

## Stockbridge Annex

### Introduction

This appendix, when used with the Regional (multi-jurisdictional) PDM Plan, is an All-Hazard Pre-Disaster Mitigation Plan for the Town of Stockbridge.

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. Previous FEMA, State and Regional Project Impact efforts demonstrate the fact 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. 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 Mitigations strategies and measures **avert** the hazard by redirecting its impact by means of a structure or land treatment, **adapt** to the hazard by modifying structures or standards or **avoid** the hazard through improved public education, relocating/removing buildings in the flood zone, or ensuring development is disaster resistant. Measures and strategies could include projects such as:

- Flood-proofing structures
- Tying down propane/fuel tanks in flood-prone areas
- Elevating furnaces and water heaters
- Identifying & modifying high traffic accident locations and routes
- Ensuring adequate water supply
- Identifying & upgrading undersized culverts
- Proactive land use planning for floodplains and other flood-prone areas
- Proper road maintenance and construction
- Ensuring critical facilities are safely located
- Buyout & relocation of structures in harms way
- Establish & enforce appropriate building codes
- Public information and education

### Purpose

The purpose of this Pre-disaster Mitigation Plan is to assist Stockbridge in identifying all hazards facing the town and list strategies to begin reducing risks from known hazards.

## **Two Rivers-Ottawaquechee Regional Hazard Mitigation Goals**

- Reduce the loss of life and injury resulting from all hazards.
- To lessen financial losses and property damage incurred by municipalities, businesses and private citizens due to disasters.

These overarching goals can be further refined as follows:

- The impacts of hazards should be first avoided, then reduced where they cannot be reasonably avoided. For flooding and riverine erosion, this can best be achieved by precluding development from hazard areas, and where development exists through property buyouts or flood protection sympathetic to the natural and human resources of the area.
- The connections between land use, development siting, drainage systems, building standards, and road design and maintenance and the effects of disasters on the Region should be recognized and incorporated into policy so that there is no adverse impact (increased hazard) from development.
- Mitigation actions should be part of larger, systematic efforts at disaster reduction based on the highest threats. Flooding should be addressed on a watershed scale. Structural fire and technological hazards should be lessened through statewide safety education and code compliance.

## **Stockbridge Town Plan (adopted 2/3/05) – Objectives/Goals that support Hazard Mitigation**

- To promote development of Stockbridge in such a way as will protect and enhance residential areas, and not cause undue concentrations of population, buildings, traffic, congestion, of loss of peace, quiet, and privacy (page 3).
- To promote development within the Town of Stockbridge consistent with the ability of the Town to provide services (page 3).
- To protect agricultural and forest lands, so as to maintain and enhance their productive capabilities (page 3).
- To maintain and enhance the freedom, rights, privileges, and responsibilities of all citizens of Stockbridge (page 3).
- To prevent the development of land clearly incapable of supporting, from a physical standpoint, the type or intensity of land use being proposed (page 3).
- To encourage public investments in governmental and public utility facilities, services, and lands which support existing and future needs within or near the villages, or other designated and planned growth areas (page 17).
- To support innovative and stable sources facility funding to supplement traditional funding resources, which have become limited or are no longer available (page 17).
- To minimize and prevent loss of life and property, the disruption of commerce, the impairment of the tax base and the extraordinary public expenditure and demand for public service that result from flooding (page 26).

- To ensure that if new development is to be undertaken in the flood hazard areas that it be designed and constructed in a manner that minimizes or eliminates the potential for flood damage (page 26).
- To maintain wise use of agricultural land and open space in flood-prone areas (page 26).
- To maintain a transportation system that is safe, efficient and complements the other goals and policies of this Plan (page 40).
- Future land use needs to allow easy access to the natural environment but protect it from destruction (page 51).

### **Community Background**

The Town of Stockbridge is located in the northwestern portion of Windsor County, Vermont. It comprises an area of approximately 28,300 acres, or 45.41 square miles. Stockbridge is located in the physiographic region known as the Intermountain Valleys and foothills of the Green Mountains. This area is characterized by mountainous terrain, narrow valleys and a few peaks above 2,500 feet. Stockbridge's narrow valleys are bisected by the White and Tweed Rivers and Fletcher and Stony Brooks.

A July 11, 2007 storm centered on six towns in central Vermont, including Stockbridge. Six to eight inches of rain fell during the event, with about three inches per hour in Stockbridge. At least \$8 million in damages to roads and stream crossing structures occurred in towns. Stockbridge is also home to the Gaysville area, a hamlet that was totally destroyed in the 1927 flood.

According to the U.S. Census Reports, population levels have increased in Stockbridge since 1970. The population in Stockbridge for 2000 was 674. Compared to 618 in 1980, this was a 9.1% increase; a slower rate of growth than the 21.7% that was experienced over the 1980s. The 9.1% rate of growth in Stockbridge was the median in a comparative list of rates of growth; it was a higher rate of growth than either Windsor County or the State of Vermont experienced.

There were 528 housing units in Stockbridge in 2000, according to the U.S. Census Reports. In 1990 there were 488 housing units, and in 1980 there were 413 housing units. The average annual rate of housing growth over the 1990s was 4 units per year, down from the 7.5 units per year experienced over the 1980s. The increase of 40 units, including second-homes, created an 8.2% rate of growth housing units in Stockbridge. This rate was consistent with the State's rate of growth, but was higher than the rate experienced in Windsor County and the Two Rivers – Ottauquechee Region. Amongst its neighbors, Stockbridge had the highest rate of growth.

The Town lies within the service area of Central Vermont Public Service (CVPS), which supplies electrical power to all sections of town.

The Town is serviced by the Stockbridge Volunteer Fire Department. Stockbridge has a mutual aid agreement with the towns of Pittsfield and Bethel whereby assistance is provided in the event of a serious fire.

First and second constables are elected annually at Town Meeting. The Vermont State Police, Troop “D” located in Royalton, responds to emergencies in Stockbridge, such as traffic accidents, breaches of the peace, or other criminal rather than civil emergencies. The Windsor County Sheriff’s Department, located in Woodstock, does not provide emergency service to Stockbridge but will, for a fee, provide radar surveillance and prearranged security service.

Medical emergencies are handled well by the private, non-profit White River Valley Ambulance, Inc. located in Stockbridge. They have three ambulances and a rescue truck with extraction equipment that are fairly new. The closest hospital is Gifford Medical Center, located in Randolph. Medivac services are available by the DHART helicopter.

### **Community Hazards Inventory and Risk Assessment**

In Stockbridge, the interviews and hazards analysis indicate that the following hazards are listed as probable (frequent to unusual) – Flash Flood, HAZMAT (Transportation Accidents), Structural Fire, Landslides, and Winter Storm/Ice Storm. In terms of potential severity of damages, the following hazards are rated as having the potential to produce serious to locally catastrophic damage – Flash Flood, HAZMAT, Structural Fire, Wildfire/Forest Fire, Hurricane/Tropical Storm, Drought, Landslides, and Winter Storm/Ice Storm. Hazards to which the town is vulnerable (probable and damaging) include Flood, HAZMAT, Fire, Landslides, and Winter Storms. Therefore, the mitigation measures in this Plan focus on these five hazards.

#### **Flash Flood/Flood (Risk = Med-High/High)**

Based on the results of overlaying the FIRM flood maps with the location of the E911 points, there are 41 residences and 3 commercial businesses in the town that are vulnerable to potential flooding. The estimated loss for damage to these properties from the 100 year flood, assuming average residential and commercial values (derived from 2008 Annual Report by the Vermont Department of Taxes, Division of Property Valuation and Review) would be \$8,023,281. This is about 7% of the grand list. However, additional flood damage is possible on small, steep streams that have no mapped flood areas but could have flash flooding. Streams in town are actively eroding many banks, so fluvial erosion hazards exist outside of mapped areas. Small streams that flooded in the 2007 event also have debris in them.

Recent flooding that had led to federal disaster declarations for Windsor County occurred from June 17, 1998 to July 13, 1998 (DR 1228 VT), Sept. 16 through Sept. 21, 1999 (DR 1307 VT), July 14, 2000 through July 18, 2000 (DR 1336 VT), July 21, 2003, through August 18, 2003 (DR 1488 VT), April 15-21, 2007 (DR 1698 VT), July 9-11, 2007 (DR

1715 VT) and July 21 through August 12, 2008 (DR 1790 VT). This list does not include flood events that were not federally declared.

There is one property in Stockbridge on FEMA's NFIP list that has had two losses, totaling \$3,000 in damages. No development projects are planned in Stockbridge in areas that would be vulnerable to flooding. Areas subject to flooding are shown on the NFIP map of Stockbridge.

#### Hazardous Materials (HAZMAT) – Transportation Accidents (Risk = Med-High/High)

Based on available VT Tier II data, there is 1 site in town that has sufficient types and/or quantities of hazardous materials to require reporting. Stockbridge's village is located along Vermont Route 100, which sees a fair amount of truck traffic by Vermont standards. There are 238 residential and 23 commercial buildings within 1,000 feet of a potential HAZMAT spill on Route 100. In the event that 5% of these structures were involved in a HAZMAT incident, the estimated damage would be \$2,387,736. It should also be noted that the State of Vermont currently has one fully trained HAZMAT response team, with vehicles located in Essex Junction, Brandon, and Windsor. The HAZMAT crew chief is available within minutes of a call for the team but on-scene response would be a matter of hours. In the event of a serious accident in town, there would be little time for evacuation and response would be difficult.

#### Fire (Risk = Med-High/High)

Poor accesses to fires, limited water supply for firefighting, and distances of homes from the Fire Station are a few of the challenges that leave Stockbridge vulnerable to the impacts of structure fires. Wildfires are possible during late spring, late summer, and early fall. The forests contain potential fuel for a serious conflagration. Some recreational and retirement homes with single access roads and no fire-fighting water supply are in jeopardy.

#### Landslides (Risk = Med-High/High)

Landslides can be caused by seismic events, manmade or natural changes to groundwater flow that cause liquefaction, removal of vegetation and manmade or natural undercutting of steep banks. There is no quality mapping available for slide potential at this time, but slides along Blackmer Boulevard are possible.

#### Winter Storm (Risk = Med-High/High)

These hazards have no specific damage estimate as their effect could occur anywhere in town.

## **Existing Hazard Mitigation Measures in the Community**

Ongoing efforts to mitigate hazards in the community include:

1. ditch and culvert maintenance.
2. administration of flood hazard regulations

## **National Flood Insurance Program**

The Town of Stockbridge is an NFIP participant. Stockbridge's initial Flood Hazard Boundary Map was identified on 11/1/74. The Town's initial Flood Insurance Rate Map (FIRM) was dated 9/4/86. The Town's FIRM has been updated, and the current effective map date is 9/28/07.

The Stockbridge Zoning Administrator serves as the NFIP Administrator. Stockbridge is located in Windsor County and completed an update of its flood hazard regulations in 2007. Beyond the Town's NFIP program, there are no additional erosion control or flood management regulations that apply in Stockbridge. There are no plans to enroll the community in the CRS program.

Based on the regional and local hazard assessment and analysis, this Annex identifies actions related to continued compliance with the NFIP. These actions are prioritized, along with the other actions developed in this Annex, using the method described on Page 21 of the Regional PDM Plan. The actions are included in the Implementation Schedule for Prioritized Mitigation Projects, which follows.

## **Areas of Local Concern**

1. Wildfires in remote areas
2. Flooding of the Tweed River in Chalet Village
3. Transportation of hazardous materials on Routes 100 and 107
4. Erosion/landslides and culverts on Blackmer Boulevard.
5. Lilliesville Road, Stockbridge Common, and Whitcomb Hill Road were impacted by the 7/11/07 event.

### Implementation Schedule for Prioritized Mitigation Projects

Tasks currently under way or under consideration – in order of priority:

MITIGATION ACTION	WHO (LEADERSHIP)	WHEN (TIMEFRAME)	HOW (FUNDING/ SUPPORT)	IMPLEMENTATION THROUGH EXISTING PROGRAMS
<u>ALL HAZARDS</u> 1. Ensure that RRP is current	Selectboard	Yearly	With TRORC assistance	
2. Use PDM plan for Hazard Identification and Mapping	Emergency Management Coordinator	Ongoing	With TRORC assistance	
<u>FLASH FLOOD/FLOOD</u> 3. Continue the planned road maintenance program and update existing culvert inventory. Upgrade culverts and ditching.	Highway Department	Ongoing	Local resources	
4. Stabilize Tweed riverbanks in Chalet Village along Route 100 by Canton and Lucerne Dr.	Highway Department	2010	HMGP, PDM-C, state, and local resources	
5. Replace undersized culverts on Blackmer Blvd and Stockbridge Common.	Highway Department	2010	HMGP, PDM-C, state, and local resources	
6. Stabilize riverbanks along Blackmer Blvd, Stony Brook Rd, Lilliesville Rd, and Whitcomb Hill Rd.	Highway Department	2010	HMGP, PDM-C, state, and local resources	
7. Conduct buyouts of properties where streams threaten homes (Lilliesville Brook, Stony Brook and the Tweed River).	Selectboard	Ongoing	HMGP, PDM-C, state, and local resources, and private owners	
8. Adopt permanent revisions to flood regulations.	PC/Selectboard	2009	TRORC assistance	
9. Consider adopting Fluvial Erosion Hazard regulations	Planning Commission and Selectboard	2009	Local resources, TRORC assistance	
<u>HAZMAT</u> 10. Pursue HAZMAT training for Fire Department	Fire Department	2009	Fire Service Training Academy	
<u>FIRE</u> 11. Obtain training and equipment appropriate that will allow the fire department to fight wildfires safely.	Fire Department	2009	USDA, Fire Service Training Academy, George Aiken RC&D	
12. Develop additional dry hydrant sites in rural locations.	Fire Department	Ongoing	Local resources, George Aiken RC&D	
<u>LANDSLIDE</u> 13. Stabilize potential landslides on Blackmer Blvd.	Road Foreman and Selectboard	2009	HMGP, PDM-C, state, and local resources	
<u>WINTER STORM</u> 14. Encourage utilities to continue regular tree trimming along power lines	Emergency Planning Coordinator	Yearly	Local resources	