, disruption of lifeline facilities, or impact other concerns. During the PDM meeting residents also identified the other hydro-electric facility which is located on the Mad River between the Route 100B and Route 2 intersection and the village. There currently exists no history of major dam failure in regards to these manmade dams, but the potential exists. (See Areas of Local Concern Map.)

6.3 Transportation Accidents

History of occurrences:

Approximately 9 per year

Route 100B bisects the town of Moretown from north to south and parallels the Mad River, both river and road run through the village. According to the Moretown Town Plan Route 100B is functionally classified as a major collector, however, in some respects it operates as an arterial as it provides a connection to Interstate 89 south for Route 100 motorists. Segments of Route 100 and Route 2 also are part of Moretown's main road network. From 1977 to 1998 Route 100B experience a 48% increase in traffic flow, similar increases have been recorded for Route 100 and Route 2. Beyond the state roads, there are 35.47 miles of town highways and other roads.

According to the Vermont Agency of Transportation data (AOT) an average of approximately nine accidents per years occur on roads within Moretown. The majority of the accidents reported were due to the operator of the vehicle driving too fast for conditions, failure to yield or keep in proper lane, or running off the road. A list of accident sites by location is as follows:

	Accidents	*Injuries resulting*	*Fatalities resulting*
Route 2	14	11	1
Route 100	6	1	0
Route 100B	19	14	1
Town highways & other	8	6	0

Information from Vermont Agency of Transportation
General Yearly Summaries – Crash Listings from 01/01/01 to 12/31/05

According to the latest available High Accident Locations (1994) the Route 100 and Route 100 B intersection is a high accident intersection. For a section of road or for an intersection to be identified as a High Crash Location the location must have experienced five or more crashes in a

five year period or the average of one crash per year and must have an Actual/Critical ratio of 1.000 or higher, a formula based upon statewide averages. (See Hazard Analysis Map)

During the first PDM community meeting residents identified four dangerous intersections/sections of road:

1) Intersection of Route 100B & Moretown Mountain Road in the village;
2) Moretown Bridge B2;
3) Route 100 & Route 100B intersection south of the village; and
4) Route 100 & Route 2 at the Waterbury town boarder.

These are intersections where visibility is poor due to views obstructed by buildings and topography which create the potential for transportation accidents. (See Areas of Local Concern Map)

6.4 Hazardous Materials (fixed & transport)

Hazardous Sites:
Landfill: 1
Hazardous Materials (Tier II) Sites: 2
Active Hazardous Waste Sites: 3

History of occurrences:
Approximately 1 spill per year

One of Vermont's two landfills is located within Moretown's town boundaries on Route 2. The landfill is owned and operated by Moretown Landfill Corporation and certified under 10 V.S.A. Chapter 159. According to the Moretown Town Plan because of Moretown's "host town" status, the town has negotiated a financial agreement, based upon the amount of waste disposed in the landfill, and these funds have been used to offset municipal taxes.

Within the town boundaries there are two hazardous materials sites: the Velco Middlesex Substation and SB Collins Inc. (Moretown General Store). While other sites may contain hazardous materials these sites, due to the amount of stored material, are required to report to Vermont Emergency Management and are therefore classified as Tier II sites. According to the EPA website Tier II sites are locations which have a release of a hazardous substance, pollutant, or contaminant that has caused, or is likely to cause, human exposure or contamination of a sensitive environment. These sites typically involve contamination of drinking water, surface water, air, or soils which has either caused, or is likely to cause, exposure to nearby populations, or has contaminated, or is likely to contaminate, sensitive environments (such as wetlands, national parks, and habitats of endangered species, etc). (See Hazard Analysis Map)

The Moretown General Store is also listed on the VT Department of Environmental Conservation's (DEC) Solid Waste Management Division *Active Hazardous Sites List 2000.* According to the *Toxics In Vermont: A Town-by-Town Profile* report by the Toxics Action Center a hazardous waste site are areas where a release of hazardous materials has occurred and

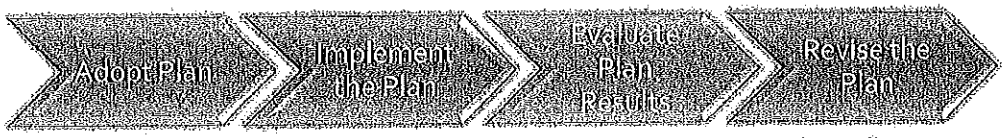
where it has been determined that further investigation is necessary. According to the *Active Hazardous Sites List 2000* investigation of the Moretown General Store shows potential risk to homes and impacts water supplies and the Mad River and remediation activities are underway. Other sites are the Town of Moretown Garage and the Moretown Post Office. The *Sites List* states sampling results at the Garage submitted in June 2005 indicate a low level of contamination is still present and additional sampling has been scheduled and that low level contamination at the Post Office will necessitate long term monitoring and a notice added to the land records. (See Areas of Local Concern Map)

Volumes of hazardous materials are transported through Moretown along Route 2, Route 100B and Route 100. As mentioned previously the regional landfill is located in northern Moretown on Route 2 and both Route 100 and Route 100B provide local and regional access from the Mad River Valley (towns of Waitsfield, Warren and Fayston) to Interstate 89. In the event of a hazardous materials spill local responders are required to report incidents to Vermont Emergency Management. A list of recent occurrences is as follows:

Type	*Substance*	*Amount*
Hazardous Materials	heating Oil	3 gallons
Air Quality Issue	septic Fumes	n/a
Hazardous Materials	gasoline	3 gallons
Hazardous Materials	unknown	n/a
Hazardous Materials	motor oil & diesel fuel	3 gallons
Hazardous Materials	gasoline	3 gallons

Information from 2001 - 2005
Provided by Hazardous Materials Compliance Officer, Vermont Emergency Management

5-Year Plan Review/Maintenance



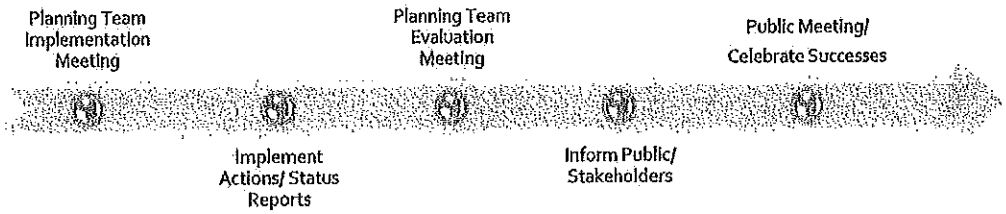
- Brief local leadership on plan approval
- Formally adopt plan
- Publicize plan approval and adoption
- Celebrate success

- Confirm/clarify responsibilities
- Integrate mitigation actions
- Monitor and document implentation of projects and actions
- Establish indicators of effectiveness or success

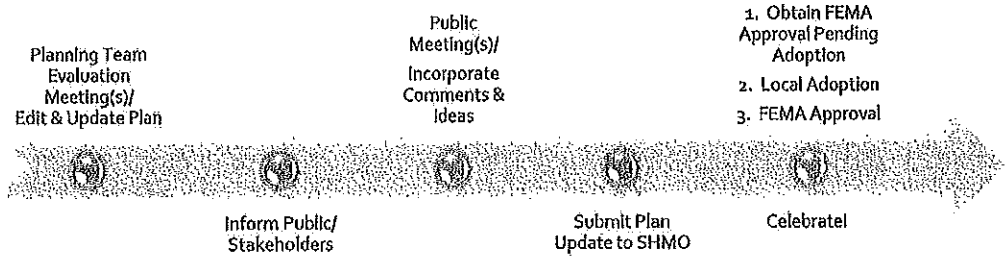
- Effectiveness of planning process
- Effectiveness of actions
- Document success & challenges of actions
- Update and involve community
- Celebrate successes

- Review factors affecting community's context
- Analyze findings; determine whether to revise process or strategy
- Incorporate findings into the plan

After Plan Adoption-Annually
Implement and Evaluate



Fifth Year, and After Major Disaster
Evaluate and Revise



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CERTIFICATE OF ADOPTION

The Town of Moretown
Select Board
A Resolution Adopting the Local Hazard Mitigation Plan
Oct. 1, 2012

WHEREAS, the Town of Moretown has worked with the Central Vermont Regional Planning Commission to identify hazards, analyze past and potential future losses due to natural and manmade-caused disasters, and identify strategies for mitigating future losses; and

WHEREAS, the Moretown Local Hazard Mitigation Plan contains several potential projects to mitigate damage from disasters that could occur in the Town of Moretown; and

WHEREAS, a duly-noticed public meeting was held by the Town of Moretown Select Board on 10/1, 2012 to formally adopt the Moretown Local Hazard Mitigation Plan;

NOW, THEREFORE BE IT RESOLVED that the Moretown Select Board adopts the Moretown Local Hazard Mitigation Plan.

Chair of Select Board

Member of Select Board

ATTEST

Moretown Clerk