

Town of Pomfret, Vermont
2016 Local Hazard Mitigation Plan

***Prepared by the Two Rivers-Ottawaquechee Regional Commission and
the Town of Pomfret***

Date of Town Adoption: April 5, 2017

Date of Final Approval by FEMA: April 26, 2017



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

FEMA

MAY 03 2017

Lauren Oates
State Hazard Mitigation Officer
Vermont Department of Public Safety
45 State Drive
Waterbury, Vermont 05671-1300

Dear Ms. Oates:

We would like to congratulate the Town of Pomfret and the State of Vermont for their dedication and commitment to mitigation planning. The Department of Homeland Security (DHS), Federal Emergency Management Agency (FEMA) Region I Mitigation Planning Team has completed its review of the Town of Pomfret, Vermont 2016 Local Hazard Mitigation Plan and determined it meets the requirements of 44 C.F.R. Pt. 201.

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

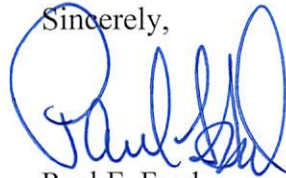
Approved mitigation plans are eligible for points under the National Flood Insurance Program's Community Rating System (CRS). Complete information regarding the CRS can be found at <http://www.fema.gov/national-flood-insurance-program-community-rating-system>, or through your local floodplain administrator.

The Town of Pomfret, Vermont 2016 Local Hazard Mitigation Plan must be reviewed, revised as appropriate, and resubmitted to FEMA for approval within **five years of the plan approval date of April 26, 2017** in order to maintain eligibility for mitigation grant funding. We encourage the Town to continually update the plan's assessment of vulnerability, adhere to its maintenance schedule, and implement, when possible, the mitigation actions proposed in the plan.

MAY 03 2017

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

Sincerely,


Paul F. Ford
Acting Regional Administrator

PFF: ms

cc: Ben Rose, Recovery and Mitigation Section Chief, VT DEMHS
Stephanie Smith, Hazard Mitigation Planner, VT DEMHS

Enclosure

CERTIFICATE OF ADOPTION
<<DATE>>
TOWN OF Pomfret, Vermont Selectboard
A RESOLUTION ADOPTING THE Pomfret 2016 HAZARD MITIGATION PLAN

WHEREAS, the Town of Pomfret has historically experienced severe damage from natural hazards and it continues to be vulnerable to the effects of the hazards profiled in the 2015 **HAZARD MITIGATION PLAN**, which result in loss of property and life, economic hardship, and threats to public health and safety; and

WHEREAS, the Town of Pomfret has developed and received conditional approval from the Federal Emergency Management Agency (FEMA) for its **2015 HAZARD MITIGATION PLAN** under the requirements of 44 CFR 201.6; and

WHEREAS, the **PLAN** specifically addresses hazard mitigation strategies, and Plan maintenance procedures for the Town of Pomfret; and

WHEREAS, the **PLAN** recommends several hazard mitigation actions (projects) that will provide mitigation for specific natural hazards that impact the Town of Pomfret with the effect of protecting people and property from loss associated with those hazards; and

WHEREAS, adoption of this **PLAN** will make the Town of Pomfret eligible for funding to alleviate the impacts of future hazards; now therefore be it

RESOLVED by Town of Pomfret Selectboard:

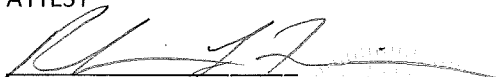
1. The **2016 HAZARD MITIGATION PLAN** is hereby adopted as an official plan of the Town of Pomfret;
2. The respective officials identified in the mitigation action plan of the **PLAN** are hereby directed to pursue implementation of the recommended actions assigned to them;
3. Future revisions and **PLAN** maintenance required by 44 CFR 201.6 and FEMA are hereby adopted as part of this resolution for a period of five (5) years from the date of this resolution; and
4. An annual report on the process of the implementation elements of the Plan should be presented to the Selectboard by the Emergency Management Director or Coordinator.

IN WITNESS WHEREOF, the undersigned have affixed their signature and the corporate seal of the Town of Pomfret this 5th day of APRIL 2017


Selectboard Chair

Selectboard Member

ATTEST


Town Clerk

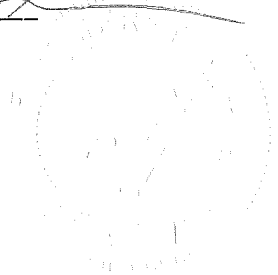


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I. Introduction

Natural and human-caused hazards may affect a community at any time. They are not usually avoidable; however, their impact on human life and property can be reduced through community planning.

Accordingly, this Local Hazard Mitigation Plan (hereafter referred to simply as the Plan) seeks to provide an all-hazards mitigation strategy that will make the community of Pomfret more disaster resistant.

“Mitigation” is defined as any sustained action that reduces or eliminates long-term risk to people and property from natural and human-caused hazards and their effects. Previous Federal Emergency Management Agency (FEMA), State and Regional Project Impact efforts have demonstrated that it is less expensive to anticipate disasters than to repeatedly ignore a threat until the damage has already been done. While hazards cannot be eliminated entirely, it is possible to identify prospective hazards, anticipate which might be the most severe, and recognize local actions that can be taken ahead-of-time to reduce the damage. These actions, also known as ‘hazard mitigation strategies’ can (1) avert the hazards through redirecting impacts by means of a structure or land treatment, (2) adapt to the hazard by modifying structures or standards or, (3) avoid the hazard through improved public education, relocation/removal of buildings in the flood zone, or ensuring development is disaster resistant.

II. Purpose of the Plan

The purpose of this Plan is to assist Pomfret in identifying all hazards facing the town, ranking them according to local vulnerabilities, and identifying strategies to reduce risks from priority hazards of highest concern. Implementation of this plan will make our community more resistant to harm and damages in the future, and will reduce public costs.

The Town of Pomfret seeks to be in accordance with the strategies, goals, and objectives of the State Hazard Mitigation Plan.

The 2015 Pomfret Local Hazard Mitigation Plan is the first stand-alone mitigation plan drafted for the Town. Previously, the Town had a town-specific 2009 Annex in the Regional Pre-Disaster Mitigation Plan. This new Plan has been reorganized and new sections have been added:

- Program eligibility subsequent to plan approval
- Authority for plan development
- Participating jurisdictions
- Funding for plan development
- Brief information about the community

Old assumptions have been challenged throughout, and new information has been added to make the plan stronger and more useful for the Pomfret town officials and residents who will implement the hazard mitigation strategies in the future.

III. Community Profile

The Town of Pomfret, consisting of approximately 26,000 acres, is located in the foothills of the Green Mountains. Dominated by hilly wooded topography, headwaters drain into the White and Ottauquechee Rivers. Residents are primarily scattered along Pomfret and Stage Roads. The Appalachian Trail runs through the middle of town. In 2010, the population of Pomfret was 904, which represents a decrease of 75 from the 2000 population of 979.

Based on the U.S. Census data, in 2010 there were approximately 544 housing units in Pomfret. This represents a slight increase of 9 housing units Pomfret between 2000 and 2010. According to U.S. Census data, of the 544 total housing units, 314 were owner-occupied and 79 were renter-occupied. The remaining 151 units were unoccupied, 133 of which were for seasonal, recreational or occasional use.

The Town lies within the service area of Green Mountain Power (GMP), which supplies electrical power to all sections of town.

Pomfret currently has one volunteer fire department, the Pomfret-Teago Fire Department, Inc. The volunteer fire department has two stations, one located in North Pomfret and the other in South Pomfret. Pomfret's fire protection is enhanced through mutual aid agreements with neighboring towns. A long-range plan for fire protection was accepted at the 1995 Town Meeting and will continue to be implemented and supported by municipal funds annually, as well as by donations and grants.

The Pomfret FAST Squad is a group of volunteers with either First Responder or Emergency Medical Training who respond to medical emergencies in the Town. They are dispatched at the same time an ambulance is called, but arrive sooner and administer first aid and stabilize the patient until the ambulance arrives. Their equipment is purchased with donated funds.

Ambulance service in Pomfret is provided by the Town of Woodstock which has two ambulances and full-time dispatch service. The Town pays an annual assessment to have this service available, and the patients are charged for actual usage. Unpaid bills are charged to the Town.

The Selectboard can appoint First and Second Town Constables. The Town Constable handles violations of the dog ordinance and assists in other emergencies. If the citizens want a higher level of protection, options include hiring a sheriff to be available certain hours, having the Town Constable trained, certified and officially on call for emergencies, or sharing an "outpost" trooper with a neighboring town.

For several years, the Town has hired a Windsor County Sheriff to patrol roads to enforce speed limits. Pomfret residents depend on the Vermont State Police in Bethel for police protection. The State Police outpost there covers twenty-two towns, sometimes with only one or two officers available to respond to emergencies. Often no officers are on the road between 2:30 and 7 a.m., although they are "on call" during those hours.

IV. The Planning Process

A. Plan Developers

Samantha Holcomb and Ellie Ray, Land Use Planners at the Two Rivers-Ottawaquechee Regional Commission (TRORC), initially assisted the Town of Pomfret with updating its Local Hazard Mitigation Plan. Michael Storace, a planner at TRORC, continued Hazard Mitigation planning with the Committee. Committee members who assisted with the revisions include:

This section of the Plan satisfies 44 CFR 201.6(b)(1) and 201.6(c)(1) (or, A3.a and A3.b of FEMA's Local Mitigation Plan Review Guide, 2011).

Name	Role/Organization	How Participation Was Solicited
Mark Warner	Pomfret Emergency Management Coordinator, former Selectboard Chair	On 09/02/2014, Samantha Holcomb (TRORC staff) reached out to the Pomfret Selectboard Chair (Mark Warner at the time), the Town's Emergency Management Director (Kevin Rice) and the Town Clerk (Becky Fielder). TRORC staff coordinated with Pomfret town officials to set up an introductory meeting. The first meeting was scheduled for 10/29/2014. TRORC's staff attended that meeting, followed by many more meetings in which participants revised and developed the LHMP. See below for more meeting-specific details.
Phil Dechert	Planning Commission member	
Kevin Rice	Fire Chief, Pomfret Fire Department; Pomfret Emergency Management Director	
Art Lewin	Pomfret Road Foreman	
Frank Perron	Pomfret Fast Squad, Fire Warden	
Preston Bristow	Pomfret Zoning and Flood Administrator	
Bruce Martin	Resident; Vermont State Fire Marshall; Vermont State HAZMAT Team	
Neil Lamson	Resident	
Michael Reese	Selectboard Chair	
Melanie Williams	Selectboard member (contributed later in plan drafting process)	
Jonathan Williams	Assistant to the Selectboard (contributed later in plan drafting process)	

B. Plan Development Process

The 2009 Pomfret Annex was originally part of the 2008 multi-jurisdictional Regional Hazard Mitigation Plan, drafted by Two Rivers-Ottawaquechee Regional Commission, and approved by FEMA on September 30, 2008 with its first local annex.

The Pomfret Annex received subsequent FEMA approval, but, since it was part of a larger plan, FEMA treats its start date as September 30, 2008, meaning the Pomfret Annex expired on September 30, 2013.

This section of the Plan satisfies the Element A: Planning Process requirements set out in 44 CFR 201.6.

This Plan has been reconstructed now as a single jurisdiction, stand-alone Pomfret Local Hazard Mitigation Plan that will be submitted for individual approval to FEMA. As such, several sections have been added or updated to include all necessary information.

The changes to this Plan include:

- **General**
 - New sections: Plan Development Process, 2009 Mitigation Strategies Status Update chart, Existing Hazard Mitigation Programs, Projects & Activities, Plan Maintenance;
 - Data updates: New hazard incidents, emergency declarations, census data;
 - Hazards have been reevaluated with the hazard ranking system used by the Vermont Division of Emergency Management and Homeland Security.
- **Hazards Analysis**
 - Structure Fire, Flash Flood/Flood/Fluvial Erosion and Extreme Cold/Snow/Ice Storm (renamed from “Winter Storm” in the 2009 Plan) remain on the list of “top hazards”, which reflect the local officials’ belief that the Town is still vulnerable to these hazards;
 - Landslides and Hazardous Material Spills have been removed from the list of “top hazards;”
 - Ice Jams and Severe Weather have both been added to the list of “top hazards”, which reflects the intention/priorities of local officials to expand their analysis of hazards that the Town is or may vulnerable to in the next five years;
 - Severe Weather events are now depicted in a chart that shows the multiple hazards involved during each event;
 - Hazards are assessed using a new ranking methodology, which is similar to the methodology used in the State Hazard Mitigation Plan.
 - For each hazard, a location/vulnerability/extent/impact/likelihood table has been added to summarize the hazard description.
- **Maps**
 - A map of the Town of Pomfret depicting critical facilities, town infrastructure, and the NFIP designated floodway, and 100-year and 500-year floodplain has been added.

The following represent the avenues taken to draft the Pomfret Hazard Mitigation Plan:

- **Activities**

- 10/29/2014: TRORC staff met with the Pomfret HMP committee members to introduce the update/plan development process, reviewed Pomfret's existing Hazard Mitigation Plan (adopted in January 2009), considered the status of various mitigation actions, potential hazards, and the data collection/research process. At this meeting, the committee also discussed and ranked hazards to determine the "Top Hazards" in the Town. TRORC staff then explained to the committee what the next steps in the process are (draft plan and schedule a meeting to review and discuss it). This meeting was open to the public and was properly warned. No comments from the public were received.
- 4/5/2016: TRORC staff met with the Pomfret HMP committee to generate and discuss mitigation strategies to the previously ranked top hazards that pose the greatest threat to life and property in the Town of Pomfret. This meeting was open to the public and was properly warned. The meeting followed procedure set forth by open meeting law. No comments from the public were received.

- **Public participation and involvement (44 CFR 201.6(b)(1))**

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- October 2014: A notice was placed in the Two Rivers-Ottawaquechee Regional Planning Commission Newsletter alerting recipients that Pomfret was engaging in hazard mitigation planning and updating their Hazard Mitigation Plan. Contact information was provided in the notice to allow those interested in Pomfret's efforts to receive more information and how to find out about upcoming meetings. No comments were received.
- TRORC posted a notice in four local papers alerting the public to the Hazard Mitigation Planning process that was taking place. Contact information was provided in the notice to allow those interested in Pomfret's efforts to receive more information and how to find out about upcoming meetings. No comments were received.
 - Valley News—ran 01/15/2015
 - The Herald of Randolph—ran 01/15/2015
 - Journal Opinion—ran 01/15/2015
 - Vermont Standard—ran 01/15/2015
- February 2015: A notice was placed in the Two Rivers-Ottawaquechee Regional Planning Commission Newsletter alerting recipients that Pomfret was engaging in hazard

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- **Governmental participation and involvement (44 CFR 201.6(b)(2))**
 - 4/26/2016: TRORC sent revised draft to the Selectboard Chair, Michael Reese, and provided contact information for receiving comments via hard copy and email.
 - 4/26/2016: TRORC sent revised draft to Planning Commission Chair, Bill Emmons, and provided contact information for receiving comments via hard copy and email.
 - 5/27/2016: TRORC sent revised draft to Division of Emergency Management and Homeland Security.
- **Neighboring community participation and involvement (44 CFR 201.6(b)(2))**
 - October 2014: A notice was placed in the Two Rivers-Ottawaquechee Regional Planning Commission Newsletter alerting recipients that Pomfret was engaging in hazard mitigation planning and updating their Hazard Mitigation Plan. Contact information was provided in the notice to allow those interested in Pomfret's efforts to receive more information and how to find out about upcoming meetings. No comments were received.
 - TRORC posted a notice in four local papers alerting the public to the Hazard Mitigation Planning process that was taking place. Contact information was provided in the notice to allow those interested in Pomfret's efforts to receive more information and how to find out about upcoming meetings. No comments were received.
 - Valley News—ran 01/15/2015
 - The Herald of Randolph—ran 01/15/2015
 - Journal Opinion—ran 01/15/2015
 - Vermont Standard—ran 01/15/2015
 - February 2015: A notice was placed in the Two Rivers-Ottawaquechee Regional Planning Commission Newsletter alerting recipients that Pomfret was engaging in hazard mitigation planning and updating their Hazard Mitigation Plan. Contact information was provided in the notice to allow those interested in Pomfret's efforts to receive more information and how to find out about upcoming meetings. No comments were received.
 - 4/26/2016: TRORC sent revised draft to neighboring towns' Selectboards for comment and provided contact information for receiving comments via hard copy.
 - Towns of: Sharon, Hartford, Woodstock (Town Selectboard), and Barnard.
- **Review of existing plans, studies, reports, and technical information (44 CFR 201.6(b)(3))**

- Pomfret Hazard Mitigation Plan (Adopted 01/21/2009)
 - This Plan was referenced extensively during the plan development process, especially in regard to the worst threats and mitigation action strategies identified in 2009.
- Pomfret Town Plan (Adopted 11/21/2007)
 - The Town Plan provided TRORC's staff with background information on the community, as well as more detail on their emergency services.
- Pomfret Zoning Ordinance (Amended 03/07/1989)
 - The Zoning Ordinance was referenced for general knowledge of Pomfret's regulatory authority.
- Pomfret Flood Hazard Area Regulations (Adopted 05/02/2007)
 - The Pomfret Flood Hazard Area Regulations were referenced for knowledge of the Town's flood hazard regulations, and incorporated into the Flash Flood/Flood Fluvial Erosion section of this Plan.
- Pomfret Local Emergency Operations Plan (LEOP) (Adopted 04/30/2015)
 - The Pomfret LEOP was referenced for general knowledge regarding the Town's emergency operations.
- Flood Insurance Study for Windsor County, Vermont (Dated 09/28/2007)
 - The Flood Insurance Study was referenced for general knowledge of the Ottauquechee and White Rivers and peak discharge information.
 - Relevant peak discharge information for the Ottauquechee River can be found on page 24 of Volume 1, and information regarding the White River can be found on pages 26 and 27 of Volume 1.
 - This information was incorporated into the mapping/GIS components of this Plan; specifically in determining the number of structures that are vulnerable to SFHA, and into the Flash Flood/Flood/Fluvial Erosion and Severe Weather sections of this Plan.

This section of the Plan satisfies 44 CFR 201.6(b)(3) (or, A4.a and A4.b of FEMA's Local Mitigation Plan Review Guide, 2011).

C. Status Update on Mitigation Actions Identified in 2009

The following table outlines the mitigation actions that were proposed in Pomfret's 2009 All-Hazard Pre-Disaster Mitigation Plan for the Town of Pomfret (adopted on January 21, 2009 as an appendix to the Two Rivers-Ottauquechee Regional Commission's multi-jurisdictional Pre-Disaster Mitigation Plan).

This section of the Plan satisfies the requirements of 44 CFR 201.6(d)(3).

Participants in the new Plan update process reviewed these actions and reported on the status of each:

MITIGATION ACTION	WHO (LEADERSHIP)	WHEN (TIMEFRAME)	HOW (FUNDING/ SUPPORT)	STATUS UPDATE—2014/2015
<u>ALL HAZARDS</u> 1. Ensure that the Rapid Response Plan (RRP) is current.	Selectboard	Yearly	With TRORC assistance	The newest iteration of the RRP is the Local Emergency Operations Plan (LEOP). The Pomfret LEOP undergoes an annual update and it was last updated and approved on 04/30/2015. This action has been carried over into this Plan.
2. Use the Pre-Disaster Mitigation (PDM) plan for Hazard Identification and Mapping.	Emergency Planning Coordinator	Ongoing	Local resources	The previous iteration of this plan, the PDM plan, was used in the development of this plan.
3. Rewrite the Town Emergency Operations Plan and establish better communications among emergency responders.	Emergency Planning Coordinator	2009	With TRORC assistance	The newest iteration of the RRP is the Local Emergency Operations Plan (LEOP). The Pomfret LEOP undergoes an annual update and it was last updated and approved on 04/30/2015. All of the Town's radios are programmed identically, which are used for emergency communication. The Town's efforts on this remain ongoing. This action has been carried over into this Plan.

MITIGATION ACTION	WHO (LEADERSHIP)	WHEN (TIMEFRAME)	HOW (FUNDING/ SUPPORT)	STATUS UPDATE—2014/2015
<u>FLOOD</u> 4. Continue to analyze and mitigate the flooding damage that occurs during flooding in town.	Emergency Planning Coordinator	Ongoing	Local resources	The Town's Zoning and Flood Administrator is a Certified Floodplain Manager. The Planning Commission will determine what policies and/or regulations need to be changed/revised from a regulatory perspective. Finally, Town officials have discussed the flood mitigation that would result from receiving a Structures grant to replace undersized bridges. This action item has been specified and carried over into this Plan.
5. Continue the planned road maintenance program and update undersized culverts and ditching.	Highway Department	Ongoing	Local resources	This action remains ongoing. This action has been carried over into this Plan.
6. Work with FEMA to improve town flood maps.	Selectboard	2010	FEMA and local resources	Town officials believe that at present completing this action would be exceeding difficult. Thus far, no work has been completed towards this action. This action has been carried over into this Plan.
7. Replace undersized small bridges and culverts, including Bridges 5, 7 and 9.	Highway Department	Yearly	HMGP, FMA and local resources	Bridges 5, 7, and 9 are all near the Teago Store, and have not been replaced. These bridges are inspected yearly. The Town replaced approximately 200 culverts after Tropical Storm Irene. This action has been carried over into this Plan.
<u>HAZMAT</u> 8. Pursue operations-level HAZMAT training for Fire Department and FAST Squad.	Fire Departments	2009	Funded by Fire Service Training Academy	This action is ongoing, but at the end of 2014, training for 2015 had not yet been completed. This action has been carried over into this Plan.

MITIGATION ACTION	WHO (LEADERSHIP)	WHEN (TIMEFRAME)	HOW (FUNDING/ SUPPORT)	STATUS UPDATE—2014/2015
<u>FIRE</u> 9. The volunteer fire departments should continue to enlist the help of non-firefighter volunteers to assist in community fire prevention and preparedness through education, inspections, fire pond inventories, etc.	Fire Departments	Ongoing	Local resources	Two dry hydrants were installed in 2014, but have not yet been tested and are therefore, not yet operable. Several buildings have been inspected including the Town Hall, Suicide Six Ski Lodge and the ArtisTree building. The Town coordinates with the state to provide inspection. Finally, the Fire Department provides fire prevention education during Fire Prevention Week. This action has been carried over into this Plan.
10. Revise land development regulations to ensure that all new development is accessible to emergency vehicles at all times of the year.	Planning Commission and Selectboard	2010	Local resources	The revised land use regulations have not yet been adopted, but the Town intends to move forward to adopt them.
11. Complete a fire pond and hydrant inventory using GIS, and develop dry hydrants in areas that lack them at present.	Fire Departments	2010	With George D Aiken RC&D, VT Dry Hydrant Grant Program and TRORC assistance	This action has been completed with mapping assistance from TRORC. This action has been carried over into this Plan.
<u>LANDSLIDE</u> 12. Stabilize potential landslides on Pomfret Road at the Hartford town line, and elsewhere.	Road Foreman and Selectboard	Ongoing	PDM, HMGP, state, and local resources	The landslides at the Hartford town line were stabilized in 2008/2009.
<u>WINTER STORM</u> 13. Continue to inventory trees and work with utilities to trim along power lines.	Road Commissioner	Ongoing	Local resources	Green Mountain Power is principally responsible for trimming trees along power lines, and action is ongoing. This action has been carried over into

				this Plan.
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This 2016 Pomfret Hazard Mitigation Plan reflects several changes in the Town of Pomfret’s vulnerabilities to hazards and addresses the Town’s changes in priorities to different hazards. These priorities and vulnerabilities have changed in large part due to the implementation of mitigation actions that were listed in the 2009 Plan. The implementation of several of these mitigation actions has reduced the Town’s vulnerability to specific hazards, such as landslides and Hazardous Material Spills. The Landslide hazard was removed from consideration from the 2016 Plan as it was deemed to only have a possibility of occurring occasionally, had only a minor potential impact, and received a hazard score smaller than that of the other Hazards addressed in detail in this 2016 Plan. The major reason for the removal of Landslide as a hazard with a high potential impact to the Town is due to the stabilization of potential landslides on Pomfret Road that reduced the vulnerability of the Town to Landslides. Hazardous material spills, which were included as a Medium-High/High risk in the 2009 Plan were removed from detailed consideration in this 2016 Plan due to the Minor impacts that they would have if they were to occur. Pomfret does not have any interstates or state highways, so traffic the likelihood of hazardous material spills to occur is less than other hazards that were detailed in this 2016 Plan. Ice Jams were detailed and included in this 2016 as a hazard that poses a high risk to the Town of Pomfret, although the hazard was not addressed in detail in the 2009 Plan. The Hazard was included in this Plan because it was deemed “highly likely” to occur in the future, and Pomfret community members identified specific vulnerabilities in the Town to the hazard.

The Town of Pomfret is quite rural in nature, and is the definition of a “bedroom community.” Despite sharing a border with one of the most populous and developed towns in the region, Hartford, the building activity in Pomfret has been very light in the last few years. No new residential permits were issued in 2013 or 2014, although there were a few additions to existing structures. There were no permits for commercial structures issued in 2012, 2013 or 2014, 1 issued in 2011, and 2 issued in 2010. While not new development, Suicide Six Ski Area is located within Pomfret. It is considered more of a “local” ski destination, but it is popular nonetheless. Finally, within the last year or so, Artistree, a community arts center and gallery, relocated to South Pomfret. The Artistree redevelopment consisted of a significant renovation of a barn that previously existed at the site. Artistree and Suicide Six are both located in the South Pomfret Hamlet Area, which is located near the confluence of Pomfret Brook and Barnard Brook and the intersections of Pomfret Road and Stage Road. New development in the South Pomfret Hamlet Area, including Artistree, is vulnerable to ice jams from several undersized bridges on Pomfret Road, and flooding from the two brooks that meander parallel to Stage and Pomfret Roads. Development in the South Pomfret Hamlet area increases the Town’s vulnerabilities.

D. Existing Hazard Mitigation Programs, Projects & Activities

The Town of Pomfret is currently engaged in the following hazard mitigation programs, projects and activities:

This section of the Plan satisfies the requirements of 44 CFR 201.6(c)(3).

	Type of Existing Authority / Policy / Program / Action	Resources: Staffing & Funding	Ability to Expand/Improve On
Community Preparedness Activities	Program—Annual update of Pomfret’s Local Emergency Operations Plan (LEOP). Last updated and approved on 04/30/2015.	Updated by the Town Manager, assistance from TRORC and funding from Vermont DEMHS.	This document is reviewed and updated each year to ensure that the contact information of emergency response personnel is up-to-date. This information is then sent to Vermont Emergency Management for their records. The current program works well, no need to expand or improve on.
	Completed Action— Designated Red Cross Shelter—Pomfret Elementary	Staff time from the Town Clerk and volunteer time from other emergency management personnel. Funding from American Red Cross.	This is a one-time action. The shelter currently does not have a generator and is not stocked with Red Cross emergency supplies. The use of this facility could be improved with a generator and obtaining Red Cross supplies.
	Program— Participation/attendance in the Local Emergency Planning Committee District 12 (LEPC 12)	Volunteer time from the Pomfret Selectboard Chair, Michael Reese, and emergency management personnel; meetings convened by TRORC. Funding from Vermont DEMHS.	Currently there is no need to expand or improve on attendance, as it is satisfactory.
Insurance Programs	Authority/ Program—participation in National Flood Insurance Program (NFIP) The Town participates and complies with the NFIP through their enforcement of the “Flood Hazard Overlay District” part of the Town’s Zoning Bylaws, which was last adopted on 05/02/2007. [Note: This section of the Plan satisfies the requirements of 44 CFR 201.6(c)(3)(ii).]	The Town’s Floodplain Administrator, Preston Bristow is a hired individual. Assistance from TRORC and Vermont ANR. Funding from local resources— annual budget.	The Town’s initial Flood Hazard Boundary Map (FHBM) was dated 11/01/1974. The Town’s initial Flood Insurance Rate Map (FIRM) was dated 09/18/1985. The Town’s FIRM and Flood Insurance Study (FIS) have been updated, and the current effective date for both is 09/28/07. The Zoning Bylaws are kept up-to-date and regulate new development in the Special Flood Hazard Area (SFHA).
Land Use Planning	Policy/Program— Pomfret Town Plan Adopted on 11/21/2007	Volunteer time from the Planning Commission, and assistance from TRORC and other state agencies on specific subject matter. Funding from Municipal Planning Grants.	The adoption of the Pomfret Town Plan is pending. Normally, the Town Plan is reviewed/updated every five years, as required by statute. The Planning Commission may expand or improve on any section it deems

			necessary, or that is required by changes in state statute.
	Type of Existing Authority / Policy / Program / Action	Resources: Staffing & Funding	Ability to Expand/Improve On
	Completed Authority— Pomfret Zoning Ordinance Last amended on 03/07/1989, includes a Ridgeline and Hillside Conservation Areas Amendment	Volunteer time from the Planning Commission, and assistance from TRORC and other state agencies on specific subject matter. Funding from Municipal Planning Grants.	During the Town Plan review/update period, the Zoning Bylaws are also reviewed and updated if needed. Currently, there is no need to expand or improve on these regulations.
	Authority—Pomfret Flood Hazard Area Regulations Adopted 05/02/2007	Volunteer time from the Planning Commission, and assistance from TRORC and possibly Vermont ANR. Funding from Municipal Planning Grants.	During the Town Plan review/update period, these Regulations are also reviewed and updated if needed. At this time, local officials believe the flood regulations are satisfactory.
	Authority— Pomfret Subdivision Regulations Adopted on 12/20/2011; effective 01/11/2012	Volunteer time from the Planning Commission. Funding from Municipal Planning Grants.	The Subdivision Regulations may be updated when deemed appropriate by the Selectboard. Currently, there is no need to expand or improve on these regulations.
Hazard Control & Protection of Critical Infrastructure & Facilities	Policy/Program— Pomfret Hazard Mitigation Plan Adopted on 01/21/2009.	Updated with volunteer time from local officials and assistance from TRORC and Vermont DEMHS. Funding from DEMHS/FEMA.	The 2015 Pomfret Hazard Mitigation Plan will replace the 2009 Plan. The 2015 LHMP has evolved from the 2009 Plan and has greatly expanded and improved upon it. Future iterations of the Town's LHMP will be updated by the Town at least every five years.
	Authority— 2013 Town Road and Bridge Standards Adopted 03/20/2013	Adopted by the Selectboard, implemented by the Road Foreman, and assistance from TRORC. Funding from VTrans and the local budget to implement.	Specifies minimum construction standards for roadway, ditches, culverts and bridges and guardrails. VTrans updates the Town Road and Bridge Standards on a fairly regular basis. The Town has the authority to require above-and-beyond what is written in the policy.
	Authority—Town of Pomfret Highway Ordinance Adopted 12/02/2009	Adopted by the Selectboard, implemented by the Road Foreman, and assistance from VTrans/TRORC. Funding from VTrans and the local budget to implement.	Regulates maintenance, upgrading and construction of the Town's highways. May be amended as needed.
	Program—Better Backroads culvert inventory completed in fall 2013 for the Town of Pomfret This inventory includes georeferenced locations and attributes for all culverts in Pomfret. The Town received targeted assistance in the culvert inventory and specific priority	Staff time from the Pomfret Road Foreman; assistance from TRORC. Funding from Better Backroads grant; local personnel time.	The Town is currently using the culvert inventory to further its culvert improvement program, and seeking funding through various sources for implementation projects. Routine in-house updates occur on an on-going basis. There is no need to expand or improve upon this program at this time.

	projects were identified.		
	Type of Existing Authority / Policy / Program / Action	Resources: Staffing & Funding	Ability to Expand/Improve on
Education/ Public Outreach	Completed Action— Public training related to Red Cross Shelter designation The training was held in April 2012 in Strafford, Vermont and there were 5 attendees.	Staff time from the Town Clerk and volunteer time from the Emergency Management Director/Coordinator and other emergency management personnel. Funding from American Red Cross.	This is a one-time action, and improving/expanding upon it is not necessary.
	Action/Program— Weather-related information is posted on the website	Staff time from the Town Clerk's office. Funding from local budgets (Town/, emergency services).	This is an ongoing action/program, and currently works well so there is no need to expand/improve on it at this time.

E. Plan Maintenance

This Plan (the Pomfret Local Hazard Mitigation Plan) will be updated and evaluated by discussing its effectiveness and making note to incorporate any necessary revisions in the update process. This update and evaluation will occur annually at an April Selectboard meeting along with the annual review of the Local Emergency Operations Plan (LEOP). At this meeting, the Selectboard will monitor the implementation of the hazard mitigation and preparedness strategies outlined in this Plan by noting those that have been completed, and identifying the next steps required to implement the Plan's remaining strategies. Comments from local officials and the public will be incorporated when relevant. This meeting will constitute an opportunity for the public and other town officials to hear about the town's progress in implementing mitigation strategies and to give input on future activities and Plan revisions. The public will be given the opportunity to comment at this meeting. Evaluation of the Local Hazard Mitigation Plan will consist of a thorough analysis of the status of mitigation and preparedness strategies and whether they are being implemented according to the time frames included in tables in this Plan. The Town of Pomfret will evaluate the status of mitigation strategies to assess that goals of the Local Hazard Mitigation Plan are being met. Adherence to the mitigation, preparedness, and ongoing strategy implementation tables included in this Plan will constitute the degree of effectiveness of the Plan. The Town will also evaluate the status of vulnerabilities detailed in this Plan to evaluate their validity. The update of the Plan will bring up to date materials that have become outdated due to the passage of time. Pomfret's Emergency Management Director will be the principal point of contact and will take primary responsibility for the monitoring, evaluation, and update process described here. He or she will bring the Plan's maintenance activities to the Selectboard's agenda and discussions.

Updates and evaluation of this Plan by the Selectboard and the local Emergency Coordinator/Director will also occur within three months after every federal disaster

declaration directly impacting the Town of Pomfret. The Town will monitor, evaluate and update this Local Hazard Mitigation Plan at an April Selectboard meeting and after every federally declared disaster directly impacting the Town according to the graphic in Appendix C.

This section of the Plan satisfies 44 CFR and 201.6(c)(4)(i), 201.6(c)(4)(ii), and 201.6(c)(4)(iii).

The Town shall reference the Local Hazard Mitigation Plan when working on Town Plan amendments or changes to the Town's bylaws. The Town of Pomfret will consider incorporating the mitigation actions outlined in this plan into the Municipal Plan during its ongoing plan update process. The Municipal Plan update will be spearheaded by the Planning Commission, who will review the plan and determine those mitigation actions/strategies/goals that should be included in the Municipal Plan.

At least one year before the Plan expires, the update process will begin (through annual updates, monitoring of progress and evaluation that will occur at the April Selectboard meeting). For this next Plan update, the Two Rivers-Ottawquechee Regional Commission (TRORC) will help with Plan updates if assistance is requested by the Town of Pomfret and if funding is available. If TRORC is unable to assist the Town, then Pomfret's Town Clerk, Administrative Assistant, or Selectboard will update the Plan, or the Selectboard may appoint a committee of interested citizens (including the current local Emergency

Director) to draft changes. Ultimately, it will be the Town's responsibility to update their Local Hazard Mitigation Plan.

The process of evaluating and updating the plan will include continued public participation through public notices posted on the municipal website, notice within the municipal building, notice in The Valley News, and the TRORC newsletter and blog. These notices will invite the public to the scheduled Selectboard (or specially scheduled) meeting. The public will be given the opportunity to comment during this process. Additional stakeholders may be invited to the meeting; these include: the Woodstock Ambulance Service, VTrans, and the Vermont Agency of Natural Resources (VT ANR). VT ANR will be invited because they can provide assistance with NFIP outreach activities in the community, models for stricter floodplain and river corridor zoning regulations, delineation of fluvial erosion hazard areas, and other applicable initiatives. These efforts will be coordinated by the Town Clerk.

Updates to the Plan may include changes in community mitigation strategies; new town bylaws, zoning and planning strategies; progress on the implementation of initiatives and projects; effectiveness of implemented projects or initiatives; and evaluation of challenges and opportunities. If new actions are identified in the interim period, the plan can be amended without formal re-adoption during regularly scheduled Selectboard meetings.

Pomfret shall also incorporate mitigation planning into their long-term land use and development planning documents. The 2013 Vermont Legislature passed a law requiring all towns to incorporate flood resiliency elements into town plans that are adopted after July 2014. To do so, flood hazard and fluvial erosion hazards will be identified, and strategies and recommendations will be provided to mitigate risks to public safety, critical infrastructure, historic structures and public investments. This Local Hazard Mitigation Plan will help the town to comply with the new community flood resiliency requirement for town plans adopted after July 2014.

It is also recommended that the process work both ways and the Town review and incorporate elements of the Local Hazard Mitigation Plan into updates for the municipal plan, zoning regulations, river corridor bylaws. The Pomfret Planning Commission will incorporate hazard mitigation strategies developed and identified in this Local Hazard Mitigation Plan directly into goals, policies, and recommendations in future updates to the Pomfret Town Plan. The incorporation of the goals and strategies listed in the Local Hazard Mitigation Plan into the municipal plan, zoning regulations flood hazard, river corridor bylaws will also be considered after declared or local disasters. The Town shall also consider reviewing any future TRORC planning documents for ideas on future mitigation projects and hazard areas.

V. Community Vulnerability by Hazard

A. Hazard Identification

Mitigation efforts must be grounded in the rational evaluation of hazards to the area and the risks these hazards pose. This is done through a process, which in essence asks and answers three basic questions:

- What bad things can happen?
- How likely are they to occur?
- How bad could they be?

This process, which is laid out in the table below, is an attempt to inventory the known hazards, establish the likelihood of them occurring in the future, and assess the community's potential vulnerability to each. In performing this analysis, we are then able to prioritize actions that are designed to mitigate the effects of each of these disaster types and ultimately make Pomfret a safer place.

It is important that we learn from the past in order to avoid the same disasters and their outcomes. Disasters that have occurred within the Town of Pomfret, the larger region, and the State of Vermont can give us good information about what types of disasters we can expect in the future and what kinds of damage they might cause. This historical data can inform our perspective of what might happen in the future, but it is by no means a prophecy. While Pomfret might not have been impacted by a specific hazard in the past, this does not necessarily mean it will never be affected in the future. Indeed, the advance of climate change means that old weather patterns may not hold. For instance, in recent years, Vermonters have seen an increase in the number and severity of storms, especially high intensity rainfall events. Armed with historical data and a healthy respect for climate change and the unknown, we have tried our best to identify hazards and prepare for the future.

The following table reflects the hazards that we believe can be expected, or are at least possible, in the central Vermont area. We have considered factors such as frequency of occurrence, warning time and potential community impact to rank each and determine which hazards pose the greatest threats to life and property in Pomfret.¹ The worst threats (bolded in the table, below) are then followed-up with discussion and mitigation strategies throughout the rest of this Plan.² It should be noted that hazards assigned with the same "Hazard Score" are not in order, and their placement in the table should not be assumed to reflect their potential to create hazards for the town.

¹ The ranking methodology used in this Plan (see Appendix A) is closely modeled on that which is used by the Vermont Division of Emergency Management & Homeland Security (VDEMHS). Those hazards which were not found to pose the greatest threats to Pomfret - including Drought, Avalanche, Extreme Heat, Tornadoes, Hail Storms, water supply contamination, Invasive Species Infestation, Landslides/Mudslides/Rockslides, and Earthquakes - were not addressed in this plan due to low probability of impact and scarce community resources. For these hazards, please review the Vermont State Hazard Mitigation Plan. The changes made were intended to reflect the more limited geographical scope of this analysis, which is focused on a small, rural town rather than the entire State of Vermont (which is the focus of VDEMHS).

² It's important to note that those hazards which were not found to pose the greatest threats may still occur in Pomfret's future; however, they are not the focus of this Plan.

	Frequency of Occurrence	Warning Time	Potential Impact	Hazard Score
Ice Jams	Highly Likely	None	Moderate	11
Flash Flood/Flood/Fluvial Erosion	<i>Likely</i>	<i>None-Minimal</i>	<i>Moderate</i>	<i>10</i>
Severe Weather (Thunderstorm, Lightning, High Wind, Hail, and Flooding) *Note: We have defined 'Severe Weather' to include two or more of the above hazards.	Likely	3-6 hours	Moderate	10
Structural Fire	Likely	None	Minor	9
Extreme Cold/Snow/Ice Storm	Highly Likely	12+ hours	Major	9
Wildfire/Brushfire	Likely	None	Minor	9
Hazardous Material Spill	Likely	None	Minor	9
Hail Storms	Likely	3-6 hours	Minor	8
Landslides/Mudslides/Rockslides	<i>Occasionally</i>	<i>None-Minimal</i>	<i>Minor</i>	<i>8</i>
Hurricanes/Tropical Storms	Likely	12+ hours	Major	8
Extreme Heat	Likely	12+ hours	Moderate	8
Earthquake	Occasionally	None	Negligible	7
Tornado	Unlikely	3-6 hours	Moderate	7
Invasive Species/Infestation	Highly Likely	12+ hours	Minor	7
Drought	Occasionally	12+ hours	Negligible	4
Water Supply Contamination (There are no public water systems in Pomfret.)	N/A	N/A	N/A	N/A
Dam Failure (There are no major dams in Pomfret.)	N/A	N/A	N/A	N/A
Tsunami (Vermont is landlocked.)	N/A	N/A	N/A	N/A

The Pomfret LHMP discussed the results of the hazard ranking activity and decided to focus on hazards that were deemed *Likely* or *Highly Likely* to occur and had the potential to have a *Minor* to *Major* impact

on the Town. Due to low probability of impact, small potential impact and scarce community resources (time and money), the mitigation committee chose not to detail these hazards in the LHMP: drought, hail storms, extreme heat, tornadoes, invasive species, dam failure, earthquakes, landslides/mudslides, avalanche, wildfires, and hazardous material spills, the mitigation committee chose not to detail these hazards in this LHMP. The committee also decided to address *Structure Fire* in their Town's LHMP because, while structure fires in Pomfret are likely to be isolated in nature, they also have the ability to uniquely threaten life and limb. For the purposes of this Plan, Severe Weather and Hurricanes/Tropical Storms will be combined into one hazard profile area for analysis due to their overlapping events and potential impacts to the Town. Refer to Appendix A for definitions of the hazard ranking terms used in the above chart.

After engaging in discussions using their best available knowledge, the Town of Pomfret identified the following "top hazards" that they believe their community is most vulnerable to:

- Ice Jams
- Flash Flood/Flood/Fluvial Erosion
- Severe Weather & Hurricanes/Tropical Storms
- Structure Fire
- Extreme Cold/Snow/Ice Storm

Each of these "top hazards" will be discussed in the following sections. Within each section, previous occurrences of each hazard will be listed, including the County-wide FEMA Disaster Declarations (DR-#), where applicable. Hazards information was gathered from local sources (ex., town history book), the National Climatic Data Center's (NCDC's) Storm Events Database (1950-2014), the Spatial Hazard Events and Losses Database for the United States (SHELDUS) 1960-2014, and Special Reports produced by the National Weather Service in Burlington, Vermont. This section also includes a description of each "top hazard" and a hazard matrix that will include the following information (please see each hazard profile for a hazard-specific matrix):

Hazard	Location	Vulnerability	Extent	Observed Impact	Likelihood/Probability
Type of hazard.	General areas in community that may be vulnerable to the hazard.	Community structures, systems, populations, or other assets as defined by the community that are susceptible to damage and loss from hazard events.	The strength or magnitude and details of the most notable event(s).	Financial impact from an event and/or the number of structures that are impacted.	<u>Occasionally</u> : 1–10% probability of occurrence per year, or at least one chance in next 100 years <u>Likely</u> : >10% but <100% probability per year, at least 1 chance in next 10 years <u>Highly Likely</u> : 100% probable in a year

B. Hazard Profiles for “Top Hazards”

1. Ice Jams

Ice jams are a flooding hazard of special concern, and they occur less frequently than typical riverine flooding in Pomfret, but can be more destructive to the health and property of residents. Ice jams occur due to the accumulation of ice in a river, stream, brook, or other flowing water body that inhibits the ability of that water body to carry the flow while also increasing the elevation of surface of that water body.³ There are several different types of ice jams, but the most frequent form that is exhibited in Pomfret is the breakup-type jam. Breakup jams typically occur in late winter or early spring, and are associated with the slight warming of ice that initiates river flow and the increase of rainfall and spring runoff that increases surface water volume.⁴

Ice jam events are a serious concern throughout the State of Vermont, owing to the vast number of waterways within the state’s footprint. Such events can occur with little to no warning and quickly escalate into life-threatening situations, thereby increasing the impact of such events when they happen.

This section of the Plan satisfies the requirements of 44 CFR 201.6(c)(2)(i), 201.6(c)(2)(ii), and 201.6(c)(2)(iii) for **Ice Jams**.

Ice jams are most prone to occur when heavy rains and rising temperatures cause rapid snow melt. Rivers, as a consequence, swell and ice layers begin to break, which then flow downstream and create obstructions around natural and man-made barriers. The majority of ice jams happen between the months of January and March, and the lead time for an ice jam or flow can range anywhere from a few hours to only one hour. The flows can cause water to rise by multiple feet per hour or even multiple feet within minutes. This can mean that there is insufficient time to prepare for rising water and ice levels.

While flooding from ice jams is not often major, it has the possibility to be catastrophic, particularly in places that have an historic pattern of growth along waterways. Ice jams can have a disastrous impact on waterways and surrounding structures and infrastructure, and they can cause severe erosional issues along with endangering local fish and wildlife populations. There are no state buildings or facilities in Pomfret that may be immediately endangered by ice jams; however, basic infrastructure and private property are at high risk. Specific ice jams data, in terms of river height in feet and actual size of ice jams, were unavailable for the follow events.

History of Occurrences:

Date	Event	Location	Extent and Impacts
03/09/ 2008	Ice Jam	White River, along Route 110	VT State Highway Dept. reported an ice jam forming along the First Branch of the White River along Route 110 in the S. Royalton, Tunbridge, and Chelsea areas. No reports of flooding confirmed in this instance
03/15/2007	Ice Jam	White River,	VEM reported an ice jam formation in a large culvert/bridge on Rt. 110.

³ Federal Emergency Management Agency. (2003). Guidelines and Specifications for Flood Hazard Mapping Partners. Appendix F: Guidance for Ice-Jam Analysis and Mapping. *Map Modernization*.

⁴ (FEMA, 2003).

		along Route 110	Ultimately impacted 10 residences, 3 commercial buildings, and mostly caused basement flooding. Fire Dept. was on the scene to pump water out of buildings. Also caused some driveway/sidewalk erosion.
03/21/2003	Ice Jam	First Branch	According to the NWS, a breakup ice jam was reported on the First Branch of the White River just south of Chelsea.
03/11/1992— 03/18/1992 (DR-938 VT)	Ice Jam, Flooding	White River	This event resulted in approximately \$43,000 in damage to Town roads,—Town Highways #1-11—and caused by heavy rain, ice jams and flooding.

There is a history of ice jams occurring at bridge #9, at the driveway of 2026 Pomfret Road, in South Pomfret, at the Pomfret-Teago Fire Department station entrance.

Please note; although no data records were found to support or flesh out their claims, according to local officials, there have been additional instances of ice jams occurring in the Town of Pomfret. Overall, these ice jams were relatively small in scale and caused minor damage.

In order to prepare for the possibility of ice jams, Town officials monitor the weather conditions that contribute to ice jams. However, no concrete plan exists for responding to an ice jam in the Town of Pomfret. Town officials are also continuing to look into how to lessen ice jam risk at bridge #9 and work with the State of Vermont to address sizing/positioning issues. By ensuring that development is safe from flood risk, and road infrastructure is properly sized, the risk of damage from ice jams will also be reduced.

Hazard	Location	Vulnerability	Extent	Estimated/Potential Impact	Likelihood/Probability
Ice Jams	In particular, bridge #9 at the entrance of the Pomfret-Teago Fire Department station	All property and infrastructure adjacent to Town waterways	Incident-specific, but can severely endanger life and property.	Dollar value or percentage of damages not known because of a lack of historical data. Minor damage is anticipated.	Highly Likely

2. Flash Flood/Flood/Fluvial Erosion

The most frequent form of flooding in the State of Vermont and the Town of Pomfret is riverine flooding, or overbank flooding, which occurs to rivers when they receive more rain or snowmelt from their watershed than they typically experience. Flooding causes the inundation of land that is normally dry. Overbank flooding is experienced more frequently in mountainous and hilly areas where water moves with higher velocities. Flash floods occur when severe storms drop high amounts of rainfall in short periods of time. Flash floods occur more frequently in areas with steep slopes and narrow stream valleys. Riverine erosion is the gradual wearing

This section of the Plan satisfies the requirements of 44 CFR 201.6(c)(2)(i), 201.6(c)(2)(ii), and 201.6(c)(2)(iii) for **Flash Flood/Flood/Fluvial Erosion**.

away of land masses by rivers and streams. River channels are constantly changing. As rivers flow and water moves downstream, water exerts energy upon riverbanks and causes erosion.

Flooding is one of the worst threats to Pomfret's residents and infrastructure. Past instances of flooding in Pomfret have included rain and/or snowmelt events that cause flooding in the major rivers' floodplains and intense rainstorms over a small area that cause localized flash-flooding. Both kinds of events can be worsened by the build-up of ice or debris, which can contribute to the failure of important infrastructure (such as culverts, bridges, and dams).

The worst flood disaster to hit the Town of Pomfret, as well as the overarching region and the State of Vermont, occurred on November 3, 1927. This event was caused by up to 10 inches of heavy rain from the remnants of a tropical storm that fell on frozen ground. Eighty-four Vermonters, including the Lieutenant Governor, were killed. The flooding in the White River valley was particularly violent, with an estimated 120,000 to 140,000 cubic feet/second (cfs) flowing out of the White River at West Hartford, Vermont. Like many towns in the region, the Town of Pomfret received heavy precipitation, seeing roughly 7-8 inches of rainfall over the storm period.

A more recent flooding event that devastated the region and the state was the result of Tropical Storm Irene, which occurred on August 28, 2011. Record flooding was reported across the state and was responsible for several deaths, as well as hundreds of millions of dollars of home, road and infrastructure damage. Due to strong winds, 50,000 Vermont residents were initially without power, and many did not have electricity restored to their homes and businesses for over a week. Despite the damage wrought, the flooding caused by Tropical Storm Irene is considered to be the second greatest natural disaster in 20th and 21st century Vermont, second only to the Flood of 1927.

The most recent flooding event occurred over three weeks in late June and early to mid-July in 2013. The flooding was widespread and severe enough for a Federal Disaster Declaration, DR-4140, to be issued for Windsor and other counties in Vermont. The road and infrastructure damaged during this flooding event was located on Pomfret Road, Cloudland Road and Galaxy Hill Road. The damage was mostly due to washouts and erosion.

The Town of Pomfret suffered significant damage to property and infrastructure during Tropical Storm Irene, although no lives were lost. It is estimated that Tropical Storm Irene dropped 4-5" inches of rain over the Town of Pomfret in a very short span of time. The precipitation totals averaged 4-7" over Windsor County. In some areas, it is thought that the flooding that occurred as a result of Tropical Storm Irene was close to being a full-fledged 500-year flood, or a flood that has a .2% chance of occurring annually.

A number of Pomfret's roads/bridges were damaged by the storm, including parts of: Bartlett Brook Road, Cloudland Road, Starbuck Road, Wayside Road, Blackmer Road, Sessions Meadow, Wild Apple Road, Barber Hill Road, Bunker Hill Road and White River Lane. See Appendix C for more road-specific damage information. The county-wide damage for Windsor County totaled over \$32.5 million.

More recently, a series of storms that occurred during the summer of 2013 brought heavy downpours and caused localized flooding and fluvial erosion in many parts of the state. So much so, that a federal disaster declaration was issued for the period of time from June 25, 2013 to July 11, 2013 (DR-4140 VT). In Pomfret, parts of Pomfret Road, Cloudland Road, and Galaxy Hill Road were damaged due to washouts/erosion. Over the established disaster period, more than 7 inches of rain fell in Pomfret.

Unfortunately, flooding is very common across the region, with many events impacting the Town of Pomfret specifically. Flooding is one of the worst threats to Pomfret’s residents and infrastructure. The following list indicates the history of occurrence with regard to this hazard in Windsor County (given the small population of Pomfret, town-specific data is limited); an asterisk “*” denotes the instances in which town-specific data is available, and federal disaster numbers are listed where appropriate. Specific data regarding number of acres of land lost to fluvial erosion and amount of fill used to replace fluvial erosion were not available for events in Pomfret.

History of Occurrences:

Date	Event	Location	Extent and Impacts
06/25/2013— 07/11/2013 (DR-4140 VT)*	Severe Storms and Flooding	Pomfret, County-wide	Severe storms caused flooding throughout the region, which resulted in damage to some infrastructure and facilities. In Pomfret, the following impact was sustained: at 7090 Pomfret Road a culvert washout occurred on July 2, 2013 (the 42 inch culvert was recently replaced with an upsized 80 inch culvert); a washout/erosion on Cloudland Rd; a washout/erosion on Galaxy Hill Road; a washout/erosion on Pomfret Road from Labounty Road to the area of Howe Hill Road; stream bank erosion at 7658 Pomfret Road; and erosion from the Mill Brook on Pomfret Road from Starbuck Road to Freeman Road. More than 7 inches of rain fell in Pomfret during the disaster period. There were scattered power outages throughout the disaster period. On 6/25/2013 an outage affected 132 Green Mountain Power customers from 2.8 hours to 3.9 hours. On 7/5/2013 81 customers were affected for 2 hours.
08/28/2011 (DR-4022 VT, TS Irene)*	Tropical Storm	Pomfret, County-wide	Widespread rainfall amounts of 3-5 inches occurred across Vermont with 5 to 7+ inches across much of southern, central Vermont. Pomfret specifically received more than 7 inches in 48 hours. Devastating flash flooding occurred across much of central and southern Vermont mountain valleys with substantial and some record breaking flood stages on larger rivers. This flood event will likely rank second to the November 1927 flood in the scope of meteorological and hydrological conditions/impacts as well as loss of life (84 in 1927), but likely first in monetary damage ((approx.. \$500. million statewide v. \$350 million (1927 in 2010 dollars)). There were nearly 2,400 roads, 800 homes/businesses, 300 bridges and a half dozen railroad tracks destroyed or damaged from the flooding caused by Irene. 4.66” reported in South Pomfret. \$852,116.71 in damages according to FEMA’s Public Assistance database (captures at least 70% of the total damage). There were 609 customers who lost power for 30 hours. There were many more who lost power for longer durations, including a group of 243 who lost power for 50 hours, and another smaller group of 21 who lost power for more than 4 days.
04/27/2011	Flooding	County-wide	Heavy rains, snowmelt from an above-normal snowpack, and high temps caused significant flooding in the region. Pomfret received 1 inch of rain in 24 hours. No significant power outages occurred.

10/01/2010	Flooding	County-wide	Heavy rains from the remnants of TS Nicole hit Vermont, dumping multiple inches of rain in the White River Valley, and washing out local roads. Pomfret received 4.89 inches of rain in 48 hours. As a result of this rain event, 160 Pomfret power customers lost power for 2.6 hours.
07/21/2008— 08/12/2008 (DR-1790 VT)	Flooding	County-wide	Showers and thunderstorms produced significant rainfall across the region, causing severe flash flooding in places. Flood waters originating in Addison County traveled down the White River, causing portions of Route 100 to flood. Pomfret received 6.86 inches of rain over the disaster period. Altogether 107 customers lost power during the disaster period for durations that ranged from 1.5 hours to 5.6 hours.
07/11/2007 (DR 1715 VT)	Flash Flooding	County-wide	Localized heavy rainfall exceeded 3 inches within a two hour time frame. Some localized storm totals approached 6 inches across very hilly or mountainous terrain, which resulted in flash flooding of several communities. As a result of this flooding event, 52 customers lost power for 1.6 hours, and customers lost power for 2.2 hours.
04/15/2007— 04/21/2007 (DR-1698 VT)	Severe Storms and Flooding	County-wide	Severe storms caused flooding throughout the region, causing damage to some infrastructure and facilities. Pomfret received a period of hard rainfall during the period, which consisted of 1.14 inches in 24 hours. From 4/15 through 4/23 346 total Green Mountain Power customers in Pomfret lost power from short periods of 1.8 hours to much longer periods of longer than 2 days.
05/14/2006	Flooding	County-wide	Rainfall totals from a large storm system brought 3-6" of precipitation to the county, leading to flooding and minor washouts on several roads in the region and overflowing banks of streams. A total of \$25k in county-wide damages was reported. No significant power outages occurred.
01/18/2006	Flooding	County-wide	A powerful storm and rising temperatures led to rainfall of 1.5-2.5" and additional snowmelt. This led to field flooding and ponding of water on area roadways in the region. \$3k in damages was reported for Windsor County. 162 power customers lost power for 4.3 hours.
10/07/2003— 10/09/2003	Flooding	County-wide	Heavy rains resulted in minor flooding throughout Windsor County and caused \$20k in property damage. Specific rainfall damage for this event could not be found. Specific outage data for this event could not be found.
10/29/2003	Flooding	County-wide	Heavy rains fell on already-heavily saturated soils, and streams and rivers, including the White River, rose rapidly. Low land and field flooding occurred in the watershed. Pomfret received 2.93 inches of rain in 72 hours. Specific outage data for this event could not be found.
07/21/2003— 08/18/2003	Severe Storms and Flooding	County-wide	Severe storms caused flooding throughout the region, causing damage to some infrastructure and facilities. Pomfret received a period of high intensity rainfall, with 1.9 inches falling in 24 hours. Specific outage data for this event could not be found.
04/13/2002— 04/14/2002	Flooding	County-wide	Snowmelt and 1-3" of rainfall across the region led to flooding along rivers in the county. \$50k in damages was reported throughout the county. Specific outage data for this event could not be found.
07/11/2001 (DR-1715)	Flash Flooding	County-wide	Tropical-like showers and thunderstorms caused heavy localized flooding. Rainfall exceeded 3" within a 2 hour time frame, with some areas getting nearer to 6". Many roads washed out, basements flooded, and homes were damaged or destroyed. Specific outage data for this event could not be found.
07/14/2000— 07/18/2000 (DR-1336)	Flash Flooding	County-wide	Slow-moving thunderstorms resulted in heavy rainfall, particularly across mountainous portions of the region. Flooding ensued, causing a reported \$500k in damage across Windsor County. Pomfret received 3.77 inches in 48 hours. Specific outage data for this event could not be found.
04/04/2000	Flash	County-wide	A storm system moved across New York and New England Tuesday, April 4th,

	Flooding		with steady rain. Mild temperatures resulted in melting mountain snows. As a result, many streams and rivers rose to bankfull or above with some flooding. \$10k in damage reported across Windsor County. Pomfret received 1.08 inches of rainfall in 24 hours. Pomfret experienced widespread and lengthy power outages during the Tropical Storm. Specific outage data for this event could not be found.
09/16/1999— 09/21/1999 (DR-1307)	Severe Storms and Flooding	County-wide	TS Floyd brought heavy rains, high winds, and flooding to the region, causing extensive damage to public property. 5.5 inches of rain fell in 24 hours in Pomfret. Specific outage data for this event could not be found.
06/27/1998	Flash Flooding	County-wide	An area of low pressure tracked across New York and New England during the late night of Friday (June 26) and morning of Saturday (June 27). Heavy convective rains fell with 3 to 6 inches across northern portions of the county. Extensive flooding occurred along Windsor County's waterways. Specific outage data for this event could not be found.
07/13/1996	Flooding	County-wide	Remnants of Tropical Storm Bertha moved into the region, bringing heavy rainfall that caused road washouts and mudslides in the county. \$10k in damage was reported county-wide. Specific rainfall data for this event was unavailable. Specific outage data for this event could not be found.
05/11/1996— 05/12/1996	Flooding	County-wide	Rain and snowmelt led to many rivers swelling and minor field flooding in places. \$5k in damage was reported in the county. Specific rainfall data for this event was unavailable. Specific outage data for this event could not be found.
01/19/1996— 01/20/1996	Flooding	County-wide	A deadly storm brought above normal temperatures, strong winds, and flooding to the region. Snowmelt and rainfall hit the region, washing out numerous roads and flooding other areas. Numerous power outages were reported. \$900k in damage was reported for the county. Specific rainfall data for this event was unavailable. Specific outage data for this event could not be found.
06/28/1973— 06/30/1973 (DR-397)	Flooding	County-wide	Rainfall totaled as much as 6 inches in 24 hours in some locations. There were 3 deaths and \$64 million. Specific outage data for this event could not be found.
11/02/1927— 11/04/1927 ("Flood of 1927")*	Flooding	Pomfret, County-wide	Considered to be one of VT's most devastating events, the flood took out 1285 bridges, miles of roads and railways, and countless homes and buildings. 84 people were killed. Rainfall totaled 4-9" statewide, following a month with 150% the normal amount of rain. Pomfret and the nearby areas saw from 7-8" of rainfall during the storm. Specific outage data for this event could not be found.

The Town of Pomfret has standalone flood hazard regulations entitled the Pomfret Flood Hazard Area Regulations. These regulations were adopted on May 02, 2007. The Town's Flood Hazard Area Regulations severely restrict development in the Special Flood Hazard Area. New development within the floodway is prohibited. Streams and brooks with mapped special flood hazard areas include Broad Brook, Barnard Brook, Mill Brook and other unnamed brooks in North Pomfret, Dimick Brook, Whitman Brook, Cloudland Brook, Pomfret Brook and part of Bartlett Brook.

There are 37 residential and 8 commercial/industrial/public structures in the 100-year floodplain. If all of the residential and 8 commercial/industrial/public properties were damaged/destroyed in a severe flooding event, the damage would equal \$15,056,527. There are two critical facilities located in the 500-year floodplain, both of which are hazardous material storage facilities. Specific businesses and facilities

located in the flood hazard area include Artistree Community Art Center, Abbott Memorial Library, The Teago General Store, Suicide Six Ski Area, Riverbend Home & Garden Supply Company, and Andrew's Furniture. In an effort to help protect structures and road infrastructure, it is important to restore floodplain, improve floodplains areas, and increase the number of areas for retention of floodwaters. These actions will reduce the risk to structures and road infrastructure wherever possible.

Additionally, there are 19 structures that reside within the River Corridor area, which was mapped by the Vermont Agency of Natural Resources. The River Corridors accurately represent the area where rivers and streams will move over time, and depict areas that are at risk of erosion due to the river or stream's lateral movement. Mapped river corridor areas in Pomfret are similar to the mapped special flood hazard areas within the Town. Mapped River Corridor areas include Broad Brook, Barnard Brook, Mill Brook and other unnamed streams in North Pomfret, Whitman Brook, Cloudland Brook, and Pomfret Brook. The locations of these brooks and streams, river corridor areas, special flood hazard areas, and vulnerable structures located within these frequently flooded areas are illustrated in Attachment A: Map of Pomfret.

Across Vermont, most child and elder care facilities are not registered with the State. Most child day care is private in-home care in Pomfret, but there are also two registered childcare home located at 670 Vermont Route 12 and 1582 High Pastures Road. There are no elder care facilities in the Town of Pomfret. Finally, low income housing is not registered with the State, and there are currently no manufactured home parks located in Pomfret that are registered with the state. However, according to the Draft 2014 Pomfret Town Plan (as of 05/28/2014), Pomfret had five mobile home structures in 2012.

Recent studies have shown that the majority of flooding in Vermont occurs along upland streams, as well as along road drainage systems that fail to convey the amount of water they are receiving. These areas are often not recognized as being flood prone, and property owners in these areas are not typically required to have flood insurance. It should be noted that, while small, mountainous streams may not be mapped by FEMA in NFIP FIRMs (Flood Insurance Rate Maps), flooding along these streams is possible and should be expected and planned for. Flash flooding in these reaches can be extremely erosive, causing damage to road infrastructure and to topographic features including stream beds and the sides of hills and mountains. The presence of undersized or blocked culverts can lead to further erosion and stream bank/mountainside undercutting. Furthermore, precipitation trend analysis suggests that intense, local storms are occurring more frequently. Pomfret will experience high intensity rain events in the future based on these trends. Due to Pomfret's topography of steep slopes and narrow river valleys, fluvial erosion also has a high probability of future occurrence.

Pomfret maintains an up-to-date list of culverts and culvert condition, and has engaged in culvert upgrading since the 2009 Pomfret Annex was drafted. Approximately 200 culverts have been replaced and/or upgraded since Tropical Storm Irene occurred in 2011. The process of upgrading culverts is currently in progress, and the last comprehensive culvert inventory was completed in 2013. No development projects are planned in Pomfret in areas that would be vulnerable to flooding. There are no repetitive loss properties in the Town of Pomfret on FEMA's NFIP list. No detailed data was available for fluvial erosion damage in Pomfret in terms of numbers of acres lost during each event.

Hazard	Location	Vulnerability	Extent	Observed Impact	Likelihood/Probability
Flash Flood/ Flood/ Fluvial Erosion	Many of Pomfret's roads are vulnerable to erosional flooding due to steep terrain. Some of the most vulnerable for fluvial erosion or flooding include: Bartlett Brook's lower section (floods regularly in the spring); Pomfret Brook, which runs along Pomfret/Stage Road; Gulf Stream along VT Route 12; Cloudland Brook; Mill Brook; and streams with past modification.	Culverts, bridges, road infrastructure are vulnerable. There are 37 residential and 8 commercial/industrial/public structures in the 100-year floodplain. Major commercial facilities that are vulnerable include Artistree community art center, Abbott Memorial Library, Teago General Store, Suicide Six Ski area, Andrews Furniture, and Riverbend Home and Garden Supply. If all were damaged/ destroyed in a severe flooding event, the damage would equal \$15,056,527.	Tropical Storm Irene: 4-7" across county (4.66" in South Pomfret). Specific data regarding number of acres of land lost to erosion were not available for events in Pomfret.	From Tropical Storm Irene (DR-4022 VT) \$852,116.71 in Pomfret in damages according to FEMA's Public Assistance database (captures at least 70% of the total damage). For DR-4140 VT, parts of Pomfret Road, Cloudland Road and Galaxy Hill Road were damaged due to washouts/ erosion.	Likely

3. Severe Weather, Tropical Storms, and Hurricanes

Severe weather consists of thunderstorms, lightning, hail, and intense winds. Often it consists of multiple events that combine to create hazardous conditions that pose a threat to communities in the State of Vermont and the Town of Pomfret. Severe weather can be incredibly unpredictable.

This section of the Plan satisfies the requirements of 44 CFR 201.6(c)(2)(i), 201.6(c)(2)(ii), and 201.6(c)(2)(iii) for **Severe Weather**.

More common than hurricanes or tropical storms are severe thunderstorms (usually in the summer), which can cause flooding, and are associated with lightning, high winds, hail and tornadoes. Hailstorms have occurred in Vermont, usually during the summer months. While local in nature, these storms are especially significant to area farmers, who can lose entire fields of crops in a single hailstorm. Large hail is also capable of property damage. Between 1950 and 2013, there were 698 hail events recorded in the state of Vermont, making hail an annual occurrence in some part of the state. Most of these events had hail measuring .75 inches, but many had hail at least 1.5 inches in size. The largest hail during the period was 3-inch hail that fell in Chittenden County in 1968 (NCDC). Tennis ball-sized hail was reported in the town of Chittenden during a storm in the summer of 2001. Thunderstorms can generate high winds, such as straight-line winds that can level trees in large swathes.

In Pomfret, severe weather is quite common, typically in the late spring and summer months when the region experiences high temperatures. Severe thunderstorms tend to bring other hazards such as high winds, hail, lightning, and flooding, and these hazards are often experienced in combinations which create many unique weather and emergency management situations. Over the years, Pomfret has been hit with high winds that have downed and uprooted numerous trees, and knocked out electricity to residents in the Town. Town-specific wind data is sometimes difficult to find, nevertheless, the “Remarks” section of NCDC Database helps to illuminate the impact strong winds can have on Pomfret. Sizeable hail has also accompanied storms moving throughout the Town and region.

The following list indicates the history of occurrence with regard to this hazard in Windsor County (given that small population of Pomfret, town-specific data is limited); an asterisk “*” denotes the instances in which town-specific data is available, and federal disaster numbers are listed when appropriate. In an attempt to capture the individual hazards that may arise, and the different circumstances caused by the hazards in concert, the separate hazards are documented in the table below.

History of Occurrences:

Severe Weather Date	Event					Location	Extent and Impacts
	Thunderstorm / severe storm	Flooding	Hail	High Winds	Lightning		
10/07/2013	✓			✓		County-wide	Scattered wind gusts of 50 mph or greater across portions of Vermont produced numerous downed trees or tree limbs on utility lines, and resulted in more than 25,000 customers without power at the peak. Wind speeds registered as a 9 on the Beaufort Wind Chart, which classifies this event as a Gale. Rainfall in Pomfret resulted in 1 inch in 48 hours. 36 Green Mountain Power customers lost power for 7.3 hours.
09/11/2013	✓			✓		County-wide	A weak area of low pressure traveling along a stationary front, draped across NY and VT, embedded in an unseasonably warm and unstable air mass resulted in a series of thunderstorms that moved across Vermont during the late afternoon and evening. Some of these thunderstorms produced damaging winds of downed trees and utility lines. 1.35 inches of rain fell in Pomfret in 48 hours. 18 power customers were affected. Most outages lasted 3 hours, but 3 customers were

							without power for 40 hours or more.
Period from 6/25/2013—07/11/2013 (DR-4140 VT)	✓	✓				County-wide	Showers and thunderstorms developed on a daily basis in the summertime heat, rainfall rates as high as two to three inches in an hour were observed, and flash flooding resulted in several areas where storms remained stationary or repeatedly moved across the same area. More than 7 inches of rain fell in Pomfret during the disaster period. Altogether 224 customers were affected during the disaster period, with outages ranging from less than an hour to 4 hours.
05/29/2012*	✓		✓	✓		Pomfret, County-wide	A warm front moved across Vermont during the morning hours of May 29th, which lead to numerous thunderstorms with heavy rain, damaging lightning, and some isolated large hail and strong winds. Some of these thunderstorms deposited up to 2 inches of rainfall in portions of north-central and northeast Vermont. 1.75" hail was reported in North Pomfret. No significant power outages occurred.
08/21/2011	✓		✓	✓		County-and region-wide	On the afternoon of August 21st, a cold front supported by a strong mid-atmospheric disturbance moved across a unstable air mass in Vermont. Numerous showers and thunderstorms developed during the afternoon with some containing large hail and damaging winds. This storm also produced a microburst with straight line winds estimated between 70 and 90 mph, by a NWS Storm Damage team. These wind speeds register at 11 on the Beaufort Wind Chart. 1.8 inches of rain fell in Pomfret in 24 hours. 897 total customers were affected in Pomfret. Outages ranged from 30 hours to 52 hours for most of those affected. However, some outages lasted as long as 4.6 days.
08/19/2011	✓			✓		County-and region-wide	Howe Hill Road in East Barnard closed due to trees and power lines down. While this report is for East Barnard, Howe Hill Road runs through the Town of Pomfret, and it is possible that similar storm damage could have been present in the Howe Hill Road area of Pomfret, as well. 1.7 inches of rain fell in 24 hours. Only one power customer lost power for 3.5 hours.

07/06/2011	✓			✓	✓	County-wide	In Vermont, a well-established squall line moved across the state during the afternoon with numerous reports of wind damage as well as lightning strikes. As a result of these storms, more than 15,000 customers in Vermont lost power. .42 inches of rain fell in Pomfret over 24 hours. 60 people lost power for .45 hours, and 7 more lost power for 21 hours.
5/31/2009	✓		✓	✓		County-wide	40-55 mph wind gusts and hail caused fallen trees and power outages in the region. Winds registered at 9 on the Beaufort Wind Chart, which classifies as Severe Gale.
05/08/2009	✓		✓	✓		County-wide	Severe thunderstorms and a developing squall line produced large hail up to an inch in diameter as well as damaging winds that knocked down trees and power lines to portions of central Vermont. State Police reported that thunderstorm winds downed trees. 113 power customers lost power for .58 hours. .64 inches of rain fell in Pomfret in 24 hours.
7/21/2008— 8/12/2008 (DR 1790 VT)	✓			✓		County-wide	Severe storms and flooding impacted Windsor and surrounding counties. Over 7 inches of rain fell in Pomfret during the disaster period, including 2 inches in 24 hours on 7/24. No significant power outages occurred in Pomfret.
07/18/2008*			✓			Pomfret; region-wide	Hail at .88" was reported in South Pomfret. 21 customers in Pomfret lost power for 16 hours.
07/11/2007 (DR 1715 VT)	✓	✓				County-wide	Localized heavy rainfall exceeded 3 inches within a two hour time frame with some localized storm totals approaching 6 inches across a very hilly or mountainous terrain, which resulted in flash flooding of several communities. No significant power outages occurred in Pomfret.
9/16/1999— 9/21/1999 (DR 1306 VT)		✓		✓		County-wide	Tropical Storm Floyd's rains and winds caused road and culvert washouts. 5.5 inches of rain fell in 24 hours in Pomfret. Specific power outage data for this event was unavailable.
7/6/1973 (DR 397 VT)		✓		✓		County-wide	One of the largest flood events of the 20 th century in VT. Landslides were reported in the region. Specific power

							outage data for this event was unavailable.
11/3/1927	✓	✓				Pomfret, County-wide	"Great Flood of 1927." Worst recorded flood in VT. White River crested at a record of 29.30 feet. Specific power outage data for this event was unavailable.

As demonstrated in the table of previous occurrences above, high winds have caused damage in Windsor County and in the Town of Pomfret specifically. Damage caused by high winds has included downed trees and power lines, and, as a result, power outages. Power outages can be particularly serious for "power critical customers" that do not have the luxury of having a generator. However, in general, high winds cause relatively minor damage on a town-wide scale.

The Town of Pomfret completed a geo-referenced culvert inventory with assistance from Two Rivers-Ottawquechee Regional Commission in 2013. With the culvert inventory complete, the Town plans to maintain it independently. The Town of Pomfret's work to upgrade culverts remains in process, and the culvert inventory will help the Town plan and prioritize culvert upgrade/improvement projects. A considerable number of culverts have been upgraded in the Town of Pomfret as part of the Town's recovery from Tropical Storm Irene.

Hazard	Location	Vulnerability	Extent	Observed Impact	Likelihood/Probability
Severe Weather	Town wide for wind, hail, high winds, lightning and thunderstorm impacts. Generally speaking, the entire Town is vulnerable to flooding but "hot spots" include the following roads/areas: Bartlett Brook's lower section (floods regularly in the spring); Pomfret Brook running along Pomfret/Stage Road; Gulf Stream along VT Route 12; Atwood Brook; Cloudland Brook; and Mill Brook.	Town buildings, private buildings, utilities, culverts, bridges, and road infrastructure.	Tropical Storm Irene- 4-7" across county (4.66" in South Pomfret).	From Tropical Storm Irene (DR-4022 VT): \$852,116.71 in damages according to FEMA's Public Assistance database (captures at least 70% of the total damage). For declaration DR-4140 VT, parts of Pomfret Road, Cloudland Road and Galaxy Hill Road were damaged due to washouts and erosion.	Likely

****Note:** The main hazard caused by severe weather is typically flooding (though not always). In addition, flooding is often the most expensive hazard caused by severe weather. Therefore, the Extent and Impact categories for Severe Weather will reflect the data reported in the Flash Flood/Flood/Fluvial Erosion, as it represents the higher limits of damage caused by severe weather.

4. Structure Fire

Structural fires occur all over the state of Vermont, and occur when a building structure, including residential buildings, becomes enflamed resulting in high heats and partial or complete collapse. Vermont has one of the highest per capita death rates from fire in the nation. This is, in fact, the deadliest form of disaster throughout the state. In 2012, there were 2,225 reported structural fires in the state, which included 6 fatalities and \$17.8 million dollars in damage. Although there have been requirements for smoke detectors in rental housing for over 20 years, and requirements for smoke detectors in single-family dwellings since 1994, there was only one building involved in the fatal fires in 2012 that had evidence of working smoke alarms.

This section of the Plan satisfies the requirements of 44 CFR 201.6(c)(2)(i), 201.6(c)(2)(ii), and 201.6(c)(2)(iii) for **Structure Fire**.

Structure fires may occur at any point, and are typically initiated within a single fuel object. Smoke produced by the burning object forms a smoke plume and rises, creating a layer of smoke while also transporting heat to the smoke layer. Fire then spreads quickly by radiation from the flames, or from the smoke layer. Once other objects are engulfed, more smoke plumes are formed and heat radiates to other objects. Fire burns and moves across different materials depending on the material's composition, orientation, surface-to-mass ratio, and air supply in the structure/room.

The Town of Pomfret is characterized by a number of old wooden and brick town buildings, residences, and a number of commercial spaces. A review of the fires listed in the "History of Occurrences" chart below demonstrates the potential for structures located in the rural Town of Pomfret to be completely or severely destroyed by fire.

The following occurrences were reported by the Committee or obtained from local sources. It is reasonable to assume that more structural fires have occurred in the period of time between the entries listed below, and that such fires have caused varying extents of property damage.

History of Occurrences:

Date	Event	Location	Extent and Impact
01/16/2014	Sugar House Fire	Pomfret Road	A sugar house and the equipment inside were destroyed by fire. The sugar house was a total loss. The cause is unknown, but was likely due to an electric heater.
03/29/2013	House Fire	White River Lane	Home destroyed, and seven animals perished. Home narrowly missed damage during Tropical Storm Irene.
07/11/2011	House fire	Sessions Meadow Road	House destroyed by fire; a total loss. Access to home by fire engine was quite difficult due to access to the property on a Class IV road—fire engines needed to travel into neighboring Woodstock and up High Pastures Road to Sessions Meadow Road to access the fire. Cause unknown.
Summer 2009	Structure fire	Sessions Meadow Road	Art studio caught on fire.

Poor access to fires, limited water supply for firefighting outside village areas, and distances of homes from the Fire Stations are a few of the challenges that leave Pomfret 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 with many wooded acres and difficult terrain. Some recreational and retirement homes with single access roads and no fire-fighting water supply are in jeopardy.

While structure fires can occur at any time of the year, a number of the structure fires in the Town of Pomfret have occurred in the colder, winter months when the heating of residents' homes and apartments is critical. Poorly maintained furnaces, fireplaces and/or wood stoves, unattended fires, and careless activities leave structures in the Town of Pomfret and in surrounding towns (to which the Pomfret Fire Department may provide mutual aid) vulnerable to structure fires during the winter months.

Scouting for additional rural locations for new hydrants in Pomfret is an on-going process, and the Town installed two new dry hydrant within town limits in 2014 (though at the end of 2014, neither had been tested or were operable yet). There are additional areas that could potentially be utilized to this end, and there are areas that are lacking in such fire safety installations.. A comprehensive survey of the Town may prove an effective means of determining if and where more sites are needed throughout Pomfret.

To help combat structure fires in the Town of Pomfret, members of the Pomfret Fire Department receive Fire Fighter 1 certifications through the Vermont Fire Academy. A number of buildings in the Town have been inspected including the Town Hall, the Suicide Six Ski Lodge, and the ArtisTree building.

Hazard	Location	Vulnerability	Extent	Observed Impact	Likelihood/Probability
Structure Fire	Town-wide	All housing, municipal buildings, retail/commercial sites.	Depends on the location and extent of the fire.	Varies depending on the location and extent of the fire.	Likely

5. Extreme Cold/Snow/Ice Storm

Winter storms are a regular occurrence in Vermont. They can consist of extremely low temperatures, intense wind chills, high snow accumulation levels, and/or ice accumulation. Severe winter storms can cause serious damage, including collapse of buildings due to overloading with snow or ice, brutal wind chills, downed trees and power lines, and stranded vehicles. People can be at risk of freezing in extended power outages if they lack wood heat or backup power. Individuals shoveling large accumulations of snow can also be at risk from frostbite, hypothermia, and heart attacks caused by cold and overexertion. While snow removal from the transportation system is standard fare in Vermont

winters, extreme snow or ice can close rail and road systems, further jeopardizing any stranded persons that are in danger of freezing or needing medical assistance.

Severe winter storms include a blizzard on February 15-17 in 1958, which dumped over 30 inches and resulted in 26 deaths in New England. On December 26-27 in 1969, another blizzard left 18-36 inches of snow in northwestern Vermont and a whopping 45 inches in nearby Waitsfield. A string of storms in March 2001 hit the state, beginning with 15-30 inches on March 5-6th (later declared a federal disaster), 10-30 inches on the 22nd, and 10-20 inches on the 30th. Recent years have seen wet snow storms that have toppled trees and caused widespread power outages.

This section of the Plan satisfies the requirements of 44 CFR 201.6(c)(2)(i), 201.6(c)(2)(ii), and 201.6(c)(2)(iii) for **Extreme Cold/Snow/Ice Storm**.

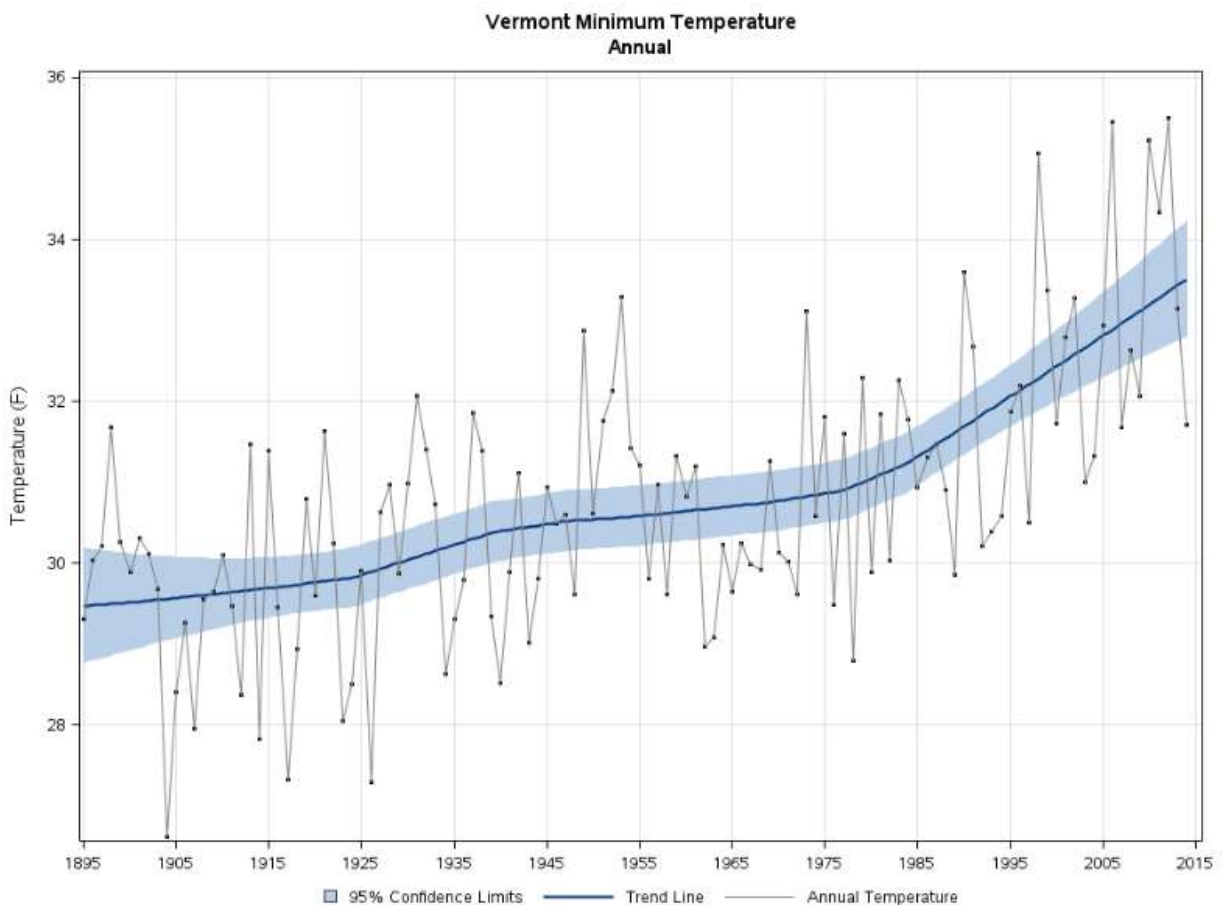
The worst winter storm in terms of damage to hit the state recently was not a snow storm, but an ice storm. In January of 1998, just the right combination of precipitation and temperature led to more than three inches of ice in spots, closing roads, downing power lines, and snapping thousands of trees. This storm was estimated as a 200-500 year event, meaning it has a .5%-.2% chance of occurring every year. Power was out up to 10 days in some areas, and 700,000 acres of forest were damaged in Vermont. Amazingly, Vermont suffered no fatalities, unlike Quebec where 3 million people lost power and 28 were killed. The Town of Pomfret was significantly impacted by this ice storm.

Over the past few winters, Pomfret has received numerous snow storms that have dropped significant amounts of snow over a one or two day period. However, the details of these events and the damage they caused are overshadowed by winter weather events of the past. This is not to say such extreme events will not repeat themselves. It should be assumed that extreme winter weather events will occur at some point in the future. The following table documents the occurrence of extreme cold/snow/ice storms in the Town of Pomfret and in Windsor County.

Typically extent of severity for winter storms is measured on The Sperry-Piltz Ice Accumulation Index (SPIA) for ice storms and compared to annual minimum temperatures by season for Vermont. In this way the Town of Pomfret can record the severity of storms and it can compare storms that have occurred in the Town's history. The Sperry Piltz Ice Accumulation Index and Vermont's minimum annual temperature are included below.

ICE DAMAGE INDEX	DAMAGE AND IMPACT DESCRIPTIONS
0	Minimal risk of damage to exposed utility systems; no alerts or advisories needed for crews, few outages.
1	Some isolated or localized utility interruptions are possible, typically lasting only a few hours. Roads and bridges may become slick and hazardous.
2	Scattered utility interruptions expected, typically lasting 12 to 24 hours. Roads and travel conditions may be extremely hazardous due to ice accumulation.
3	Numerous utility interruptions with some damage to main feeder lines and equipment expected. Tree limb damage is excessive. Outages lasting 1 – 5 days.
4	Prolonged & widespread utility interruptions with extensive damage to main distribution feeder lines & some high voltage transmission lines/structures. Outages lasting 5 – 10 days.
5	Catastrophic damage to entire exposed utility systems, including both distribution and transmission networks. Outages could last several weeks in some areas. Shelters needed.

(Sperry-Piltz Ice Accumulation Index (SPIA), 2009).



History of Occurrences:

Date	Event	Location	Extent and Impacts
Period from 12/09/2014—12/12/2014 (DR-4207 VT)	Winter Storm	Pomfret; County-; region-wide	Heavy, wet snow brought down trees and power lines, leading to power outages. Pomfret experienced 9 inches of snow accumulation that caused an estimated \$30,000 in debris clean-up costs. Widespread power outages occurred in Pomfret that affected 661 total power customers. 232 customers lost power for 2.3 hours, but the larger portion of those affected lost power for more than 43 hours.
Period from 03/12/2014—03/13/2014	Snow Storm	Pomfret; County-; region-wide	A major snowstorm with near blizzard conditions at times impacted portions of northern New York on March 12th and lingered into the morning hours of March 13 th . Numerous motor vehicle accidents and school and business closures resulted due to the storm on both March 12th and 13th. 22" of snow accumulated in Pomfret. No significant power outages occurred in Pomfret.
Period from 02/13/2014—02/14/2014	Winter Storm	County-; region-wide	A Winter storm, responsible for record ice and snow across the southeast United States on February 12th, moved and redeveloped off the southeast United states coastline on February 13th. Snowfall across Windsor county was 12 to 20+ inches.
02/05/2014	Snow Storm	County-; region-wide	Snowfall was at its peak during both the morning and afternoon/evening commutes causing hazardous travel. 8 to 12 inches of snow fell across Windsor county.
Period from 12/29/2013—12/30/2013	Winter Storm	County-; region-wide	A wet, heavy 6 to 10 inches of snow fell across Windsor county. No significant power outages occurred in Pomfret.
Period from 12/14/2013—12/15/2013	Snow Storm	County-; region-wide	The first widespread snowfall of the 2013-14 winter season. The typical impacts associated with this storm were the numerous vehicle accidents, especially being the first storm of the season. A widespread 10 to 15 inches of snow fell across Windsor county. No significant power outages occurred in Pomfret.
Period from 03/18/2013—03/19/2013	Snow Storm	County-; region-wide	8 to 14 inches of snow fell across the county, with lower amounts falling in the valleys and higher amounts accumulating above 1000 feet. Numerous vehicle accidents occurred, some involving tractor trailers. No significant power outages occurred in Pomfret.
Period from 12/26/2012—12/27/2012	Winter Storm	County-; region-wide	Snowfall totals of 6 to 12 inches were common in Windsor county. No significant power outages occurred in Pomfret.
Period from 04/28/2012—04/30/2012	Frost/ Freeze	County-; region-wide	Several consecutive days of sub-freezing temperatures from the morning of April 28th to the morning of April 30th lead to damaging and possibly devastating killing freezes for various fruit-bearing crops in Vermont. Although these temperatures may not be seasonably uncommon, the preceding record breaking late winter and early spring warmth accelerated bud development in fruit crops by 2-3 weeks. However, minimum temperatures in the teens and lower 20s likely impacted other regions as well. Fruit crop damage estimates may exceed 25 percent of normal harvest. No significant power outages occurred in Pomfret.
Period from 11/22/2011—11/23/2011	Winter Storm	County-; region-wide	6 to 12 inches of a heavy, wet snow mixed with rain and sleet at times fell across Windsor county. 2 power customers were affected for about 2 hours.
Period from 03/06/2011—03/07/2011	Winter Storm	Pomfret; County-; region-wide	Snowfall amounts of 4 to 16 inches were reported in Windsor county with the largest totals in the northwest and lesser amounts in the southeast. In addition 1/4 to 1/2 inch of ice occurred as well with the greatest totals in the southeast. 12" in Pomfret. 1 power customer in Pomfret was affected for 1.2 hours.
Period from 02/05/2011—02/06/2011	Winter Weather	County-; region-wide	A heavy wet snow quickly changed to a prolonged period of sleet and freezing rain as well as some thunderstorms. Combined snow and sleet accumulations were 3 to 6 inches. The weight of this additional snow, sleet and freezing rain contributed to several roof barn collapses in some towns. No significant power outages

			occurred in Pomfret.
01/12/2011	Winter Storm	Pomfret; County-; region-wide	Generally 8 to 15 inches of snow fell across Windsor county. 11" accumulated in Pomfret. No significant power outages occurred in Pomfret.
Period from 12/26/2010—12/27/2010	Winter Storm	County-; region-wide	Snowfall totals of 6 to 15 inches with localized higher amounts occurred as well as considerable blowing and drifting of the snow due to north winds of 15 to 25 mph with gusts approaching 40 mph. No significant power outages occurred in Pomfret.
Period from 12/28/2009—12/29/2009	Winter Weather	County-; region-wide	Rapidly falling temperatures to the single digits above zero degrees along with falling and blowing snow during the morning commute of December 29th accounted for roads to flash freeze that resulted in numerous vehicle accidents, especially along Interstate 89 between Montpelier and St. Albans. No significant power outages occurred in Pomfret.
Period from 02/08/2008—02/09/2008	Winter Storm	County-; region-wide	This snowfall event was a two-part system across Vermont. The first part was largely confined to the northern half of Vermont and occurred during the morning and afternoon hours of February 8th. The second event was a large, powerful Nor'easter that moved south of Long Island and Cape Cod during the night of February 8th. 8 to 16 inches of snow fell across Windsor county. 2 power customers in Pomfret were affected for 2.23 hours.

The Town of Pomfret is no stranger to winter weather and the hazards that it brings. Depending on the event, though especially with heavy, wet snow or ice, electricity may be knocked out for a few hours or days. The utility company currently serving the Town of Pomfret, Green Mountain Power, has followed a regular tree-trimming schedule. Pomfret town officials believe this is satisfactory to mitigate damage and the power outages caused by downed trees and tree limbs during a heavy, wet snow or ice event. In the event of an extended power outage, the Town would open its emergency shelter at the Pomfret Elementary School.

Heavy, wet snow or large quantities of snow may also leave structures vulnerable to roof collapse. Roof collapse occurs when the structural components of a roof can no longer hold the weight of snow. Flat roofs are the most vulnerable to collapse because they do not drain well and the snow on the roof soaks up water like a sponge, increasing the weight that the roof must bear. More common, it seems, is the collapse of barns commonly used for livestock sheltering and other agricultural purposes. Unfortunately, livestock in the barn are often killed, and equipment stored in the barn may be damaged or ruined. It is difficult to determine whether a residential structure or a barn would be rebuilt after a roof collapse because the decision to rebuild would likely depend on the extent of damage. The collapse of a barn roof is likely to be a total loss, and the collapse of a house roof may be a 50% loss, not including the loss of livestock

In general, winter weather is most hazardous to travelers. Icy and snow-covered roads present multiple examples of dangerous driving conditions and situations. In Pomfret, the mountainous terrain, steep slopes, and remoteness of some roads further complicate travel. The Town relies on Travel Advisories issued by the State of Vermont Department of Emergency Management Homeland Security and the National Weather Service to alert residents of dangerous travel weather. Despite this, it is difficult to prohibit people from driving during winter weather events. As a result, emergency services personnel must always be prepared to provide assistance to stranded drivers or to those who have been in an

accident. Damages to vehicles as a result of poor driving conditions may vary from minimal damage to a totaled vehicle. Health impacts could vary significantly.

Hazard	Location	Vulnerability	Extent	Observed Impact	Likelihood/Probability
Extreme Cold/ Snow/ Ice Storm	Town wide	The entire Town is vulnerable, including road infrastructure, town and privately owned buildings, and utility infrastructure.	Snow fall has varied, from a few inches to over a foot or more. Heavy snow and wind has downed trees and power lines. Snow/ice contributed to hazardous driving conditions.	From the December 2014 storm (DR-4207 VT), an estimated \$30,000 in damages, mostly from debris clean-up costs.	Highly likely

C. Vulnerability Summary

As a result of the above profiled hazards, the Town believes the following vulnerabilities to be of highest concern due to their potentially severe consequences and likelihood of occurrence:

- **Ice Jams:** Ice jam threats consist of three undersized bridges near Teago General Store in South Pomfret. These bridges are subject to seasonal flooding and are vulnerable to jamming events.
- **Flash Flood/Flood/Fluvial Erosion:** One of the worst threats, flooding impacts roads and the village center, especially facilities for children, elders, and community emergency shelters. Under-sized bridges and culverts factor into the threat, with Pomfret being home to several undersized bridges and flooding hot spots, including Bartlett Brook's lower section (floods regularly in the spring); bridges in South Pomfret near Teago General Store; Pomfret Brook running along Pomfret/Stage Road; Gulf Stream along VT Route 12; Atwood Brook; Cloudland Brook; and Mill Brook. Furthermore, flood hazard mapping (Special Flood Hazard Areas) does not adequately encompass all areas that could be flooded, thus potentially making some residents too complacent in regard to the threat. In addition, numerous homes and public facilities are located in the 500-year floodplain and could be impaired by a major flood event. Vulnerable commercial and public structures to severe weather and flooding include Artistree community art center, Abbott Memorial Library, Teago General Store, Suicide Six Ski area, Andrews Furniture, and Riverbend Home and Garden Supply. If all were damaged/ destroyed in a severe flooding event, the damage would equal \$15,056,527.
- **Severe Summer Weather & Hurricanes/Tropical Storms:** Damage to public and private property and municipal infrastructure can be extensive during severe weather events. Prolonged power outages and downed cellular communications can greatly hamper public and business services for indeterminate periods of time. Vulnerable commercial buildings include Artistree community art center, Abbott Memorial Library, Teago General Store, Suicide Six Ski area, Andrews Furniture, and Riverbend Home and Garden Supply.
- **Structural Fire:** All housing, municipal buildings, retail/commercial sites are vulnerable to fires. However, members of the hazard mitigation committee specifically identified single family

households as lacking sufficiently working smoke and carbon dioxide detection devices, therefore magnifying their vulnerability.

- **Extreme Cold/Snow/Ice Storms:** Lack of access to power and telecommunication services throughout the Town could severely impede response efforts, and could be especially harmful to vulnerable populations (e.g., the elderly and disabled).

VI. Mitigation

A. Mitigation Goals

- To reduce injury and losses, including loss of life and to infrastructure, structures and businesses, from the natural hazard of ice jams.
- To reduce injury and losses, including loss of life and to infrastructure, structures and businesses, from the natural hazard of flash flooding, flooding and fluvial erosion.
- To reduce injury and losses, including loss of life and to infrastructure, structures and businesses, from the natural hazard of severe weather.
- To reduce injury and losses, including loss of life and to infrastructure, structures and businesses, from the hazard of structural fire.
- To reduce injury and losses, including loss of life and to infrastructure, structures and businesses, from the natural hazard of extreme cold, snow storms and ice storms.

B. Excerpted Town Plan Goals & Objectives Supporting Local Hazard Mitigation

NOTE: The language listed below was excerpted from the 2014 Pomfret Town Plan DRAFT as of 05/28/2014.

- The Town shall protect the flood hazard areas through continued application of the Flood Overlay and enforcement of Flood zoning (page 40).
- The Town will strive to avoid and minimize the loss of life and property, the disruption of commerce, and the extraordinary public expenditures and demands on public services that result from flooding related inundation and erosion.
- The Town shall manage all flood hazard areas designated pursuant to 10 V.S.A. Chapter 32 § 753, the municipal hazard mitigation plan; and make the Town of Pomfret, its citizens, and businesses eligible for federal flood insurance, federal disaster recovery funds, and hazard mitigation funds as may be available (page 40).
- Protect residents and the natural environment from aspects of economic development that could adversely affect them through pollution of all kinds and increased traffic volume (page 89).
- To protect the citizens, property and economy of Pomfret and the quality of their rivers as natural and recreational resources by using sound planning practices within designated Flood Hazard Areas and beyond (page 102).
- Lessen the conflict between roads and streams by moving the roads when possible, abandoning redundant bridges, or upsizing water crossings (page 102).
- Continue to promote emergency planning for flood response (page 102).

The Pomfret Town Plan was adopted on November 21, 2007, and has a 5 year lifespan. The adoption of a revised Town Plan is pending.

B. Hazard Mitigation Strategies: Programs, Projects & Activities

Vermont's Division of Emergency Management & Homeland Security encourages a collaborative approach to achieving mitigation at the local level through partnerships with Vermont Agency of Natural Resources, VTTrans, Vermont Agency of Commerce and Community Development, Regional Planning Commissions, FEMA Region 1 and others. That said, these agencies and organizations can work together to provide assistance and resources to towns interested in pursuing hazard mitigation projects.

This section of the Plan satisfies the requirements of 44 CFR 201.6(c)(3)(ii), 201.6(c)(3)(iii) and 201.6(c)(3)(iv).

With each mitigation strategy, general details about the following are provided: local leadership, possible resources, implementation tools, and prioritization. The prioritization category is based upon the economic impact of the action, Pomfret's need to address the issue, the cost of implementing the strategy, and the availability of potential funding. The cost of the strategy was evaluated in relation to its benefit as outlined in the STAPLEE guidelines. A range of mitigation strategies were vetted by the committee, and those that were determined to be feasible (economically, politically, environmentally, etc.) are included in the table below.

Strategies given a "High" prioritization indicate they are either critical or potential funding is readily available, and should have a timeframe of implementation of less than two years. A "Medium" prioritization indicates that a strategy 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. Mitigation actions that were identified and prioritized in the 2009 Plan have been included in this Plan's mitigation strategy implementation table. The majority of these previously identified mitigation, preparedness, and ongoing actions to support mitigation have been categorized as high or medium priority. Those previous items with low priority are actions that would require extensive funding sources.

The Town of Pomfret understands that, in order to apply for FEMA funding for mitigation projects, a project must meet more formal FEMA benefit cost criteria. A project seeking FEMA funds would undergo a full benefit-cost assessment in the FEMA-approved format. The Town must have a FEMA-approved Hazard Mitigation Plan as well.

The following strategies will be incorporated into the Town of Pomfret's long-term land use and development planning documents. In addition, the Town will review and incorporate elements of this Local Hazard Mitigation Plan into updates for the municipal plan, zoning regulations, and flood hazard/river corridor bylaws. Specifically the Pomfret Planning Commission will incorporate mitigation strategies included in this Plan directly into Pomfret's Town Plan's goals, policies, and recommendations. The incorporation of the goals and strategies listed in the Local Hazard Mitigation Plan into the municipal plan, zoning regulations and flood hazard/river corridor bylaws will also be considered after declared or local disasters. The Town shall also consider reviewing any future TRORC planning documents for ideas on future mitigation projects and hazard areas.

Hazards Mitigated	Mitigation Action	Local Leadership	Prioritization (Mitigation Project Status)	Possible Resources*	Time Frame
All Hazards	<i>Address Teago intersection traffic hazard by only creating an outlet onto Stage Road for the Artistree Community Center. Outlet will protect the health of residents from vehicular accidents at this perilous intersection. (Mitigation)</i>	Selectboard	High (New)	Local Resources, Artistree Community Center	Summer 2018-Summer 2019
Structural Fire	<i>Install dry hydrants on Caper Street and Rudge Road in North Pomfret to reduce the loss of life and infrastructure from structure fires. (Mitigation)</i>	Fire Chief/Fire Department	Medium (New)	Local resources. VT Dry Hydrant Grant Program	Summer 2020-Fall 2020
	<i>Initiate a public awareness fire prevention campaign to spread awareness about proper smoke detector use. Fire department will reach out to rental and single family homes to distribute and install smoke detectors and to inspect households for fire hazards. This campaign will reduce the loss of life and infrastructure from structure fires. (Mitigation)</i>	Fire Chief/Fire Department	High (New)	Local resources, Vermont Division of Public Safety: Division of Fire Safety, Red Cross	Summer 2018-Fall 2018
Extreme Cold/Snow/Ice	<i>Communicate with Green Mountain</i>	Emergency Management	High (Action #13)	Green mountain power, Local	Summer 2017-Fall

Storm	<i>Power to clear and maintain utility corridors, which will protect town and utility infrastructure. (Mitigation)</i>	Coordinator	out of 13 in 2009 Plan)	Resources	2017
	<i>Prevent residents from plowing snow from private driveways into streams and brooks in Pomfret which will reduce the effect of spring time flooding on Town infrastructure. (Mitigation)</i>	Selectboard	High (New)	Local resources	Winter 2017- Spring 2017
Ice Jam and Flood/Fluvial Erosion	<i>Upgrade Bridge 9 at Teago General Store. Upsized bridge will allow more water quality to be cleared and will protect road and building infrastructure at this critical juncture in South Pomfret. (Mitigation)</i>	Highway Department/Selectboard	Low (Action #7 of 13 in 2009 plan)	VTrans Structures Grant; local resources	Summer 2021 –Fall 2022
	<i>Upgrade Bridge 5 near Teago General Store. Upsized bridge will allow more water quality to be cleared and will protect road and building infrastructure at this critical juncture in South Pomfret. (Mitigation)</i>	Highway Department/Selectboard	Low (Action #7 of 13 in 2009 plan)	VTrans Structures Grant; local resources	Summer 2023 – Fall 2024
	<i>Upgrade Bridge 7 near Teago General Store. Upsized bridge will allow more water quality to be cleared and will protect road and building infrastructure at this critical juncture in</i>	Highway Department/Selectboard	Medium (Action #7 of 13 in 2009 plan)	VTrans Structures Grant; local resources	Summer 2020 – Fall 2021

	<i>South Pomfret. (Mitigation)</i>				
	<i>Obtain an Emergency Protective Measure Stream Alteration Permit to remove debris from streams, especially that frequently flood or that are a risk for ice jams. Removed debris would otherwise divert stream flows normally constrained in channel and present a threat to life or property. (Mitigation)</i>	Selectboard	High (New)	Local resources	Spring 2017 (if necessary if debris in stream presents an emergency hazard) This would be a one time action.
Flood/Fluvial Erosion	<i>Develop a schedule and capital budgeting program to replace undersized culverts to allow for greater volumes of water to be cleared, therefore protecting town infrastructure. (Mitigation)</i>	Selectboard/Road Foreman	Medium (Action #5 of 13 in 2009 Plan)	Local resources; VTrans	Spring 2020
	<i>Consider adopting river corridor regulations which will incorporate VT ANR's river corridor maps, which will help residents and planners know what land is necessary for riparian functions and to prevent the threat to current and future development. (Mitigation)</i>	Planning Commission	Low (New)	Local Resources; TRORC; Municipal Planning Grant; Vermont Agency of Natural Resources	Spring 2021- Spring 2022
	<i>Prohibit the removal of natural vegetation along streambanks. Riparian vegetation improves stream</i>	Selectboard	Medium (New)	Local Resources; TRORC; Vermont Agency of Natural Resources	Spring 2019- Spring 2020

	<i>floodplains and also reduces the damaging effects of stream channel erosion on town and private infrastructure. (Mitigation)</i>				
	<i>Elevate existing buildings in Special Flood Hazard Areas in Pomfret so that they are 1 foot above base flood elevations. Elevation of structures located in areas vulnerable to flooding will reduce the risk to flooding and will reduce the loss of private infrastructure (Mitigation).</i>	Selectboard	Low (New)	Local resources; Hazard Mitigation Grant Program	Summer 2021- Summer 2025
	<i>Require residents to clean and maintain driveway culverts, or contract with residents to have Town maintain driveway culverts. Proper maintenance of driveway culverts will improve long-term town road maintenance costs and will also properly handle flood levels. (Mitigation)</i>	Selectboard; Road Crew	Low (New)	Local resources	Summer 2022- Summer 2025
	<i>Conduct a road erosion road inventory to determine projects for stormwater improvement to reduce erosion sources from town road infrastructure. Proper road erosion</i>	Selectboard; Road Crew	High (New)	Better Roads Grant	Summer 2018-Fall 2018

	<i>reduction will reduce erosion and its damaging effects on public and private infrastructure. (Mitigation)</i>				
	<i>Request an updated flood map from FEMA that more accurately identifies areas that are subject to flooding, therefore diminishing the loss of health and property from development in these areas. (Mitigation)</i>	Town Zoning Administrator	Medium (Action #6 of 13 in 2009 Plan)	Local resources; FEMA	Fall 2020- Winter 2021

Hazards Mitigated	Ongoing Actions to Support Mitigation and Preparedness Actions	Local Leadership	Prioritization (Mitigation Project Status)	Possible Resources*	Time Frame
All Hazards	<i>Complete designation of a proposed Red Cross Shelter at Pomfret Elementary School Designated emergency sites will provide a focal point for Pomfret residents and will reduce the loss of human health in a hazard. (Preparedness)</i>	Selectboard, Emergency Management Coordinator	Medium (New)	Local Resources, the Red Cross	Spring 2020 – Spring 2021
	<i>Designate Artistree Community Center as a secondary shelter, to be especially utilized in the case of a flooding hazard.</i>	Selectboard, Emergency Management Coordinator	Low (New)	Local resources	Spring 2022- Fall 2023

	<i>Designated emergency sites will provide a focal point for Pomfret residents and will reduce the loss of human health in a hazard. (Mitigation)</i>				
	<i>Enlist statewide fire education trailer for use at Pomfret Elementary School and at community events, which will help residents identify fire hazards in their homes. (Preparedness)</i>	Fire Chief/Fire Department	High (Action # 9 of 13 in 2009 Plan).	Local Resources, Vermont Division of Public Safety: Division of Fire Safety	Fall 2017 at Pomfret Ox Pull Event and subsequent school events.
	<i>Alert residents to upcoming hazards, bad weather, and potentially treacherous travel conditions by means of Pomfret Listerv. This town-wide notification system will reduce the loss of life during a hazard. (Mitigation)</i>	Selectboard, Town Clerk	High (New)	Local resources	Winter 2017 and ongoing during winter seasons.
	<i>Ensure that Pomfret's Local Emergency Operations Plan (LEOP) is kept up-to-date and identifies vulnerable areas and references this Plan. (Preparedness)</i>	Selectboard/Emergency Management Director	High (Action #1 and #3 of 13 in 2009 Plan).	Local resources; TRORC; Vermont Department of Emergency Management & Homeland Security (DEMHS)	Spring 2017 and occurring yearly.
	<i>Consistently document infrastructure damage after</i>	Road Foreman	High (new)	Local Resources; TRORC; VT DEMHS	Starting Summer 2017 and will occur after

	<i>weather events. (Preparedness)</i>				weather events
	<i>Stock Pomfret Elementary School with blankets, MRE (meals ready to eat), cots, and water bottles. (Preparedness).</i>	Emergency Management Director	Medium (New).	Local resources.	Fall 2019
Flood/Fluvial Erosion	<i>Keep up-to-date with Vermont Road and Bridge Standards so that Pomfret effectively maintains its road infrastructure to be resilient to hazard events.</i>	Road foreman/ Selectboard	Medium (New)	Local resources	Spring 2017 (or when they are updated by VTrans)
Structural Fire	<i>Ensure that fire department personnel maintain their firefighter certifications. (Preparedness)</i>	Pomfret Fire Department	High (Action #8 in 2009 Plan).	Local Resources	Spring 2017 and updated routinely to ensure certification
	<i>Distribute fire prevention fliers at the school. (Preparedness)</i>	Fire Chief/Fire Department	High (Action # 9 of 13 in 2009 Plan).	Local resources	Ongoing. Occurs once per year in the fall.
	<i>Maintain and clean existing dry hydrants. Proper maintenance of hydrants will reduce the loss of life and infrastructure from structure fires. (Mitigation)</i>	Fire Chief/Fire Department	High (Action #11 of 13 in 2009 Plan).	Local Resources	Ongoing and occurs yearly.
	<i>Continue to maintain mutual aid agreements with surrounding towns (Preparedness).</i>	Selectboard	High (New)	Local Resources	Spring 2017 and maintained regularly.
Extreme Cold/Snow/Ice Storm	<i>Clear and maintain town road rights-of-way, which will</i>	Highway Department/Selectboard	Medium (Action #5 in 2009 Plan).	Local resources	Summer 2018 and occurring

	<i>reduce the loss of life and infrastructure damage during snow and ice storms. (Mitigation)</i>				yearly during summer.
	<i>Plan for, budget, and maintain roads for safe winter travel. (Mitigation)</i>	Selectboard	High (New)	Local resources	Ongoing and occurs yearly.
	<i>Distribute safe winter driving informational materials to residents by means of Pomfret listserv. Safe winter driving mitigates the loss to human health. (Mitigation)</i>	Selectboard, Town Clerk	Low (New)	Local Resources	Late fall 2021 and will occur yearly in late fall.
	<i>Update and maintain existing list of populations that are vulnerable to extreme cold and other hazards. Call and visit vulnerable residents, if necessary, in the event that a hazard occurs. By maintaining this list, the health of vulnerable populations will be protected. (Mitigation)</i>	Selectboard, Emergency Management Coordinator	Medium (New)	Local resources	Ongoing and occurs yearly.

*Depending on the mitigation action, local resources may include the following: personnel/staff time; volunteer time; budget line items, donations, cash from capital campaigns, among others.

CERTIFICATE OF ADOPTION
<<DATE>>
TOWN OF Pomfret, Vermont Selectboard
A RESOLUTION ADOPTING THE Pomfret 2016 HAZARD MITIGATION PLAN

WHEREAS, the Town of Pomfret has historically experienced severe damage from natural hazards and it continues to be vulnerable to the effects of the hazards profiled in the 2015 **HAZARD MITIGATION PLAN**, which result in loss of property and life, economic hardship, and threats to public health and safety; and

WHEREAS, the Town of Pomfret has developed and received conditional approval from the Federal Emergency Management Agency (FEMA) for its **2015 HAZARD MITIGATION PLAN** under the requirements of 44 CFR 201.6; and

WHEREAS, the **PLAN** specifically addresses hazard mitigation strategies, and Plan maintenance procedures for the Town of Pomfret; and

WHEREAS, the **PLAN** recommends several hazard mitigation actions (projects) that will provide mitigation for specific natural hazards that impact the Town of Pomfret with the effect of protecting people and property from loss associated with those hazards; and

WHEREAS, adoption of this **PLAN** will make the Town of Pomfret eligible for funding to alleviate the impacts of future hazards; now therefore be it

RESOLVED by Town of Pomfret Selectboard:

1. The **2016 HAZARD MITIGATION PLAN** is hereby adopted as an official plan of the Town of Pomfret;
2. The respective officials identified in the mitigation action plan of the **PLAN** are hereby directed to pursue implementation of the recommended actions assigned to them;
3. Future revisions and **PLAN** maintenance required by 44 CFR 201.6 and FEMA are hereby adopted as part of this resolution for a period of five (5) years from the date of this resolution; and
4. An annual report on the process of the implementation elements of the Plan should be presented to the Selectboard by the Emergency Management Director or Coordinator.

IN WITNESS WHEREOF, the undersigned have affixed their signature and the corporate seal of the Town of Pomfret this ____ day of ____ 201__

Selectboard Chair

Selectboard Member

ATTEST

Town Clerk

Appendices

Appendix A: Hazard Ranking Methodology

<u>Frequency of Occurrence</u> Probability	<u>Warning Time</u> Amount of time generally given to alert people to hazard	<u>Potential Impact</u> Severity and extent of damage and disruption
<p>1 = <i>Unlikely</i> <1% probability of occurrence in the next 100 years</p> <p>2 = <i>Occasionally</i> 1–10% probability of occurrence per year, or at least one chance in next 100 years</p> <p>3 = <i>Likely</i> >10% but <100% probability per year, at least 1 chance in next 10 years</p> <p>4 = <i>Highly Likely</i> 100% probable in a year</p>	<p>1 = More than 12 hours</p> <p>2 = 6–12 hours</p> <p>3 = 3–6 hours</p> <p>4 = None–Minimal</p>	<p>1 = <i>Negligible</i> Isolated occurrences of minor property damage, minor disruption of critical facilities and infrastructure, and potential for minor injuries</p> <p>2 = <i>Minor</i> Isolated occurrences of moderate to severe property damage, brief disruption of critical facilities and infrastructure, and potential for injuries</p> <p>3 = <i>Moderate</i> Severe property damage on a neighborhood scale, temporary shutdown of critical facilities, and/or injuries or fatalities</p> <p>4 = <i>Major</i> Severe property damage on a metropolitan or regional scale, shutdown of critical facilities, and/or multiple injuries or fatalities</p>

Appendix B: Bridges Damaged During Tropical Storm Irene

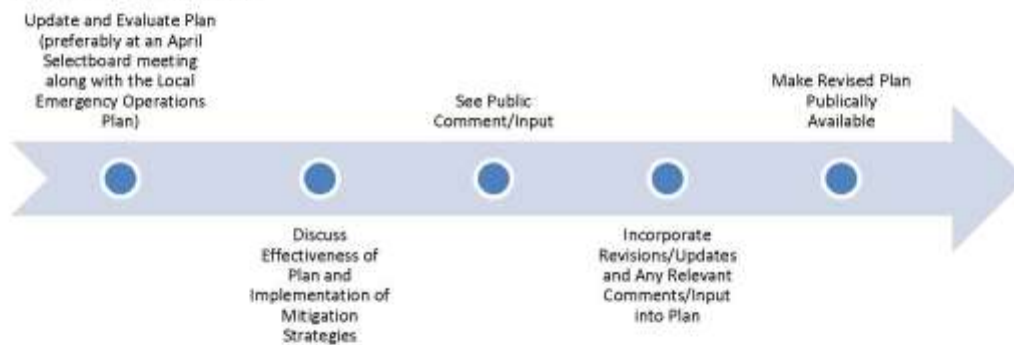
STRC_LBL	LocationDe	DamageDesc
B23	Bartlett Brook Road TH39	major washout, lost culverts
B25	Cloudland Road TH5, TH37	three major sections washed out
B37	Starbuck Road TH23 - two sections	
B22	Wayside Road TH48	major washout, debris in channel, culvert too small
B36	Wayside Road TH48	major washout, debris in channel, culvert too small
B33	Blackmer Road TH10 - top and bottom sections	road, culvert washout
B30	Sessions Meadow TH42	road washout, culvert needs permanent fix
B2	Wild Apple Road TH33 - entire length	road, culvert washout
B27	Wild Apple Road TH33 - entire length	road, culvert washout
TU17	Barber Hill TH5	major washout
B21	Barber Hill TH5	major washout
B32	Bunker Hill Road TH29 - up to Kings Highway	major washout
B54	Bunker Hill Road TH29 - up to Kings Highway	major washout
B14	White River Lane TH18	culvert scour and road edge
B55	Cloudland Road TH5, TH37	three major sections washed out

Appendix C: Five-Year Review and Maintenance Plan

Five-Year Local Hazard Mitigation Plan Review/Maintenance



After Plan Adoption—Annually Implement & Evaluate



Fifth Year, and After a Major or Federally Declared Disaster Directly Impacting the Town Evaluate & Revise



Appendix D: Critical Stream Crossings

Critical crossings group one includes stream crossing structures on town highways that cross third order streams or larger. Headwater streams generally include first through third order. Third order was included as these headwater streams will have larger drainage areas and may have larger structures that are more difficult to replace and have a larger impact on the road network. Most of these are bridges.

Local ID	Road Name	Latitude	Longitude	Birdge/Cul Type	Span/Wid	Height	Length	Bankfull Width	Openness
2	POMFRET RD	43.721381936	-72.427772797	30	120	120	150	13	0.769231
94	POMFRET RD	43.665086801	-72.538802485	33	18	18	60	2	0.75
2	BUNKER HILL RD	43.718874439	-72.479453602	30	120	120	45	5	2
1	KENYON HILL RD	43.724414677	-72.443540818	30	144	144	150	16	0.75
8	HEWITT HILL RD	43.723312151	-72.505164872	30	48	48	60	12	0.333333
11	BUNKER HILL RD	43.711956670	-72.478345286	32	60	48	25	7	0.714286
1	BUNKER HILL RD	43.719931508	-72.481195244	30	120	120	60	16	0.625
13	BARBER HILL RD	43.661348994	-72.523055593	30	60	60	35	16	0.3125
15	BARBER HILL RD	43.659968538	-72.525224296	30	16	16	40	4	0.333333
7	STAGE RD	43.673953688	-72.557284359	32	144	72	90	20	0.6
2	OLD KINGS HWY	43.707631868	-72.489403705	30	36	36	25	9	0.333333
16	BARBER HILL RD	43.659792523	-72.526637559	30	16	16	25	0	unknown
2	ALLEN HILL RD	43.729512189	-72.501275960	32	120	60	70	5	2
36	CLOUDLAND RD	43.645521319	-72.507373393	32	36	36	35	12	0.25
8	BUNKER HILL RD	43.715387269	-72.477350698	32	72	60	35	5	1.2
B7	POMFRET RD	43.654775351	-72.528701753	99	unknown			8	unknown
B39	BUNKER HILL RD	43.719746420	-72.481258109	99	unknown			10	unknown
B54	BUNKER HILL RD	43.715374043	-72.477286225	99	unknown			15	unknown
B32	BUNKER HILL RD	43.718813691	-72.479440741	99	unknown			5	unknown
B21	BARBER HILL RD	43.661248391	-72.523061816	99	unknown			11	unknown
B6	POMFRET RD	43.679784873	-72.528392006	99	unknown			23	unknown
B20	BARBER HILL RD	43.659551964	-72.526883509	99	unknown			0	unknown
B34	TOWN HWY 27	43.660034489	-72.525049255	99	unknown			0	unknown
B11	POMFRET RD	43.720743043	-72.489642861	99	unknown			12	unknown
B42	KENYON HILL RD	43.724452027	-72.443479832	99	unknown			25	unknown
B37	STARBUCK RD	43.723748627	-72.463281262	99	unknown			0	unknown
B26	HOWE HILL RD	43.729561613	-72.497656439	99	unknown			14	unknown
B3	POMFRET RD	43.723120812	-72.500713618	99	unknown			16	unknown
B40	ALLEN HILL RD	43.729527450	-72.501600772	99	unknown			0	unknown
B5	POMFRET RD	43.665244570	-72.538739713	99	unknown			0	unknown
B4	POMFRET RD	43.722636584	-72.497346443	99	unknown			5	unknown
B14	POMFRET RD	43.721300922	-72.427718127	99	unknown			13	unknown
B8	BROAD BROOK RD	43.738031577	-72.542691141	99	unknown			19	unknown
B9	STAGE RD	43.664725762	-72.538938527	99	unknown			14	unknown
B36	WAYSIDE RD	43.659913603	-72.571171813	99	unknown			30	unknown

Critical crossings group two includes significantly undersized structures, usually culverts, were identified from the ANR-DEC stream geomorphic assessment survey with openness ratios less than 50%. This measure refers to when structure's width is less than half of the stream bankfull width. Several of these structures may have been damaged during TS Irene or other events and may have been replaced. The town, at some point, should look at these sites and assess their status and need for repair/upgrades.

Local ID	Road Name	Latitude	Longitude	Bridge/Culvert	Span/Width	Height	Length	Bankfull Width	Openness
8	HEWITT HILL	43.723312151	-72.505164872	30	48	48	60	12	0.333333
13	BARBER HILL	43.661348994	-72.523055593	30	60	60	35	16	0.3125
15	BARBER HILL	43.659968538	-72.525224296	30	16	16	40	4	0.333333
7	STAGE RD	43.673953688	-72.557284359	32	144	72	90	20	0.333333
2	OLD KING'S RD	43.707631868	-72.489403705	30	36	36	25	9	unknown
2	ALLEN HILL	43.729512189	-72.501275960	32	120	60	70	5	0.25
36	CLOUDLAND	43.645521319	-72.507373393	32	36	36	35	12	1.2
8	BUNKER HILL	43.715387269	-72.477350698	32	72	60	35	5	unknown
B7	POMFRET	43.654775351	-72.528701753	99	unknown			8	

Appendix D: Glossary of Acronyms

CFR: Code of Federal Regulations

DEMHS: Department of Emergency Management and Homeland Security

FEMA: Federal Emergency Management Agency

FIRM: Flood Insurance Rate Map

HAZMAT: Hazardous Materials

HMGP: Hazard Mitigation Grant Program

NFIP: National Flood Insurance Program

LEOP: Local Emergency Operations Plan

PDM: Pre-Disaster Mitigation Plan

RC: River Corridor

RRP: Rapid Response Plan

SFHA: Special Flood Hazard Area

TRORC: Two Rivers-Ottauquechee Regional Commission

Attachments

Attachment A: Map of the Town of Pomfret



Legend

Critical Facilities

- Critical Facilities
- HYDRANTS

Properties Near Water Bodies

- Sites in Flood Hazard Area
- Sites in River Corridor

Culvert Condition

- Critical
- Poor
- State Owned Bridge
- Town Owned Bridge

Windsor County

- Flood Hazard Area
- River Corridors

Floodplain eSITES	
RESIDENTIAL	
MOBILE HOME	1
OTHER RESIDENTIAL	4
SINGLE FAMILY DWELLING	37
COM/IND/PUB	
COMMERCIAL	6
EDUCATIONAL	1
LODGING	1
Grand Total	58

Flood Region:
National Flood Insurance Program
Digital Flood Insurance Rate Map Data

