2024 Village of Enosburg Falls Hazard Mitigation Plan

Draft*

VILLAGE OF ENOSBURG FALLS

Approved Pending Adoption by FEMA: _____
Originally Adopted by the Enosburg Falls Village Trustees: _____, 2024
FEMA Final Approval: _____

***The plan will be final following adoption by Enosburg Falls Trustees and FEMA approval.**

EXECUTIVE SUMMARY

The purpose of hazard mitigation is to reduce or eliminate long-term risk to people and property from natural hazards and their effects. The Village of Enosburg Falls Hazard Mitigation Plan is a comprehensive strategy designed to reduce the risks posed by natural hazards an enhance the resilience of the community. Developed through a planning process involving a committee of key staff and stakeholders, the plan identifies natural hazards, assesses vulnerabilities, and outlines mitigation strategies to protect lives, property, and the environment in the village.

The legislative authority that provides the legal basis for mitigation is derived from the Stafford Act, as amended by the Disaster Mitigation Act of 2000. Section 322 of the Stafford Act specifically addresses mitigation planning. This establishes the requirement that state and local governments prepare hazard mitigation plans as a precondition for receiving FEMA mitigation project grants. More importantly, this plan and planning process lays out the strategy that will enable the village to become less vulnerable to future disaster losses. The process followed a methodology prescribed by FEMA.

The hazard identification and risk assessment process identified and examined a range of hazards with the potential to impact the community. It focuses on the specific hazards that were considered the greatest threat to the community including strong winds, flooding and fluvial erosion and severe winter storms (ice storms). It included the history of losses and analyzed future risks posed to the village. Analysis of historical data, modeling, and stakeholder input informed he identification of high-risk areas, critical infrastructure and vulnerable populations.

The plan identifies several mitigation strategies and actions that are based on the results of the risk assessment. They are aimed at reducing risk, enhancing preparedness, and promoting resilience across the Village of Enosburg Falls. The actions are summarized into four types: local planning and regulations, structural and infrastructure projects, natural system protections and education and awareness programs. The plan also includes a review of the village's current capabilities to reduce hazard impacts.

This plan (has been /will be) formally adopted by the Village of Enosburg Falls Board of Trustees. It is required to be updated a minimum of every five years. Monitoring and evaluation mechanisms were established to track progress, assess effectiveness, and adapt strategies as needed to address changing conditions and emerging threats. By working together and implementing targeted mitigation measures, we can protect lives, property and the environment, and ensure a safer and more sustainable future all residents of the community.

RESOLUTION
A RESOLUTION OF THE VILLAGE OF ENOSBURG FALLS TRUSTEES ADOPTING THE 2024 VILLAGE OF ENOSBURG FALLS HAZARD MITIGATION PLAN.

WHEREAS the Village of Enosburg Falls Trustees recognizes the threat that natural hazards pose to people and property within the Village of Enosburg Falls; and

WHEREAS the Village of Enosburg Falls has prepared a multi-hazard plan, hereby known as the 2024 Village of Enosburg Falls Hazard Mitigation Plan in accordance with federal laws, including the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended; the National Flood Insurance Act of 1968, as amended; and the National Dam Safety Program Act, as amended; and

WHEREAS the 2024 Village of Enosburg Falls Hazard Mitigation Plan identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in the Village of Enosburg Falls from the impacts of future hazards and disasters; and

WHEREAS adoption by the Village of Enosburg Falls Trustees demonstrates its commitment to hazard mitigation and achieving the goals outlined in the 2024 Village of Enosburg Falls Hazard Mitigation Plan.

NOW THEREFORE, BE IT RESOLVED BY THE VILLAGE OF ENOSBURG FALLS TRUSTEES, IN THE STATE OF VERMONT, THAT:

Section 1. In accordance with 24 VSA §872, the Village of Enosburg Falls Trustees adopts the 2024 Village of Enosburg Falls Hazard Mitigation Plan. While content related to the Village of Enosburg Falls may require revisions to meet the plan approval requirements, changes occurring after adoption will not require the Village of Enosburg Falls Trustees to re-adopt any further iterations of the plan. Subsequent plan updates following the approval period for this plan will require separate adoption resolutions.

ADOPTED by a vote of ____ in favor and ____ against, and ____ abstaining, this _____ day of _____, 2024.

By: _____ (Signature)

_____ (print name)

ATTEST: By: _____ (Signature)

_____ (print name)

APPROVED AS TO FORM: By: _____ (Signature)

_____ (print name)

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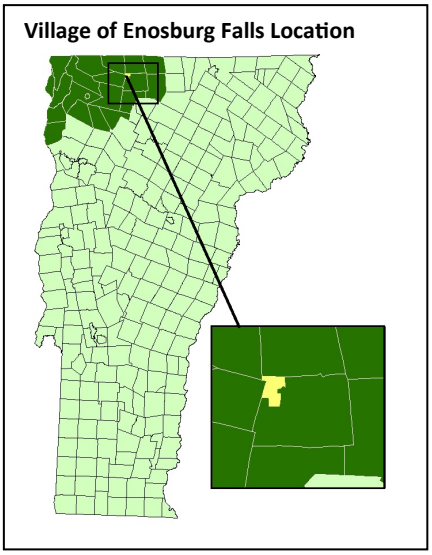
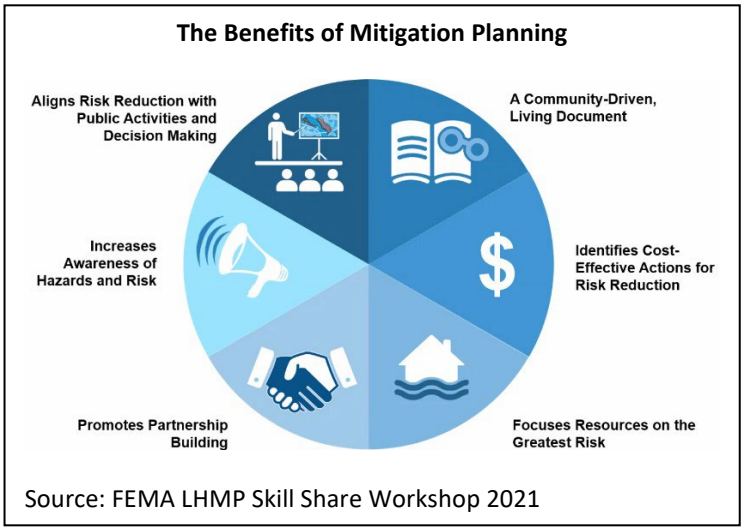
1. INTRODUCTION

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



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



Source: FEMA LHMP Skill Share Workshop 2021

Hazard Mitigations strategies and measures **alter** the hazard by eliminating or reducing the frequency of occurrence, **avert** the hazard by redirecting the impact by means of a structure or land treatment, **adapt** to the hazard by modifying structures or standards or **avoid** the hazard by stopping or limiting development and could include (but not limited to) projects such as:

- Flood-proofing structures
- Tying down propane/fuel tanks in flood-prone areas
- Elevating furnaces and water heaters
- Elevating structures or utilities above flood levels
- Identifying & upgrading undersized culverts
- Proactive land use planning for floodplains and other flood-prone areas
- Proper road maintenance and construction
- Ensuring critical facilities are safely located
- Buyout & relocation of structures in harm's way
- Establish & enforce appropriate building codes
- Public information

2. PURPOSE

The purpose of this Local Hazard Mitigation Plan is to assist the Village of Enosburg Falls in recognizing hazards facing the community, ranking them according to local vulnerabilities, and developing strategies to reduce risk from those hazards. Once adopted, the local mitigation plan is not legally binding; instead, it outlines goal and actions to prevent future loss of life and property.

Enosburg Falls strives to be in accordance with the strategies, goals and objectives of the State of Vermont's Hazard Mitigation Plan.

3. PLANNING PROCESS

The 2024 Village of Enosburg Falls Local Hazard Mitigation Plan is a new Local Hazard Mitigation Plan (LHMP). The Northwest Regional Planning Commission (NRPC) assisted with the coordination the Enosburg Falls LHMP process.

The Village's Hazard Mitigation Plan was originally drafted and reviewed by Vermont Emergency Management on June 14, 2019. The plan was not approved pending adoption. The plan was being updated to meet the recommended revision when the Covid-19 global pandemic occurred. The pandemic caused disruptions across all sectors of society. The village also had several staff changes as well as changes in locally elected officials. The Enosburg Falls Mitigation Plan was not resubmitted due to other priorities.

At the September 26, 2023 meeting of the Enosburg Falls Village Trustees, they agreed to revisit and update the draft Mitigation Plan with assistance from Northwest Regional Planning Commission. Public comment was taken at the meeting regarding the update. After some discussion it was agreed that several property buyouts should be added and recommendations for a dam removal be incorporated as mitigation actions. NRPC staff noted that new FEMA guidance was released earlier in the year and the plan would have to meet the new federal requirements.

<u>Incorporation of Existing Plans, Studies, Reports and Technical Information</u>
The 2024 Village of Enosburg Falls Local Haard Mitigation Plan development utilized plans, policies, studies, historical records, data and technical information as a foundation. Such information provided a comprehensive understanding of existing hazards, vulnerabilities and community needs. The information ensured the plan is effective and tailored to the specific context of the community.
A complete list may be found in Table 3.1.

Table 3.1

Information Source	Review and Incorporation
American Community Survey Five Year Estimate 2022	Used to develop community profile section.
FEMA Disaster Declaration Website	Data from the site was used during the hazard profile and risk assessment sections.
FEMA Hazard Mitigation Assistance Program Policy Guide 2024	Used to ensure plan meets the Federal mitigation planning requirements including those address climate change.

FEMA Local Mitigation Planning Handbook 2023	The handbook was used to ensure plan meets the Federal mitigation planning requirements including those for addressing climate change. Referenced throughout the planning process.
FEMA NFIP Insurance Reports 2021	Used to determine how many structures are insured, number of repetitive loss properties and describe NFIP compliance.
FEMA Risk Mapping, Assessment and Planning (Risk Map) Products	The data was referenced during the hazard profile and capabilities section of this plan.
Missisquoi River Basin Association. 2006	Phase 2 Geomorphic Assessment of Missisquoi Watershed to assess stream channel characteristics including channel erosion and structures conditions.
National Oceanic and Atmospheric (NOAA) Climatic Data Center's Storm Events Database	Data was referenced and incorporated in the hazard identification and risk assessment section of this plan.
Northwest Regional Planning Commission Regional Plan 2018	The physical region section was referenced during the risk assessment as well as various data references on population and transportation.
Northwest Regional Planning Local Liaison Reports of Storm Damage	Referenced to develop the risk assessment section.
State of Vermont Climate Assessment	Referenced in development of risk assessment.
State of Vermont Hazard Mitigation Plan 2023	The entire plan was reviewed and referenced during the development of this plan.
Vermont Agency of Transportation Bridges and Culverts On-Line Database	The data was referenced during the risk assessment and mitigation actions review.
Vermont Agency of Transportation Resilience Planning Tool	Referenced to develop the risk profile and mitigation actions.
Vermont Center for Geographic Information 2024	GIS data sets used for mapping and analysis.
Vermont Dam Inventory	The tool was referenced during the risk assessment section and mitigation actions to address floods.
Vermont Department of Health website	Referenced during research of hazard identification and risk assessment section of plan/
Vermont Economic Resiliency Initiative 2015	Information from this study was referenced and incorporated in the risk assessment and mitigation strategies development of this plan.
Vermont Flood Ready Website	Data from the website was referenced throughout the planning process and used in various sections of the plan.
Vermont Natural Resource Atlas	Tool was referenced throughout the process.
Village of Enosburg Falls Bridge and Roads Standards - 2018	The document was referenced during the capabilities and mitigation projects meetings.
Village of Enosburg Falls Electric Outage Reports	Reference during Risk Assessment section of plan.
Village of Enosburg Falls Flood Insurance Rate Maps 1980	The date was referenced for risk assessment section and used in capabilities section.

Village of Enosburg Falls Flood Insurance Study 1980	The date was referenced for risk assessment section and used in capabilities section.
Village of Enosburg Falls Municipal Plan - 2020	Existing land use, population, transportation and future land use, public facilities, public services, flood resilience. The plan was referenced throughout the process
Village of Enosburg Falls Road Erosion Inventory	Referenced to develop the risk assessment section and mitigation actions section.
Village of Enosburg Falls Zoning Regulations - 2017	The sections reviewed including flood hazard areas, wetland regulations, road erosion, and regulations for areas of special flood hazard.
Village of Enosburg Falls/Enosburgh Town Local Emergency Management Plan - 2024	The plan was reviewed and referenced throughout the planning process.

Documentation of the Planning Process, Public Input and Input from Neighboring Communities

The Village of Enosburg Falls assembled a Hazard Mitigation Planning Team to participate in creating a Hazard Mitigation Plan. The Northwest Regional Planning Commission (NRPC) assisted the Village with the creation of the plan. The Village actively invited various stakeholders in the planning process including residents, local businesses, local neighboring government agencies, regional emergency management committee, schools, and non-profits that work directly with or provide support to people with disabilities and functional access needs. Table 3.2 depicts the planning team:

Table 3.2

Name	Organization	Role
John Dasaro	Village Manager	Planning Team Lead
Shaun Coleman	Northwest Regional Planning Commission	Planning Team Member
Gary Denton	Public Works Director	Planning Team Member
Laurie Stanley	Staff Accountant / social media	Planning Team Member
Shawna Lovelette	Enosburg Business Association / Enosburg Falls Economic Development Corp.	Planning Team Member
Heather Moore	Enosburg Falls Trustee / School District	Planning Team Member
Sandra Ferland	Enosburg Falls Trustee	Planning Team Member
Andre Beulieu	Village Clerk / Treasurer	Planning Team Member
Mark Larose	Chief - Enosburgh Fire Department	Planning Team Member
Gregory Lamoureux	Lt – Enosburgh Fire Department	Planning Team Member
Garrett Wolski	Director of Operations – Enosburgh Ambulance Service	Planning Team Stakeholder
Alan Plouff	Enosburg Falls Light and Electric Crew Lead	Planning Team Stakeholder
Joey Clark	Enosburgh Town Road Foreman / Fire Department	Planning Team Stakeholder
Billie Jo Draper	Enosburg Town Clerk	Planning Team Stakeholder

Emily Fecteau	Berkshire Town Clerk	Planning Team Stakeholder
Mathew Stebbins	Sheldon Town Administrator	Planning Team Stakeholder
Kimberlee Dufresne	Sheldon Town Clerk	Planning Team Stakeholder
Jacqueline Kelley	EP, Vermont Department of Health, St. Albans District	Planning Team Stakeholder (Disabilities and
Reginald Beliveau	Interim Chair, Franklin County Regional Emergency Management Committee	Planning Team Stakeholder
Jess Graff	Director, Champlain Valley Office of Economic Opportunity	Planning Team Stakeholder (People with Disabilities and Functional Access Needs)
	Enosburg Falls Food Shelf	Planning Team Stakeholder (Food, Water, Shelter)
	Visiting Nurses Association (*formerly Franklin County Home Health Agency)*	Planning Team Stakeholder (Senior Healthcare, Hospice and Community Support Services)
Karen Heinlein-Grenier	Director Turning Point of Franklin County	Planning Team Stakeholder (recovery support and services)
Denise Smith	Northwest Medical Center Community Engagement	Planning Team Stakeholder (regional hospital)
Dan Carswell	Enosburgh Health Center (Northern Tier Center for Health)	Planning Team Stakeholder (non-profit healthcare center)

Stakeholder Engagement and Public Outreach

The mitigation committee and NRPC developed a stakeholder and public outreach plan to ensure they were given opportunities to be involved in the plan's development process. Engagement and outreach are crucial for hazard mitigation planning for several reasons including fostering inclusive decision-making, strengthening community resilience through active participation, raising risk awareness and preparedness through education, transparency, and promoting consensus building. A survey for the community was also developed, posted on the Village website, advertised on the village's Facebook page and Front Porch Forum and a flyer with QR Code link to survey was posted at the municipal office, town library, grocery store, gas station, school and laundromat. Less than 1% of the population responded to the survey. The plan may be found in Attachment E and the survey in Attachment F.

Plan Development Process

The Village of Enosburg Falls held several planning meetings to discuss the development of a Hazard Mitigation Plan. All meetings were open to the public and some were held at regularly scheduled Trustees meetings. Public in attendance at the meetings were encouraged to participate. All meeting agendas were posted at 3 locations in the municipality in compliance with the requirements of Vermont Open Meeting Law. Hard copies of drafts discussed at meetings were available to the public in attendance at meetings and upon request

A community forum was held on February 13, 2013 to discuss disaster resilience, economic development and public health. Outcomes included the types of hazards the town was subjected to and what they believed the top hazards would be, identification of mitigation projects and strategies for implementation.

September 23, 2023 – Enosburg Falls Village Trustees Meeting was held at the Village Office. NRPC staff met with trustees and Village Manager to discuss past efforts in developing a hazard mitigation plan, benefits of having a hazard mitigation plan and review of planning process. The trustees were in favor of completing a hazard mitigation plan for the community.

October 13, 2023 – Enosburg Falls Initial Meeting with Village Manager and NRPC to discuss mitigation planning process, assembly of planning team and stakeholder and public outreach plan.

February 9, 2024 – Kickoff Meeting at the Village Office with a virtual option to participate. The public meeting was warned following Vermont's Open Meeting Law requirements. Communications methods followed the stakeholder and public outreach plan to ensure the whole community had an opportunity to participate. NRPC staff facilitated the hybrid meeting that focused on past efforts, mitigation planning process, plan development, FEMA guidance, roles and timeline.

March 8, 2024 –Hazard Risk Assessment Meeting at the Village Office with virtual option to participate. The public meeting was warned following Vermont's Open Meeting Law requirements. Communications methods followed the stakeholder and public outreach plan to ensure the whole community had an opportunity to participate. NRPC staff reviewed mitigation planning process, community outreach efforts, timeline, review of local hazards, state-wide hazards as identified in the mitigation plan, review of hazard data, update the risk assessment section based on participant feedback. A survey was discussed to solicit input from the whole community.

March 25, 2024 – Survey and flyer was agreed to and finalized and released to public for input. This was to solicit input from the whole community. The Village provided notice of the survey by posting at several locations throughout the community including the library, laundromat, Village Office, Post Office, Town Office, school and grocery store. The flyer with QR code was also posted on Village Office page and Village Facebook page.

April 12, 2024 – Policies, Plans and Capabilities Meeting at the Village Office with virtual option to participate. The public meeting was warned following Vermont's Open Meeting Law requirements. Communications methods followed the stakeholder and public outreach plan to ensure the whole community had an opportunity to participate. The participants reviewed existing village resource capacity and capabilities, flood plain and river corridor bylaw regulations, ordinances, stormwater infrastructure and inventories, school safety plans, and survey.

May 17, 2024 – Mitigation Projects Meeting at the Village Office with virtual option to participate. The public meeting was warned following Vermont's Open Meeting Law requirements. Communications methods followed the stakeholder and public outreach plan to ensure the whole community had an opportunity to participate. The meeting centered on hazard mitigation strategies and confirmed goals and discussed past and future mitigation projects for the Village. There was also a review of the survey results to date and a discussion on the survey.

August 2024 – Planning team completed work and review of the draft hazard mitigation plan. The plan was prepared for a public meeting of the Enosburg Falls Trustees.

August 23, 2024 – Planning Team meeting for review of draft prior to trustees' review.

August 27, 2024 – Draft plan was presented at Enosburg Falls Trustee Meeting with opportunity for public comment. Following the public meeting, the draft plan was made available for public comment through September 24, 2024. Online notice of the public comment period with a link for viewing/downloading the draft Plan was posted on the Village and NRPC websites, Village Facebook page and Front Porch Forum. Physical notices were posted at the Village Office, Post office, Town Office, library, laundromat, school and grocery store. Notices included instructions to email comments to the NRPC Senior Planner Shaun Coleman or attend the final September 24, 2024 Trustees meeting to share input. NRPC Senior Planner also mailed and/or emailed the draft plan to neighboring towns and stakeholders identified in Table 3.2in an attempt to seek input.

September 10 or 24, 2024 – Draft LHMP to be discussed at Enosburg Falls Trustee Meeting with opportunity for public comments which coincided with close of public comment period.

September 25, 2024 – Final draft LHMP submitted to Vermont Emergency Management / FEMA for Approval Pending Adoption.

- Copies of the draft plan were made available to the public at the Village Office from August 1st to November 30, 2016 for review and comment.
- The public was invited to comment on the draft plan via a public notice that was circulated in the local newspaper *County Courier*, the Village's website, the NRPC newsletter and NRPC website. This opportunity served to make the public aware where they can find hard copies to review or request either hard copies or digital format.
- The draft plan update was circulated via email from NRPC to the Planning Commission and Trustees for review and comment.
- Copies of the draft plan update were made available at adjacent town offices in including Franklin, Sheldon, Enosburgh Town and Berkshire for review and comment.

4. COMMUNITY PROFILE

Geography

The Village of Enosburg Falls, chartered in 1888, lies in the northwestern corner of the Town of Enosburgh in central Franklin County. The Village is bounded by the Towns of Berkshire, Franklin, Sheldon, and Enosburgh.

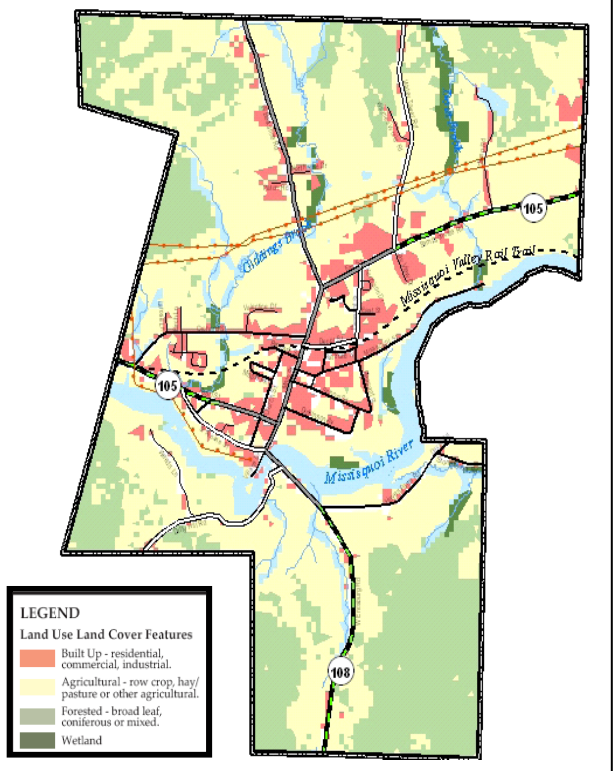
The Village occupies 3.6 square miles of land area, with an approximate population density of 440.5 persons per square mile based on the 2022 American Community Survey Census population of 1,554 persons. It lies primarily in the Central Highlands physiographic region of Vermont, and its terrain is characterized by broad valleys and rolling hills. The primary settled area of the Village is located just north of the Missisquoi River. Enosburg Falls is unique for a Village in that it retains a large amount of undeveloped land, some of which is still in agricultural use (see Map 4.1)

Enosburg Falls is governed by a Board of Trustees and operates separate from the Enosburgh Town. There are zoning regulations in place, including flood hazard regulations.

Enosburg Falls is part of the Tyler Branch Watershed. The Missisquoi River enters Enosburgh Town from the east and flows in a westerly direction through a largely undeveloped flood plain. It forms eastern boundary of the village then bisects the Village near Stonehouse Road. Maintaining water quality is of extreme importance. Not only does it affect the Village but also it has the potential to directly affect the Missisquoi River Delta and consequently, Lake Champlain.

Current Land Use

Enosburg Falls has maintained its character as a traditional village center, with a Main Street consisting of multi-story brick blocks at its heart and surrounded by residential and additional commercial areas. Most neighborhoods are characterized by an amiable mixture of land uses and there is still a sizable portion of Village land which is open and in use for agriculture or woodland.



Map 4.1 Enosburg Falls Land Use/Land Cover

The approach to the Village on RTE 108 south remains predominantly in agricultural use. The development rights have been sold from the land on the east side from the Village line to the Missisquoi. The land on the west side of RTE 108 south of the river has many limitations to developments such as ledge and wetlands. There is municipal water, but there are no plans to extend municipal sewer lines to this area within the next 5 years.

The Central Business District is experiencing a period of renewal, instigated by the redevelopment of the Depatie/Abbott Block. The development replaced the last wood block in the Village, which was destroyed by fire in 2005, with a three-story brick block that fits into the character of the Village. It has provided additional retail space and many units of village center housing. Retail spaces filled quickly and currently there are almost no vacant storefronts in the Central Business District.

Future Land Use

1. Central Business District - The purpose of the Central Business District is to provide a concentrated area to serve the business, service, and social needs for the community as well as the region. The historical character of the district focuses upon pedestrian access to a mixture of retail sales, personal services, professional services, business offices, and high-density residences tightly spaced with minimal setback from the street. Residential uses add interest and vitality to the area and accommodate those who desire high-density housing.

2. Commercial District - The purpose of the Commercial Districts is to provide areas with public water and sewer for larger-scale, land-intensive retail, commercial and high-density residential development that may not be suited to location in the Central Business District. These areas are

intended to complement the Central Business District, and efforts will be made to connect them by attractive pedestrian paths, internal roadways, and landscaping.

3.Industrial District -The purpose of this District is to provide an area with good highway access and municipal water and sewerage for manufacturing, warehousing, research and development, and their accessory uses. Since these are intensive uses with potential impacts and hazards to public health and welfare, all uses within the District shall receive conditional use review by the Development Review Board. Master planning will be encouraged in order to promote efficient and economic connection with existing services and facilities.

4. High-Density Residential District - The purpose of this District is to maintain the privacy, and property values in established traditional residential neighborhoods. Industrial and most commercial uses should not be allowed in this district to maintain a safe, residential character. This area is served by public services and facilities. Efforts to retain and improve the quality and vitality of older neighborhoods through restoration of deteriorating buildings should be encouraged. Residential development in this District should provide for a variety of dwelling types and for the needs of people of all income levels and ages.

5. Low Density Residential - The purpose of this District is to provide opportunities for residential development at densities appropriate to the physical capability of the land outside of the more densely settled village area. These areas have public water supplies and may or may not have municipal sewerage. A density bonus will be offered to encourage clustering of dwellings in this district in order to conserve open land for recreation, aesthetics, agriculture, and forestry.

6. Rural Residential - The purpose of this District is to protect those areas which are used for agriculture but to allow for uses other than agriculture and forestry, including residential and compatible uses, at a density these areas can support in accordance with the municipal plan. Of top concern is the protection of prime agricultural soils. Historically, rural development was considered “scattered” but today the goal is for “clustered” growth. In this way, large contiguous open space is protected for farming and pockets of housing will occur in less productive areas.

7. Agricultural/Rural Residential District - The purpose of this District is to maintain the predominantly agricultural character of the area with its scattered residences. Since much of this district is prime farmland, new residential and other non-farm development will be reviewed to ensure minimal interference with continuing agricultural use. Planned unit developments, the clustering of houses and developments that do not remove land from production will be encouraged by a density bonus.

8. Agricultural District – The purpose of this District is to protect the long-term viability of productive farmland in the Town for agriculture use by 1) protecting prime agriculture soils as mapped by the U.S. Natural Resources Conservation Service (NRCS), 2) minimizing the fragmentation of productive farmland, and 3) mitigate the adverse effects of development on farmland operations. Other uses may be conditionally allowed, including residential use at a low density.

9. Recreation District - The purpose of this District is to reserve areas for current and future outdoor recreational facilities. The District includes areas within the Village that are presently being used for private and/or public recreation as well as additional areas to be reserved for the development of outdoor recreation facilities. It is intended that no development other than outdoor recreational use

occur in this District.

10. Conservation District - The purpose of this District is to protect the scenic and natural resource value of lands which lack direct access to public roads, are important for wildlife and wildlife habitat, and which are poorly suited for development. Location, topography, and soil limitations make lands in this district unsuitable for intensive development. Included are areas of steep slope and wetlands. No public water or sewer facilities are planned for these areas. Only low-density residential development, limited outdoor uses, conservation uses, agriculture, and forestry compatible with the district purposes will be allowed.

11. Conservation District I - The purpose of this District is to protect the scenic and natural resource value of lands which lack direct access to public roads, are important for wildlife and wildlife habitat, and which are poorly suited for development. Location, topography, and soil limitations make lands in this district unsuitable for intensive development. Included are areas of steep slope and wetlands. No public water or sewer facilities are planned for these areas. Only low-density residential development, limited outdoor uses, conservation uses, agriculture, and forestry compatible with the district purposes will be allowed.

12. Conservation District II - This district is defined as areas that, by reason of its soil and topography, have limited development potential or are more susceptible to environmental degradation. Steep slopes (over 15%), wetlands, deer yards, and high elevations (over 1,500 feet elevation) are all areas in the conservation district. The purpose of this district is to protect the pristine and sensitive areas of the Town, that are primarily used for forestry and outdoor recreation, from the adverse effects of development and growth but to allow for uses other than forestry, including camps and other compatible recreation uses, at a density these areas can support.

13. Groundwater Source Protection Area - This district serves to protect the source of water for the East Berkshire Water COOP, an area around a spring off the Woodward Neighborhood Road in the northeast corner of Enosburgh Town, which has been designated as a “Groundwater Source Protection Area” by the State of Vermont. This district also includes an area in Northwest Enosburgh which is a water recharge area for the Village of Enosburg Falls.

14. Flood Hazard Overlay District - The purpose of this District is to prevent increases in flooding caused by development in flood hazard areas, to minimize future public and private losses due to flood, and to promote the public health, safety, and general welfare. Designation of this District is also required for continued eligibility in the National Flood Insurance Program (NFIP). Included are all areas in the 100- year floodplain as identified on the Flood Insurance Study map(s). The Flood Hazard District overlays other districts and places additional restriction upon development in the areas to which it applies.

15. Natural Resource Overlay District - Designation of this district is intended to protect the scenic and natural resource values of lands which are important for wildlife and wildlife habitat, and which are poorly suited for development because of their environmental constraints. This area maintains large tracts of forest, protects significant wildlife habitat, and ensures connectivity between habitats. Land uses and development in this district should be planned and designed to be compatible with the surrounding characteristics of the landscape, to be harmonious with wildlife habitat and the species that depend on this habitat and should recognize and protect the full range of vegetative and animal habitats and species in the Town. The district includes areas which have significant geologic features,

unusual or important plant and animal qualities of scientific, ecological or educational interest, steep slopes, waterways and significant wildlife habitat.

16. Wetlands Overlay District - The purpose of the Wetland Overlay District is to protect the natural system functions (e.g. water and air purification, flood attenuation, speciation, and nutrient cycling) that are critical to support the human, animal, and plant populations in Enosburgh.

Population and Housing

The American Community Survey estimated that the population of Enosburg Falls was 1,554 in 2022 which is an increase from the 2010 estimate of 1,329. There are 348 residents under the age of 18 while 210 are aged 65 and older. The median age is 37.

Table 4.1.

Population of Enosburgh and Surrounding Communities, 1960-2020.							
Year	**1960**	**1970**	**1980**	**1990**	**2000**	**2010**	**2020**
Enosburg Falls	1321	1266	1207	1350	1473	1329	1356
Enosburgh Town	645	652	863	1185	1315	1452	2810
Enosburg Falls & Enosburgh Town	1966	1918	2070	2535	2788	2781	4166
Montgomery	876	651	681	823	992	1201	1184
Richford	2316	2116	2206	2178	2321	2308	2346
Berkshire	965	931	1116	1190	1388	1692	1547
Franklin Town	796	821	1006	1068	1268	1405	1363
Sheldon	1281	1481	1618	1748	1990	2190	2136
Fairfield	1225	1285	1493	1680	1800	1891	2044
Bakersfield	664	635	852	977	1215	1322	1273
Franklin County	29,474	31,282	34,788	39,980	45,417	47,746	49,946
Source: Vermont Indicators Online and U.S. Decennial Census							

There are 680 total housing units, of which 513 are occupied, 11 are seasonal, recreational or occasional use and 167 are either vacant, for sale or rent.

The 2013-2017 American Community Survey provides information about the number of people with various levels and types of disabilities. Enosburg Town and Enosburg Falls Village combined have a slightly greater percentage of people with disabilities then Franklin County, but a similar percentage of people to the state overall. The census categorized (2008) disabilities into six categories: hearing, vision (blind or having serious difficulty seeing, even with wearing glasses), cognitive, ambulatory (mobility), self-care difficulty, and independent living difficulty.

Table 4.2

Percent of the Non-Institutionalized Civilian Population with a Disability in 2017				
% of Persons with a Disability	Total	Persons 5-17 Years	Persons 18-64 Years	Persons 65 Years & Over
Enosburgh	13.2%	1.2%	10.3%	37.6%
Franklin County	12.4%	4.9%	10.7%	33.96%
Vermont	14.2%	7.2%	11.8%	33.1%

Energy

The Village of Enosburg Falls is serviced by its own Electric Light Department (EFELD), which was built in 1898 at a cost of $16,827.34. The local utility includes two hydro plants with a combined generating capacity of 900 kilowatts (kW). In addition to this hydro generation, the department has one diesel generator with a capacity of 600 kilowatts. In 2006, these department resources generated 17.98% of total electric demand, compared to 18.5% in 2001. During the year, EFELD generated a high of 34.87% in April 2006 and a low of 10.99% in October. Additional sources of electricity include Hydro Quebec and purchases from the New England Power Pool. The system has expanded over the years and continues to serve the community.

A 5-member board consisting of Village Trustees and the Village Manager govern the EFELD. The department serves the entire Village of Enosburg Falls except for a small portion along East Berkshire Road, most of the Town of Enosburgh, parts of Bakersfield, Sheldon, Fairfield, Berkshire, and Franklin. Currently the department has 1,816 customers, adding 24 new services in 2022. Connections to the EFELD increased by close to 17 percent from 1994 to 2006 (Table 8.1). Recent connections have largely been residential uses located outside the Village.

Families use a significant amount of energy to heat their homes in Vermont. According to the 2020 US Census, the majority (41 percent) of Enosburg Falls residents relied on utility gas to heat their homes. Over 38% used fuel oil or kerosene and about 11% used bottled, tank, or LP gas.

Emergency Services

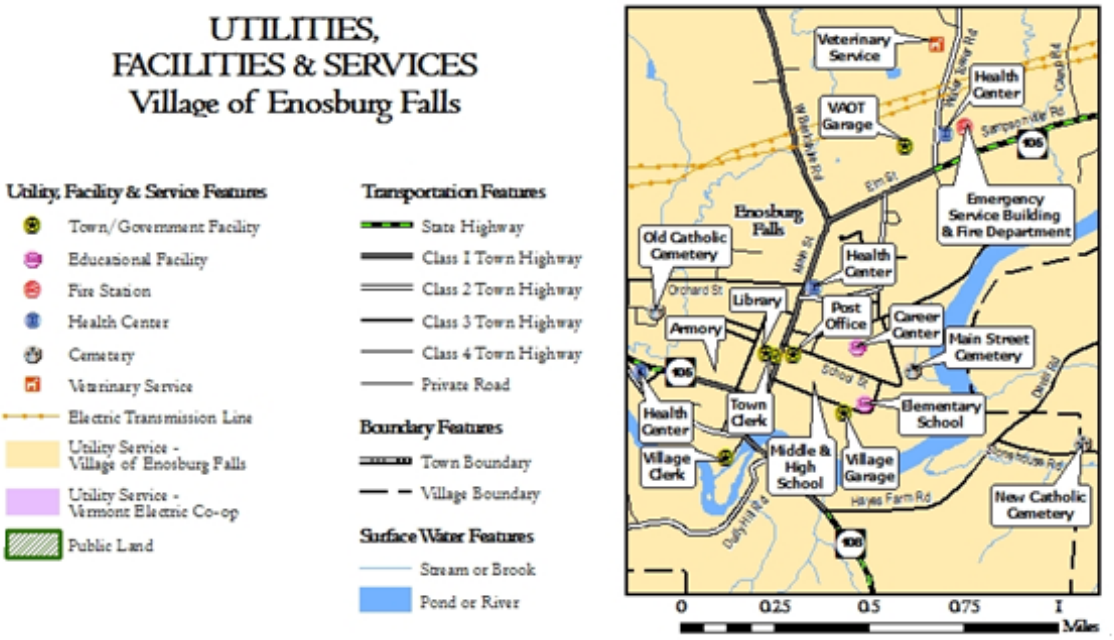
Enosburg Falls is served by the Enosburgh volunteer fire department and Enosburgh ambulance service with paid personnel, a portion of which is licensed EMTs. The departments are made up of dedicated members who are on call twenty-four hours a day. Members of both organizations are qualified and trained through State and local training programs. The departments are housed in the new Enosburgh Public Safety Building located along Route 105 north of the Village. The fire department participates in the mutual aid compact for the County and bordering Canadian communities.

The fire department is comprised of approximately 25 firefighters plus several volunteer support members. The firefighters are paid per call through the Vermont State Firefighters Association. The fire department has a rescue truck used as a mobile command post, a 2,000-gallon tanker, an aerial ladder truck, Engine #1- 1,500-gallon pumper/foam truck, and Engine #2- 500-gallon pumper.

The Enosburgh Ambulance Service has three ambulances. Enosburgh Ambulance provides service to the Towns of Berkshire, Bakersfield, Franklin, and provides backup for surrounding communities. They also provide advanced Emergency Medical Training personnel for these communities when needed. Emergency health care services are offered at hospitals in St. Albans, Morrisville, Newport and Burlington.

The Vermont State Police and the Franklin County Sheriff's Department are responsible for law enforcement. Dispatching services for the state police are based out of the Williston Barracks while four troopers work out of outposts in eastern Franklin County. The Franklin County Sheriff's Department works under contract with Enosburg Falls and serves the Enosburgh community and includes one School Resource Officer for the Enosburg Falls Elementary, Middle and High Schools.

Enosburgh Town and Enosburg Falls Village has an emergency management plan to initiate response to serious crisis and is updated on an annual basis. Enosburg Falls is a member of the Franklin County Mutual Aid Agreement and Franklin County Regional Emergency Management Committee.



Water Supply

Enosburg Falls is served by a municipal water system supplied by two drilled wells located in the Town of Berkshire. Well #1 has been in service since 1960 and well #2 since 1979. Demand for municipal water was 15% of combined well capacity in 2007 and therefore no additional capacity needs are anticipated in the near future. A new reservoir with a capacity of 750,000 gallons was built in 1990. A 16-inch line carries water from the reservoir to the intersection of Water Tower Road and Route 105. A 10-inch line extends from there to the corner of Pleasant and Elm Streets. From this point, water is carried down Elm and Main Street through an 8-inch and 6-inch line respectively.

The systems water quality is excellent. Water is treated with both chlorine and fluoridates. Treatment is monitored daily, and samples are sent to the Vermont Health Department for testing twice a month.

There have been several line improvements over the last five to ten years; the Village has incorporated upgrades with street improvements. In 2012, a new 12inch water main was installed on Pleasant Street from Elm Street to the 10-inch line on Depot Street; this line has made a noticeable improvement to water for most of the fire hydrants in the Village.

Transportation

Enosburg Falls currently has approximately 11.9 miles of roadway, including 2 miles of State Highway, (Routes 105 and 108), and just over 9 miles of local roads. Highways and roads are classified as either Class 1, Class 2, Class 3, or Class 4. Enosburg Falls has 2.4 miles of Class 1 highway, 3.3 miles of Class 2 highway, 4.0 miles of Class 3 highway, and no Class 4 highways. Class 1 highways have shared maintenance responsibilities between the Vermont Agency of Transportation (VTRANS) and municipalities. VTRANS is responsible for scheduled surface maintenance or resurfacing and center line pavement markings, while municipalities are responsible for pothole patching, crack filling, crosswalks, and parking; there is joint authority on highway protection matters such as obstructing travel, marking of hazards, installing utilities, etc. Municipalities are responsible for Class 2 highways, except that VTRANS is responsible for center line

pavement markings if notified. Municipalities are entirely responsible for Class 3 and Class 4 highways. Vermont Statute requires that Class 3 highways be maintained to a standard where a pleasure car could travel them during all seasons of the year. Class 4 highways are not required to be maintained.

The Village is faced with ever increasing car and truck traffic flow, which wears hard on the Village's streets. In addition, excessive speed on Village streets has become a problem, specifically on Orchard Street. Given the increase in traffic, it is important to adequately plan for needed maintenance and improvements.

The Village maintains a bridge and culvert inventory that was last updated in 2022. The survey classified culvert conditions following the Vermont Agency of Transportation's bridge and culvert standards. The Town also uses Road Surface Management Systems to track road conditions and maintenance costs. The inventory is updated on-line through the Vermont Agency of Transportation web portal on an annual basis to plan for future improvements and for budgeting purposes.

Flooding and Development Regulations

The Village of Enosburg Falls has adopted land use regulations for flood hazard areas in order to protect the health, safety, and welfare of its residents and to allow the community to participate in the National Flood Hazard Insurance Program. The regulations were originally adopted in 1983, ratified by voters in 1984 and last updated in 2017. The Enosburg Falls Village Development Regulations contain a general regulation that outlines land development near surface waters. As a general regulation, the rules apply to all zoning districts and all land development in the village.

4. RISK ASSESSMENT

Identifying hazards, profiling hazards, estimating losses and assessing vulnerability

The information is based on surveys and interviews with local officials and the best available data sources found from federal, state, regional, and local agencies and departments. The risk and/or impact of several hazards were negligible and the regional examination was considered sufficient in justifying the time spent on the analysis.

Hazard identification and risk estimation can be a highly complex, time consuming and very costly effort if sophisticated technical and engineering studies are undertaken. Enosburg Falls and the Northwest Regional Planning Commission used a hazard risk estimation matrix (Attachment A) that to develop a "relative risk score" for each identified hazard. The matrix was completed by relying on hazard identification and risk evaluation information that is available as well as the knowledge and judgment of planning participants. Health and safety consequences, property damage, environmental damage and economic disruption are classified as consequences of occurrence of each hazard. The following is a description of the risk characteristics used to classify each hazard:

Probability of Occurrence:

1. Rare: Unknown but likely to occur in the next 500 years
2. Unlikely: Unknown and unlikely to occur in the next 100 years
3. Possible: Likely to occur in the next 100 years
4. Likely: Likely to occur in the next 25 years
5. Highly Likely: Likely to occur once a year or more

Magnitude or % Community Impacted:

0. Negligible: <10% of properties damaged
1. Limited: 10% to <25% of properties damaged/Loss of essential facilities/services for up to 7 days/few (<1% of population) injuries possible
2. Critical: 25% to 50% of properties damaged/Loss of essential facilities/services for >7 days <14 days/Major (<10% of population) injuries/few deaths possible
3. Catastrophic: >50% of properties damaged/ loss of essential facilities/services for >14 days/Severe (>10% of population) injuries/multiple deaths possible.

Health & Safety Impacts:

0. No health and safety impact
1. Few injuries or illnesses
2. Few fatalities but many injuries or illnesses
3. Numerous fatalities

Property Damage:

0. No property damaged
1. Few properties destroyed or damaged
2. Few destroyed but many damaged
3. Few damaged but many destroyed
4. Many properties destroyed and damaged

Environmental Damage:

0. Little or no environmental damage

1. Resources damaged with short term recovery practical
2. Resources damaged with long term recovery feasible
3. Resourced destroyed beyond recovery

Economic:

0. No economic disruption
1. Low direct and/or indirect costs
2. High direct and low indirect costs
3. Low direct and high indirect costs
4. High direct and high indirect costs

Increase Threat from Climate Change

1. Low- unlikely to become more of a threat due to climate change.
2. Moderate – possibly will become more of a threat due to climate change.
3. Substantial- likely to become more of a threat due to climate change.
4. Severe- highly likely to become more of a threat due to climate change.

The total is considered in this plan to constitute the relative risk score. The hazards with the highest risk scores are strong winds, severe winter storm (ice storm) and flooding/fluvial erosion. The community's overall risk rating is low to moderate (522 out of a possible high of 1,470).

Vulnerability Scores

Vulnerability assessments build on the identification of hazards in the community and the risk that the hazards pose to the community. The vulnerability assessment process examines how the facilities and systems of the village would be damaged or disrupted by the identified hazard and includes estimated losses where available.

The combination of the impact of the hazard and the probability of future events determined the community vulnerability (risk score) as HIGH, MODERATE or LOW. The vulnerability classifications based on risk scores for each hazard are as follows:

- 0-24 LOW
- 25-49 MODERATE
- 50-75 HIGH

For example, a flood event is *highly likely* (nearly 100% probability in the next year) for many communities in Franklin County but the degree of impact varies, so a *highly likely* flood with *critical* or *catastrophic* impact rates the community vulnerability as HIGH. A community with a *highly likely* or *likely* (at least one chance in the next 10 years) flood with a *limited* impact would receive a vulnerability rating of MODERATE. The vulnerability of a community having the occurrence of an event as *possible* or *unlikely* with *limited* or *negligible* impact would be LOW.

Damage estimates were made in 2024 using the best available data and it should be noted that projected dollar losses change with inflation and time. Most of these figures exclude both the land value and contents of the structure. Human losses were not calculated during this exercise, but could be expected to occur depending on the type and severity of the hazard. Most of these figures exclude both the land

value and contents of the structure. The 2024 median sale price of a home in Enosburg Falls is $286,500[1] while the US Census lists median home value at $190,100[2].

Table 5. 1

Hazards Summary for Village of Enosburg Falls				
Hazard	**Probability of Future Occurrences**	**Magnitude or % Community Impacted**	**Threat from Climate Change**	**Risk**
Strong Winds	Highly Likely	Limited to Catastrophic	Severe	Moderate to High
Severe Winter Storm (Ice Storm)	Highly Likely	Limited to Catastrophic	Severe	Moderate to High
Flooding / Fluvial Erosion	Highly Likely	Limited to Catastrophic	Severe	Moderate to High
Thunderstorm	Highly Likely	Limited	Severe	Moderate
Invasive Species	Possible	Limited	Substantial	Moderate to High
Infectious Disease Outbreak	Likely	Limited	Substantial	Low
Drought	Likely	Limited	Moderate	Low
Extreme Heat	Likely	Limited to Critical	Severe	Moderate
Extreme Cold	Possible	Limited to Critical	Low	Low
Wildfire	Possible	Limited to Critical	Moderate	Low to Moderate
Tornado	Possible	Limited	Moderate	Low
Hail	Likely	Limited	Low	Low
Earthquake	Rare	Limited to Catastrophic	Low	Low
Landslides	Rare	Negligible	Low	Low

While all the hazards listed in the State of Vermont's Hazard Mitigation Plan were considered, only the hazards identified in this plan are the ones most likely to affect Enosburg Falls and are moderate to high risk. The Committee decided it is not feasible to study each in depth as many of the hazards are considered unlikely or rare to occur in Enosburg Falls. Additionally, the hazards that were not considered at all are outlined in the Table 5.2.

[1] Https://www.data.org.

[2] https://censusreporter.org/profiles/16000US5024025-enosburg-falls-vt/

Table 5. 2

Justifications for State Mitigation Plan Hazards Not Profiled	
Hazards Not Profiled	**Justification**
Thunderstorm	Thunderstorms occur with lightning, rain and accompanying winds typically in the spring and summer. The committee chose to profile the associated hazards of high wind and flooding which are caused by thunderstorms due to the severity of those hazards on the community. Both hazards can occur without a thunderstorm. Community vulnerability: Electric utility Infrastructure, telecommunications, transportation infrastructure, commercial and residential structures, public buildings (Village Office, Town Office, Public Works, Schools, DPS Building), barns, livestock.
Hurricane	The Village is located too far north from the Atlantic coast to be impacted directly by a hurricane. Vermont does not have any coastline. Tropical storms are profiled under Severe Thunderstorm (High Winds, Hail Lightning) section. Vulnerability: Tropical storms from hurricanes that moved inland could cause inundation flooding from overwhelmed stormwater systems with high amounts of rain over brief periods of time, damage to crops from associated winds and rain.
Invasive Species	The Village would rely on guidance and mitigation measures from the Department of Agriculture, Agency of Natural Resources and US Soil Conservation Service to assist individuals and agricultural producers on mitigation and response to an invasive outbreak. Vulnerability: Agricultural based businesses (crops, tree farms, orchards). village park, shade trees in village, home and commercial gardens.
Infectious Disease Outbreak	The Village would rely on guidance and mitigation measures from the Agency of Health and Human Services and VT Department of Health to assist the community with public health guidance and mitigation measures. Vulnerability: Public health sector. Elderly, infants, individuals with underlying health issues. Those with limited access to health care facilities or resources or without health insurance.
Drought	Long term drought conditions are considered rare. Some dry periods have occurred but nothing of concern to the committee. Vulnerability: Agriculture (farms, livestock, crops), private wells, private gardens, public infrastructure, increased risk to structural and wildfires, residential and seasonal homes and populations that are disabled with functional access needs.
Heat	The committee agreed that brief periods of heat occur during the summer months but typically last for brief periods. The village has cooling shelter sites designated. Vulnerability: Public health sector impacts, populations that are disabled with functional access needs, electric utility infrastructure, increased energy demand.

Cold	The committee agreed that brief periods of cold occur during the winter months but typically last for brief periods. The village has warming shelters designated. Vulnerability: Public health sector impacts, populations that are disabled with functional access needs, electric utility infrastructure, underground utility infrastructure (frozen pipes) increased energy demand, residential and commercial frozen water pipes.
Wildfire	Wildfires typically occur in the spring months outside of the village. There have been no recorded wildfires within the village. Vulnerability: Residential and seasonal homes, commercial structures, utility poles and lines, road closures. Agriculture based businesses (crops, hay storage), air quality for all segments of population but particularly those with underlying health conditions, elderly population and infants.
Tornado	Tornados are profiled under Strong Winds hazard profile. Not tornados have been recorded in or near the village. Vulnerability: Agriculture based businesses could experience crops damage, Enosburg Falls Electric infrastructure could be damaged (poles, transformers, above ground power lines), residential home damage from flying debris or damage roods or siding.
Hail	Hail are typically a hazard associated with thunderstorms. The rare hail storms that have occurred have caused little damage to private property. Vulnerability: Falling limbs and/or trees, power loss, electric utility infrastructure, telecommunications loss. Structural damage to residential and seasonal homes, public buildings (Village Office, Town Office, Public Works), private property, crop damage.
Earthquake	According to the Vermont State Geologist, there is little risk of earth quake in Vermont. Small tremors are considered rare. [3] Vulnerability: Transportation infrastructure, brick buildings, residential homes, underground utilities, above ground utilities.
Landslide	Does not occur in Village. There are no areas in the village where landslides are an issue due to the topography and geomorphology. Vulnerability: None.

2020 Pandemic

Similar to many rural communities, the 2020 pandemic had a significant impact on Enosburg Falls. The village faced challenges such as limited local healthcare resources and economic disruptions, especially for small businesses. Social distancing measures led to the closure of local schools, restaurants, businesses and shops, causing financial strain. The village also saw shifts in community dynamics, with many residents relying more on neighbors and limited local services for support. Enosburg Falls Village municipal offices adapted by finding ways to stay connected through continuity of operations planning that enabled staff to work remotely while still carrying out business operations, hold virtual governance committee meetings to conduct village business, and implementing State protective guidelines for municipal departments to ensure all departments could continue to operate safely. The lessons learned from 2020, will serve the village and the state well should another pandemic occur.

[3] https://dec.vermont.gov/sites/dec/files/geo/HazDocs/Ebell_1995.pdf

Climate Change

Climate change is real. The impacts are witnessed today, with more frequent and intense extreme weather events like heavy downpours, shorter frost-free growing season and warmer nighttime temperatures. Although Enosburg Falls contributes minimally to global climate change, it must address the local consequences by building resilience and capacity. These impacts pose challenges in terms of economic or infrastructure vulnerabilities, and for native species and habitats. While some effects of climate change may be positive, the negative impacts—such as threats to agricultural production, increased flooding, and reduced snow cover affecting winter recreation—are of serious concern for their economic, social, and environmental consequences.[4]. Table 5.3 summaries the future effects of climate change for Enosburg Falls

Table 5. 3

Future Effects of Climate Change by Hazard for Enosburg Falls Village		
Hazard Event	**Increase Threat (Climate Change)**	**Future Effects of Climate Change**
Strong Winds	According to the NOAA, as the world warms, the jet stream is expected to get faster, with the fastest winds increasing by about 2% for every degree Celsius (1.8° Fahrenheit) of warming. This could lead to greater increase of high wind events and include record-breaking winds that could cause increase damages notably to Enosburg Falls Electric infrastructure, tree damage, residential roof and siding damage particularly mobile homes, and flying debris.	
Severe Winter Storm (Ice Storm)	Winter in Vermont has been reported to be warming 2.5 times faster than the global average annual temperatures since 1960 affecting the snow conditions for many sectors of the local economy. Severe winter storms may bring more rain than snow, high winds and flooding conditions due to decreased ground frost. Warming winters will have a great effect on maple sugar that rely on temperatures at or below 0°C / 32°F at night and above freezing during the day. For the tourism sector, reduced snow packs will impact nearby Jay Peak Ski Resort with less skiers traveling through the village and frequenting local restaurants and businesses. Additionally, less snow means less winter snow recreation on the Missisquoi Valley Rail Trail and will also result in economic losses for area businesses.	
Flooding / Fluvial Erosion	An increase in annual precipitation rates due to climate change could potentially exacerbate inundation flooding and fluvial erosion events in the future. Since the 1960s, the state of Vermont has seen a 6” increase in average annual precipitation, likely attributed to the warming of the atmosphere and subsequent increased evaporation rates[5]. Such changes will impact road infrastructure and the storm water infrastructure and wastewater treatment. More residents could experience flooding on their properties where minor drainage issues now may exist. Buildings and home located near the river and tributaries may be a greater risk as frequency of flooding and fluvial erosion increase.	
Thunderstorm	As temperatures rise, the atmosphere can hold more moisture, leading to heavier rainfall during storms. This can result in more frequent and intense thunderstorms,	

[4] Vermont Climate Assessment, (2021) University of Vermont, Gund Institute for Environment.
[5] https://climatechange.vermont.gov/vermont-today

	often accompanied by strong winds, hail, and lightning. The increased storm intensity not only heightens the risk of flash flooding and erosion in but also poses greater threats to road infrastructure, Enosburg Electric distribution system, agriculture practices, and public safety in general.
Invasive Species	Rising average annual temperatures will have potential impacts on forests and the ag sector of the local economy. Stress will occur on native species as the climate becomes more favorable for southern species. Local impacts will be on the forest products, agriculture and tourism industry. Particularly concerning are pests like the Asian longhorned beetle (not yet found in Vermont), emerald ash borer, and hemlock woolly adelgid, which have already killed millions of trees across North America. Vulnerability: Agricultural losses, private property (crops, greenhouses, orchards, flower gardens, community trees)
Infectious Disease Outbreak	The Vermont Department of Health defines an infectious disease as one that is caused by micro-organisms, such as bacteria, viruses or parasites. A vector-borne disease is an infectious disease that is transmitted to humans by blood-feeding arthropods, including ticks, mosquitoes and fleas, or in some cases by mammals (e.g. rabies). Rising temperatures will enable more diseases and their carriers to spread further north, where harsh winter conditions previously limited their expansion. Vulnerability: All sectors and populations of community including essential services, ambulance service and local health offices. public health sector, people with disabilities and functional access needs including elderly.
Drought	Warmer temperatures over prolonged periods without precipitation will lead to drought conditions. Warmer winters that lead to reduced snowpack would mean water sources are not getting recharged. This will impact those who rely on wells and impact the Village's water supply and distribution system. Drought conditions could also lead to increased wildfire risks which will impact the fire department resources and put private and public properties at risk.
Extreme Heat	Extreme, prolonged heat can impact Enosburg Falls in many ways. This will impact the public health sector by placing those with functional access needs at risk. This will impact ambulance service and local health offices during long spells of heat. The village will have to continue to monitor local capacities for their predefined cooling sites and first responder resources. Extreme heat can damage roads, electrical wires, and other infrastructure. It can also stress Enosburg Electric as more air conditioners will be put into use.
Extreme Cold	With the climate change trend being towards more warmer temperatures, future extreme cold periods beyond the normal are unlikely.
Wildfire	Warming temperatures coupled with drought and greater frequency of wind could create a greater frequency of wildfires occurring. While much of the village is developed, the likelihood of wildfire affecting the village is very low. However, as occurred in some suburban settings in Colorado in recent years, a wildfire fueled by high winds could cause damages to residential areas in the village. This would impact the fire department and Enosburg Falls Electric infrastructure. Tourist economy could be impacted due to wildfire smoke. Segments of the population that have functional access needs, particularly those with respiratory issues, would be impacted creating an impact on ambulatory and health care services.
Tornado	No tornados have been officially been recorded in Enosburg Falls Village. Changing climate patterns with increased temperatures leading to more severe thunderstorms,

	increased precipitation and higher winds could create conditions that spawn a tornado. Additionally, the Atlantic hurricane season could generate a tropical storm from the remnants of hurricane that would affect northern New England and New York. This 2024 hurricane season has produced several tornados in upstate New York already. Future impacts due to climate change are similar to Strong winds and thunderstorms.
Hail	Similar to thunderstorms. Greater increase in hail storm activity would increase damages to public infrastructure such as the public works vehicles, public building roofs, and private property.
Earthquake	No known impacts from climate change.
Landslides	No areas in village exist for landslides to occur.

Strong Winds – *Moderate to High Risk*

Description

Strong Winds can occur alone, such as during straight-line wind events, or it can accompany other natural hazards including severe thunder and/or winter storms. The frequency of strong wind events in Enosburg Falls is of concern. Enosburg Falls Public Works Director and Light and Electric crews expressed concern regarding the frequency and intensity of wind events which have increased in recent years.

FEMA's National Risk Index defines severe winds as damaging winds that exceed 58 mph. Locally, wind caused damages have occurred with sustained winds greater than 30 mph with gusts greater than 40 mph. Strong winds pose a threat to lives, property, and vital utilities primarily because of flying debris or downed trees and power lines.

The National Weather Service (NWS) issues a Wind Advisory when winds are sustained at 31 to 39 mph for at least one hour or any gusts 46 to 57 mph. The NWS will issue a High Wind Warning for wind speeds that are 58 mph or higher. Additionally, the NWS also has classifications for Tropical Storm Wind Warning and Hurricane.

Impact and Geographic Area of the Hazard

Strong winds occur can occur anytime during the year and can affect the entire Village as pressure gradients move through the area. The Village has experienced a variety of high winds from storm systems that track from eastern New York and Ontario and across Lake Champlain. The Village is far inland and is unlikely to receive a direct hit from a hurricane, however strong winds with accompanying thunderstorms and less of often hail as an accompanying hazard.

Table 5. 4

Beufort Wind Scale (source: NOAA)				
Force	**Wind (Knots)**	**WMO Classification**	**On the Water**	**On Land**
0	Less than 1	Calm	Sea surface smooth and mirror-like	Calm, Smoke rises vertically.
1	1-3	Light air	Scaly ripples, no foam crests	Smoke drift indicates wind direction, still wind vanes
2	4-6	Light breeze	Small wavelets, crests glassy, no breaking	Wind felt on face, leaves rustle, vanes begin to move
3	7-10	Gentle breeze	Large wavelets, crests begin to break, scattered whitecaps	Leaves and small twigs constantly moving, light flags extended

4	11-16	Moderate breeze	Small waves 1-4 ft. becoming longer, numerous whitecaps	Dust, leaves, and loose paper lifted, small tree branches move
5	17-21	Fresh breeze	Moderate waves 4-8 ft taking longer form, may whitecaps, some spray	Small trees in leaf begin to sway
6	22-27	Strong breeze	Larger waves 8-13 ft, whitecaps common, more spray	Larger tree branches moving, whistling in wires
7	28-33	Near Gale	Sea heaps up, waves 13-19 ft, white foam streaks off breakers	Whole trees moving, resistance felt walking against wind
8	34-40	Gale	Moderately high (18-25 ft) waves of greater length, edges of crests beginning to break into spindrift, foam blown in streaks	Twigs breaking off trees, generally impedes progress
9	41-47	Strong Gale	High waves (23-32 ft), sea begins to roll, dense streaks of foam, spray may reduce visibility	Slight structural damage occurs, slate blows off roofs.
10	48-55	Storm	Very high waves (29-41 ft) with overhanging crests, sea white with densely blown foam, heavy rolling, lowered visibility	Seldom experienced on land, trees broken or uprooted, “considerable structural damage”
11	56-63	Violent Storm	Exceptionally high (37-52 ft) waves, foam patches cover sea, visibility reduced	Widespread structural damage.
12	64+	Hurricane	Air filled with foam, waves over 45 ft, sea completely white with driving spray, visibility greatly reduced	Widespread structural damage.

Mobile homes can be vulnerable to wind events due to their lightweight structures and unstable foundations. Older mobile homes, built before 1994, may be especially susceptible to more severe winds according to data from the Urban Institute. There are several mobile homes located in the village with a greater density and more recently constructed on Orchard Street. Higher exposed elevations along Duffy Hill and Water Tower Road are more likely vulnerable to strong winds.

Enosburg Falls Light and Electric have utility lines and infrastructure are in process of being reinforced due to damaging winds and is vulnerable to toppling trees. A right-of-way vegetation management plan is in place for the utility corridors to help mitigate damages. Strong wind events with associated power outages can have a short-term impact on the local economy due to business closures.

Vulnerabilities include commercial and residential structures , seasonal homes, public buildings (Village Office, Town Office, Public Works, Schools, DPS Building), barns, livestock, churches, and utilities.

NWS guide for determining hail sizes:
less than 0.50" Pea
0.50" - Marble/Mothball
0.75" - Dime/Penny
0.88" - Nickel
1.00" - Quarter
1.25" - Half Dollar
1.50" - Walnut/Ping Pong
1.75" - Golf Ball
2.00" - Hen Egg
2.50" - Tennis Ball
2.75" - Baseball
3.00" - Tea Cup
4.00" - Grapefruit

<u>Extent / Probability</u>

There have been 45 strong wind and severe thunderstorm events in the region since January 1, 1998 according to the National Climatic Data Center. All are classified as severe thunderstorms with wind speeds of 50 kts. or greater. Severe thunderstorms and high winds can cause power outages, property damage, transportation interruptions, affect businesses and can cause loss of life. Micro bursts with high wind speeds and high precipitation accumulations over brief periods often down trees and branches and power lines and can overwhelm local drainage networks for brief periods. Micro bursts have occurred almost annually in the past 10 years.

Strong wind events often accompany thunderstorms. Lightning strikes in Franklin County average between 4-6 strikes per square mile each year based on data collected by NASA between 1995 and 2002. Within Enosburg Falls, these numbers would average 70-110 lightning strikes every 5 years. NOAA's severe weather data inventory lists 149 strikes in Enosburg Falls and the immediate area around the village from 2019-2023. There is very little data on lightning strikes for the village.

Table 5. 5

Hail Events in Enosburg Falls and Franklin County Since 1988
(Source: National Climatic Data Center)

Date	Property Damage (Adjusted for inflation)	Crop Damage (Adjusted for Inflation)	Hail Size (in)	Area	Injuries	Fatalities
8/4/1988	$0.00k	$0.00K	0.75	Franklin County	0	0
7/5/1992	$0.00k	$0.00K	0.75	Franklin County	0	0
7/16/1996	$0.00k	$0.00K	1.00	Franklin County	0	0
3/30/1998	$5.00k	$0.00K	1.70	Sheldon	0	0
5/30/2002	$0.00k	$0.00K	0.75	Montgomery	0	0
5/1/2005	$1.00k	$0.00K	1.00	East Berkshire	0	0
6/29/2006	$0.00k	$0.00K	0.75	Franklin	0	0
7/4/2006	$0.00k	$0.00K	0.88	Franklin	0	0
8/3/2007	$0.00k	$0.00K	1.75	Richford	0	0
7/16/2009	$0.00k	$21,224	0.80 - 1.00	Franklin Co.	0	0
6/26/2009	$0.00k	$0.00K	1.00	Enosburg Falls	0	0
6/18/2011	$0.00k	$0.00K	1.75	Enosburgh Center	0	0
5/29/2012	$0.00K	$0.00K	1.00	Enosburg Falls Village	0	0
5/22/2013	$0.00K	$0.00K	0.7	Franklin Co Airport	0	0
9/11/2013	$0.00K	$0.00K	1.00	Montgomery	0	0
6/28/2016	$0.00K	$0.00K	0.75	Highgate Springs	0	0
7/18/2016	$0.00K	$0.00K	1.00	East Berkshire	0	0
5/4/2018	$0.00K	$0.00K	1.50	Richford	0	0
5/21/2022	$0.00K	$0.00K	1.25	Highgate Springs	0	0
6/16/2022	$2.0K	$0.00K	1.00	Franklin Co. Airport	0	0
6/15/2023	$0.00K	$0.00K	1.00	Franklin Co. Airport	0	0

Hailstorms usually occur in Vermont during the summer months and generally accompany passing thunderstorms. 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. There have been 33 recorded hail events in Franklin County between 1998 and 2023. Hail is considered a relatively infrequent occurrence. Those hail events that do occur tend to be highly localized and limited to a relatively small area and typically occur with thunderstorms.

Power outages may occur resulting in significant loss of business as well as threatening public safety. Communications may be disrupted from such events. The loss of phone service is a concern for some residents and vulnerable populations. Landline phones have been converted to from copper to fiber and run along the same poles as electrical service. Fiber based phones rely on battery based back up during power outages which are typically less than a few hours. Many residents use cell service as well but the service is spotty

depending on the carrier's coverage. This can complicate contacting emergency services during power outages.

There is power surge equipment installed for electronic equipment at the Enosburgh Public Safety Building, Village Office and Light and Electric building. The Public Works Department is equipped with associated debris removal equipment. Emergency generators are located at the Public Safety Building, Village office, Public Works Building, Light and Electric Building and the Enosburg Falls High School which serves as the community's primary shelter.

It is extremely difficult to predict where the event will occur and the extent of structural damage. Damages could come in the form of destroyed roofs, damaged powerlines and power poles, road closures due to toppled trees, power loss, structural damage to buildings including barns and silos. Death or serious injury could occur to individuals exposed to flying debris or falling trees. The estimated damage from a strong wind event occurring to 10% of all structures in the Village with 20% damage is $1,956,516.[6] The estimated cost does not include building contents, land values or damages to utilities. There are no known deaths that have occurred in the Village due to strong wind events.

Climate Change: With predicted increase in severity of wind speeds due to warming temperatures, future impacts of wind events are varied. According to NOAA, winds can damage roofs, windows, and siding, and can cause structural damage to roofs at 55–63 mph. Homes with siding are particularly vulnerable to wind damage, and stucco can also be damaged by water. For mobile homes winds can cause serious damage to anchored mobile homes at speeds over 80 mph, and can destroy poorly constructed or unsecured mobile homes at speeds of 60–73 mph. Enosburg Falls Electric department continues to upgrade equipment and infrastructure in response to the severity of storms as well as trimming trees along the utility corridor.

Table 5. 6

Tornado and Storm Research Organization (TORRO) Hailstorm Intensity Scale				
TORRO Scale	**Intensity Category**	**Typical Hail Diameter (mm.)**	**Probable Kinectic Energy, J-m^2**	**Typical Damage Impacts**
H0	Hard Hail	5	0-20	No damage
H1	Potentially Damaging	5-15	>20	Slight general damage to plants, crops
H2	Significant	10-20	>100	Significant damage to fruit and crops, damage to glass and plastic structures, pain and wood scored
H3	Severe	20-30	>300	Widespread glass damage, vehicle bodywork damage
H4	Severe	25-40	>500	Widespread glass damage, vehicle bodywork damage
H5	Destructive	30-50	>800	Wholesale destruction of glass, damage to tiled roofs, significant risk of injuries
H6	Destructive	40-60	-	Bodywork of grounded aircraft dented; brick walls pitted
H7	Destructive	50-75	-	Severe roof damage, risk of serious injuries

[6] 2023 Enosburg Falls Grand List Summary

H8	Destructive	60-90	-	Severe damage to aircraft bodywork
H9	Super Hailstorms	75-100	-	Extensive structural damage. Risk of severe or even fatal injuries to persons caught in the open
H10	Super Hailstorms	>100	-	Extensive structural damage. Risk of severe or even fatal injuries to persons caught in the open

Past Occurrences

August 31, 1993 - A straight-line storm system destroyed one mobile home and tore the roofs off of several homes. There was an estimate of $500,000 in property damages resulting from the storm.

September 2002 - Tropical Storms Hannah and Isidore produced winds and heavy rain in Enosburg Falls on September 14-15 and September 27 respectively. No damages or flooding were reported.

August 12th, 2004 - (FEMA-1715-DR), Tropical Storm Francis generated high winds and heavy rain throughout much of the state. Several culverts and ditches in the Village were damaged due to flooding.

July 8, 2005 - Tropical Storm Cindy produced heavy rain across much of the state including Enosburg Falls. Rain amounts were estimated between 1 and 3 inches with no reported damages.

August, 2005 - Hurricane Katrina's presence was felt in Enosburg Falls. Tropical moisture from Katrina reached Enosburg Falls on August 30th. The rain was initially steady then became heavy on the 31st. Rainfall totals across Franklin County were generally between 2.5 and 4 inches. No damages were reported.

December 1, 2010 – A high wind event occurred from 5 am to 5 pm that brought significant damages to the Village. Local accounts reported damaging straight-line winds with estimated sustained wind speeds of 70 mph. Residents were without power for several days due to trees and branches toppling power lines. The Village Electric Department approximated $160,000 in damages.

August 28, 2011 - Tropical Storm Irene (DR-4022) devastated parts of Southern and Central Vermont, however the northern part of the state was largely spared. Heavy rain fell throughout Enosburg Falls throughout the day and evening. Some local roads such as Duffy Hill and Hayes Farm Road experienced flooding from culverts being overtopped but damages were minor compared to other areas of the state.

October 30, 2012 – A strong windstorm affected northern Vermont in during the afternoon and evening causing several outages. A large cherry tree fell and took down all of the phase three lines operated by Enosburg Falls Electric. One of the lines caught on fire and had to be replaced which increased the length of the outage.

October 29-31, 2017 (DR 4356)- A strong thunderstorm fueled by an ex-tropical storm brought damaging winds to Vermont, causing power outages and knocking trees down throughout the state. Winds reached over 70 mph at times and rain caused flooding. Enosburg Falls Electric had multiple broken poles and many primary and service lines down. The crews worked many long and hard hours with assistance from neighboring Swanton Village Electric. All power was restored to customers in two days. The total FEMA Public Assistance grants dollars obligated for this declaration for the affected Counties was $5,296,752.57.

May 4, 2018 - Winds up to 60-80 mph occurred across the five affected counties. Strong winds and microbursts created power outages throughout the state. Several trees were knocked down in eastern Franklin County. Hail showers were also reported among several counties. $44,096.31 was distributed to communities after the storm for damages.

June 30, 2018 (DR4380) – An atmospheric heat ridge with accompanying thunderstorm clusters moved into northern Vermont and southern Quebec during the late evening. The high winds generated by the thunderstorms downed many trees and caused some power disruptions. The total FEMA Public Assistance grants dollars obligated for this declaration for the affected Counties was $3,246,787.21.

November 12, 2021 – A powerful fall storm tracked from Great Lakes to New York and Vermont. Numerous surface wind gusts in excess of 40 mph were observed with several wind gusts approaching or exceeding 50 mph in the higher terrain of the Green Mountains that led to more than 10,000 power outages. In Franklin County, several wind gusts were recorded by spot forecaster at 40-45 mph, including 52 mph in East Berkshire. This led to scattered power outages due to downed trees on powerlines.

August 22, 2021 (3567 EM) – Tropical Storm Henri brought some rain and gusty winds to the region but there were no local impacts in Enosburg Falls.

December 11-12, 2021 – The NWS reported a very powerful cold front with winds in excess of 100 knots at 5,000 feet moved across the eastern Great Lakes, northern NY and eventually VT.
The associated cold front produced strong surface winds in excess of 40-50 mph around mid-evening and gradually decreased into the 30-40 mph range during the early morning hours of the 12th. The strongest winds were in northern sections and along the eastern slopes of the Green Mountains. Statewide approximately 15,000 customer power outages. In Enosburg Falls, Scattered tree limbs and small trees downed by strong winds, measured in the mid-upper 40s but some local estimates were in excess of 50 mph.

February 1, 2022 - Strong winds battered the Champlain Valley due to a pressure difference between New England and the Great Lakes. Measured wind gusts of 45 to 55 mph were common across Franklin County. Several branches and small, weak trees downed by winds were the main impacts as well as isolated power outages. A few weak, old barn or shed structures suffered damage as well.

August 21, 2022 - An isolated thunderstorm developed across the western slopes of the northern Green Mountains during the afternoon. The thunderstorm moved north into Enosburg Falls where a brief and localized microburst downed a few trees and caused several power disruptions. There was approximately $3,000 in crop damages from the event.

December 22-24, 2022 (DR 4695) - A powerful winter storm centered in the eastern Great Lakes and Ontario slammed Vermont with strong winds. Southeast winds reached speeds of 25-35 mph, with frequent gusts exceeding 50 mph and even reaching 60 mph or higher in some areas. These high winds caused widespread damage, knocking down trees and power lines, and leaving over 100,000 people without power at the peak.

Later in the day, a powerful arctic front associated with the storm swept across the state. Temperatures plummeted from the 40s and 50s down to the 20s, accompanied by strong west winds of 20-35 mph. As

temperatures dropped rapidly, a widespread snowfall of 2-5 inches occurred. Combined with the sub-freezing air, this snowfall created a flash freeze, turning making travel extremely dangerous. While wind gusts of 45-55 mph were recorded including one station at Burton Island on Lake Champlain where gusts reached 60-65 mph. Total FEMA Public Assistance grants dollars obligated for this declaration for the affected Counties was $1,495,613.14.

January 9-13, 2024 (DR-4770) - A powerful winter storm tracked from the Pacific Northwest to the Great Lakes, intensifying as it moved. A sharp pressure difference between the Great Lakes and eastern Canada created extremely strong winds across New York and Vermont. These winds caused widespread damage, including downed trees, power outages affecting 80,000 people, and over $1 million in losses. In Franklin County, there were several reports of 50-55 mph winds and NWS estimated wind gusts in excess of 60 mph. Numerous power outages occurred as well. Several inches of wet snow accompanied the storm, with higher elevations seeing more accumulation. There was an estimated $50,000 in property damages in Eastern Franklin County.

March 4-5, 2024 – A late winter storm brought windy conditions across VT during the afternoon hours of April 3rd and continued into the early morning hours of April 4th. In some places in southern Vermont, wind speeds were between 50-60 mph. Impacts were significant across the state with hundreds of motor vehicle accidents, numerous school closing and more than 35,000 power outages at its peak due to snow weighted trees on powerlines.

Severe Winter Storm (Ice Storm) – *Moderate to High Risk*

Description:

Severe winter storms with snow, ice and freezing temperatures in various combinations are fairly commonplace in Enosburg Falls. Such storms are accompanied by strong winds creating blizzard conditions with blinding wind-driven snow, severe drifting, and dangerous wind chill. Strong winds with these intense storms and cold fronts can knock down trees, utility poles, and power lines. Winter storms can cause roofs to collapse and limit access to areas and buildings. Extreme cold often accompanies a severe winter storm or is left in its' wake. Prolonged exposure to the cold can cause frostbite or hypothermia and become life-threatening.

Impact and Geographic Area of the Hazard

In northwestern Vermont where Enosburg Falls is situated, a severe winter storm can last for several days and can be accompanied by strong winds creating blizzard conditions with blinding wind-driven snow, severe drifting, and dangerous wind chill. Strong winds, accumulations of ice and heavy snow can knock down trees, utility poles, communication towers and power lines. Communications and power can be disrupted for days while utility companies work to repair the extensive damage. People have been trapped at home for up to two weeks, without utilities or other services.

Winter storms affect the entire Village and generally cause disruptions to public and private services. The primary impacts of a storm typically include the disruption to transportation networks, school closings and occasionally telecommunications and power outages. Vulnerable populations such as the elderly, those dependent on medical equipment and specialized health or physical care are at risk to winter

storms. Also at risk are farms and associated structures and livestock. Barns can collapse due to heavy snow loads. Dairy cattle are susceptible to mastitis[7] if they are unable to be milked. With the almost annual occurrence of a significant snow or ice storm, the town feels an impact most on the infrastructure and agricultural segment of the community. The town is able to keep the roads open and treated for most storms and any loss of power is usually limited to hours, except during the Ice Storm of 1998 when most of the town was without power for three to four days

Table 5. 7

Burlington, Vermont Top 10 Winter Snowfall Totals Dec-Feb					
Highest			Lowest		
Rank	Snowfall	Year(s)	Rank	Snowfall	Year(s)
1	103.4"	2007-08	1	18.4"	1912-13
2	97.9"	2010-11	2	20.4"	1979-80
3	96.9"	1970-71	3	21.9"	1928-29
4	90.1"	2009-10	4	23.6"	1936-37
5	81.7"	1965-66	5	24.0"	1898-99
6	80.7"	2003-04	6	25.0"	1904-05
7	80.0"	1957-58	7	25.6"	1940-41
8	79.4"	2008-09	8	26.3"	2011-12
9	78.6"	1946-47	9	27.0"	1900-01
10	75.7"	1969-70	10	27.4"	1960-61
Source: National Oceanic and Atmospheric Administration					

Extent and Probability

The National Weather service defines a blizzard as "a storm which contains large amounts of snow or blowing snow, with winds in excess of 35 mph and visibilities of less than 1/4 mile for an extended period of time (at least 3 hours).

Winter Storms occur annually in the Village of Enosburg Falls, typically in the form of a Nor'easter. Nor'easters occur most often in the winter and early spring, but also sometimes during the fall. These storms can leave inches of rain or several feet of snow on the region, and sometimes last for several days.

Table 5. 8

Burlington, Vermont Top 10 Spring Snowfall Totals Mar-May					
Highest			Lowest		
Rank	Snowfall	Year(s)	Rank	Snowfall	Year(s)
1	52.7"	1933	1	0.1"	1945
2	47.8"	2001	2	1.0"	1903
3	45.7"	1971	3	2.0"	1910
4	37.7"	1974	4	2.7"	1927
5	36.4"	1916	5	3.1"	1934
6	36.1"	1997	6	3.2"	1991
7	34.4"	1994	7	3.9"	1946
8	33.9"	1983	8	4.0"	1905
9	31.0"	2007/1972	9	4.1"	1915
10	30.1"	2011	10	4.2"	1921
Source: National Oceanic and Atmospheric Administration					

Extreme cold often accompanies a severe winter storm or is left in its wake. Prolonged exposure to the cold can cause frostbite or hypothermia and become life-threatening. Infants and elderly people are most susceptible. Even small accumulations of ice may cause extreme hazards along roadways. Heavy snowfall and blizzards can trap motorists in their cars. Attempting to walk for help in a blizzard can be a deadly decision.

Some of the worst historical storms in Enosburg Falls have left snow depths of 14" (March 2001), wind speeds up to 40 mph (January 1998), and ice accumulations of 2-4" (January 1998 and December 2013).

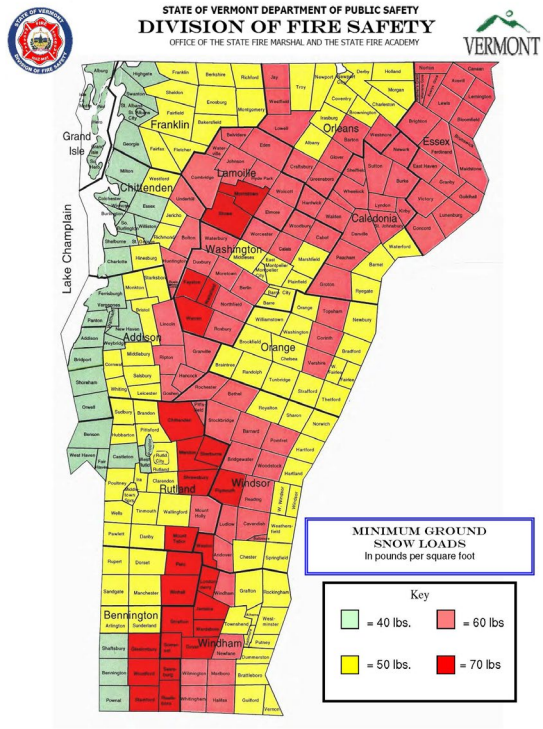
Enosburg Fall's recent history has not recorded any loss of life due to the extreme winter weather. These random events are difficult to set a cost to repair or replace any of the structures or utilities affected. There are no standard loss estimation models or methodologies for severe winter storms (ice stroms). Potential losses from winter storms are, in most cases, indirect and therefore difficult to quantify.

Climate Change

[7] Mastitis is the inflammation of the mammary gland caused by microorganisms, usually bacteria, that invade the udder, multiply and produce toxins that are harmful to the mammary gland.

Winter in Vermont has been reported to be warming 2.5 times faster than the global average annual temperatures since 1960[8]. Typical winter weather conditions will be impacted including river ice reductio and shifting agricultural production times. Warmer winters will also mean that ground freezing will likely be impacted and rain precipitation could saturate soils causing more flooding. Warmer winters will affect crucial Vermont industries like maple sugaring. Maple sugaring relies on a specific temperature range for sap to flow, typically occurring when nighttime temperatures drop below freezing (0°C / 32°F) and daytime temperatures rise above freezing. Warming winters will also impact the tourist industry for those traveling through town to Jay Peak Resort and for local business that receive winter snowmobile users on the Missisquoi Valley Rail Trail.

Minimum Snow Loads for Estimating Construction: Enosburg Falls (50 lbs. /sq. ft.)



<u>Past Occurrences:</u>

The following is a review of the history of severe winter storms that have impacted the Village and surrounding area.

January 19, 1996 (FEMA 1101-DR-VT) - A FEMA declared disaster for the county was made following a
winter storm. A warming trend produced heavy rains causing rapid snow melt that led to flooding.

January 6, 1998 (FEMA-1201-DR) - A winter storm affected the Town and produced some flooding along streams. Snow turned to freezing rain and produced power outages into the area. This storm is referred to as the Ice Strom of 1998 but the weather was more akin to a traditional winter storm than an ice storm.

March 5-6, 2001 - A major snowstorm occurred resulting in 16" of snow in Enosburgh. The storm began early Monday morning with a brief burst of snow then transitioned during the midday hours to intermittent light snow, sleet, freezing rain and rain. The storm developed into a nor'easter during the afternoon and continued through the evening. Damage estimates for cleanup are unknown.

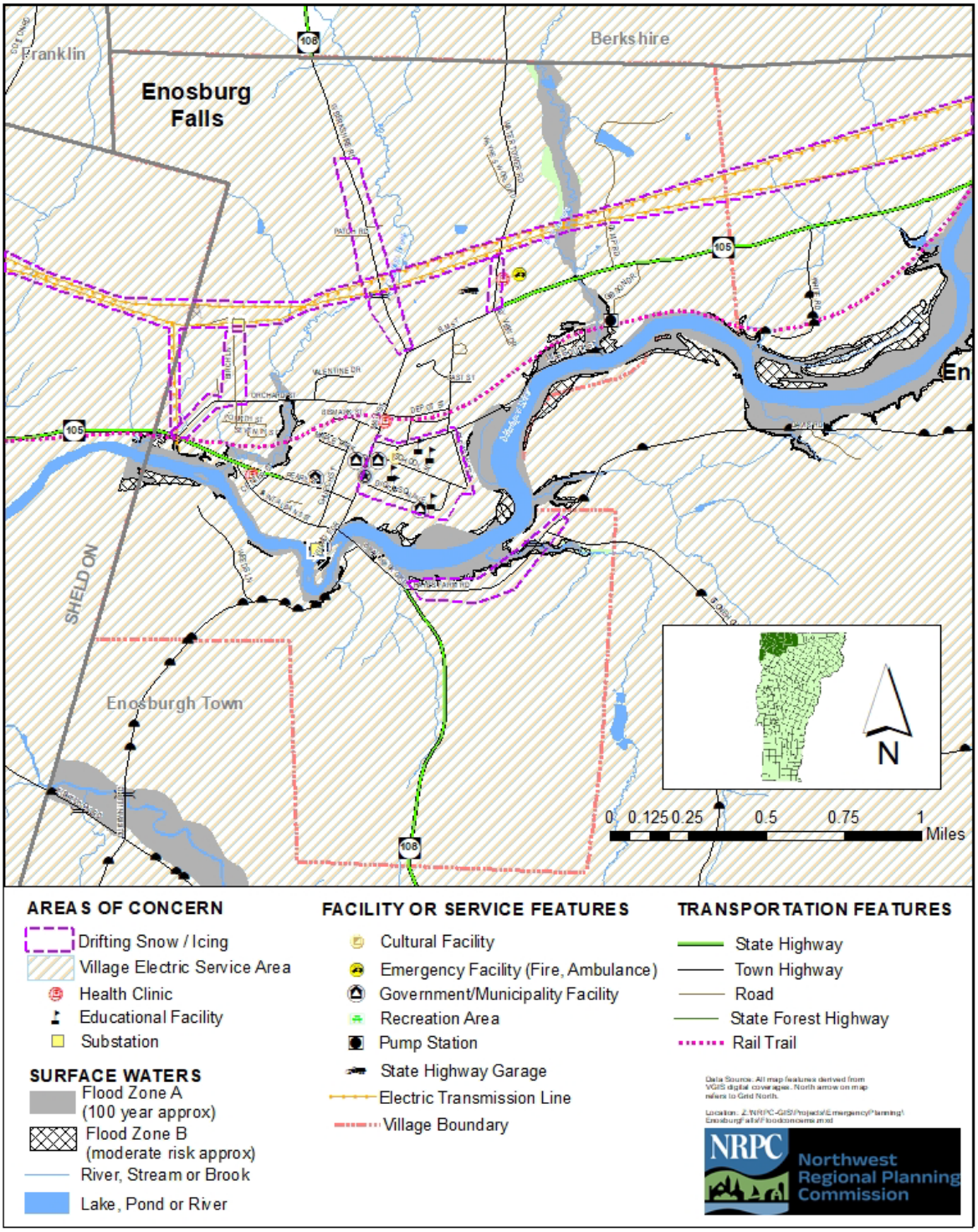
October 25, 2015 - A rare autumn Nor'easter that was fed by the remnants of Hurricane Wilma struck Franklin County. There were reported snowfall amounts in the County varied from 6 to 14 inches. Trees still laden with fall foliage were downed due to the weight of heavy, wet snow. There were many reports of snapped power lines from downed trees and branches. Many homes serviced by Vermont Electric Cooperative were without power for several days.

December 22, 2010 (DR 1951) - Vermont received a Presidential disaster declaration to supplement state and local recovery efforts in the areas struck by severe storms during the period of December 1-5, 2010. FEMA's public assistance funds were made available to affected counties including Franklin County.

[8] <u>Vermont Climate Assessment</u>, (2021) University of Vermont, Gund Institute for Environment.

December 20-26, 2013 (DR-4163) - A wide-spread low-pressure system that brought snow and freezing rain through Ontario, Quebec, and Northern New England. These areas experienced an ice storm that

Enosburg Falls Severe Winter (Ice Storm) Vulnerabilities



brought wide-spread power outages. Many Towns throughout Franklin County, Vermont were affected by the ice storm. Vermont Electric Cooperative responded to over 60,000 customer outages during the week and estimated costs of restoring power at $7,400,000. In Enosburg Falls the Public Works Department was active keeping roads removing ice damaged trees and limbs from local roads. The Enosburg Falls Village Electric Light Department serves 1,600 customers. Their service area was greatly impacted by the ice storm and approximately 400 people were without power during the outage. Mutual Aid resources were assisting the Village Electric Light Department for several days restoring power. The Enosburg High School in Enosburg Falls Village was opened as a community shelter. Hundreds of residents were without power for several days. Storm cleanup continued through the spring. The Village estimated $725,000 in damages from the event.

February 12, 2017 - Two areas of low pressure from the Great Lakes and Ohio River Valley traveled east across NY and New England. Snow began across Vermont between 10 and 1 pm and fell steadily through the evening hours before slowly tapering during the overnight hours. Although a second wave of snow showers fell across the western slopes of the Green Mountains and portions of Northeast Vermont during the 13th. A widespread 6 to 12 inches of snow fell with some localized higher amounts fell across Vermont. Impacts were largely travel related and nearly all school districts cancelled classes for February 13th.

March 14 -15, 2017 - A major nor'easter developed off the North Carolina/Virginia coast during the early morning hours of and intensified as it moved north-northeast across southeast New England during the night into central Maine by the morning of March 15th. Snowfall totals across Franklin County generally ranged from 20 to 36 inches including 27 inches in Enosburg Falls, Brisk winds of 20 to 30 mph contributed to white-out conditions at times with considerable blowing and drifting snow. Numerous schools, businesses and local government offices closed with numerous vehicle accidents and stranded vehicles. No significant damages were reported.
February 7, 2018 - A quick moving low-pressure system brought snowfall rates of an inch or more per hour for several hours. Locally, 8 to 10 inches of snowfall were observed in Franklin County which made for a dangerous evening commute.

March 13, 2018 – A nor’easter delivered 8 to 18 inches across Franklin County, with the heaviest snow occurring during the night of March 13th into the following morning. Some specific snowfall amounts include 18 inches in St. Albans and 15 inches in Swanton.

November 26, 2018 - Light rain changed to a pasty, heavy wet snow that resulted in downed tree limbs and power outages across VT. In Franklin County, snow accumulated from 4 to 8 inches.

January 8, 2019 - A long duration snow event with a wide range of snowfall amounts with the lowest in the valleys and highest totals along northwest faced higher terrain. Snowfall totals ranged from 6 to 20 inches with 20 inches in Fletcher, 10 inches in Enosburg Falls and 6 inches in Swanton.

January 19, 2019 - A widespread snowfall of 10 to 16 inches occurred across Franklin County, some specifics include; 16 inches in Enosburg Falls, 13 inches in Swanton.

March 22-23, 2019 - A heavy wet snow fell across Franklin County with snowfall totals of 5 to 15 inches with the higher totals in the higher elevations, especially along the western slopes of the Green Mountains. Some specific totals include; 14 inches in eastern St. Albans, 12 inches in Bakersfield, 9 inches in Georgia and 6 inches in Swanton.

These wet snow conditions and eventual brisk winds of 15 to 25 mph with higher gusts later Friday and Friday night combined with the snow weighted trees and power lines to caused power disruptions to approximately 10,000-15,000 customers statewide.

February 6-7, 2020 - A winter storm brought significant snowfall and icy conditions to Vermont between February 6th and 7th. The storm started with light snow and freezing rain. Heavier snowfall arrived on the 7th, with accumulations ranging from 2 to 5 inches in the south to over a foot in the northwestern part of the state. Additionally, ice accumulation up to 4/10 of an inch was reported in the southern part of the state leading to hazardous travel conditions. The storm caused widespread travel disruptions, school and business closures, and power outages for around 10,000 to 20,000 people.

January 17, 2022 - A powerful winter storm hit Vermont on January 17th, bringing snowfall amounts from 4 to 8 inches across the state. Snowfall rates were highest in the morning, reaching 1-2 inches per hour at times. The storm's complexity resulted in uneven snowfall distribution, with higher amounts on the eastern slopes of the Green Mountains and less on the western side. Strong winds caused scattered power outages in some areas, particularly in the foothills and higher elevations.

February 3- 4, 2022 – An arctic front produced a winter storm from February 3rd to 4th. It started with light rain or snow in northern Vermont and southern Quebec. As the cold front moved south, snowfall intensified, reaching moderate to heavy rates at times (>1 inch per hour) across most of the state. Southern areas experienced freezing rain and sleet, leading to ice accumulation and power outages. Total snowfall ranged from 4-8 inches in the south to 12-16 inches in central and northern Vermont including Enosburg Falls.

February 25, 2022 - A winter storm traveled from the Ohio River Valley to southern New England bringing snowfall to Vermont. Snow began in the early morning and stopped by mid to late afternoon. Snow accumulations ranged from 6 to 12 inches across the state including Enosburg Falls.

December 16-17, 2022 - A powerful storm system brought heavy snowfall on December 16th. Snow started during the early morning and continued into the night. Snow mixed with rain in some valleys. The heavy, wet snow caused power outages impacting over 100,000 customers at its peak. Snowfall amounts ranged from 4 to 8 inches in the valleys, 8 to 14 inches in the north central mountains, and up to 20+ inches in the southern Green Mountains. Specific areas in Franklin County received 6 to 11 inches of snow including 11 inches in Montgomery, 8 inches in St. Albans and 6 inches in Swanton.

March 3, 2023 - A winter storm impacted the entire state bringing snow and mixed precipitation. Most areas received 7 to 12 inches of snow, while the central and northern Champlain Valley saw lower amounts of 3 to 6 inches. Overall, the region received widespread snowfall of 7 to 10 inches.

March 14-15, 2023 - A strong winter storm brought heavy snowfall, strong winds, and caused widespread disruptions. Snowfall amounts ranged 6 to 12 inches across most of the state, with some areas in southern and central mountains exceeding 2 feet. Strong north winds gusting up to 45 mph created hazardous travel conditions. The wet, heavy snow caused scattered to numerous power outages, impacting nearly 90,000 customers, especially in central and southern Vermont. Dozens of roads were closed due to vehicle accidents, downed trees, and downed utility lines. Many schools, especially in southern areas, were also closed due to the storm.

December 11, 2023 – A mild, wet December 10th slowly turned snowy from northwest to southeast and higher elevations to lower elevations during the overnight hours and into the morning of December 11th before ending by early afternoon. A heavy wet snow accumulated 3 to 6 inches in the valleys with 6 to 10 inches in elevations above 1,200 feet. These accumulations led to scattered power outages in the County and created hazardous travel conditions.

January 9-13, 2024 (DR-4770) – A powerful winter storm tracked from the Pacific Northwest to the Great Lakes, intensifying as it moved. A sharp pressure difference between the Great Lakes and eastern Canada created extremely strong winds across New York and Vermont. These winds caused widespread damage, including downed trees, power outages affecting 80,000 people, and over $1 million in losses. In Franklin County, there were several reports of 50-55 mph winds and NWS estimated wind gusts in excess of 60 mph. Numerous power outages occurred as well. Several inches of wet snow accompanied the storm, with higher elevations seeing more accumulation. There was an estimated $50,000 in property damages in Eastern Franklin County.

March 9-11, 2024 - Heavy wet snow accumulated on the night of March 9th that led to isolated power outages but the main storm was the wraparound, northwest upslope, powdery snowfall during the night of March 10th through midday March 11th. Storm total snowfall was 8-12+ inches. Some specific snowfall totals include the higher terrain: 13 inches in Montgomery and 10 inches in Enosburg Falls.

April 3-5, 2024 - Mixed rain, wind, sleet and snow developed in the afternoon and evening hours of April 3rd and then transitioned to a heavy wet snow overnight through midday on April 4th. Heavy, wet snowfall totals of 8 to 15+ inches were common. Some specific snowfall totals include; 18 inches in Enosburg Center, 14 inches in St. Albans and Franklin and 11 inches in Swanton. Impacts were significant across the state with hundreds of motor vehicle accidents, numerous school closing and more than 35.000 power outages at its peak due to snow weighted trees on powerlines.

Flooding / Fluvial Erosion – *Moderate to High*

Description:

Historically in Vermont, flooding has been the number one natural disaster in loss of life and property. Most flash flooding is caused by heavy rain from thunderstorms. Smaller creeks and streams are particularly vulnerable to flash flooding.

The following is the definition of flood, according to FEMA:

Flood: A general and temporary condition of partial or complete inundation of 2 or more acres of normally dry land area or of 2 or more properties (at least 1 of which is the policyholder's property) from:

--Overflow of inland or tidal waters; or
--Unusual and rapid accumulation or runoff of surface waters from any source; or
--Mudflow; or

Collapse or subsidence of land along the shore of a lake or similar body of water as a result of erosion or undermining caused by waves or currents of water exceeding anticipated cyclical levels that result in a flood as defined above.

Fluvial erosion is the destruction of riverbanks caused by the movement of rivers and streams. This occurs when the stream is unstable and has more energy than is needed to transport its sediment load, due to channel alterations or runoff events that increase water speed in the channel. Historic land uses

along rivers and streams, including floodplain encroachments and removal of vegetation have increased the risk of fluvial erosion.

Flood inundation can occur from dam failure. Dam failure is caused by the overtopping or structural failure of a dam resulting in a significant, rapid release of water, which can lead to flooding. Structural failure can be caused by many factors, such as internal soil erosion in earth embankment dams, sliding or overturning of concrete dams, gate failure, or caused by other means, such as deliberate sabotage.

While a rare occurrence, dam failure and resulting flooding can be devastating and threaten life and property downstream of dams. Dam failure can occur not only during large storms and high flows, but also during normal, sunny day conditions. While the depths and extents of flooding caused by dam failure are most severe during storms when reservoir elevations and rivers are at their highest, the public is generally conscience of flooding under these conditions. For this reason, it is often the sunny day failure scenario, that occurs with no warning, that is most dangerous (Vermont State Hazard Mitigation Plan, 2018). The Enosburg Falls dam is considered a low hazard risk dam. The Village has an Emergency Action Plan in place should the dam fail. The primary impact would be the scouring of the river channel downstream. Because of the low hazard risk rating of the dam, no further analysis on dam failure is provided.

Impact and Geographic Area of the Hazard

The Missisquoi River traverses through most of Franklin County. In Enosburg Falls, it runs through the middle of the Village from East to West. Flooding is a natural occurrence. Minor flooding occurs nearly every spring, particularly along the Missisquoi River when melting snow combines with spring rainfall flows from the surrounding mountains, in combination with the influence of ice jams. Ice jams have not caused any major damage in Enosburg Falls, but have contributed to field and overbank erosion.

Fluvial erosion hazard mapping was released by the VT Agency of Natural Resources (ANR) in early December 2014. This mapping will assist municipalities in developing bylaws and effective mitigation strategies to regulate development within fluvial erosion hazard zones. Enosburg Falls and Enosburgh Town have been proactive in developing a river corridor bylaw, to be included with their zoning regulations. This bylaw would be considered interim for the river corridor criteria set by Vermont Agency of Natural Resources and Vermont Emergency Management.

Infrastructure and structures along higher elevation streams and drainage areas are most susceptible to damage from flash flooding. Drainage ditches and culverts are the biggest concern for local flash flooding events. Areas in Enosburg Falls that are particularly susceptible include Duffy Hill Road, VT105 and Hayes Farm Road. Several culverts along Duffy Hill Road were upgraded in recent years to the appropriate road standards.

Floodplain areas in the Village generally have minimal damage when flooding conditions occur. Many buildings are built outside the floodplain for the most part, although many portions of private properties, mostly lawns, are in the floodplain and may be damaged. There has been considerable investment made in Enosburg Falls to flood proof properties against flooding

During the summer of 2005, a Phase 2 Stream Geomorphic Assessment in the Tyler Branch watershed was performed by the Johnson Company through contract with the Missisquoi River Basin Association. Assessments were conducted on 11 reaches of the Tyler Branch Bridge and culvert assessments were conducted on all structures within the 20 reaches in accordance with the 2005 VT Agency of Natural Resources Stream Geomorphic Assessment Protocols. The assessment notes that nearly all of the reaches have a sensitivity of 'high' to 'very high' with the potential for further widening and bank erosion. The assessment recommends that areas with limited riparian buffers are most sensitive to further widening and should be targeted for buffer reestablishment and/or active bank stabilization to limit potential property loss from erosion. Also, several bridges are slightly undersized and act as local channel and floodplain constrictions.

Missisquoi River at East Berskshire

Major Flood Stage:	16
Moderate Flood Stage:	14
Flood Stage:	13
Action Stage:	11

Historic Crests
(1) 23.10 ft on 11/04/1927
(2) 18.92 ft on 03/15/1946
(3) 17.50 ft on 04/01/1918
(4) 17.45 ft on 04/18/1982
(5) 17.42 ft on 02/28/2000

Recent Crests

(1) 15.64 ft on 04/16/2014
(2) 14.13 ft on 08/29/2011
(3) 13.99 ft on 04/28/2011
(4) 13.66 ft on 04/27/2011
(5) 13.34 ft on 04/12/2011

In Enosburg Falls Village, vulnerability to flooding affects key infrastructure, including the Village's electric utility system, roads, wastewater and stormwater infrastructure, residential homes along stream and river, and area agricultural based businesses.

There are structures that the Village of Enosburg Falls has identified for buy-outs. The properties are situated along the Missisquoi River and have been damaged by recent flooding events.

Extent / Probability

There are USGS gauges on the Missisquoi River at its outlet in Swanton, downstream of Enosburg Falls and in East Berkshire, on the Village's northern border. Based on the USGS data, several flood events greater than 25-year discharge have occurred over the last 20 years including the year 1992, on July 15, 1997 and on January 8 and March 28, 1998.

Flood Stage Impacts

23 ft: Devastating flooding occurs. This stage equals the Great Flood of 1927. Bridges on Routes 118, 108, and 105 will be covered in water, and may be destroyed. Large sections of Routes 118, 108, and 105 and local roads will be covered in water. Water will inundate homes in East Berkshire and Enosburg Falls.

17 ft: Severe flooding will occur from Richford downstream to Sheldon along the Missisquoi. Water will enter homes in East Berkshire, and cover portions of Route 118 near East Berkshire and Route 105 between East Berkshire and Enosburg Falls. Missisquoi Street in Enosburg Falls will flood. Flooding of farmland will be widespread along the Missisquoi in Franklin County. This stage is equivalent to the FEMA 1 Percent Annual Chance Flood.

16 ft. There will be widespread flooding along the Missisquoi from Richford to Sheldon. Water will cover portions of Route 105 between Enosburg Falls and East Berkshire, and will approach Route 236 in Sheldon and Route 118 in East Berkshire. There will be extensive field flooding.

14 ft. Widespread flooding of low-lying fields and roadways will occur from Richford to Enosburg. Water will approach Route 118 at East Berkshire, and Route 105 between Enosburg Falls and East Berkshire. Yards will be flooded in East Berkshire.

13 ft. Widespread flooding of low-lying fields and some low-lying roads will occur along the Missisquoi from Richford to Enosburg. Water will enter the yards of riverside homes in East Berkshire.

While this data is not specific to Enosburg Falls Village, it may be used to estimate the worst-case flooding scenario for Enosburgh as East Berkshire is located in close proximity and shares similar topographical characteristics.

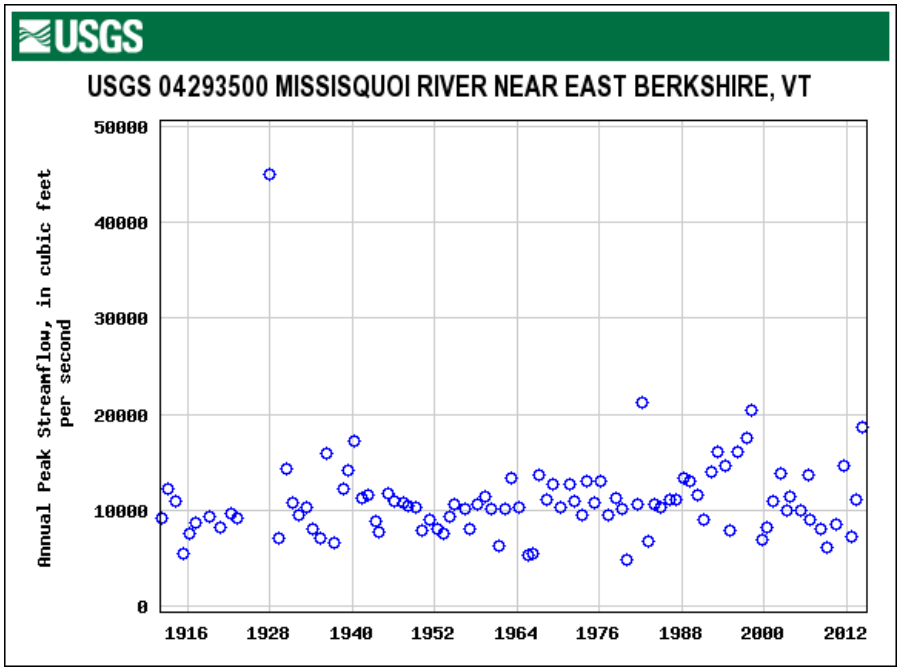
Transportation facilities that parallel the Missisquoi River are subject to periodic flooding, such as the sections of State Route 105, Duffy Hill Road, and Hayes Farm Road. Public Utilities such as water mains and electric lines as well as bridge crossings are also vulnerable to flooding damages.

Flash floods typically occur during summer when a large thunderstorm or a series of rain storms result in high volumes of rain over a short period of time. Higher-elevation drainage areas and streams are particularly susceptible to flash floods. Flash floods are likely in Enosburg Falls, and potential damage to major transportation corridors.

Flash floods and rain storms occur annually. According to the National Climatic Data Center, there have been 6 recorded flash flood events and 16 flood events causing approximately $9,000,000 and $206,000 in damages and 0 deaths respectively in Eastern Franklin County between 1996 and 2024.Extent for fluvial erosion: Following the Agency of Natural Resources geomorphic assessment data for fluvial erosion hazards, Missisquoi River corridor in Enosburgh Town and Enosburg Falls was given a high-risk rating. There are three residences and one commercial business that could be impacted by stream channel erosion in this area. Extent information in terms of area measurements is unavailable even for the most significant areas where erosion is a concern.

Areas in the Village where stream bank erosion is causing in – stream sedimentation in the Missisquoi River include Duffy Hill Road and Hayes Farm Road. Stormwater runoff and sedimentation would be decreased following road maintenance practices such as stabilization of road surfaces (different gravel materials), improvement of roadside ditches (excavation, stone lining and/or seeding and mulching), alternative grading practices (turnouts, check-basins), and protection of culvert headers. In agricultural settings, increased flows from drainage tiles, ditches and erosional gullies can be addressed through design and retrofitting of tile networks to provide for energy dissipation at tile outlets; gully stabilization; and consideration of crop rotation or alternative farming practices that reduce the need for drainage tiles.

The worst natural flood of historic record occurred in November 1927. During that event, 3.2 inches of rain accumulated in 24 hours with 6.35 inches falling for the entire period. Many homes were destroyed. Barns and livestock were washed away. The North Enosburgh covered bridge was swept away and many roads were inundated. The Enosburg Falls dam had a crest of 16 feet above the top of the dam. The electric power house at the bridge was washed away.[9]



Source: Missisquoi River at East Berkshire Stream Gauge. Annual Peak Stream flow.
Source: USGS

A Geographic Information System (GIS) based overlay analysis was conducted using NRPC generated flood zone data (unofficial) with the Vermont E-911 data of structure locations. The results found that there are six (6) structures within the 100 or 500-year flood plain in Enosburg Falls. Three (3) are single family dwelling, one (1) is a multi-family dwelling, (1) is a camp, and one (1) is classified as industrial. This represents 1% of all structures in the community.

Estimating flood damage of the 1% of structures with 20% damage is $195,652. This figure does not include building contents. Cost of repairing or replacing the utilities, roads, bridges, culverts, and contents of structures is not included. A summary of damages for some past occurrences in included below.

Climate Change

Climate change is causing stronger, more persistent storms with more rainfall, which makes steeper terrain and saturated soil more prone to flooding. The 2019 Halloween storm caused over $6 million in damage to infrastructure after producing 3–5 inches of rain in a single day in northwestern Vermont. Damage due to stronger storms will cause impacts to road infrastructure, waste water systems, storm water infrastructure. Private properties located near the river and streams could become susceptible to flooding for the first time which may lead to more property buyouts. Ag based businesses will be impacted due to saturated soils.

[9] Town of Enosburgh and Village of Enosburg Falls Flood Insurance Study, FEMA, 1980.

Past Occurrences:

Disaster Declarations:

January 15, 1996 (FEMA 1101-DR) – A severe winter storm triggered flooding throughout the Village and County. The flooding damaged many roads throughout town.

July 14-15, 1997 (FEMA-1184-DR)- Heavy rain fell continuously throughout eastern Franklin County. Several roads, bridges and culverts were damaged. An estimated cost of repairs from FEMA reports and from interviews with former public works director were approximately $4,530.

September 23rd, 2004 (FEMA-1559-DR) - A disaster declaration was declared due to severe storms and flooding from August 12th through September 12th, 2004. Franklin County was included in the disaster declaration. Flooding occurred as a result of heavy rain produced from Tropical Storm Francis. The town highway crew replaced one culvert on TH1 (Tyler Branch Road). Estimated cost of repairs from FEMA reports and testimony from the Public Works director were approximately $5,000.

June 4, 2007 (FEMA-1698-DR) and August 24, 2007 (FEMA-1715-DR) - Franklin County was on the edge of a strong frontal system that brought heavy rain which damaged roads in Enosburgh Town and along Duffy Hill Road in Enosburg Village. Franklin County was not part of the disaster declaration.

June 14-17, 2008 (DR 1778) - A series of storms affected the entire state from. Stronger storms on Monday June 16 produced up to 1-inch hail. These storms also produced heavy rainfall, but were moving more quickly. No flooding resulted. On Tuesday June 17th strong thunderstorms produced pea sized hail and heavy rain in the Trout River basin in northwest Vermont. Flash flooding occurred in the eastern parts of Franklin County.

April and May of 2011 (DR 1995, 4043) - The year 2011 was a record year for flooding in the state of Vermont. The first floods occurred over a two-week period late spring. These floods impacted the northern half of the state, including the counties of Addison, Chittenden, Essex, Franklin, Grand Isle, Lamoille, Orleans, Washington, and Windham. The damage totaled over $1.8 million in FEMA assistance. In the spring, heavy rains in late March/early April on top of a deep late season snowpack resulted in riverine flooding and sent Lake Champlain well over the 500-year flood elevation breaking the 140-year-old peak stage elevation. Additional spring runoff events resulted in Lake Champlain being above base flood elevation for more than a month. High lake levels coupled with wind driven waves in excess of 3 feet resulted in major flood damages for shoreline communities.

Additionally, flooding caused by Tropical Storm Irene in Southern and Central Vermont was catastrophic, destroying property and taking lives, and again eliciting a disaster declaration (DR 4022). Enosburg Falls was spared from the catastrophic damages that occurred elsewhere in the state. The majority of damages in the state resulting from Tropical Storm Irene were due to flooding and fluvial erosion.

October 29-31, 2017 (DR 4356)- A strong thunderstorm fueled by an ex-tropical storm brought damaging winds to Vermont, causing power outages and knocking trees down throughout the state. Winds reached over 70 mph at times and rain caused flooding in areas along the Missisquoi River and its tributaries. While flooding issues were minor during the event, Enosburg Falls Electric had multiple broken poles and many primary and service lines down from the wind. Crews worked many long and difficult hours with assistance from neighboring Swanton Village Electric. All power was restored to customers within two days. The total FEMA Public Assistance grants dollars obligated for this declaration for the affected Counties was $5,296,752.57.

Hayes Farm Road Box Culvert

October 31 to November 1, 2019 (DR 4474) – This event is locally referred to as the "Halloween Storm". Steady rain developed during the mid to late evening of October 31st and became heavy at times through the early morning hours. Rainfall amounts from 2.5 to 4 inches fell across northwest and north central Vermont. Numerous rivers including the Missisquoi River and area streams flooded. Several roads were fully or partially washed out in northern areas of the state. Street flooding occurred in Enosburg Falls just after 10 pm on October 31st.

Other Flood Events

November 3-4, 1927 – Known as the Great Vermont Flood of 1027, this event stands as the greatest natural disaster in Vermont history. Devastation occurred throughout the state, with 1,285 bridges lost, countless homes and buildings destroyed, and hundreds of miles of roads and railroad tracks swept away. The flood waters claimed 84 lives, including that of the Vermont Lieutenant Governor at the time, S. Hollister Jackson.

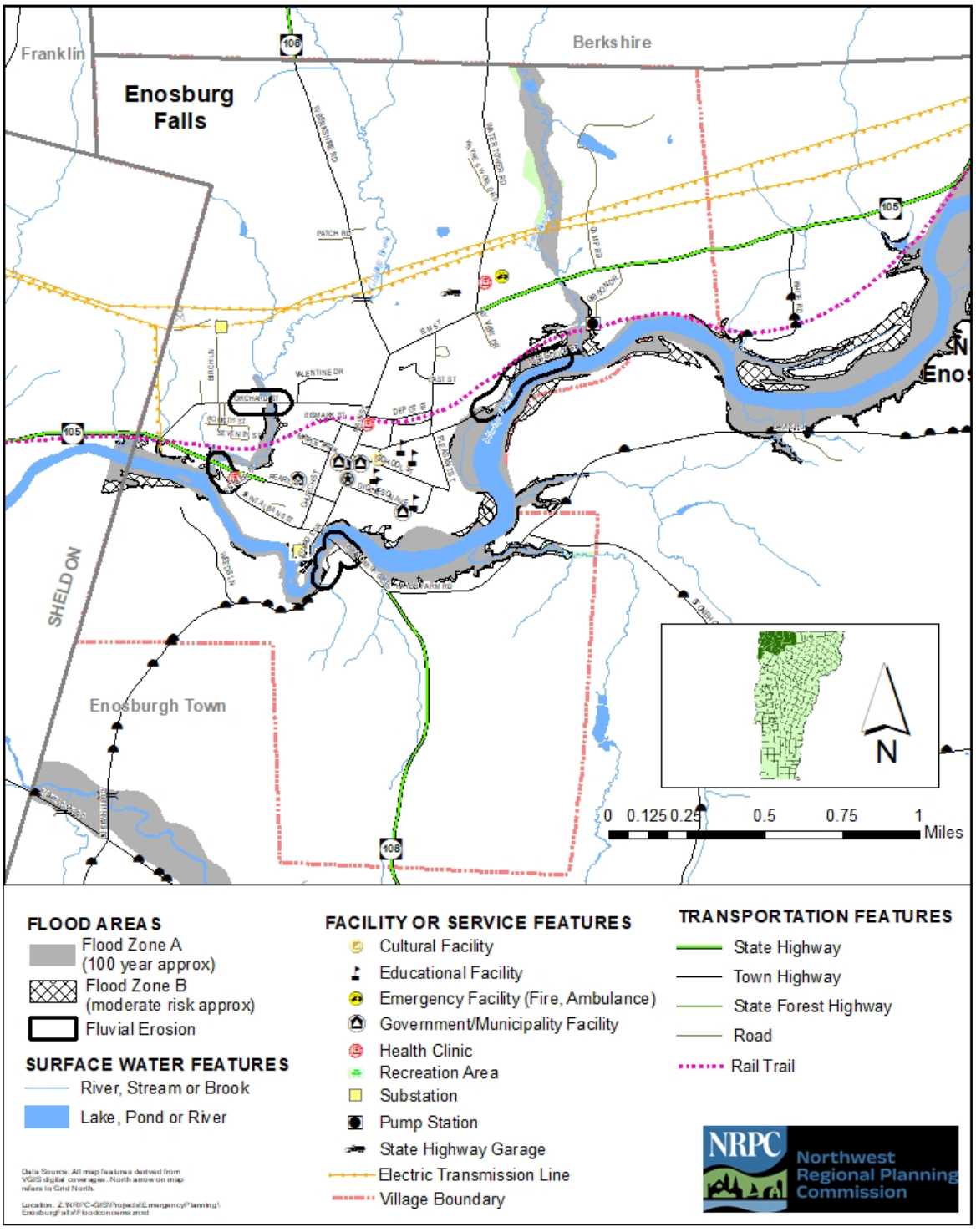
Floods of minor impact occurred causing relatively minor damage to the community specifically in 1936 and 1940.

July 4, 1996 - Heavy rain event again overwhelmed local drainages and damaged many local roads.

February 28, 2000 - A stalled cold front over Northern New England brought steady rain to the area. Ice jams formed along the Missisquoi River which produced 1 to 2 feet of water along Route 105 between Enosburg Falls and East Berkshire. Flooding receded on the 29th. There was an estimated $20,000 in damages. One home owner on Village Drive reported water in the garage from flooding.

June 5, 2002 - Based on interviews with local residents, there was also a relatively large flood event which occurred on. Several roads were flooded. There was an estimated $25,000 in property damages between the towns of Enosburgh, Richford and Montgomery.

Enosburg Falls Flood Vulnerabilities



January 18, 2006 - A powerful storm tracked northeast across Ontario and Quebec provinces. Ahead of this storm, brisk south winds caused temperatures to rise into the 40s creating snow melt. Widespread

rainfall of 1.5 to 2.5 inches fell during the night and continued through the early afternoon of the following day. Increased run-off caused widespread field flooding and ponding of water on local roads. Localized ice jams along the Missisquoi River near East Highgate caused flooding and left large ice chunks along Route 78 and Route 105 between Enosburg and Berkshire. There was an estimated $10,000 in damages.

July 3rd, 2006 - A strong storm system tracked through the county on creating heavy rain throughout the town. The Town Highway Department recorded $51,356 in damages and repair to the local roads.

April 15-18, 2014 - Severe storms and flooding affected Caledonia, Essex, Franklin, Lamoille, Orange, Orleans, and Washington Counties in Vermont. A federal declaration was made (DR 4178). In Enosburg Falls, some flooding occurred along local roads with an estimated $5,000 in damages.

January 13, 2018 - Record high temperatures followed by precipitation caused rapid snow and ice melt. The conditions were perfect for localized flooding along the Missisquoi River and its tributaries. Village properties were spared of significant damages.

July 7 to July 23, 2023 – This event was a federal disaster declaration ((DR 4720) but it did not include Franklin County. During this period, clusters of showers and thunderstorms crossed the state. Torrential downpours were frequent with some storms repeatedly training over the southern and central Green Mountains as well in portions of northeastern Vermont where, in some cases, considerable flash flooding occurred. Franklin County was largely spared from the severity of damages that occurred in other areas of the state.

Showers and thunderstorms with heavy rainfall trained across the affected area during the afternoon hours of July 21. Radar estimates and ground observations showed between two and four inches of rain fell, leading to scattered reports of flash flooding, most notably in the Enosburg Falls, VT area where Routes 105 and 108 were closed due to high water and road damage.

In addition, strong southwest to west winds, gusting to 40 to 50 mph and locally higher, developed around sunrise and continued through mid-afternoon before quickly diminishing by evening. These persistent strong winds combined with over-saturated soils, led to numerous downed trees, structural damage and escalated power outages to their peak of more than 100,000 outages. Estimated public infrastructure damage in exceeded $5 million state-wide.

December 18-19, 2023 – This event was a federal disaster declaration (DR-4762) but it did not include Franklin County. On December 18-19, 2023, heavy rain and rapid snowmelt caused significant flooding in parts of the Northern Adirondacks and Vermont. This marked the second major flood for Vermont in six months, highlighting the increasing frequency and severity of flooding in the region due to climate change. Unlike the previous flood caused by thunderstorms, this event was primarily driven by persistent rainfall. The Ausable, Lamoille, Otter Creek, Passumpsic, and Winooski River basins were particularly hard hit.

Widespread heavy rainfall and substantial snow melt (1 – 1.5 inches) led to saturated soils and ponding of water and runoff across roads into streams and rivers with some gaged rivers reaching moderate flood, including the Missisquoi, River watershed where several roads and home basements were flooded. Many communities were impacted including Enosburgh, Montgomery, Fairfax and East Berkshire with several brief road closures.

July 7, 2024 – This event was a federal disaster declaration from flooding damages caused by Tropical Storm Beryl but it did not include Franklin County. Steady rain fell during the evening hours of July 7th into early morning of July 8th. There were no issues locally from flooding or winds other than branches falling in roads. Other areas of the state notably St. Johnsbury, Lyndonville and Morgan received catastrophic damages to public and private properties.

Ice Jam Flooding

In addition to free-flowing flood events, there is a very limited documented history of ice jams.

March 6, 1979 - An ice jam event resulted in a flood elevation 3 feet above the November 3, 1927 flood. The impact of ice jams affects VT105 near Berkshire in the form of flooding. The Agency of Transportation has jurisdiction over VT105 and highway crews monitor any flood risks in the area mentioned. Impacts are limited as traffic is simply rerouted briefly on secondary town highways. Ice Jams are not considered a great risk to the Town.

February 25, 2017 - Vermont experienced flooding due to a combination of factors. Warmer temperatures and rain earlier in the week led to snow melt and significant river rises. This, along with ice breakup, caused ice jams to form. Additionally, a strong cold front brought heavy rain (1/2 to 1 inch) and thunderstorms to parts of the state. Several road closures went into effect in Franklin County due to minor river flooding, particularly along the Missisquoi River. Route 105 outside of Enosburg Falls Village was closed briefly from ice jam related flooding. While the initial warm temperatures brought record highs, the subsequent cold front's heavy rain and thunderstorms ultimately caused the most significant issues with road washouts and road closures due to flooding.

January 13, 2018 – Warm, moist air settled across Vermont on January 12th which caused rapid snow melt throughout the day. Temperatures were 25 to 30 degrees above normal. An inch or more of rain fell during the evening which led to rivers reaching bankfull. On January 13th, temperatures fell rapidly changing the rain to freezing rain, sleet, then snow. Snowfall amounts in northern Vermont ranged from 4 to 8 inches. The combination of earlier thawing and sub-zero temperatures allowed for freeze-up jams to develop and exasperate on-going problems along the Missisquoi River. A large ice jam formed in East Highgate downstream of Enosburg Falls and caused significant flooding along Route 78 in Swanton Village and Highgate. Several homes in Swanton and Highgate were heavily damaged from flooding.

July 21, 2023 - Scattered showers and thunderstorms, a few with heavy rainfall affected portions of Vermont during the afternoon on July 21. A few storms trained across northern Franklin County leading to scattered flash flooding. Radar estimates and ground observations showed between two and four inches of rain fell, leading to scattered reports of flash flooding, most notably in the Enosburg Falls area where Routes 105 and 108 were closed due to high water and road damage where culverts along the state routes were overwhelmed.

5. MITIGATION STRATEGY

The following hazard mitigation goals are adopted by the Village of Enosburg Falls:

General Goals

- Prevent/reduce the loss of life and injury resulting from all-hazards events.
- Prevent/reduce the financial losses and infrastructure damage incurred by municipal, residential, agricultural and commercial establishments due to disasters.
- Include hazard mitigation planning in the municipal planning process including the Municipal Plan, Capital Improvement Plan and Local Emergency Management Plan.
- Ensure the general public is part of the hazard mitigation planning process.

The following goals and policies are from the Enosburg Falls and Enosburgh Town Joint Municipal Plan that support hazard mitigation.

Municipal Plan Goals and Policies that Support Hazard Mitigation (Adopted April 20, 2020)

Goals:

- Encourage and foster an all-hazards disaster resilient community.
- Reduce the loss of life and injuries that result from disasters.
- Reduce damages to public infrastructure resulting from all hazards events through hazard mitigation planning and project implementation.
- Protect the quality of air, water, and land resources through development regulations.
- Protect key natural features, groundwater recharge areas, wetlands, floodplains, streambanks, and local waterways from adverse impacts of development.
- Ensure a safe community that is committed to fostering the health and well-being of all residents.

Policies

- Encourage flood emergency preparedness and response planning.
- Encourage the protection and restoration of floodplains and upland forested areas that attenuate and moderate flooding and fluvial erosion.
- Continue to implement the Local Hazard Mitigation Plan and Emergency Operations Plans in conjunction with the NRPC and others.
- Participate in the Franklin County Mutual Aid Agreement.
- Resiliency measures will be compatible with natural features, including floodplains, river corridors, land adjacent to streams, wetlands, and upland forests, historic resources; character of neighborhoods; and the capacity of the community to implement them.
- Protect the water quality of the Missisquoi River and its tributary streams by promoting riparian zone management to aid in the prevention of bank erosion.
- Limit development in areas where soils have limited capacity to support structures or filter wastes and in areas where slope is greater than 20%.
- Limit use in floodplains to agriculture, open space, and recreation, unless otherwise approved through regulatory measures.
- Protect and preserve the archaeological, historic and scenic features of Enosburgh for future generations.

Existing Hazard Mitigation Programs, Projects and Activities

6. PLAN MAINTENANCE

This Plan is dynamic. To ensure it remains current and relevant, it will be evaluated, monitored and updated every five years in accordance with FEMA guidelines in effect at the time.

Annual Evaluation and Monitoring
Within 12 months of FEMA Final Approval, the Plan will be annually evaluated and monitored as follows:

1. The Village Manager and Trustees will evaluate the effectiveness of the Plan in meeting the stated goals. Items to be considered during this evaluation:
    - What disasters has the village (or County) experienced?
    - Should the list of highest risk natural hazard impacts be modified?
    - Are new data sources, maps, plans, or reports available? If so, what have they revealed, and should the information be incorporated into the plan?
    - Has development in the village or county occurred and could it create or reduce risk?
    - Has the village adopted new policies or regulations that could be incorporated into this plan?
    - Have elements of the plan been incorporated into new plans, reports, policies or regulations?
    - Are there different or additional community capabilities available for mitigation implementation?

2. Next, the Village Manager and Trustees will monitor mitigation action progress: Items to consider:
    - Is the mitigation strategy being implemented or anticipated?
    - Were the cost and timeline estimate accurate?
    - Should new mitigation actions be added?
    - Should proposed actions be revised or removed?
    - Are there new funding sources to consider?

    The status (e.g. in progress, complete) of each action should be recorded in Table 6.1. If the status is "in progress" note whether the action is on schedule. If not, describe any problems, delays, or adverse conditions that will impair the ability to complete the action.

3. The Village Manager and Trustees will seek public participation from the whole community. Items to consider:
    - Are there any new stakeholders to include?
    - Were there changes in population patters (migration, density or makeup of socially vulnerable populations?
    - Were there any changes in land use and development?
    - What public outreach activities have occurred? At minimum, the village will publicly post notice of meeting when the plan is being evaluated.
    - How can the public involvement be improved?

4. Based on input received, the mitigation strategy and/or actions will be modified, if needed.

5. A report (or public record in the form of meeting minutes) of the annual evaluation and monitoring will be made available to the public.

Table 6.1

Mitigation Action Status					
Mitigation Action	**2024**	**2025**	**2026**	**2027**	**2028**
Local Plans & Regulations					
Update Flood Bylaws to reflect to changes in Official FEMA Flood Mapping for community					
Update Road Right of Way (ROW) Vegetation Management Plan					
Structure & Infrastructure Projects					
Remove residential structures from flood prone area at 24 Main Street and 32 Main Street					
Trout Brook Reservoir dam removal					
Stabilize Culvert Outfalls					
Routinely Clean and Repair Storm Water Infrastructure					
Natural Systems Protection					
Update Road Erosion and Culvert Inventories					
Outreach & Education Programs					
Public Education on Severe Winter Storm Preparedness					
Public Education and Awareness on Severe Wind					
Infectious Disease and/or Invasive Species Awareness					
Disease Vector Control Training					

5-Year Updates

This plan will be updated at a minimum every five (5) years as follows:

1. Initiate Plan Update – Currently, funding to assist municipalities in planning services to update the Local Hazard Mitigation Plan is available through FEMA's Building Resilient Infrastructure and Communities grant program. If using this grant, the Village Manager Should contact Vermont Emergency Management (VEM) to apply for funding approximately 2 years prior to the plan expiration date. It is assumed that the Village Manager will as the primary point of contact for the Plan update.

   Once funding is secured and the grant agreement between the Village and State in in place, the Village Manager can issue a request for proposals (RFP) to procure planning services in accordance with the grant agreement. The RFP should be issued approximately 14 months before the plan expires.

Once a consultant is procured, the Plan update process can begin with a kick-off meeting including the consultant and local hazard mitigation planning team. The kick-off meeting should be scheduled approximately 12 months before the plan expires. The Village should allot approximately 8 months for the plan update process.

2. Opportunities for whole community Involvement throughout the Plan update process must be factored into the schedule. Whole community involvement must include the effects of climate change, changes in population patterns (migration, density, or the makeup of socially vulnerable populations), and changes in land use and development. These opportunities may include a community survey, planning workshop, and public meetings at critical milestones agreed to at the project kick-off meeting.

3. Once the local hazard mitigation planning team has prepared a final draft, they can seek authorization from the Trustees to submit the Plan for VEM/FEMA approval. Plan approval is accomplished in two steps. The first step is receiving "Approval Pending Adoption" from the VEM/FEMA review. The Village should submit for "Approval Pending Adoption" approximately 4 months before the plan expires to allow for time to respond to any review comments received by VEM/FEMA. The second step is adopting the plan. Once the Village receives "Approval Pending Adoption", the Village Trustees should adopt the plan by signing the resolution as soon as their next regular meeting.

4. Once adopted, the Village can submit the Plan for VEM/FEMA "Final Approval" by submitting the signed resolution to VEM/FEMA. The Village should submit for "Final Approval" after adopting the plan. FEMA will issue the Village a letter with the date of "Final Approval". The date starts the clock on 5-year cycle.

The following is a list of existing hazard mitigation programs, projects, and activities in Enosburg Falls:

Strong Winds

- Village Public Works and Electric Departments have response equipment including a chipper, to deal with downed trees and branches.
- Village Public Works Department monitors roadways for obstructions and flooding.
- Village has installed lightning protection on equipment operated at municipal facilities.

Sever Winter Storm (Ice Storm)

- Enosburg Falls Public Works Department has snow removal equipment.
- Enosburg Falls Public Works Department has response equipment to remove downed trees and branches.
- Emergency Services Building has a stationary generator with an automatic transfer switch
- Enosburg Falls Public Works Department has a portable generator that is sufficient to provide backup power to the facility.
- Shelter agreement between Enosburg Falls High School and American Red Cross are renewed on a semi-annual basis.

Flooding/Fluvial Erosion

- The Village has flood zone regulations which designate a Flood Hazard District whose purpose is to minimize future public and private losses caused by development in flood hazard areas.
- Adopted Codes and Standards for road infrastructure projects to eliminate flood related damages.
- Proactive in applying for grants that work toward reducing road maintenance costs.
- Culverts are inspected at least once a year. Seasonal maintenance is developed based on an annual inspection.
- Flood hazard areas are identified on Flood Hazard Boundary Maps (FHBMs) and Flood Insurance Rate Maps (FIRM) produced by FEMA. The purpose of these districts, which are located along the flood plains of rivers and streams throughout the Village, is to prevent increases in flooding and fluvial erosion caused by excessive development of lands within flood hazard areas.
- Member in good standing with the National Flood Insurance Program (NFIP).

Structure Fires

- Annual Insurance Service Office (ISO) inspection.
- Fire fighter personal protection equipment upgrades through Federal grant programs.
- Fire Fighter Training through Vermont Fire Academy.
- Purchased aerial ladder truck for fire department in 2012.
- Fire Department is a member of Franklin County International Firefighters Association.
- Fire Department is a member of Franklin County Mutual Aid Agreement.

Loss of Electrical Service

- Enosburg High School has a stationary generator and transfer switch for use as a community shelter.
- Public Works Department has emergency backup power.
- Public Safety Building has emergency backup power.

- On-going regularly scheduled road maintenance programs includes cutting trees, limbs/branches/brush away from utility lines.

On-Going Community Preparedness Activities

- Annual updates to the Local Emergency Management Plan with Enosburgh Town following Town Meeting.
- Village Public Safety Officials continue to identify and equip, as appropriate, emergency shelters.
- Traffic calming projects within Village (Vital Village Project).
- Village has an Emergency Management Ordinance that will ensure the complete and efficient utilization of all the municipal facilities to safely and effectively respond to all hazard events.
- Participation in the Vermont Enhanced 911 System.

How this Plan Will Improve Existing Capabilities

Enosburg Falls mitigation capabilities that reduce hazard impacts or that could be used to implement hazard mitigation activities.

Administrative and Technical: The Village is governed by a volunteer Village Board of Trustees. Paid staff includes a Full-Time Village Manager, a Village Clerk/Treasurer, Assistant Village Clerk/Treasurer, a part-time Zoning Administrator, seven Electric Light Department Staff, two wastewater department staff, three finance/admin staff and six full-time Public Works staff. The public works department staff covers 10.2 miles of town highway. They are constantly treating roadways in winter months, so they are strained to do other things that come up. The full-time staff size is similar to other villages in northern Vermont of similar size.

They have a volunteer Planning Commission, and Development Review Board.

The Village has no local police department. Vermont State Police and the Franklin County Sheriffs' Department cover all areas of law enforcement from traffic violations to major crimes. The Village currently contracts with the County Sheriff for additional coverage and help with enforcement of local traffic ordinances.

Enosburg Falls and Enosburgh Town share a Volunteer Fire Department and Ambulance Squad staffed by well-trained and devoted volunteers. The Department responds to fire and rescue, in Enosburg Falls, Enosburgh Town and offers mutual aid to neighboring towns' fire departments as needed. In addition, Enosburgh Ambulance provides emergency medical services for the surrounding area. The main funding of the operations of these organizations is through public contributions. The fire department and ambulance service are housed in the public safety building off VT105 near Water Tower Road.

The village receives support through a formal mutual aid agreements for emergency response. Technical support is available through NRPC in the areas of land use planning, transportation, emergency management, GIS services and grant writing. Technical support is also available through the State Agency of Natural Resources for floodplain and NFIP programs and regulations as well as Vermont Agency of Transportation for tech services pertaining to road structures and maintenance.

A strength of the Village is a family first atmosphere. There are a few committed volunteers who are in involved in committees and groups. There is strong cooperation between departments and great communications between staff and volunteers.

One of the strains on the community is a limited volunteer base for committees. Often this leads to the same people volunteering on multiple committee which can lead to fatigue. There are few younger citizens serving on committees partially due to modern day demands on work/life balance.

Additionally, on the emergency personnel in Enosburgh is that it is the largest department serving the eastern half of Franklin County and is the only Ambulance Service. Weekend winter traffic through Enosburg Falls increases greatly during the winter season from December to March due to the proximity of Jay Peak Ski Resort and in the fall during September and October for visitors drawn to the world class fall foliage. The capabilities are limited for such an increase in traffic. During peak winter season, emergency resources could be tied up dealing with motor vehicle accidents. Even one house fire could tie up local resources enough that a mutual aid request would be needed at times.

The Town Manager analyzed these programs for their effectiveness and noted improvements needed. Enosburg Falls uses all of the plans listed below to help plan for current and future activities. For example, the Local Emergency Management Plan has a contact list that is used for response activities in case of a hazard event. The Plan is updated every year after Town Meeting. The Municipal Plan directs visions and goals that include Natural Resources and Land-Use decisions. In the development of this plan, the latest Municipal Plan (April 2020) was used. Municipal Road and Bridge Standards are followed by the Village Public Works Department. The Public Works Department conducts semi-annual culvert and bridge inventory that is uploaded to the Vermont Agency of Transportation's on-line culvert and bridge AGOL portal with assistance from NRPC. The town is compliant with the NFIP.

As Enosburg Falls goes through the update process for the planning mechanisms outlined in Table 5.1, the Village will look to the Hazard Mitigation Plan to help guide land use district decisions, and guide goals and policies for those districts. The Local Emergency Management Plan is updated after Town Meeting each year, including updates to vulnerable geographic locations, as well as locations of residents and businesses who may be in harm's way. Updates to each of the planning mechanisms outlined in Table 5.1 are handled by the responsible party identified. There is no timeframe for updating the below referenced plans and regulations to better incorporate hazard mitigation, however, as each document is updated the hazard mitigation plan will be reviewed for incorporation. The goals of this hazard mitigation plan will be incorporated in the upcoming municipal plan update to ensure that emergency preparedness and mitigation planning efforts are included in the Municipal Plan, with particular attention to projects in the Mitigation Actions Table. This will help ensure that this plan is utilized and project follow-through occurs. Additionally, the hazard mitigation plan will be used to help prioritize high risk areas and target priority projects through Vermont's Municipal Roads General Permit Program and related funding. This will ensure this plan is utilized and project follow-through occurs.

The grand list in Vermont is a list of all real property in a municipality, including the property owner's name, address, location, size, and assessed value. The assessed value is the basis for property taxes, and the grand list is used to calculate municipal taxes. The Village Trustees use the grand list to determine the tax rate for the year's budget. Each municipality in Vermont is required to maintain a grand list, which is set every year as of April 1. Elected listers in each town are responsible for preparing and maintaining the grand list. Table 5.1 is a summary of the Grand List for Enosburg Falls.

Table 5.1

Grand List Summary for Village of Enosburg Falls (2023)		
Type	**Number**	**Value Including Land**
Residential Homes	376	$59,127,500
Seasonal Homes	1	$156,100
Mobile Homes – Unlanded	37	$814,100
Mobile Homes - Landed	27	$2,713,600
Farms	3	$1,230,500
Commercial	65	$28,362,300
Commercial Apts	6	$3,303,600
Industrial	1	143,000
Other (Utilities, Woodland and Miscellaneous)	26	$4,724,600
PPP Cable		359,000
Total Listed Value	542	$100,906,800

The following authorities, policies, programs, and resources related to hazard mitigation are currently in place and/or being implemented in Enosburg Falls in addition to the NFIP. These programs reduce the effects of hazards to existing, new, and future buildings, infrastructure, and critical facilities by preventing their location in identified hazard areas and ensuring that infrastructure and buildings are designed to minimize damage from hazard events. The Village has analyzed these programs for their effectiveness and noted any improvements that may be needed. Other mitigation/emergency planning related documents and their status are outlined in the below table:

Table 5.2 ENOSBURG FALLS POLICIES AND PLANS

Existing Protection	Description / Responsible Party	Effectiveness/Enforcement/ Hazard that is addressed	Gaps in Existing Protection/ Improvements Needed
Municipal Plan	Policies and vision for future land use. Adopted in April 20, 2020. Planning Committee Chair	Policies that provide protection and limited development in wellhead protection areas, wetlands, steep slopes, and shallow soils. Addresses all hazards.	Does not address full complement of state river corridor protection measures as defined by State. Actions were considered but are not feasible at this time.
Zoning Bylaws	Land Use Regulation. Adopted November 28, 2017. Zoning Administrator	Restrictions on development in potentially hazardous areas such as steep slopes, floodplains, and waters source areas. Addresses all hazards.	Does not address fluvial erosion hazards. Actions were considered but are not feasible at this time. Will need

			updating once new FEMA flood mapping is finalized.
Local Emergency Management Plan	Summary of response and notification procedures. Adopted 2024. Village Trustees Chair	Updated semi-annually. Addresses all-hazards.	Does not include continuity of operations annex.
Fire Mutual Aid	Franklin County Mutual Aid Agreement. Amended and adopted 2017. Fire Chief	Assistance from County fire, rescue, municipal and public works departments. Addresses all hazards.	A County Mutual Aid equipment resource list that includes NIMS typing.
Bridge and Culvert Inventory	Municipal transportation infrastructure inventory following AOT criteria. DPW Director	On-going update. Utilizes AOT criteria and identifies overall condition of infrastructure which guides priority decisions on public projects. Flood/fluvial erosion and Severe Thunderstorms.	Updates are on-going. State sponsored on-line database currently being updated (State moving to new platform). QA/QC for town Village recommended.
Road and Bridge Standards	Provide minimum codes of and standards for construction, repair, maintenance of town roads and bridges. DPW Director	Standards include management practices and are designed to ensure travel safety, minimize damage to road infrastructure during flood events and enhance water quality protections.	None found.
Road Erosion Inventory	Identifying location of and severity of road erosion on roads segments that are within 1,000 feet of surface waters. DPW Director	Road Erosion Inventory completed in 2022. Town applies for funding annually to address road erosion issues. Highly effective in addressing Flooding/fluvial erosion and Severe Thunderstorms	None found. Does not include private roads.
Utility Right-of-Way Management Plan	Plan to help protect Village Light and Electric's distribution line network. Village Manager	Maintenance of rights-of-way generally involves the cutting of all brush (up to 25 feet on each side of the center of the pole line for distribution) to ground level, as well as pruning of all branches growing towards conductors. It also involves the cutting of any/all trees that cannot be properly pruned to provide adequate clearance.	Continue to update and budget for Plan Implementation.
Cyber Security Plan (in development)	Plan to safeguard Village assets and financial records from online threats.	Focus on safeguarding critical infrastructure by implementing hardware and software to prevent unauthorized access and malware. It may include employee	Currently in development.

	Village Manager	training programs to enhance awareness of phishing and other cyber threats, along with strict protocols for data encryption and secure communication.	

Participation and Compliance with the National Flood Insurance Program (NFIP)

The National Flood Insurance Program (NFIP) is a voluntary program organized by the Federal Emergency Management Agency (FEMA) that includes participation from 20,000 communities nationwide and 247 Vermont towns and cities. Combined with floodplain mapping and floodplain management at the municipal level, the NFIP participation makes affordable flood insurance available to all homeowners, renters, and businesses, regardless of whether they are located in a floodplain. FEMA published a flood hazard study for the Town of Isle La Motte in 1979. Flood Insurance Rate Maps (FIRMs) were prepared by FEMA in 1980. Flood hazard areas were identified along the brooks and streams that run through the town, in the area known as the "Marsh" and along Lake Champlain. The FIRMs and Study are available for review on-line at FEMA.gov.

Adoption of an ordinance regulating the Flood Hazard District enables the Village of Enosburg Falls to be eligible for FEMA's National Flood Insurance Program (NFIP), which permits residents within the Flood Hazard District to purchase flood insurance. The purpose of the district is to prevent increases in flooding caused by development in flood hazard area, to minimize future public and private losses due to floods, and to promote the public health, safety and general welfare. The Town is committed to enforcing floodplain regulations and ordinances to be eligible to participate in the NFIP program and protect the people and property of Enosburg Falls by restricting development in flood prone areas. Enosburg Falls a member in good standing with the NFIP (CID 500224). The Village will continue to ensure future compliance with the NFIP by making sure that local regulations meet NFIP minimums and conducting enforcement as necessary.

The latest record indicates that there are 0 active NFIP policies in Enosburg Falls. There have been 5 NFIP claims filed in since 1978 totaling $15,036.

The Zoning Administrator enforces existing flood plain regulations and reviews future development proposals. The Village works with the elected officials, the State, the Northwest Regional Commission, VT Agency of Natural Resources and FEMA to correct existing compliance issues and prevent any further NFIP compliance issues through continuous communications, training and education

Structures in the SFHA

There are approximately 2 structures within FEMA-designated Special Flood Hazard Areas (SFHAs). Properties within SFHAs, that have a mortgage, are required to purchase flood insurance. Enosburg Falls Village participates in the National Flood Insurance Program (NFIP) which gives residents and business owners access to discount flood insurance through the National Flood Insurance Program. Flood insurance can still be purchased privately; however, it is more expensive. Development in SFHAs must meet additional construction standards as outlined in Enosburg Falls floodplain and development regulations.

Floodplain and Development Regulations

At the time of this writing, FEMAEMA Region 1 had initiated the early stages of flood map updates in Vermont in 2019. In the Missisquoi River watershed. The new data will identify flood risks determined by

Base-Level Engineering, as well as the reaches flagged for detailed flood studies, and the priority products for delivery through the final Flood Insurance Rate Map. The new data has not been released.

Enosburg Falls has adopted floodplain regulations in order to protect the health, safety, and welfare of its residents and to allow the community to participate in the National Flood Insurance Program (NFIP). In 1980, the Town established an ordinance for special flood hazard areas. The purpose of this bylaw is:

- Minimize and prevent the loss of life and property, the disruption of commerce, the impairment of the tax base, and the extraordinary public expenditures and demands on public services that result from flooding and other flood related hazards; and
- Ensure that the design and construction of development in flood and other hazard areas are accomplished in a manner that minimizes or eliminates the potential for flood and loss or damage to life and property; and
- Manage all flood hazard areas designated pursuant to 10 V.S.A. § 753; and
- Make the state, municipalities, and individuals eligible for federal flood insurance and other federal disaster recovery and hazard mitigation funds as may be available.

The Village Zoning Administrator is responsible for monitoring compliance with the NFIP.

Repetitive Loss Properties

According to the State Hazard Mitigation Officer, Enosburg Falls has no repetitive loss properties. The definition of severe repetitive loss as applied to this program was established in the National Flood Insurance Act. An SRL property is defined as a residential property that is covered under an NFIP flood insurance policy and:

(a) That has at least four NFIP claim payments (including building and contents) over $5,000 each, and the cumulative amount of such claims payments exceeds $20,000; or

(b) For which at least two separate claims payments (building payments only) have been made with the cumulative amount of the building portion of such claims exceeding the market value of the building.

For both (a) and (b) above, at least two of the referenced claims must have occurred within any ten-year period, and must be greater than 10 days apart.

Critical Facilities

A critical facility is defined as a facility in either the public or private sector that provides essential products and services to the general public, is otherwise necessary to preserve the welfare and quality of life in the appropriate jurisdictions, or fulfills important public safety, emergency response, and/or disaster recovery functions. The critical facilities are listed in Attachment B, include shelters; government offices; hazardous materials storage sites; educational and health care facilities.

Vermont's Emergency Relief Fund (ERAF)

ERAF provides state funding to match FEMA Public Assistance after federally declared disasters. Eligible public costs are generally reimbursed by FEMA at 75% with a 7.5% State match. The state will increase its match to 12.5% or 17.5% if communities take steps to reduce flood risk as described below:

To receive the 12.5% state match rate, communities must have the following:

1) NFIP Participation
2) Municipal Road and Bridge Standards

3) Local Emergency Management Plan
4) FEMA approved Local Hazard Mitigation Plan

To receive the 17.5% state match rate, communities participate in FEMA's Community Rating System or adopt Fluvial Erosion Hazard or adopt river corridor protection bylaw that meets or exceeds the Vermont Agency of Natural Resources regulations.

Enosburg Falls ERAF rate currently is 7.5%. Upon adoption of the 2024 Enosburg Falls Mitigation Plan, the ERAF rate will increase to 12.5%.

Identified Hazard Mitigation Actions, Programs and Activities

A mitigation action is a measure, project, plan or activity proposed to reduce or eliminate current and future vulnerabilities described in the risk assessment. Mitigation actions help achieve the plan's mission and goals. The actions to reduce vulnerability to threats and hazards form the core of the plan and are a key outcome of the planning process.

FEMA's mitigation action handbook identified actions within the following four categories that need to be considered:

1. Local Planning and Regulations - These actions include government authorities, policies or codes that influence the way land and buildings are developed and built.
2. Structure and Infrastructure Projects - These actions involve modifying existing structures and infrastructure to protect them from a hazard or remove them from a hazard area. This could apply to public or private structures as well as critical facilities and infrastructure.
3. Natural Systems Protections - This type of action can include green infrastructure and low impact development, nature-based solutions, and bioengineering to incorporate natural features or processes into the built environment.
4. Education and Awareness Programs - These types of actions keep residents informed about potential natural disasters. Educational outreach can help minimize these risks. Many of these types of actions are eligible for funding through the FEMA HMA program.

Criteria for Analysis

The following criteria were used establishing an order of project priorities. Each of the following criteria was rated according to a numeric score of "1" (indicating Poor), "2" (indicating Average) and "3" (indicating Good). The highest possible score is 36. The full scoring matrix used is located in Appendix C.

1) Does the action reduce damage?
2) Does the action contribute to community objectives?
3) Does the action meet existing regulations?
4) Does the action protect historic structures or structures critical to municipal operations?
5) Can the action be implemented quickly?
6) Is the action socially acceptable?
7) Is the action technically feasible?
8) Is the action administratively possible?
9) Is the action politically acceptable?
10) Is the action legal?
11) Does the action offer reasonable benefits compared to its cost of implementation?

12) Is the action environmentally sound?

Cost-Benefit Review

Each project will incorporate a full benefit-cost analysis (BCA) following FEMA's BCA methodology and latest software to ensure cost effectiveness and maximize savings. There was a rough cost/benefit analysis performed using criteria in Table 5.3 for each project listed in the Summary Mitigation Actions Table 5.4.

Table 5.3

Cost Benefit Table	
Cost Estimates	
High	More than $100,000
Medium	Equals $50,000 – 100,000
Low	Less than $50,000
Benefit Estimates	
High	Public Safety
Medium	Infrastructure/Functionality
Low	Aesthetics/General Maintenance

Note: At the time of applying for FEMA's mitigation grant programs, each project listed above will undergo the full benefit-cost analysis methodology (BCA version 4.8 and higher) to maximize savings.

Prioritizing Mitigation Actions

Mitigation actions are listed in priority order, with the most critical needs listed at the top of the list. The mitigation actions listed were developed with just the Village in mind as the Town is a separate jurisdiction.

Mitigation projects are listed in terms of mitigating threat or risk to public health and safety, reduction of hazard to community assets, adherence to Village plan and local ordinances, cost, and feasibility. Projects are classified as either short - term or long - term activities. Short –term action items are activities which the municipality may be capable of implementing within one to two years. Long-term action items may require new or additional resources, funding or authorities. On-going action items occur at least once per year.

Table 5.4

Summary Table of Mitigation Actions							
Priority / Score	**Mitigation Project**	**Hazard being Mitigated**	**Responsibility / Oversite**	**Funding / Support**	**Cost Benefit**	**Time Frame**	**Status**
36	Remove residential structures from flood prone area at 24 Main Street and 32 Main Street	Flooding / fluvial erosion	Trustees, Village Manager, DPW Director	Hazard Mitigation Grant Program, Vermont Flood Resilient Communities Fund Flood Mitigation Assistance Program	High / High	Short – term (Summer 2024 begin and finish December 2024)	Village officials have met with interested parties and applied for mitigation funding through Vermont Emergency Management. Mitigation Plan needs to be finalized to secure funding.
36	Trout Brook Reservoir Dam Removal.	Flooding / Fluvial erosion	DPW Director, Franklin County Natural Resources Conservation District, Vermont Natural Resources Council, Nature Conservancy of Vermont	Vermont Department of Environmental Conservation's Clean Water Service Provider Program	Medium / Medium	Short – term (Summer 2024 and finish December 2024)	Funding secured. RFP process completed. Vendor selected for dam removal through competitive bid process. Permits secured.
36	Update Flood Bylaws to reflect to changes in Official FEMA Flood Mapping for community.	Flooding / Fluvial Erosion	Zoning Administrator, Development Review Board.	Village Budget	Low / High	Short - term (Begin Summer 2024 end January 2025)	Flood zones for Missisquoi River currently being remapped by FEMA. Draft maps are due to be released soon.

36	Update Road Erosion and Culvert Inventories	Flooding / Fluvial Erosion	DPW Director	VTrans Grants in Aid Program	Low / Medium	Medium-Term (Begin Summer 2025 and end fall 2025)	Execute VTrans Grants in Aid grant agreement. Work with NRPC and VTrans on inventory update.
36	Update Road Right of Way (ROW) Vegetation Management Plan	Severe Winds, Winter Storm / Ice Storm, Invasive Species	Village Manager	Local	Low / Medium	Medium Term (Begin Jan 2025 and complete update by Nov 2026)	Partner with County Forester, VT Urban and Community Forestry Program, VT Dept of Forests, parks and Rec.
35	Stabilize Culvert Outfalls	Flooding	DPW Director	VTrans, Local	Medium / Medium	Annually (beginning Summer 2024)	Partner with VTrans and ANR's Municipal Roads General Permit Program
36	Routinely Clean and Repair Stormwater Infrastructure	Flooding	DPW Director	Local	Medium / Medium	Annually beginning Summer 2024	Partner with VTrans and ANR's Municipal Roads General Permit Program
31	Public Education on Severe Winter Storm Preparedness	Severe Winter Storm (Ice Storm)	Village Manager, EMD	Village Budget	Low / High	Annually (Beginning Fall 2024)	Public Safety Open House to be held in September. Schedule speakers, and advertise.
31	Public Education and Awareness on Severe Wind	Severe Thunderstorms (High Wind, Lightning, Hail)	Village Manager	Local	Low/High	Annually (beginning Fall 2024)	Public Safety Open House held annually in September. Prepare materials

							and advertise.
28	Infectious Disease and/or Invasive Species Awareness	Infectious Disease, Invasive Species	Village Manager, Health Officer	Local	Low / Medium	On-going. Start Fall 2024.	Partner with VT Dept of Health, VT Urban and Community Forestry, VT Dept. of Agriculture, VT Dept. of Forests, Parks and Rec, VT Fish and Wildlife.
28	Disease Vector Control Training	Infectious Disease	Village manager, Health Officer	Local	Low / Medium	On-gong. Start Fall 2024	Partner with VT Dept. of Health

Summary of Mitigation Projects – The following is a summary of each mitigation project identified by the Village of Enosburg Falls:

Remove residential structures from flood prone area at 24 Main Street and 32 Main Street: The residential buildings, sit above the Missisquoi River. This project proposes a buyout of the residences using the Flood Resilient Communities Fund. The residents have experienced several flooding events that have caused repeated damage to the structure and ruined personal property. The building's location on the riverbank poses a safety hazard to the occupants. The bank the structures are built on is experiencing fluvial erosion. The Village would like to buyout the residences and return the sites to natural conditions.

Trout Brook Reservoir Dam Removal: The impoundment, known as Trout Brook Reservoir, is estimated to have been built in the early 1900's. The current water level in the impounded area is quite shallow as sediment has filled in much of the area upstream of the dam. Multiple leaks/seeps in the dam have been observed. Concrete deterioration can be observed on the downstream side and is a safety concern. The brook crosses an access road ~500 ft downstream of the dam and then passes under Reservoir Road through an 8 ft wide culvert ~1,000 ft downstream of the dam. If the dam were to collapse more sediment would suddenly flow downstream, which could damage the two nearby road culverts. By removing the entire structure, sediment will move downstream more naturally, establishing a geomorphic equilibrium. That would also improve stream habitat and prevent damages to the 2 roads downstream.

Update Flood Bylaws to reflect to changes in Official FEMA Flood Mapping for community: FEMA is currently updating the Flood Insurance Rate Maps (FIRMs) in northern Vermont for the National Flood Insurance Program (NFIP). The Missisquoi River Watershed is included in the update. This will be the first map update for Enosburg Falls since in almost 50 years. The Village will be working with the Regional Planning Commission staff and VT Department of Environmental Conservation to update their current Bylaws to address the changes and to ensure the village retains its NFIP status.

Update Road Erosion and Culvert Inventories: These inventories were completed in 2022 and 2017 and serve as the basis for asset management. The inventories should be kept up to date annually, with a full reassessment every 5 years. There are 10.204 miles of town roads and 2.166 miles of state highway and 47 culverts within Enosburg Falls Village.

Public Education on Severe Winter Storm Preparedness: Using social media (Facebook, Front Porch Forum, Town website, direct mailings, local newsprint) the Enosburgh Falls Village along with the Fire Department will publish information to educate the public on winter storm preparedness. The Village and Fire Department will utilize existing materials developed by the American Red Cross, FEMA and State Fire Marshall's Office regarding safe operation of emergency generators, safe winter driving tips, maintenance of chimneys, and carbon monoxide safety. This campaign will be done annually in the fall of each year.

Public Education and Preparedness on Severe Wind: The Village of Enosburg Falls will improve public awareness and education of severe wind by using social media (Facebook, Front Porch Forum, Village website) and direct mailings regarding wind safety and the importance of power outage preparedness. This effort will include encouraging households to prepare emergency kits with essential supplies, shelter locations, and steps to reduce damage by securing doors, windows and roof coverings.

Stabilize Culvert Outfalls – Erosion at culvert outlets can cause structural failure with serious downstream consequences. Properly stabilized outfalls protect channel bank stability and reduce erosion.

Routinely Clean and Repair Stormwater Infrastructure – Routine cleaning and repairing stormwater infrastructure is one of the most effective ways to mitigate the impacts of flooding. Maintaining catch basins, ditches, and culverts will be done annually. Maintenance practices will follow the public works departments maintenance schedule and coincide with the Municipal Roads General Permit program.

Protect Critical Facilities and Infrastructure from Lightning Damage: Installing lightning protection devices and methods, such as lightning rods and grounding, on communications infrastructure and other critical facilities. Installing and maintaining surge protection on critical electronic equipment such as computers, telecommunications equipment in all public facilities.

Update Road Right of Way (ROW) Vegetation Management Plan: Enosburg Falls Light and Electric Department has a Plan to protect utility Infrastructure by removing vegetation within the right-of-way. This action will reduce a long-term vulnerability for the Village during severe weather events such as winter storms (ice storms) and severe thunderstorms (high winds, lightning and hail). The service area includes 192 miles of lines. The department has improved upon their tree pruning program to reduce the impacts of falling trees and branches in recent years and added a debris management process. The management plan should be reviewed and updated each year.

Infectious Disease and/or Invasive Species Awareness: Enosburg Falls Village Manager will work with partners such as the Conservation Commission, Town Health Officer, VT Department of Health, VT Department of Forest, Parks & Recreation, VT Fish and Wildlife and the County Forester to increase public awareness regarding the potential hazards and risks associated with specific infectious agents, like West Nile Virus, and invasives, such as the Emerald Ash Borer. Impacts of these infectious agents and invasives could have cascading impacts associated with floods and storm-related tree damage. Public awareness will be made through the Village's website, social media platforms, and mailings.

Disease Vector Control Training: Enosburg Falls Village Manager will work with the Town Health Officer and Vermont Department of Health to train municipal staff to report information on large mosquito populations around standing water to improve vector control. This will contribute to the reduction of the potential transmission of diseases such as West Nile Virus.

Attachment A

Hazard Identification and Risk Assessment

Enosburg Falls Village

Hazard	Magnitude or % Community Impacted	Probability of Future Occurrences	Threat from Climate Change	*Consequence of Occurrence*				Total
				Health & Safety Impacts	*Property Damage*	*Environmental Damage*	*Economic*	
Strong Winds	2	5	4	1	2	1	2	60
Severe Winter Storm (Ice Storm)	3	5	4	1	1	1	2	60
Flooding / Fluvial Erosion	3	5	4	1	1	1	2	60
Thunderstorm	1	5	4	1	1	1	1	45
Invasive Species	1	5	3	0	2	2	2	50
Infectious Disease Outbreak	1	5	3	2	0	0	4	50
Drought	3	3	2	1	1	1	3	33
Heat	2	4	4	1	1	1	2	44
Cold	2	4	1	1	1	1	2	32
Wildfire	1	4	2	1	1	1	1	28
Tornado	1	3	2	1	1	1	2	24
Hail	1	4	1	0	1	1	1	20
Earthquake	3	1	1	2	3	3	3	15
Landslides	0	1	1	0	0	0	0	1
							Total Risk Rating:	**522**

Attachment B

Critical Facilities, Hazmat Storage Facilities, and Vulnerable Sites
Enosburg Falls Village

Facility Name or Designation	Function	Street or Location
Bates Farm, Home & Garden	Hazmat Storage	174 Depot Street
Blouin Bros. Oil	Hazmat Storage	159 Depot Street
Blouin Bros. Oil	Hazmat Storage	240 Pleasant Street
Champlain Chevrolet	Hazmat Storage	57 Missisquoi Street
Cold Hollow Career Center	Vulnerable Site Education Site	184 Missisquoi Street
Cold Hollow Family Practice	Health Services	44 Center Street
Comcast	Hazmat Storage Telecommunications	271 Main Street
Cumberland Farms Enosburg Shell	Hazmat Storage	127 Main Street
Emergency Services Building	Public Safety Building	83 Sampsonville Road
Enosburg Elementary School	Hazmat Storage Education Site Vulnerable Site	Dickenson Avenue
Enosburg Falls Electric	Municipal Utility	42 Village Drive
Enosburg Falls Post Office	Government Facility	34 School Street
Enosburg Falls Public Works	Municipal Public Works	210 Dickenson Avenue
Enosburg Falls Village Office	Municipal Facility	42 Village Drive
Enosburg Falls Waste Water	Municipal Utility	39 St. Albans Street
Enosburg Middle/High School	Hazmat Storage Education Site Vulnerable Site	417 School Street
Enosburgh Town Clerk's Office	Municipal Facility	239 Main Street
First Light Communications	Hazmat Storage Telecommunications	200 Main Street
Former VANG Armory (to be Enosburgh Town offices)	Hazmat Storage Govenment Facility	134 Pearl Street
Franklin Foods, Inc	Hazmat Storage Major Employer	68 East Street
Green's Ace Hardware	Hazmat Facility	6 Railroad Street
Hannaford Brothers	Hazmat Storage Major Employer	71 Jay View Dr
Jolley's Shell Station	Hazmat Storage	424 Main Street
LaRose's Inc	Hazmat Storage	209 Main Street
Maplefields Enosburg Mobil	Hazmat Storage	518 Pearl Street
NOTCH – Enosburg Health Center	Health Services	382 Main Street
RCC Enosburg	Hazmat Storage	245 Church Street
RCC Enosburg	Hazmat Storage	245 Church Street
Tractor Supply	Hazmat Storage	38 Jay View Drive
VTRANS Enosburg	Hazmat Storage	275 Elm Street

	State Government Garage	

Attachment C
Village of Enosburg Falls Priority Matrix

Each of the following criteria was rated according to a numeric score of "1" (indicating Poor), "2" (indicating Average) and "3" (indicating Good).

1. Does the action reduce damage?
2. Does the action contribute to community objectives?
3. Does the action meet existing regulations?
4. Does the action protect historic structures or structures critical to Town operations?
5. Can the action be implemented quickly?
6. Is the action socially acceptable?
7. Is the action technically feasible?
8. Is the action administratively possible?
9. Is the action politically acceptable?
10. Is the action legal?
11. Does the action offer reasonable benefits compared to its cost of implementation?
12. Is the action environmentally sound?

		Criteria												Total Score
		1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	
Mitigation Action	Remove residential structures from flood prone areas along Main Street	3	3	3	3	3	3	3	3	3	3	3	3	**36**
	Trout Brook Reservoir Dam Removal	3	3	3	3	3	3	3	3	3	3	3	3	**36**
	Update Flood Bylaws to reflect to changes in Official FEMA Flood Mapping for community.	3	3	3	3	3	3	3	3	3	3	3	3	**36**
	Routinely Update Road Erosion and Culvert Inventories	3	3	3	3	3	3	3	3	3	3	3	3	**36**
	Routinely Update Road Right of Way (ROW) Vegetation Management Plan	3	3	3	3	3	3	3	3	3	3	3	3	**36**
	Stabilize Culvert Outfalls	3	3	3	3	2	3	3	3	3	3	3	2	**34**
	Routinely Clean and Repair Stormwater Infrastructure	3	3	3	3	3	3	3	3	3	3	3	3	
	Public Education on Severe Winter Storm Preparedness	3	3	2	2	3	3	3	3	3	3	3	2	**34**
	Public Education and Awareness on Severe Wind	3	3	2	2	3	3	3	3	3	3	3	2	**34**
	Infectious Disease and/or Invasive Species Awareness	3	3	2	2	3	3	3	3	3	3	3	2	**34**
	Disease Vector Control Training	3	3	2	2	3	3	3	3	3	3	3	2	**34**

Attachment D
Government Participation and Resources

- Village of Enosburg Falls Trustees
- Town of Enosburgh and Village of Enosburg Falls Emergency Management
- Northwest Regional Planning Commission
- Village of Enosburg Falls Public Works Department
- Village of Enosburg Falls Electric Department
- Franklin County Regional Emergency Management Committee
- Enosburgh Fire Department
- Enosburgh Ambulance Service
- Vermont Department of Transportation District 8
- Vermont Emergency Management
- Vermont Agency of Natural Resources
- Vermont Climate Action Council
- Vermont Department of Health
- Vermont Fire Academy
- US Census Bureau
- Northeast States Emergency Consortium
- Federal Emergency Management Agency
- National Weather Service
- National Oceanic Atmospheric Administration
- Vermont Geological Survey

Attachment E
Stakeholder and Public Outreach Plan

LOCAL HAZARD MITIGATION PLAN – STAKEHOLDER AND PUBLIC OUTREACH PLAN

To meet FEMA requirements and to ensure public, neighboring community, local and regional agency input opportunities, the following communication methods are recommended.

Goals:

1. Inclusive Participation and collaboration – Ensure all relevant stakeholders and the public have the opportunity to contribute including people with disabilities and functional access needs. Foster collaboration among all stakeholders.
2. Informed Decision-Making – Provide necessary education and information regarding hazards and risks.
3. Community Buy-In – Foster community support and ownership by involving stakeholders and public from the start.
4. Transparency - Build trust through clear, transparent and consistent communication throughout the planning process
5. Effective Implementation = Gather input that is practical, sustainable and responsive to the needs of the community.
6. Compliance –Ensure federal, state and local requirements for public involvement in hazard mitigation planning are met.

Identifying Planning Team and Stakeholders

- Local Government Officials - Village manager, public works director, first response agencies, electric department, finance, zoning administrator, planning, and regional planning commission, Health Department
- School representatives
- Local and regional entities that support persons with disabilities, access, and functional needs (PDAFN) or vulnerable populations (vulnerability specific to hazard mitigation)
  - Hospital / medical care (Northwest Medical Center, Northern Tier Center for Community Health (NOTCH))
  - Visiting Nurses Association
  - Champlain Valley Office of Economic Opportunity
  - Mobile home properties
  - Persons living in flood zones
  - Turning Point Franklin County
- Neighboring communities (Berkshire, Enosburgh Town, Franklin, Sheldon)
- Local and regional agencies that support hazard mitigation / emergency response
  - Regional Planning Commissions
  - Regional Emergency Management Committee
  - Sheriff's Department
  - Dispatch center

        - Fire Department
        - EMS
    - Businesses that support hazard mitigation / emergency response
        - Enosburg Business and Community Association (EBCA)
        - Utilities
        - Public Transportation (Green Mountain Transit)
    - Non-Profit organizations – Including community-based organizations that work directly with or provide support to people with disabilities or functional accesses needs or front-line communities – housing, health care, etc.
        - Food Shelf, Healthy Roots Collaborative, Champlain Valley Office of Economic Opportunity, Northern Tier Center for Health, Meals on Wheels)

Communication Methods and Implementation:

- Post meeting information (agenda, slides, zoom link, etc.) on village website
- Post meeting information (agenda, slides, zoom link, etc.) on village social media sites
- Post Online surveys / questionnaires on village website
- Send email notifications (e.g., meeting dates, agenda, slides, etc.) to the following entities:
- Post hard copies of meeting information (agenda, slides, etc.) in municipal building (e.g., village office, library, public safety building)
- Post hard copy of meeting information (agenda, slides, etc.) ins non-municipal building (e.g., post office, laundromat, pantry, NOTCH, etc.)

Processing Feedback

Feedback opportunities included public meetings, public comment period, requests. online feedback via email link, phone, regular updates and follow-ups. Comments and feedback received were incorporated during the plan update.

Planning Team and Stakeholders		
Name	**Organization**	**Role**
John Dasaro	Village Manager	Planning Team Lead
Shaun Coleman	Northwest Regional Planning Commission	Planning Team Member
Gary Denton	Public Works Director	Planning Team Member
Laurie Stanley	Staff Accountant / Social Media	Planning Team Member
Shawna Lovelette	Enosburg Business Association / Enosburg Falls Economic Development Corp.	Planning Team Member
Heather Moore	Enosburg Falls Trustee / School District	Planning Team Member
Sandra Ferland	Enosburg Falls Trustee	Planning Team Member
Andre Beulieu	Village Clerk / Treasurer	Planning Team Member
Mark Larose	Chief - Enosburgh Fire Department	Planning Team Member
Gregory Lamoureux	Lt – Enosburgh Fire Department	Planning Team Member

Garrett Wolski	Director of Operations – Enosburgh Ambulance Service	Planning Team Stakeholder
Alan Plouff	Enosburg Falls Light and Electric Crew Lead	Planning Team Stakeholder
Joey Clark	Enosburgh Town Road Foreman / Fire Department	Planning Team Stakeholder
Billie Jo Draper	Enosburg Town Clerk	Planning Team Stakeholder
Emily Fecteau	Berkshire Town Clerk	Planning Team Stakeholder
Mathew Stebbins	Sheldon Town Administrator	Planning Team Stakeholder
Kimberlee Dufresne	Sheldon Town Clerk	Planning Team Stakeholder
Jacqueline Kelley	EP, Vermont Department of Health, St. Albans District	Planning Team Stakeholder (Disabilities and
Reginald Beliveau	Interim Chair, Franklin County Regional Emergency Management Committee	Planning Team Stakeholder
Jess Graff	Director, Champlain Valley Office of Economic Opportunity	Planning Team Stakeholder (People with Disabilities and Functional Access Needs)
	Enosburg Falls Food Shelf	Planning Team Stakeholder (Food, Water, Shelter)
Andrea Patrick Boudet	Visiting Nurses Association (*formerly Franklin County Home Health Agency)*	Planning Team Stakeholder (Senior Healthcare, Hospice and Community Support Services)
Karen Heinlein-Grenier	Director Turning Point of Franklin County	Planning Team Stakeholder (recovery support and services)
Denise Smith	Northwest Medical Center Community Engagement	Planning Team Stakeholder (regional hospital)
Dan Carswell	Enosburgh Health Center (Northern Tier Center for Health)	Planning Team Stakeholder (non-profit healthcare center)

Outreach Contacts	
Apartment Complex	Riverbend Apartments (30 Apts.) Contact: Enosburg Housing Associates 324 School St Enosburg Falls, VT 05450 (802)933-2315
Business and Community	Enosburg Business and Community Association P.O. Box 662 Enosburg Falls, VT 05450
Community Action	Champlain Valley Office of Economic Opportunity (CVOEO) Director Jess Graff 5 Lemnah Dr., Suite 5 St. Albans, VT 05478 (802) 527-7392
Education Sites	Cold Hollow Career Center 184 Missisquoi St Enosburg Falls, VT 05450 (802)933-4003
Education Sites	Enosburg Falls Junior/Senior High School 65 Dickenson Ave Enosburg Falls, VT 05450 (802)933-7777
Food Shelf	Enosburg Falls Food Shelf (Masonic Temple) 50 Missisquoi St Enosburg Falls, VT 05450 (802)933-4193
Government Office	Enosburg Falls Village Office 16 Village Dr Enosburg Falls, VT 05450 (802)933-4443
Government Office (neighboring)	Berkshire Town Office 4454 Water Tower Road Enosburg Falls, VT 05450 (802)524-2335
Government Office (neighboring)	Enosburgh Town Office PO Box 465 Enosburg Falls, VT 05450 802-933-4421
Government Office (neighboring)	Franklin Town Office PO Box 82 Franklin, VT 05457 (802)285-2101
Government Office (neighboring)	Sheldon Town Office 1640 Main St. Sheldon, VT 05483 (802)933-2524

Health Facility	Cold Hollow Family Practice 84 Water Tower Rd, Suite 1 Enosburg Falls, VT 05450 (802)933-6664
Health Facility	NOTCH - Enosburg Health Center 382 Main St Enosburg Falls, VT 05450 (802)933-5831
Library	Enosburg Public Library 241 Main St Enosburg Falls, VT 05450 (802)933-2328
Mobile Home Park	Val's Mobile Home Park LLC (38 lots) Debbie Lewis 1st through 5th Streets off Orchard St Enosburg Falls, VT 05450 (802)933-5158 (802)933-5114
Municipal Public Works	Enosburg Falls Public Works Department 42 Village Drive (802)933-4443
Municipal Utility	Enosburg Falls Electric Department 42 Village Dr Enosburg Falls, VT 05450 (802)933-4443
Municipal Utility	Enosburg Falls Wastewater Treatment Facility 39 St. Albans St Enosburg Falls, VT 05450 (802)933-6669
Municipal Utility	Enosburg Falls Water Department 42 Village Drive Enosburg Falls, VT 05450 (802)933-4443
Religious Facility	Bible Central Baptist Church 44 Stebbins St Enosburg Falls, VT 05450 (802)933-4340
Religious Facility	St. John the Baptist Church Contact: Rev. Roger Charbonneau 62 Missisquoi St Enosburg Falls, VT 05450 (802)933-4464
Religious Facility	St. Matthews Episcopal Church Contact: Deacon Dave Ganter 323 Church St Enosburg Falls, VT 05450 (802)933-6127

Residential Home Care	Brownway Residence 328 School St Enosburg Falls, VT 05450 (802)933-2315
Schools	Enosburg Falls Elementary 303 Dickenson Ave Enosburg Falls, VT 05450 (802)933-2171

Enosburg Falls is creating a Hazard Mitigation Plan and needs your Input!!

Hazard Mitigation is sustained action taken to reduce or eliminate long-term risk to people and property due to natural or man-made disasters. Local Hazard Mitigation Plans are updated every 5 years

A Hazard Mitigation Plan helps our community to:

- Identify cost-effective actions for risk reduction
- Focus resources on the greatest risks and vulnerabilities
- Build partnerships between residents, organizations, and businesses
- Increase education and awareness of hazards and risk
- Communicate our priorities to state and federal officials
- Align risk reduction with other community objectives.

Participate Today!

SURVEY LINK:

https://forms.gle/TcrmmG25E8f5JwQ7A

Benefits of having an approved Hazard Mitigation Plan:

- Provide the Village with a roadmap for becoming more disaster resilient.
- Municipalities can receive federal funds, e.g. from
  - Hazard Mitigation Grant Program (HMGP), the
  - Flood Resilient Communities Fund (FRCF), and
  - Building Resilient Infrastructure & Communities (BRIC)
- The Village gets a higher level of post-disaster reimbursement through
  the Emergency Relief and Assistance Fund (ERAF).
- Town Officials and First Responders are better prepared!

For more information visit:
https://villageofenosburgfalls.org/hazard-mitigation-plan/

Community Stakeholder Survey for Enosburg Falls Local Hazard Mitigation Plan

Hazard mitigation is an action that reduces the long-term impacts of Natural Hazards (e.g. Ice, Snow, High Winds, Extreme Heat, Extreme Cold, Drought, Landslides, Flash Flooding Erosion, High Water, Wildfire, Invasive Species, Infectious Disease Outbreaks, and Hail.) on that community including people, buildings, environmental systems, and other infrastructure.

Your Name:

Email address (if you would like to be contacted for follow-up):

Town/Village of Residence:

Have you ever experienced a natural disaster? If so, what type and where? [Short answer]

The Highest ranked natural hazards in the area (not in order):

- Flooding and Fluvial Erosion (streambank erosion)
- Severe Winter Storm (Ice Storms)
- Severe Thunderstorms (High Winds, Lightning Strike, Hail)
- Wildland Fire
- Structure Fire

How concerned are you about the following hazard events?:
(1=Most concerned 5=Least concerned)

- Dam failure
- Drought
- Extreme Heat
- Earthquake
- Flooding
- Major hail storm
- Landslide/rockslide
- Severe thunderstorm
- Winter storm
- Ice storm
- Hail
- Extreme Cold
- Wind storm including tornadoes, hurricanes, tropical storm
- Wildfire/forest fire
- Invasive Species
- Infectious Disease

Where do you turn for information during an emergency?

(Newspaper, TV channel, radio station, social media, VT-Alert):

Which types of mitigation projects do you believe local, state and federal government agencies should focus on to reduce disruptions of services and to strengthen the community?
(Check ALL that apply)

- Retrofit and strengthen essential facilities such as the fire station, emergency medical services, schools, etc.
- Replace inadequate or vulnerable bridges and culverts
- Retrofit infrastructure by, for example, elevating roadways and improving drainage systems
- Work on improving the damage resistance of utilities (electricity, communications, water/wastewater facilities, etc.)
- Install or improve protective structures, such as floodwalls, levees or overflow facilities
- Buyout flood prone properties and maintain as open space
- Strengthen codes, ordinances and plans to require higher hazard risk management standards
- Provide better information about hazard risks and high-hazard areas
- Inform property owners of ways they can mitigate damage to their property(s)
- Improve local emergency shelter facilities
- Other:

What actions have you taken to reduce the risk to your residence of potential disasters?
(Check all that apply)

- Developed a family plan
- Have a 3-day supply kit
- Certified in First Aid and/or CPR
- Installed smoke detectors
- Installed carbon monoxide detectors
- Installed a generator and know the utility shutoff procedure
- Purchased fire extinguishers
- Installed Floodproofing
- Purchased flood insurance
- Purchase homeowners/renter's insurance
- Other:

How would you rate the importance of the following actions to protect yourself and your community:
(1= Most important 5= Least important)

- Protecting private property
- Protecting utilities (phone/internet/power/water/wastewater)
- Protecting transportation infrastructure (roads/bridges)
- Preventing development in hazard areas
- Protecting natural environment
- Protecting historical/cultural landmarks
- Promoting cooperation among public agencies, citizens, non-profit organizations and businesses
- Protecting and reducing damage to utility infrastructure (power/water/wastewater)
- Strengthening emergency services (police, fire, ambulance)

Thank You for your Input! If you have questions or would like additional information, please contact **Village Manager John Dasaro, at jdasaro@enosburg.net**