Proctor, Vermont
Local Hazard Mitigation Plan

Gorham Bridge Road Flooding – Tropical Storm Irene 2011

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All photos in this plan courtesy of Dale Christie

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RUTLAND REGIONAL PLANNING COMMISSION

Other Key Partners
Rutland Natural Resources Conservation District
Western Vermont Floodplain Manager
Vermont Department of Health
Vermont Agency of Transportation District 3 Program Manager

VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION
WATERSHED MANAGEMENT DIVISION
RIVERS PROGRAM

VERMONT
DEPARTMENT OF HEALTH

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AGENCY OF TRANSPORTATION

Table of Contents

1 INTRODUCTION

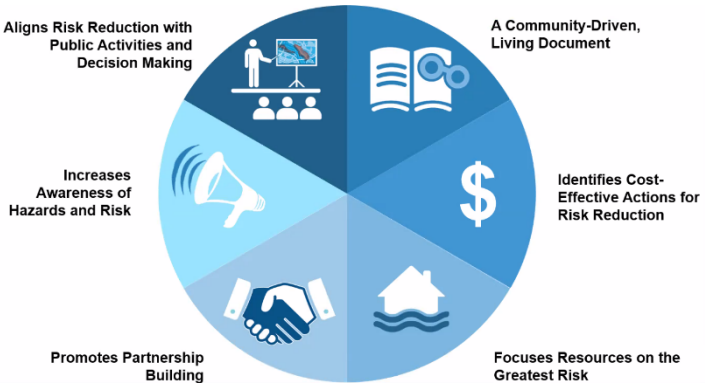
The impact of expected, but unpredictable natural events can be reduced through community planning and action. The goal of this Plan is to provide a natural hazards local mitigation strategy that makes Proctor (the Town) more disaster resistant and more resilient after a disaster.

Hazard Mitigation is any sustained policy or action that reduces or eliminates long-term risk to people and property from natural hazards and their effects. FEMA and state agencies have come to recognize that it is less expensive to prevent disasters than to repeatedly repair damage after a disaster has struck. This Plan recognizes that communities have opportunities to identify mitigation strategies and measures during all the other phases of Emergency Management – Preparedness, Response and Recovery. Hazards cannot be eliminated, but it is possible to determine what the hazards are, where the hazards are most severe, and identify local actions and policies that can be implemented to reduce the severity of the hazard.

2 PURPOSE

The purpose of this Plan is to assist the Town in identifying all natural hazards facing the community, ranking them according to local vulnerabilities, and developing strategies to reduce risks from those hazards. Once adopted, this Plan is not legally binding; instead, it outlines goals and actions to prevent future loss of life and property.

The benefits of mitigation planning include:



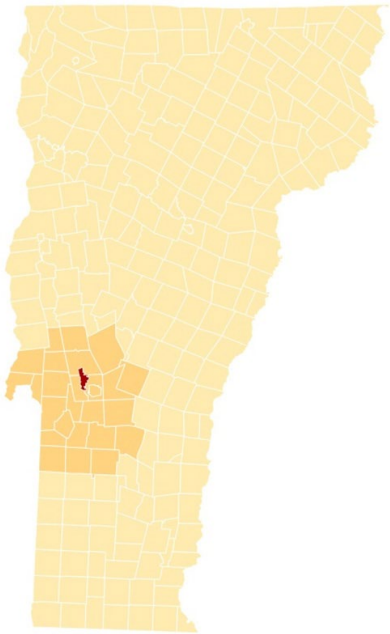
Source: FEMA LHMP Skill Share Workshop 2021

Furthermore, the Town seeks to be in accordance with the strategies, goals, and objectives of the 2018 State Hazard Mitigation Plan.

3 COMMUNITY PROFILE

Land Use and Development Patterns

Proctor was created in 1886 by the Vermont legislature for Redfield Proctor and the Vermont Marble Company. The development of town centered around the marble industry as it expanded. Proctor grew rapidly, as the Marble Company provided housing, utilities, and services for its workers.



Proctor contains a distinct historic downtown or "village" area that straddles the Otter Creek. The town center includes churches, cemeteries, several municipal buildings including the Town Office, Library, Fire Department Post Office as well as the Elementary and Junior/Senior High Schools, Town Green, and Vermont Marble Museum.

The town's settlement pattern is characterized by residential streets lined with mostly historic homes radiating in each direction from the town center. The undulating topography and Otter Creek, however, create natural barriers and form dense distinct neighborhoods. The entire town center, comprising most of the development in Proctor, occupies just over one square mile of land.

Outside the town center, Proctor lands are predominately in agricultural and forest use.

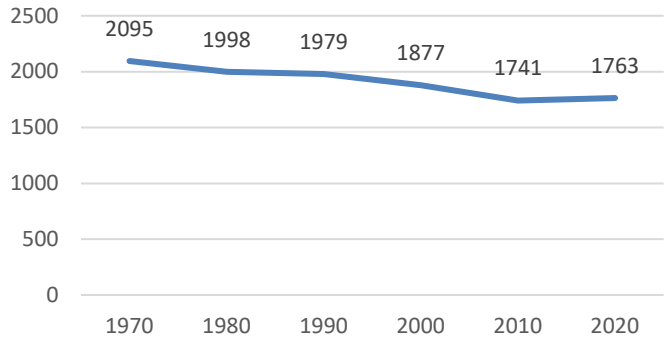
Today, Proctor retains much of the character of a "company town". The Marble Company grouping of early 20th century office and mill buildings remain largely intact and have great historical value.

Land Features

Proctor is located on a narrow portion of the Otter Creek Valley. Its northwestern boundary is formed by a ridge, which rises from the valley elevation of 500 feet to a series of prominences at 1,200 feet. In the southern third of the town, this western ridge becomes less steep and is suitable for agriculture and rural-residential development. Proctor's eastern side is a mix of rolling hills with intermittent steep slopes spotted with small plateaus and valley areas. The eastern boundary with Rutland Town rises to Pine Hill – Proctor's highest elevation at 1,456 feet.

Demographics and Growth Potential

The 2020 American Community Survey Five-Year Estimates prepared by the U.S. Census Bureau shows an estimated population of 1,763 and 809 housing units. Between 2010 and 2020, the population has remained relatively stable.



During this timeframe, the median age of Proctor residents slightly increased from 42.4 to 44.1; close to the Vermont median age of 42.8. The portion of the population over 65 is 18%, compared to 19% in Vermont and 16% in the country. The population density of the Town is 230 people per square mile compared to an overall state density of 68.

Growth potential in Proctor is mixed – areas designated residential and commercial are mostly developed and concentrated in the Village Center, outside the borders of floodplains and agricultural lands. Rehabilitation and adaptive re-use of existing buildings within and around the historic downtown offer the greatest opportunities for growth.

Precipitation and Water Features

Average precipitation is 41 inches of rain; with July being the wettest month. Average snowfall is 73 inches; with January being the snowiest month.

The most prominent water feature in Proctor is Otter Creek. The Creek flows north, enters Proctor at its southern boundary and meanders for approximately four miles through the town center and into Pittsford at its northern boundary.

FEMA designated floodplains have been mapped for the Otter Creek. The "Great Falls" on Otter Creek is the site of a hydro-power generation facility operated by Green Mountain Power.

Proctor has approximately 400 acres of Class II wetlands. These play an important function in water absorption and holding capacity that thereby reduces the hazards of flooding and replenishes the groundwater supplies.

Several smaller water bodies are also located in Proctor: Beaver Pond, Olympus Pool, Reynolds Reservoir, and several oxbows and ponds left by Otter Creek.

Drinking Water and Sanitary Sewer

Over 90% of Proctor residents are served by municipal drinking water and sanitary sewer. This is fairy unique in the Rutland Region, where most of the rural towns rely on private wells and on-site septic systems for residential needs.

Proctor's public community water system relies on two drilled wells on Field Street. The system includes two water storage tanks (one on each side of Otter Creek); two booster pump stations (Cain Street and Taylor Hill); and approximately 24 miles of piping.

A lagoon system, with a 500,000 gallon per day capacity, treats sanitary sewerage collected throughout town via six pump stations (Library station at 1 South Street; Park station at 48 Main Street; Willow Street station at 18 Willow Street; Columbian Ave station at 7 Columbian Avenue; Styles Meadow station at 59 Pine Street; and Field Street station at 16-20 Field Street).

Transportation

Proctor is about 7.5 square miles in size with primary access via VT Route 3 – a state highway and major arterial route connecting US Route 7 in Pittsford to Business Route 4 in Rutland Town.

The 2020 VTrans Town Highway data indicates that Proctor has a total of 22.5 road miles: 1.48 miles of Class 1; 7.1 miles of Class 2; 11.88 miles of Class 3; 0.33 miles of Class 4; and 1.8 miles of State highway.

Several roads have been identified as locally important for use as through-ways, detours, short-cuts, and access to critical facilities: Town garage, office, schools, library, fire station, and public utilities. These are shown in orange in **Figure 1**.

According to the Town's Road Erosion Inventory, nearly 100% of Proctor's road mileage is hydrologically connected - meaning it is within 100-feet of a water resource (i.e., perennial/intermittent stream, wetland, lake, or pond). Proximity to water resources can make these sections of road more vulnerable to flooding and fluvial erosion.

Proctor has a total of four roadway bridges - two are town-owned. Both town-owned bridges are part of the VTrans Town Highway Bridge Program – B2 (the Marble Arch Bridge) and B4 (the Gorham Bridge – a lattice truss bridge).

Proctor has a total of 369 culverts, all of which were inventoried in 2018. A handful of culverts are listed in critical condition and should be scheduled for replacement and/or upgrade in accordance with the Town Road and Bridge Standards. The local road network is maintained by the municipal highway department, whose garage is located on Reynolds Street.

Electric Utility Distribution System

Electric service to approximately 910 accounts is provided by Green Mountain Power via several circuits. Average annual outage statistics between 2016 and 2020 are summarized in **Table 1**.

Table 1: Power Outage Summary

Average Annual (2016-2020)	
Avg # of times a customer was without power in a year	1.38
Avg length of each outage in hours	2.55
# of hours the typical customer was without power	3.52
2020 only	
Avg # of times a customer was without power in a year	2.06
Avg length of each outage in hours	1.32
# of hours the typical customer was without power	2.73

The longest power outage affecting the greatest number of accounts between 2016 and 2020 was 8.98 hours and impacted 138 accounts. There was an outage lasting 79.87 hours in 2017, but it affected only 1 account.

Public Safety

The Proctor Volunteer Fire Department is located on Main Street. The Fire Department is an active member of Rutland County Fire Mutual Aid. Law Enforcement is provided by the Rutland County Sheriff's Department. The nearest hospital is the Rutland Regional Medical Center. Ambulance service is provided by the Regional Ambulance Service.

Emergency Management

Proctor's Town Manager serves as the Emergency Management Director (EMD) with assistance from an appointed Emergency Management Coordinator (EMC). They work with others in town to keep the Local Emergency Plan up-to-date as well as to coordinate with nearby towns and regional emergency planning efforts.

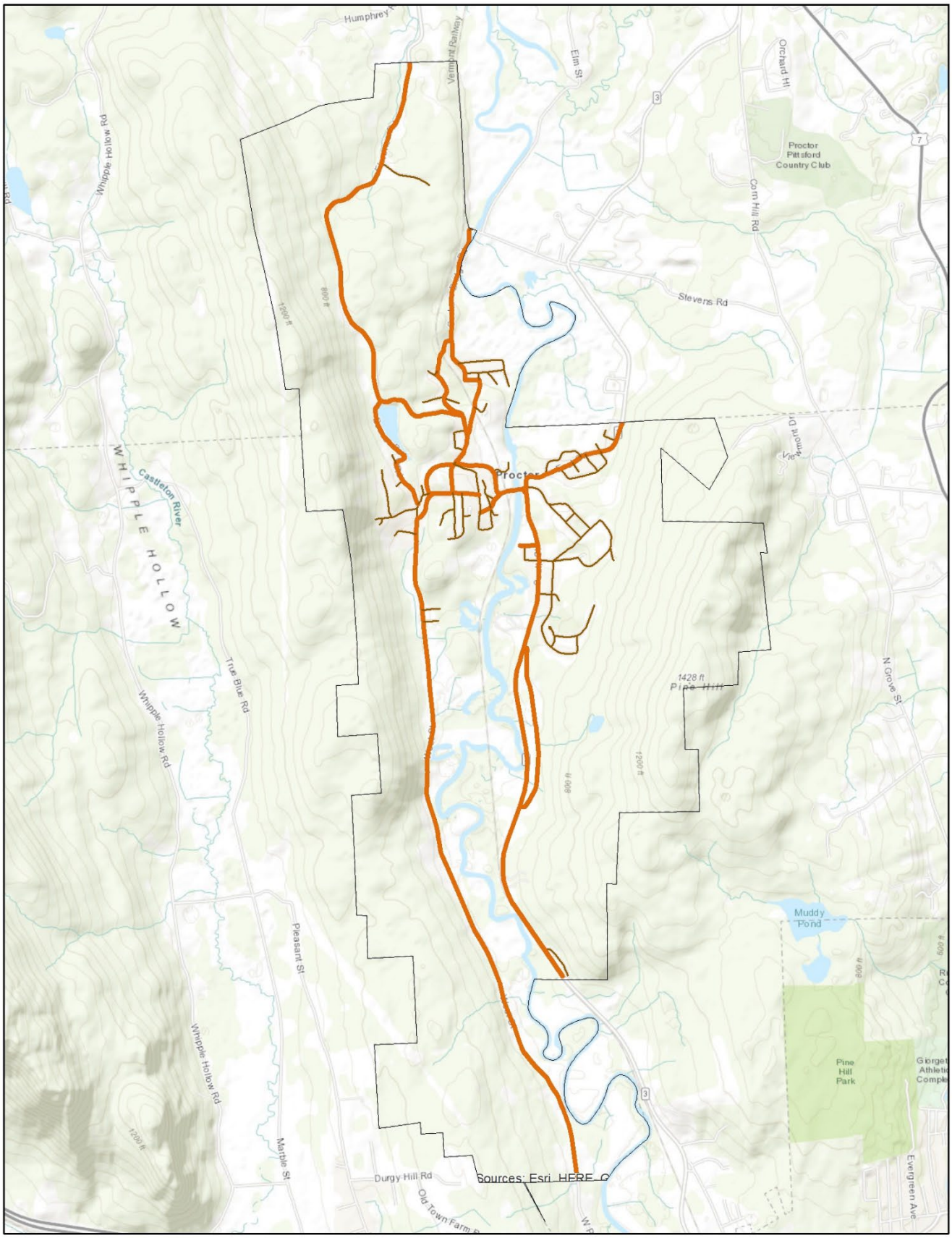


Figure 1: Locally Important Routes for Through-Ways, Detours, Short-Cuts, and Access to Critical Facilities
Shown in orange

4 PLANNING PROCESS

Plan Developers

Steffanie Bourque, an Emergency Management Planner at the Rutland Regional Planning Commission (RRPC), assisted the Town with updating its Local Hazard Mitigation Plan. Pre-Disaster Mitigation Program funds from FEMA supported this process.

The Hazard Mitigation Planning Team members who assisted with the update include the Town Manager/EMD, EMC, Public Works Foreman, Fire Chief, and representatives from the Selectboard, Planning Commission, and Library/Schoolboard.

Plan Development Process

The 2022 Proctor Local Hazard Mitigation Plan is an update to the 2017 single jurisdiction mitigation plan. A summary of the process taken to develop the 2022 update is provided in **Table 2**.

Table 2: Plan Development Process

September 14, 2021: Hazard Mitigation Planning Team kick-off meeting. Planning Team members were confirmed. Discussed what a LHMP is; the benefits of hazard mitigation planning; current plan status; the planning process; outreach strategy; and plan sections. Planning Team meetings were not open to the public.

September 2021: Notice posted on RRPC, Town, Fire Department and Library websites/social media (Facebook, Front Porch Forum) that the Town is engaged in hazard mitigation planning and updating the LHMP. Notice emailed to officials (Selectboard and Planning Commission chairs, Town Managers and Clerks, Emergency Management Directors) in neighboring towns of Pittsford, Rutland Town, and West Rutland and Key Partners (Rutland and Poultney Mettowee Natural Resources Conservation Districts, Western VT Floodplain Manager, Department of Health Regional Emergency Preparedness Specialist, VTrans District 3 Projects Manager). Notice included instructions to contact the RRPC for information on the planning process and opportunities for public input – see **Appendix D**.

October 12, 2021: Planning Team meeting – confirmed the plan purpose and completed work on the community profile. Began work on the community hazard risk assessment, storm history, and identifying assets vulnerable to the highest risk natural hazards.

November 9, 2021: Planning Team meeting - completed work on hazard identification and risk assessment. This is a critical milestone in the plan development process and the draft plan was readied for public meeting on November 22.

November 22, 2021: Draft LHMP presented at joint meeting of the Proctor Selectboard and Planning Commission to encourage public input from local government and the public that could affect the plan's conclusions and better integrate with Town initiatives. This meeting was recorded and aired on PEGTV. Draft shared with Key Partners for input on vulnerable locations and assets. Draft posted for public comment period with instructions to email comments to the Town Manager, Michael Ramsey. Comments were accepted until December 13, 2021 – see **Appendix D**.

December 13, 2021: Draft LHMP discussed at the Proctor Selectboard meeting with an opportunity to share public comments. This meeting was recorded and aired on PEGTV.

December 14, 2021: Planning Team meeting – discussed comments received on November draft; completed work on hazard identification and risk assessment. Began work on hazard mitigation strategy – confirmed mitigation goals, discussed community capabilities, and updating the status of 2017 mitigation actions.

February 1, 2022: Planning Team meeting – continued work on hazard mitigation strategy – completed community capabilities; updated status of 2017 mitigation actions; and evaluated range of possible mitigation actions.

February 15, 2022: Planning Team meeting – completed work on hazard mitigation strategy; plan maintenance; and changes since the 2017 plan. Draft LHMP finalized for presentation to local officials and the public at joint meeting of the Proctor Selectboard and Planning Commission on March 28, 2022.

March 28, 2022: Final draft LHMP presented at joint meeting of the Proctor Selectboard and Planning Commission for review and comment. This meeting was recorded and aired on PEGTV. Plan emailed to neighboring towns and Key Partners. Draft posted for public comment period with instructions to email comments to the Town Manager, Michael Ramsey. Comments were accepted until April 11, 2022 – see **Appendix D**.

April 11, 2022: Draft LHMP discussed at the Proctor Selectboard meeting with an opportunity to share public comments. This meeting was recorded and aired on PEGTV.

April 14, 2022: Final draft LHMP submitted to Vermont Emergency Management for Approval Pending Adoption.

In addition to the local knowledge of Planning Team members and other relevant parties, several existing plans, studies, reports, and technical information were utilized in the preparation of this Plan. A summary of these is provided in **Table 3.**

Table 3: Existing Plans, Studies, Reports & Technical Information

2021 Local Emergency Management Plan

2021 FEMA NFIP Insurance Reports

2020-2016 Green Mountain Power Outage Data

2020 Proctor Town Plan

2019 American Community Survey Five-Year Estimate

2019 Dam Inspection Reports

2018 State of Vermont Hazard Mitigation Plan

2017 Road Erosion Inventory Report

2017 Zoning & Flood Hazard Area Regulations

2012 Stormwater Infrastructure Mapping Project

2009 Upper Otter Creek Phase 2 Stream Geomorphic Assessment

VTrans Town Highway Bridge Inspection Reports

Vermont Statewide Highway Flood Vulnerability and Risk Map

VTrans Transportation Resiliency Planning Tool

RRPC Local Liaison Reports of Storm Damage

National Oceanic and Atmospheric (NOAA) National Climatic Data Center's Storm Events Database

FEMA Disaster Declarations for Vermont

OpenFEMA Dataset: Public Assistance Funded Project Summaries for Vermont

FEMA Flood Insurance Rate Maps

Changes Since the 2017 Plan

The Proctor Municipal Plan, adopted in 2020, is a framework and guide for reaching community land use goals. It is based on specific objectives concerning the way the town desires to accommodate future growth and attempts to balance a wide range of competing interests and demands.

The objective of the Proctor Zoning Regulations is to establish standards and policies concerning development of land that further the goals of the Town Plan. Together, the Town Plan and Zoning Regulations, promote the general health, welfare, and quality of life of residents; maintain the desirable features of the town; protect and enhance the value of property; prevent overcrowding of land and secure adequate provisions concerning safety, transportation, and other services such as water, sewage, schools, parks, and other public requirements.

As described in the Community Profile section of this Plan, the Town's population has remained relatively stable over the past decade. Since 2017, the community has not experienced any significant change in development. Areas designated as residential and commercial are mostly developed and concentrated in the Village Center, which is surrounded by vast Otter Creek floodplains and agricultural lands.

According to Zoning Permit records, a total of 85 permits were issued between January 2017 and December 2021. Approximately 90% were for residential applications where sheds, garages, porches, and decks were among the most requested construction activities. Three (3) permits were issued for new residential construction and five (5) permits for residential additions.

In addition to residential applications, five (5) permits were issued to new and existing businesses for boundary line adjustment, re-construction/additions to existing structures, and change of use.

The Town was approved for three (3) applications that included two (2) municipal sheds and interior remodeling of the Town Office.

None of these approvals were for construction activities within the Flood Hazard or River Corridor Overlay Districts.

Development in Proctor since 2017 has not made the community more vulnerable to natural hazards.

Like the 2017 Plan, the 2022 update focused exclusively on natural hazards defined as atmospheric, hydrologic, geologic, and wildfire phenomena. Hazards not necessarily related to the physical environment, such as infectious disease, were excluded from consideration by the Planning Team.

The Town's mitigation priorities remained essentially the same, with one exception. In 2017, Proctor's highest risk natural hazards were Floods and Fluvial Erosion, Thunder and Wind Storms, and Winter Storms.

The Town again ranked severe thunderstorms (with associated inundation flooding and to a lesser degree flash flooding and fluvial erosion) and winter storms (with associated extreme cold, snow, ice, and high winds) as some of the community's highest risk natural hazards. New in 2022, they ranked wildfire as an additional highest risk natural hazard.

In 2022, the Town did not formally assess the risks associated with invasive species; however, they did discuss the potential hazards and risks associated with the Emerald Ash Borer (EAB) given the confirmed detection in Rutland County in October 2020. Invasive species were not included in the 2017 Plan.

Proctor has made progress completing the mitigation actions identified in the 2017 Plan – see **Appendix C**.

Of all their accomplishments, the Town is most proud of the adoption of Zoning Regulations in 2017 that include a River Corridor Overlay District that includes all lands in Proctor identified as areas of riparian erosion hazard on the State of Vermont Agency of Natural Resources maps.

The River Corridor Overlay District is intended to protect the health, safety, and welfare of residents and the community in these riverine erosion prone areas.

Inclusion of river corridor protections (in addition to special flood hazard area protections) in the zoning regulations also makes Proctor eligible for the maximum State match under Vermont's Emergency Relief Assistance Fund – 17%. Proctor is one of only six municipalities in the Rutland region to achieve this designation.

Actions taken by Proctor since 2017 have made the community more prepared and less vulnerable to future natural hazard impacts.

Nonetheless, due to an increase in the frequency and intensity of weather events, the Town remains vulnerable to flooding and fluvial erosion, severe winter storms, wildfire, and invasive species (particularly the Emerald Ash Borer).

As a result, the Town has identified a range of mitigation actions to address extreme cold/snow/ice, flooding, wildfire, and the Emerald Ash Borer – see **Table 6**.

5 HAZARD IDENTIFICATION AND RISK ASSESSMENT

Local Vulnerabilities and Risk Assessment

One of the most significant changes from the 2017 Plan is the way hazards are assessed. To be consistent with the approach to hazard assessment in the 2018 State Hazard Mitigation Plan, the Hazard Mitigation Planning Team conducted an initial analysis of known natural hazard events[1] to determine their probability of occurring in the future.

The Planning Team then ranked the hazard impacts associated with the known natural hazard events based on the probability of occurrence and potential impact to life, the economy, infrastructure, and the environment. The ranking results are presented in **Table 4**.

After engaging in discussions, the Town identified the following "highest risk hazards" that they believe their community is most vulnerable to:

- ***Inundation flooding and to a lesser degree flash flooding and fluvial erosion associated with thunder/tropical storms***
- ***Extreme cold, snow, ice, and high winds associated with winter storms***
- ***Wildfire***

Each of these "highest risk hazards" (**orange** in **Table 4**) are further discussed in this section and depicted in the Local Natural Hazards and Vulnerabilities Map in **Appendix B**.

The "lower risk hazards" that are considered to have a low probability of occurrence and low potential impact are not discussed. For information on these hazards, consult the State Hazard Mitigation Plan.

Table 4: Community Hazard Risk Assessment

Hazard Event	Hazard Impacts	Probability	Potential Impact					Score
			Life	Economy	Infrastructure	Environment	Average	
Thunderstorm Ice Jam **Tropical Storm/Hurricane** Tornado **Landslide**	**Flash Flooding/ Fluvial Erosion**	**2**	**2**	**3**	**3**	**4**	**3.00**	**6.00**
	Inundation Flooding	**4**	**3**	**3**	**2**	**4**	**3.00**	**12.00**
	Wind/Hail	2	1	3	2	2	2.00	4.00
	Landslide	2	2	1	2	2	1.75	3.50
Winter Storm	**Cold/Snow /Ice/Wind**	**4**	**3**	**2**	**2**	**2**	**2.25**	**9.00**
Drought	Heat	3	3	1	1	1	1.50	4.50
	Drought	2	1	1	2	2	1.50	3.00
Wildfire	**Wildfire**	**3**	**3**	**2**	**2**	**3**	**2.50**	**7.50**
Earthquake	Earthquake	2	1	1	1	1	1.00	2.00

*Score = Probability x Average Potential Impact

	Frequency of Occurrence: Probability of a plausibly significant event	**Potential Impact:** Severity and extent of damage and disruption to population, property, environment, and the economy
1	**Unlikely:** <1% probability of occurrence per year	**Negligible:** isolated occurrences of minor property and environmental damage, potential for minor injuries, no to minimal economic disruption
2	**Occasionally:** 1–10% probability of occurrence per year, or at least one chance in next 100 years	**Minor:** isolated occurrences of moderate to severe property and environmental damage, potential for injuries, minor economic disruption
3	**Likely:** >10% but <75% probability per year, at least 1 chance in next 10 years	**Moderate:** severe property and environmental damage on a community scale, injuries or fatalities, short-term economic impact
4	**Highly Likely:** >75% probability in a year	**Major:** severe property and environmental damage on a community or regional scale, - multiple injuries or fatalities, significant economic impact

[1] This Plan defines natural hazards as atmospheric, hydrologic, geologic, and wildfire phenomena. Hazards not necessarily related to the physical environment, such as infectious disease, were excluded from consideration by the Planning Team.

Invasive Species

The Planning Team did not formally assess the risk associated with invasive species; however, they did discuss the potential hazards and risks associated with the Emerald Ash Borer (EAB) specifically.

Vermont's EAB infestation was first detected in 2018 in northern Orange County. In October 2020, a new detection of EAB in West Rutland was confirmed making Proctor a town in the Confirmed Infested Area. This is the first confirmed detection in Rutland County. An inventory of trees within the road right-of-way is needed to determine how many Ash trees are at risk. The potential risk to public and private woodlots and impacts on the local economy have not been quantified.

Highest Risk Hazard Profiles

Inundation/Flash Flooding/Fluvial Erosion

Floods can damage or destroy property; disable utilities; destroy or make impassable roads and bridges; destroy crops and agricultural lands; cause disruption to emergency services; and result in fatalities. People may be stranded in their homes for a time without power, heat, or communication or they may be unable to reach their homes. Long-term collateral dangers include the outbreak of disease, loss of livestock, broken sewer lines or wash out of septic systems causing water supply pollution, downed power lines, loss of fuel storage tanks, fires, and release of hazardous materials.

As noted in the State Hazard Mitigation Plan, "Flooding is the most common recurring hazard event in Vermont" (2018: 55). There are two types of flooding that impact Vermont communities: inundation and flash flooding. Inundation is when water rises onto low lying land. Flash flooding is a sudden, violent flood which often entails fluvial erosion (stream bank erosion).

Inundation flooding of land adjoining the normal course of a stream or river is a natural occurrence. If these floodplain areas are in their natural state, floods likely would not cause significant damage.

While inundation-related flood loss can be a significant component of flood disasters, the more common mode of damage in Vermont is associated with fluvial erosion, often associated with physical adjustment of stream channel dimensions and location during flood events. These dynamic and oftentimes catastrophic adjustments are due to bed and bank erosion of naturally occurring unstable stream banks, debris and ice jams, or structural failure of or flow diversion by human-made structures. An ice jam occurs when the ice layer on top of a river breaks into large chunks which float downstream and cause obstructions (State HMP 2018). Proctor is not vulnerable to ice jams.

Several major flooding events have affected the state in recent years, resulting in multiple Presidential Disaster Declarations. From 2003 to 2010, Rutland County experienced roughly $2.6 million in property damages due to flood events.

The worst flooding event in recent years came in August of 2011 from Tropical Storm Irene (DR4022), which dropped up to 10-11 inches of rain in some areas of Rutland County. Irene caused 2 deaths and $55,000,000 in reported property damages and $2.5 million in crop damages in Rutland County.

Although the storm was technically a tropical storm, the effects of the storms are profiled in this flooding section, since the storm brought only large rainfall and flooding to the Town, not the high winds typically associated with tropical storms. This caused most streams and rivers to flood in addition to widespread and severe fluvial erosion. Proctor experienced $254,456 in local damages during Irene - $49,490 Individual Assistance; $51,659 Public Assistance; and $153,307 National Flood Insurance.

From 2012 to 2020, Rutland County experienced approximately $3.5 million in property damages; with $1.9 million due to a flash flood event in July 2017 (DR4330) and $1 million due to a flash flood event in April 2019 (DR4445).

In Proctor, flooding is a risk. Damages from the April 2019 disaster were significant, resulting in approximately $55,000 in impacts. In Proctor, damage due to flooding usually consists of impacts to roads, culverts, Proctor Youth League recreation fields, and agricultural lands.

Forty-six structures are in the Special Flood Hazard Area (5% of community structures); including residential dwellings, commercial properties, and the municipal wastewater treatment plant.

According to FEMA, 19% of these properties have flood insurance. In total, these 12 policies cover $1,448,400 in value.

There are no repetitive loss properties.

As shown on the Local Natural Hazards and Vulnerabilities Map in **Appendix B**, Proctor is most vulnerable to inundation flooding. Areas of potential impact include Gorham Bridge Road, Elm Street, Willow Street, Meadow Street, Beech Street, West Proctor Road, Columbian Avenue, Reynolds Street, River Street, Patch Street, Field Street, VT Route 3, and the extensive Otter Creek floodplain.

West Proctor Road Flooding – Tropical Storm Irene 2011

Assets vulnerable to inundation flooding in these locations include roads, culverts, Gorham Covered Bridge (CB4), houses, the Proctor Youth League recreation fields, the northwest corner of Riverside Cemetery, and agricultural land.

Recreation Fields Flooding – April 2011

Agricultural Land Flooding – April 2008

Critical facilities vulnerable to inundation flooding in these locations include the Field Street Well, wastewater treatment plant, three sewer pump stations (Willow Street, Library, and Columbian Avenue), the telemetry system for the municipal drinking water system distribution valve vault, and the fuel pumps at the Town Garage on Reynolds Street.

Otter Creek Floodwaters at Library Pump Station – Tropical Storm Irene 2011

Although the Field Street Well and wastewater treatment plant are vulnerable due to their location, neither were flooded during Tropical Storm Irene. Illicit discharges from the sewer pump stations to Otter Creek are also possible during flood events.

Flash flood can occur any time the area has heavy rain. It can impact areas in Town that are located outside of designated floodplains, including along streams confined by narrow valleys. Proctor's potential vulnerability to road washouts from flash flooding is limited to sections of East Street and Williams Street. Impacts can be exacerbated by undersized culverts and inadequate ditching.

Dam failure and resulting flash flooding is a concern in Proctor. In 2019, the Vermont Dam Safety Program performed a visual dam safety inspection of Proctor's three municipal dams – Beaver Pond, Olympus Pool, and Reynolds Reservoir dams. Each dam was considered Poor, meaning significant structural and/or operation and maintenance deficiencies were clearly recognized under normal loading conditions.

As shown on **Figure 1**, Gorham Bridge Road, West Proctor Road, and East Street are locally important for resident commuters and are heavily travelled. Flooding at Gorham Bridge is a seasonal occurrence resulting in road closures up to 8 times a year.

Gorham Bridge Flooding – Tropical Storm Irene 2011

When roads are impacted by flooding, the Public Works Foreman coordinates with the Fire Department and State Dispatch to close the roads and set up detours. The road closures create longer commute times for residents and longer emergency service response times.

The inventory of hydrologically-connected roads completed in 2017 for the Municipal Roads General Permit also identified areas vulnerable to flash flooding and included recommended corrective actions to make these areas more resilient.

Stream Geomorphic Assessments (SGAs) provide information about the physical condition of streams and the factors that influence their stability. Phase 2 SGA on mainstem reaches of the Otter Creek in the towns of Danby, Wallingford, Rutland City, Rutland Town, Proctor, and Pittsford was completed in 2008. This work was conducted to gather more detailed information about the stream channel and inform current and future planning and restoration efforts. Three reaches in Proctor (M19-A, M19-B, and M20) were studied and projects at these locations were recommended to protect the river corridor, restore the riparian buffer, and remove berms.

Assets vulnerable to fluvial erosion on the Otter Creek include the Marble Arch Bridge, Gorham Covered Bridge, and water and sewer mains that cross the Otter Creek by the Marble Arch Bridge.

As weather patterns shift and we see larger storms and more frequent freeze-thaw cycles, the Town will monitor for signs that rivers that have historically been stable becoming less stable, with increased erosion, widening, trees falling in from its banks, etc.

Flooding Hazard History

These are the most up to date significant events impacting Proctor. Federal declarations are depicted in **bold**.

8/24/2020: 2-3" rain: no reported local damage
4/15/2019: DR4445 1-2" rain with significant snow melt: $55,000 local damage; $1,000,000 regional damage
7/1/2017: DR4330 3-4" rain the previous 3-4 days with flash flooding on 7/1/17: no reported local damage; $700,000 regional damage
6/25-7/11/2013: DR4140 heavy rain over multiple days: local damages unknown; $420,000 regional damage
8/28/2011: DR4022 Tropical Storm Irene with ±5" rain: $254,456 local damage ($49,490 Individual / $51,659 Public / $153,307 NFIP)
8/12/2004: heavy rain: $10,000 regional damage
12/16/2000: DR1358 2-4" rain: $8,300 local damage

Extreme Cold/Snow/Ice

In the Rutland Region, most winter weather events occur between the months of December and March. Throughout the season, winter weather events can include snowstorms, mixed precipitation events of sleet and freezing rain, blizzards, glaze, extreme cold, the occasional ice storm, or a combination of any of the above. Events can also be associated with high winds or flooding, increasing the potential hazard.

The costs of these storms come in the form of power outages due to heavy snow or ice accumulations, damaged trees, school closings and traffic accidents.

Significant Snowfall – February 2015

From 2001 to 2010, Rutland County experienced $2.7 million in property and crop damages from winter storms. 2011 to 2020 experienced $1.58 million in property damage, with $300,000 due to a 10" - 20" heavy, wet snowfall across the county on December 9, 2014.

There have been four winter storm-related federally declared Disasters in the county (the ice storm of January 1998 – DR 1201; severe winter storms in December 2000 and 2014 – DR 1358 and DR 4207, respectively; and severe storm and flooding in April 2007 – DR 1698).

Typically, towns' vulnerability to snow and ice storms are power outages and loss of road accessibility. The Town is well prepared for a power outage during a severe winter storm unless the outage coincided with a sheltering event.

To mitigate the impacts of power outages, the following public buildings/critical facilities have back-up power or generator hook-up: Fire Station, municipal well and both booster pump stations; and all sewer pump stations.

The Fire Station serves as the local Emergency Operations Center (EOC). During a disaster, the municipal response is managed from the EOC, this would include all communications – from phone calls to internet browsing and 2-way radio. Connectivity is crucial in times of crisis. Telecommunications are needed for warning systems before disaster, as well as for response during and recover after.

Cell service in Proctor is spotty. In the event of an emergency during a power outage, the ability to contact the fire department, police, or ambulance service is compromised. This a concern in Proctor.

The Proctor Jr/Sr High School and Elementary School serve as the primary and alternate local shelters, respectively. Neither of these facilities have back-up power. In addition, during a power outage the gas pumps at the town garage are rendered inoperable.

In general, snow accumulation has not made the Town vulnerable to loss of road accessibility. The Town's fleet of snowplows ensures that all roads are accessible, even in major snow accumulation events. Roads adjacent to critical facilities are well maintained. West Proctor Road is prone to significant drifting and is maintained accordingly.

Drifting on VT Route 3 – February 2007

Extreme Cold/Snow/Ice Hazard History

These are the most up to date significant events impacting Proctor. Federal declarations are depicted in **bold**.

11/27/2021: glaze ice with 5-6" heavy wet snow coinciding with 12-hr power outage affecting 91% of Proctor customers; $8,000 local damage
2/7/2020: 8-12" snow; ¼" ice: $15,000 regional damage
11/26/2018: 4-8" heavy snow: $25,000 regional damage
3/14/2017: 12-22" snow: $25,000 regional damage
2/1-2/2015: Record cold month with 15 to 20+ days below zero and 10" snow: $10,000 regional damage
1/7/2015: 0 to 10 degrees with winds of 15-30 mph creating wind chills colder than -20 to -30 below zero: local damages unknown
12/9/2014: DR4207 10-20" snow: $200,000 regional damage
3/12-13/2014: 22" snow and 35-40 mph wind gusts: $20,000 regional damage
12/26/2012: Snowfall rate of 1-2" per hour with accumulations of 8-18": $10,000 regional damage
2/23/2010: 6-30" snow: $200,000 regional damage
12/11/2008: 5-9" snow/glaze ice: $50,000 regional damage
4/15-16/2007: DR1698 "Nor'icane" with 3" snow and rain with 60 to 80 mph winds: $1,000,000 regional damage
2/14/2007: 20" heavy snow: $75,000 regional damage
3/5/2001: EM3167 2-18" snow: $5,000 local damage

Wildfire

A wildfire is any outdoor fire that is not controlled, supervised, or prescribed. Wildfire probability depends on local weather conditions (lightning, drought, extreme heat); outdoor activities (camping, debris burning, construction); and the degree of public cooperation with fire prevention measures. The 2017 Vermont Wildland Fire Program Annual Report notes that most fires in Vermont are caused by burning debris.

Notable wildfires in the Proctor area include:

- 2017: 4-5 acres burned on Fire Hill
- 2016: 2-3 acres burned on Clark Hill
- 2006: Over the course of several months on four separate occasions, up to 8 acres burned on Gorham Bridge Road along the railroad tracks
- 2003: Over the course of 4 days 25 acres burned on Fire Hill

Human interaction was the cause for the Fire Hill and Clark Hill fires.

Wildfires can result in widespread damage to property and loss of life. Once a wildfire threatens a community, it is often too late to protect nearby structures, and people must be evacuated, as was the case in 2006 where 6 homes were evacuated.

According to the 2018 Vermont Hazard Mitigation Plan, Vermont has a reliable system of fire suppression infrastructure coordinated at the State-level. Furthermore, Vermont's climate, vegetation type, and landscape tend to discourage major wildfire resulting in a wildfire threat in Vermont that is relatively low based on historical occurrences.

Although wildfires are uncommon, the Town believes there is a risk based on past occurrence and an increase in outdoor recreation in the large tracts of forested areas surrounding Proctor.

Any occurrence of a larger wildfire in Proctor would likely be the result of local weather conditions (e.g., long period of drought followed by a large scale wind event increasing the fuel loading), but the average return interval of catastrophic large fires range upwards to 600 years.

The vulnerability to wildfire is considered to be higher in the wildland-urban interface – the area where infrastructure interacts with undeveloped land, creating the potential for fire to move from a forested environment to residential development.

Vulnerability Summary

Inundation/Flash Flooding/Fluvial Erosion

Location[1]: *Inundation Flooding* – Gorham Bridge Rd, Elm St, Willow St, Meadow St, Beech St, West Proctor Rd, Columbian Ave, Reynolds St, River St, Patch St, Field St, VT Route 3, extensive Otter Creek floodplain
Fluvial Erosion – Otter Creek at Marble Arch Bridge
Flash Flooding – East St, Williams St, areas downstream of Beaver Pond, Olympus Pool, and Reynolds Reservoir dams

Vulnerable Assets[1]: Roads, culverts, Marble Arch Bridge, Gorham Covered Bridge, houses, recreational fields, Riverside Cemetery, agricultural lands, wastewater treatment facility, Field Street Well, sewer pump stations, telemetry system for water system distribution valve, fuel pumps at Town Garage

Extent: ±5" rain; extent data for fluvial erosion is unavailable

Impact: $55,000 local / $1,000,000 regional damage

Probability: Inundation flooding: >75% chance in a year
Flash flooding/Fluvial erosion: 1-10% chance per year

Extreme Cold/Snow/Ice

Location[1]: Town-wide; Drifting on West Proctor Rd

Vulnerable Assets[1]: Roads, culverts, bridges, trees, power lines, telecommunication systems

Extent: Up to 30" of snow; ¼" ice; 80 mph winds; 15 to 20+ days below zero

Impact: $5,000 local / $1,000,000 regional damage

Probability: >75% chance in a year

Wildfire

Location[1]: Town-wide; Clark Hill, Fire Hill, Gorham Bridge Rd along railroad tracks

Vulnerable Assets[1]: Houses

Extent: Up to 25 acres

Impact: Financial impacts are unavailable

Probability: >10% but <75% probability per year

[1] See **Appendix B:** Local Natural Hazards and Vulnerabilities Map

The Hazard Identification and Risk Assessment is the foundation for the mitigation strategy to reduce future losses.

6 HAZARD MITIGATION STRATEGY

The highest risk natural hazards and vulnerabilities identified in the previous section of this Plan directly inform the hazard mitigation strategy outlined below, which the community will strive to accomplish over the coming years. The mitigation strategy chosen by the Town includes the most appropriate activities to lessen vulnerabilities from potential hazards.

Mitigation Goals

The Hazard Mitigation Planning Team discussed mitigation goals and identified the following as the community's main mitigation goals:

- Reduce or avoid long-term vulnerabilities to identified hazards.
- Reduce the loss of life and injury resulting from these hazards.
- Mitigate financial losses incurred by municipal, residential, industrial, agricultural, and commercial establishments due to disasters.
- Reduce the damage to public infrastructure resulting from these hazards.
- Encourage hazard mitigation planning as a part of the municipal planning process.
- Encourage continued implementation of existing mitigation regulatory capabilities, such as Flood Hazard Area and River Corridor land use bylaws.
- Recognize the connections between land use, stormwater management, road design, maintenance, and the effects from disasters.
- Ensure that mitigation measures are sympathetic to the natural features of community rivers, streams, and other surface waters; historic resources; character of neighborhoods; existing land use and the capacity of the community to implement them.

Community Capabilities

Each community has a unique set of capabilities, including authorities, programs, staff, funding, and other resources available to accomplish mitigation and reduce long-term vulnerability. Proctor's mitigation capabilities that reduce hazard impacts or that could be used to implement hazard mitigation activities are listed below.

Administrative and Technical

In addition to the Emergency Management staff described in Section 3, municipal staff that can be used for mitigation planning and to implement specific mitigation actions include: Town Manager (also serves as EMD), Town Clerk/Treasurer, Assistant Town Clerk, Zoning Administrator, Public Works Foreman, and four (4) public works staff.

In addition to paid staff, there is a 5-member Selectboard, 5-member Planning Commission, Fire Chief, Town Health Officer, Tree Warden, and Fire Warden.

To augment local resources, the Town has formal mutual aid agreements for emergency response – fire and public works. Technical support is available through the RRPC in the areas of land use planning, emergency management, transportation, GIS mapping, and grant writing. Technical support is also available through the State ANR for floodplain administration and VTrans Districts for hydraulic analyses.

Strengths: knowledgeable staff (both paid and volunteer) ● retention of individuals who have managed and helped with emergency management situations ● coordination between departments is effective ● strong working relationships with neighboring communities to augment local resources ● record keeping systems

Areas for Improvement: recruiting more volunteers ● training opportunities for new staff ● preparing grant applications for public infrastructure improvements

Planning and Regulatory

Planning and regulatory capabilities are the plans, policies, codes, and ordinances that prevent and reduce the impacts of hazards. Examples of planning capabilities that can either enable or inhibit mitigation include land use plans, capital improvement programs, transportation plans, stormwater management plans, disaster recovery and reconstruction plans, and emergency preparedness and response plans. Examples of regulatory capabilities include the enforcement of zoning ordinances, subdivision regulations, and building codes that regulate how and where land is developed, and structures are built.

Municipal Plan: Adopted June 2020
Description: A framework and guide for reaching community land use goals.
Relationship to Natural Hazard Mitigation Planning: Includes specific goals and policies related to mitigating natural hazards.

Zoning Regulations with Special Flood Hazard Area and River Corridor District Requirements: Adopted March 2017
Description: Provides for orderly community growth promoting the health, safety, and general welfare of the community.
Relationship to Natural Hazard Mitigation Planning: Establish site plan review requirements and zoning districts, including Flood Hazard and River Corridor Overlay Districts, with specific standards for proposed development. Requirements are designed to prevent overdevelopment; to mitigate the negative impacts to the natural and human environment; minimize effects to the historical and aesthetic character of the community; and ensure 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 loss or damage to life and property.

Road and Bridge Standards: Adopted July 2019
Description: Provide minimum codes and standards for construction, repair, maintenance of town roads and bridges.
Relationship to Natural Hazard Mitigation Planning: Standards include management practices and are designed to ensure safety of the traveling public, minimize damage to road infrastructure during flood events, and enhance water quality protections.

Road Erosion Inventory Report: December 2018
Description: Prioritizes those infrastructure projects necessary to improve transportation network resiliency and water quality.
Relationship to Natural Hazard Mitigation Planning: Improvements are designed to minimize or eliminate flood impacts on hydrologically-connected road segments.

Local Emergency Management Plan: Adopted May 2021
Description: Establishes lines of responsibility and procedures to be implemented during a disaster and identifies high risk populations, hazard sites, and available resources.
Relationship to Natural Hazard Mitigation Planning: Includes actions for tracking events and response actions including damage reports to facilitate funding requests during recovery. This type of information can be essential to preparing hazard mitigation project applications for FEMA funding.

Fire Department ISO Rating: Issued in March 2017
Description: The Proctor Fire Department's ISO rating is 4/4. This rating is a score from 1 to 10 that indicates how well-protected the community is by the local fire department.
Relationship to Natural Hazard Mitigation Planning: Everyone wants to keep family, home, and business safe from fires. The ISO rating is a measure of the effectiveness of a community's fire services.

Water Ordinance: Adopted July 2006, amended June 2018
Description: Establish minimum standards for design, construction, installation, control, operation of public drinking water system.
Relationship to Natural Hazard Mitigation Planning: Adopted standards that reduce risk, make the system more resilient, and conserve water.

Source Protection Plan: April 2017, update in process
Description: Defines the area of land that likely recharges a public drinking water source and addresses actions a public water system will perform to minimize the contaminant risks to the source(s).
Relationship to Natural Hazard Mitigation Planning: Source water protection can complement a broad sweep of community objectives, including protection of water quality, open space, natural systems, and disaster resilience.

Sewer Ordinance: Adopted Sept 2006, amended June 2018
Description: Establish minimum standards for design, construction, installation, control, operation of public sewage and sewage disposal systems.
Relationship to Natural Hazard Mitigation Planning: Adopted standards that reduce risk and make the system more resilient.

Stormwater Master Plan: Development in process - 2024
Description: Identify current stormwater inputs and develop prioritized projects to mitigate stormwater water quality problems.
Relationship to Natural Hazard Mitigation Planning: Many projects accomplish multiple goals-water quality and mitigation.

Strengths: land use ordinances are effective at reducing hazard impacts, they include river corridor protections and are adequately administered and enforced • elements of hazard mitigation are included in other local plans • plans, policies, and ordinances are reviewed on a periodic basis and updated as needed • public works maintenance programs to reduce risk are generally robust • equipment replacement schedules

Areas for Improvement: continuity of operations plan • redundant communications plan • municipal dam maintenance plan • town bridge maintenance plan • capital planning

Financial

Financial capabilities are the resources that a community has access to or is eligible to use to fund mitigation actions.

Proctor's current annual town budget is approximately $1,476,140, with $482,636 to fund the Highway Department. In addition to property tax revenues, the Town collects fees for water and sewer services. The Town has incurred debt through general obligation bonds to fund mitigation actions, including improvements to floodproof critical wastewater facilities and equip them with back-up power (either standby or hook-up).

Strengths: dedicated reserve funds for highway, water, and sewer departments that can be used to fund mitigation actions

Areas for Improvement: maximize grant opportunities

Education and Outreach

Proctor has several education and outreach opportunities that could be used to implement mitigation activities and communicate hazard-related information:

- Town website
- Library, Fire Department, Proctor Parents, I Live in Proctor, VT Facebook pages
- Front Porch Forum
- Proctor Seniors
- Our Yard
- Proctor Community Concerns
- High Ledge Snowmobile Club
- Proctor Youth League

Strengths: several active community groups ● strong online presence

Areas for Improvement: better coordination is needed to help implement future mitigation actions

National Flood Insurance Program Compliance

The Town joined the National Flood Insurance Program (NFIP) in 1978. The effective date of the current Flood Insurance Rate Map (FIRM) is August 28, 2008. The Zoning Administrator enforces NFIP compliance through permit review requirements in its Flood Hazard Area regulations. Proctor's regulations outline detailed minimum standards for development in flood hazard areas defined as FEMA Special Flood Hazard Areas and Floodway Areas.

The Town discussed the following as possible actions to continue NFIP compliance:

1) Prepare, distribute, or make available NFIP insurance explanatory pamphlets or booklets.
2) Participate in NFIP training offered by the State and/or FEMA.
3) Establish mutual aid agreements with neighboring communities to address administering the NFIP following a major storm.

State Incentives for Flood Mitigation

Vermont's Emergency Relief Assistance Funding (ERAF) provides state funding to match FEMA Public Assistance after federally-declared disasters. Eligible public costs are generally reimbursed by FEMA at 75% with the State matching 7.5%. The State will increase its match to 12.5% or 17.5% of the total cost if communities take steps to reduce flood risk as described below.

12.5% funding for eligible communities that have adopted four (4) mitigation measures:

1) NFIP participation
2) Town Road and Bridge Standards
3) Local Emergency Plan
4) Local Hazard Mitigation Plan

17.5% funding for eligible communities that also participate in FEMA's Community Rating System OR adopt Fluvial Erosion Hazard or other river corridor protection bylaw that meets or exceeds the Vermont ANR model regulations.

Proctor's current ERAF rate is 17.5% because they adopted all four mitigation measures and have river corridor protections in their zoning bylaws.

Mitigation Action Identification

The Hazard Mitigation Planning Team discussed the mitigation strategy, reviewed projects from the 2017 Plan, and identified possible new actions from the following categories for each of the highest risk natural hazards identified in Section 5.

1) **Local Plans 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 applies to public or private structures as well as critical facilities. These projects may be eligible for funding through FEMA's Hazard Mitigation Assistance Program.
3) **Natural Systems Protection:** These actions minimize damage and losses and preserve or restore the functions of natural systems.
4) **Education and Awareness Programs:** These actions inform and educate the public about hazards and potential ways to mitigate them. Although this type of mitigation reduces risk less directly than structural projects or regulation, it is an important foundation. Greater understanding and awareness are more likely to lead to community support for direct actions.

Local Plans and Regulations

Integrate Mitigation into Capital Improvement Programs: Hazard mitigation can be included in capital improvement programs by incorporating risk assessment and hazard mitigation principles into the capital planning efforts.

Improve Stormwater Management Planning: Rain and snowmelt can cause flooding and erosion in developed areas. A community-wide stormwater management plan can address stormwater runoff.

Reduce Impacts to Roadways: The leading cause of death and injury during winter storms is from automobile or other transportation accidents, so it is important to plan for and maintain adequate road and debris clearing capabilities.

Develop a Community Wildfire Protection Plan: A CWPP 1) identifies and prioritizes areas for hazardous fuel reduction, 2) recommends treatments that will protect an at-risk community and essential infrastructure, 3) recommends measures to reduce structural ignitability. A CWPP may address issues such as wildfire response, community preparedness, and structure protection.

Map and assess Wildfire Vulnerability: Identify hazard areas and assess community vulnerability.

Develop a Wildland-Urban Interface Code: Develop design guidelines and development review procedures for new construction, replacement, relocation, and substantial improvement in wildfire hazard areas.

Structure and Infrastructure Projects

Remove Existing Structures from Flood Hazard Areas: FEMA policy encourages and may provide funding for the removal of structures from flood-prone areas to minimize future flood losses and preserve lands subject to repetitive flooding.

Improve Stormwater Drainage Capacity: Improving the stormwater drainage capacity can help to minimize inundation flooding and fluvial erosion by 1) increasing drainage/absorption capacities with green stormwater management practices; 2) increasing dimensions of undersized drainage culverts in flood-prone areas; 3) stabilizing outfalls with riprap and other slope stabilization techniques; and 4) re-establishing roadside ditches.

Conduct Regular Maintenance for Drainage Systems: Regular maintenance will help drainage systems and flood control structures continue to function properly. Techniques include: 1) routinely cleaning and repairing stormwater infrastructure – culverts, catch basins, and drain lines; 2) routinely cleaning debris from support bracing underneath low-lying bridges; and 3) inspecting bridges and identifying if any repairs or retrofits are needed to maintain integrity or prevent scour.

Protect Infrastructure and Critical Facilities: Mitigation techniques can be implemented to help minimize losses to infrastructure and protect critical facilities from flood events by 1) elevating roads above the base flood elevation to maintain dry access; 2) armoring the banks of streams near roadways to prevent washouts or 3) rerouting a stream away from a vulnerable roadway; and 4) floodproofing critical facilities.

Protect Power Lines: Power lines can be protected from natural hazard impacts by 1) inspecting and maintaining hazardous trees in the road right-of-way and 2) burying power lines.

Protect Critical Roadways: Use snow fences or living snow fences (e.g., rows of trees or other vegetation) to limit blowing and drifting of snow.

Retrofit Critical Facilities: Critical facilities can be protected from the impacts of high winds and winter storms by 1) retrofitting them to strengthen structural frames to withstand wind and snow loads; 2) anchoring roof-mounted mechanical equipment; and 3) installing back-up generators or quick connect wiring for a portable generator.

Retrofit At-Risk Structures with Ignition-Resistant Materials: Protect existing structures in wildfire hazard areas using non-combustible materials and technologies.

Create Defensible Space Around Structures and Infrastructure: Local governments can implement defensible space programs to reduce risk to structures and infrastructure.

Natural Systems Protection

Protect and Restore Natural Flood Mitigation Features: Natural conditions often provide floodplain protection, riparian buffers, groundwater infiltration, and other ecosystem services that mitigate flooding. It is important to preserve such functionality. Examples include 1) adding vegetative buffers in riparian areas; 2) stabilizing stream banks; 3) removing berms; 4) minimizing impervious area development; and 5) restore incision areas.

Implement a Fuels Management Program: To reduce hazards vegetation fuels on public lands, near essential infrastructure, or on private lands by work with landowners. The program can include 1) performing fuel management techniques; 2) using prescribed burns to reduce fuel loads; 3) sponsoring local "slash and clean-up days" to reduce fuel loads along the wildland-urban interface.

Education and Awareness Programs

Educate Property Owners About Freezing Pipes: Extreme cold may cause water pipes to freeze and burst, which can cause flooding inside a building. Consider 1) educating owners how to protect their pipes and 2) informing them that letting a faucet drip may prevent freezing and the buildup of excessive pressure, avoiding bursting.

Assist Vulnerable Populations: Measures could be taken to ensure vulnerable populations are adequately protected from the impacts of natural hazards, such as 1) organizing outreach and 2) establishing and promoting accessible heating or cooling centers in the community.

Increase Wildfire Awareness: Target citizens and businesses to increase awareness of wildfire risk and strategies for protecting homes and infrastructure. Consider 1) offering online GIS hazard mapping; 2) working with Vermont Department of Forests, Parks, and Recreation to provide wildfire safety information to residents.

Mitigation Action Evaluation and Prioritization

For each mitigation action identified, the Hazard Mitigation Planning Team evaluated its potential benefits and/or likelihood of successful implementation. Each action was evaluated against a broad range of criteria, including a planning level assessment of whether the costs are reasonable compared to the probable benefits. Results of this evaluation are presented in **Table 5**.

Mitigation Action Implementation

After careful evaluation and prioritization, the Planning Team agreed on a list of actions that are acceptable and practical for the community to implement.

Actions without overall public support/political will were not selected for implementation. Actions whose costs were not reasonable compared to probable benefits were also not selected.

For the selected actions, the Planning Team then 1) assigned a responsible party to lead the implementation of each action; 2) identified potential funding; and 3) developed a timeframe for implementation. This action plan is presented in **Table 6**.

Note that the Town will make every effort to maximize use of future Public Assistance Section 406 Mitigation opportunities when available during federally declared disasters.

Table 5: Mitigation Action Evaluation and Prioritization

Mitigation Action	Life Safety	Prop Protect	Tech	Political	Admin	Other Obj	Benefit Score	Est Cost	C/B
Local Plans and Regulations									
Recommended for Implementation									
Plan for and Maintain Adequate Road and Debris Clearing Capabilities	1	1	1	1	1	1	6	1	Yes
Update Road Erosion and Culvert Inventories	1	1	1	1	1	1	6	1	Yes
Review VTrans Bridge Inspection Reports [1] and Plan for Identified Repairs to Prevent Scour	1	1	1	1	1	1	6	1	Yes
Plan for Municipal Dam Maintenance	1	1	1	1	1	1	6	1	Yes
Integrate Mitigation into Capital Improvement Programs	1	1	1	0	1	1	5	1	Yes
Plan for Road Right-of-Way Vegetation Management	1	1	1	1	0	1	5	1	Yes
Map and Assess Vulnerability to Wildfire	1	1	1	1	0	1	5	1	Yes
Improve Stormwater Management Planning by Completing a Stormwater Master Plan	The Town is currently working with the Rutland Natural Resources Conservation District to complete a Stormwater Master Plan with funding through the Lake Champlain Basin Program. Targeting August 2024 for plan completion.								
Not Recommended for Implementation									
Develop a Community Wildfire Protection Plan	1	1	0	0	0	1	3	1	No
Develop a Wildland-Urban Interface Code	1	1	0	-1	-1	1	1	1	No
Structure and Infrastructure Projects									
Recommended for Implementation									
Routinely Clean and Repair Stormwater Infrastructure	1	1	1	1	1	1	6	1	Yes
Install/Re-establish Roadside Ditches	1	1	1	1	1	1	6	1	Yes
Increase Dimension of Drainage Culverts in Flood-Prone Areas	1	1	1	1	1	1	6	1	Yes
Stabilize Outfalls	1	1	1	1	1	1	6	1	Yes
Protect Power Lines and Roadway by Inspecting and Removing Hazardous Trees in Road ROW	1	1	1	1	1	1	6	1	Yes
Install Back-up Generators or Quick Connect Wiring at Critical Facilities	1	1	1	1	1	1	6	1	Yes
Create Defensible Space Around Structures and Infrastructure	1	1	1	1	1	1	6	1	Yes
Not Recommended for Implementation									
Routinely Clear Debris from Support Bracing Underneath Low-Lying Bridges	No low-lying bridges with support bracing, so the Planning Team did not evaluate this action.								
Floodproof Critical Facilities	No critical facilities that require floodproofing, so the Planning Team did not evaluate this action.								
Retrofit Critical Facilities to Strengthen Structural Frames to Withstand Snow Loads	No critical facilities that need structural retrofits, so the Planning Team did not evaluate this action.								
Anchor Roof-Mounted Mechanical Equipment on Critical Facilities	No critical facilities with roof-mounted mechanical equipment, so the Planning Team did not evaluate this action.								
Retrofit At-Risk Structures with Ignition-Resistant Materials	No public at-risk structures to retrofit with ignition-resistant materials, so the Planning Team did not evaluate this action.								

[1] VTrans inspects all town-owned bridges in the State's Town Highway Bridge Program every two years. Bridge inspection reports are available on the VTrans website.

Mitigation Action	Life Safety	Prop Protect	Tech	Political	Admin	Other Obj	Benefit Score	Est Cost	C/B
Structure and Infrastructure Projects (cont.)									
Not Recommended for Implementation (cont.)									
Increase Drainage/Absorption Capacities with Green Stormwater Management Practices	Planning Team did not recommend this action for implementation due to lack of information about appropriate locations for these practices. Once the Town completes a Stormwater Master Plan, appropriate locations may be identified and addressed accordingly.								
Use Snow Fence on Critical Roadways	1	1	1	0	1	1	5	1	No
Remove Existing Structures from Flood-Prone Areas	1	1	1	-1	-1	1	2	2-3	No
Elevate Roads Above Base Flood Elevation to Maintain Dry Access	-1	1	1	-1	1	0	1	3	No
Bury Power Lines	1	1	-1	-1	-1	1	0	3	No
Natural Systems Protection									
Recommended for Implementation									
Establish Vegetative Buffers in Riparian Areas	Planning Team did not evaluate these actions because there are no known areas; however, the Town will collaborate with the Natural Resources Conservation District to identify and implement natural systems protection projects that meet the goals of this Plan.								
Stabilize Stream Banks									
Remove Berms and/or Accumulated Debris from Stream to Restore Flood Capacity									
Restore Incision Areas									
Not Recommended for Implementation									
Implement Fuels Management Program	1	1	1	-1	-1	1	2	2	No
Education and Awareness Programs									
Recommended for Implementation									
Educate Property Owners about Freezing Pipes	1	1	1	1	1	1	6	1	Yes
Keep the Ditches Clean Campaign	1	1	1	1	1	1	6	1	Yes
Increase Wildfire Awareness	1	1	1	1	1	1	6	1	Yes
Not Recommended for Implementation									
Assist Vulnerable Populations	Town already has a plan in place to identify and monitor the needs of vulnerable populations - see current Local Emergency Management Plan.								

Table 5 Evaluation Criteria:

Life Safety – How effective will the action be at protecting lives and preventing injuries?
Property Protection – How effective will the action be at eliminating or reducing damage to structures and infrastructure?
Technical – Is the mitigation action a long-term, technically feasible solution?
Political – Is there overall public support/political will for the action?
Administrative – Does the community have the administrative capacity to implement the action?
Other Community Objectives – Does the action advance other community objectives, such as capital improvements, economic development, environmental quality, or open space preservation?

Rank each of the above criteria in Table 5 with a -1, 0, or 1 using the following table:
1= Highly effective or feasible
0 = Neutral
-1 = Ineffective or not feasible

Estimated Cost – 1 = less than $50,000; 2 = $50,000 to $100,000; 3 = more than $100,000
C/B – Are the costs reasonable compared to the probable benefits? Yes or No

Table 6 Community Lifelines Description: A Community Lifeline enables the continuous operation of critical government and business functions and is essential to human health and safety or economic security. The primary objective of lifelines is to ensure the delivery of critical services that alleviate immediate threats to life and property when communities are impacted by disasters. These critical services are organized into one of seven lifelines:

1. Law Enforcement
2. Fire Service
3. Search & Rescue
4. Government Service
5. Community Safety

1. Food
2. Water
3. Shelter
4. Agriculture

1. Medical Care
2. Public Health
3. Patient Movement
4. Medical Supply Chain
5. Fatality Management

1. Power Grid
2. Fuel

1. Infrastructure
2. Responder Communications
3. Alerts, Warnings, & Messages
4. Finance
5. 911 & Dispatch

1. Highway/Road/ Motor Vehicle
2. Mass Transit
3. Railway
4. Aviation
5. Maritime

1. Facilities HAZMAT, Pollutants, Contaminants

Table 6: Mitigation Action Implementation

Plan for and Maintain Adequate Road and Debris Clearing Capabilities: A leading cause of death and injury during winter storms is from auto accidents so it is important to plan for and maintain adequate road and debris clearing capabilities. This includes capital planning and annual funding to support the facilities (garage and equipment) and appropriate number of staff needed to maintain the transportation network in Proctor.

ADDRESSED HAZARDS

Winter Storm
Primary Hazard

Lead Party
Town Manager

Type of Project
Local Plans and Regulations

COMMUNITY LIFELINES TARGETED

Safety & Security

Transportation
Primary Lifeline

Area of Impact
Town-wide; ±22 mile road network

FUNDING SOURCES
- Local funding

PARTNERSHIPS
- Public Works Foreman
- Selectboard

BENEFIT SCORE = 6

PROJECT TIMELINE
To coincide with preparing annual Town budget each Dec-Jan

Update Road Erosion and Culvert Inventories: These inventories were completed in 2017 and 2018 serve as the basis for asset management and should be kept up-to-date annually, with a full re-assessment every 5 years.

ADDRESSED HAZARDS

Flooding

Lead Party
Public Works Foreman

Type of Project
Local Plans and Regulations

COMMUNITY LIFELINES TARGETED

Safety & Security

Transportation
Primary Lifeline

Area of Impact
Town-wide; ±21 miles of hydrologically-connected roads and ±369 culverts

FUNDING SOURCES
- Local funding
- VTrans Grant Programs

PARTNERSHIPS
- Rutland RPC
- Town Manager

BENEFIT SCORE = 6

PROJECT TIMELINE
2024 construction season

Plan for Bridge Repairs: Two town bridges are vulnerable to flash flooding and/or fluvial erosion – Marble Arch Bridge (B2) and Gorham Covered Bridge (B4). The Town will implement a **Bridge Inspection Program** to ensure the VTrans inspection reports for B2 and B4 will be reviewed and used to plan for needed flood-related bridge repairs such as scour, as needed.

ADDRESSED HAZARDS

Flooding

Lead Party
Town Manager

Type of Project
Local Plans and Regulations

COMMUNITY LIFELINES TARGETED

Safety & Security

Transportation
Primary Lifeline

Area of Impact
Town-owned Bridges: Marble Arch (B2) and Gorham Covered Bridge (B4)

FUNDING SOURCES
- Local funding
- VTrans Structures Program

PARTNERSHIPS
- VTrans
- Public Works Foreman

BENEFIT SCORE = 6

PROJECT TIMELINE
Review VTrans Reports Jun 2022
Develop Plan(s), if needed Dec 2023

Develop Dam Maintenance Plans: Dam failure and resulting flash flooding is a concern. In 2019, the Vermont Dam Safety Program performed a visual inspection of Proctor's three municipal dams – Beaver Pond, Olympus Pool, and Reynolds Reservoir. Each dam was considered Poor. Proctor will take the findings of the 2019 inspections and seek out proposals for a qualified engineering firm to develop implementation plans for each dam.

ADDRESSED HAZARDS

Flooding

Lead Party
Town Manager

Type of Project
Local Plans and Regulations

COMMUNITY LIFELINES TARGETED

Safety & Security

Transportation
Primary Lifeline

Area of Impact
1) Beaver Pond Dam
2) Olympus Pool Dam
3) Reynolds Reservoir Dam

FUNDING SOURCES
- Local funding
- Unsafe Dam State Revolving Fund

PARTNERSHIPS
- Public Works Foreman
- Selectboard
- ANR Dam Safety Program

BENEFIT SCORE = 6

PROJECT TIMELINE
Issue RFP for Work by end of 2023
Complete Plans by end of 2025

Develop a Road Right-of-Way (ROW) Vegetation Management Plan: Hazard trees in the road ROW can contribute to power and communication outages as well as debris in the roadway during winter storms. This hazard is exacerbated by the possibility of an Emerald Ash Borer infestation. To increase roadside resilience, Proctor will develop a plan to identify 1) community priorities and 2) plan of action for site-specific tree and roadside forest management.

ADDRESSED HAZARDS

Winter Storm
Primary Hazard

Invasive Species

Lead Party
Town Manager

Type of Project
Local Plans and Regulations

COMMUNITY LIFELINES TARGETED

Energy
Primary Lifeline

Transportation

Communications

Area of Impact
Town-wide

FUNDING SOURCES
- Local funding

PARTNERSHIPS
- Vermont Urban & Community Forestry Program (UCF)
- Tree Warden
- Public Works Foreman

BENEFIT SCORE = 5

PROJECT TIMELINE
UCF Outreach Jan 2023
Complete Plan by Dec 2024

Map and Assess Vulnerability to Wildfire: The first step in local planning is to identify wildfire hazard areas and assess overall community vulnerability. Proctor will use GIS mapping of wildfire hazard areas to assess vulnerability and make planning decisions through comparison with zoning, development, and infrastructure.

ADDRESSED HAZARDS

Wildfire

Lead Party

Proctor Fire Department

Type of Project

Local Plans and Regulations

COMMUNITY LIFELINES TARGETED

Safety & Security

Area of Impact

Town-wide

FUNDING SOURCES

- Local funding

PARTNERSHIPS

- Rutland RPC
- Town Manager
- Fire Warden
- ANR Wildland Fire Control Program

BENEFIT SCORE = 5

PROJECT TIMELINE

Complete mapping Jun 2024 and vulnerability assessment Jun 2026

Routinely Clean and Repair Stormwater Infrastructure: Regular maintenance is one of the most effective ways to mitigate the impacts of flooding. Routine cleaning and repairs of catch basins, ditches, and culverts will be done according to the Highway Department's maintenance schedule and the Municipal Roads General Permit (MRGP).

ADDRESSED HAZARDS

Flooding

Lead Party

Public Works Foreman

Type of Project

Structure and Infrastructure

COMMUNITY LIFELINES TARGETED

Safety & Security

Transportation
Primary Lifeline

Area of Impact

Town-wide; 312 catch basins, ±22 mile road network, and ±369 culverts

FUNDING SOURCES

- Local funding

PARTNERSHIPS

- None

BENEFIT SCORE = 6

PROJECT TIMELINE

See Highway Department's Maintenance Schedule and MRGP

Install/Re-work Roadside Ditches: Properly installed and stabilized roadside ditches are critical to protect the integrity of the road. Although Proctor has an extensive network of ditches, the areas noted below either need new ditches or have ditches that need to be re-worked to bring them up to current municipal Road Standards.

ADDRESSED HAZARDS

Flooding

Lead Party

Public Works Foreman

Type of Project

Structure and Infrastructure

COMMUNITY LIFELINES TARGETED

Safety & Security

Transportation
Primary Lifeline

Area of Impact

1) Florence Rd (segment 21874.1)
2) Others as required by MRGP

FUNDING SOURCES

- Local funding
- VTrans Grant Programs

PARTNERSHIPS

- VTrans

BENEFIT SCORE = 6

PROJECT TIMELINE

1) Coincide with road paving currently targeted for 2027 construction season (or when VTrans Class 2 Highway grant is awarded)
2) See MRGP

Adequately Size Drainage and Perennial Stream Culverts in Flood-Prone Areas: Undersized culverts can lead to road washouts and flooding. Proctor has identified several locations where upsized culverts are needed (or may be needed).

ADDRESSED HAZARDS

Flooding

Lead Party

Public Works Foreman

Type of Project

Structure and Infrastructure

COMMUNITY LIFELINES TARGETED

Safety & Security

Transportation
Primary Lifeline

Area of Impact

1) Drainage Culvert #7 West St (upsize from 18" to 24")
2) Box Culvert from Beaver Pond to Otter Creek
3) Others as required by MRGP

FUNDING SOURCES

- Local funding
- VTrans Grant Programs
- FEMA Hazard Mitigation Grant

PARTNERSHIPS

- VTrans
- ANR Stream Engineer
- US Army Corps of Engineers

BENEFIT SCORE = 6

PROJECT TIMELINE

1) 2022 construction season
2) Inspection in Jun 2025
3) See MRGP

Stabilize Culvert Outfalls: Erosion at culvert outlets is common and can cause structural failure with serious downstream consequences. Properly stabilized outfalls protect channel bank stability and reduce erosion. Proctor has identified the following locations where culvert outlet stabilization is needed.

ADDRESSED HAZARDS

Flooding

Lead Party

Public Works Foreman

Type of Project

Structure and Infrastructure

COMMUNITY LIFELINES TARGETED

Safety & Security

Transportation
Primary Lifeline

Area of Impact

1) O1527, O1533, O1580
2) Others as required by MRGP

FUNDING SOURCES

- Local funding
- VTrans Grant Programs
- FEMA Hazard Mitigation Grant

PARTNERSHIPS

- VTrans
- ANR Stream Engineer
- US Army Corps of Engineers

BENEFIT SCORE = 6

PROJECT TIMELINE

1) 2025 construction season
2) See MRGP

Remove Hazard Trees in Road Right-of-Way (ROW): Hazard trees in the road ROW can contribute to power and communication outages as well as debris in the roadway during winter storms. This hazard is exacerbated by the possibility of an Emerald Ash Borer infestation. Proctor will remove hazard trees within their road ROW and/or request removal by Green Mountain Power if also within the power line ROW in accordance with their Road ROW Vegetation Management Plan.

ADDRESSED HAZARDS

Winter Storm

Lead Party

Public Works Foreman

Type of Project

Structure and Infrastructure

COMMUNITY LIFELINES TARGETED

Energy
Primary Lifeline

Transportation

Communications

Area of Impact

Town-wide

FUNDING SOURCES

- Local funding

PARTNERSHIPS

- Tree Warden
- Green Mountain Power

BENEFIT SCORE = 6

PROJECT TIMELINE

See Road ROW Vegetation Management Plan

Install Back-up Power at Critical Facilities: Generators (standby or portable) are emergency equipment that provide a secondary source of power to a facility. Proctor has identified four (4) critical facilities in need of back-up power.

ADDRESSED HAZARDS

All Hazards

Lead Party
Town Manager
School Principals

Type of Project
Structure and Infrastructure

COMMUNITY LIFELINES TARGETED

Energy
Primary Lifeline

Food, Water, Shelter

Area of Impact
1) Field Street Well House
2) Town Garage
3) Elementary School (local shelter)
4) Jr/Sr High School (local shelter)

FUNDING SOURCES
- Local funding
- FEMA Hazard Mitigation Grant

PARTNERSHIPS
- Public Works Foreman

BENEFIT SCORE = 6

PROJECT TIMELINE
1) 2027 construction season
2) 2026 construction season
3) Outreach to School District to determine interest by Jan 2023
4) Same as 3

Create Defensible Space Around Structures and Infrastructure: Creating buffers through the removal or reduction of flammable vegetation, including vertical clearance of tree branches, can reduce risk to structures and infrastructure. Proctor will create defensible space around the public drinking water system eastside water storage tank on Tower Road.

ADDRESSED HAZARDS

Wildfire

Lead Party
Proctor Fire Department

Type of Project
Structure and Infrastructure

COMMUNITY LIFELINES TARGETED

Safety & Security

Area of Impact
Eastside Water Storage Tank

FUNDING SOURCES
- Local funding

PARTNERSHIPS
- Public Works Foreman

BENEFIT SCORE = 6

PROJECT TIMELINE
On an annual basis in May to coincide with spring clean up

Educate Residents about Severe Winter-related Hazards; Wildfire Risks; and Keep the Ditches Clean Campaign: Proctor will undertake education and awareness efforts by publishing information on the Town website and community social media sites on 1) severe winter storm-related hazards (e.g., freezing pipes); 2) best practices for preventing wildfires; and 3) the importance of keeping the municipal ditches free of yard waste and other debris.

ADDRESSED HAZARDS

All Hazards

Lead Party
Town Manager

Type of Project
Education and Awareness

COMMUNITY LIFELINES

Safety & Security

Transportation
Primary Lifeline

Area of Impact
Town-wide

FUNDING SOURCES
- Local funding

PARTNERSHIPS
- Fire Warden
- Proctor Vol Fire Dept
- Public Works Foreman
- Ready.gov

BENEFIT SCORE = 6

PROJECT TIMELINE
Jan 2023 – Dec 2023

Process for Incorporating Plan Requirements into Other Planning Mechanisms

For Proctor to succeed in reducing long-term risks, the information and recommendations of the Local Hazard Mitigation Plan should be integrated throughout government operations.

The following are specific examples of how information and recommendations from the 2017 Plan update were incorporated into other plans, programs, and procedures:

- Zoning Regulations with Special Flood Hazard Area and River Corridor District Requirements, adopted in March 2017
- Water Ordinance, amended in June 2018
- Sewer Ordinance, amended in June 2018
- Local Road and Bridge Standards, adopted July 2019
- Proctor Town Plan, adopted in 2020
- Local Emergency Management Plan, include a Vulnerable Populations Communication Protocol, adopted in May 2021
- Road Erosion Inventory Report, completed in December 2018

The following are specific examples of how the Town will incorporate the 2022 Plan update into other plans, programs, and procedures:

- The Selectboard will incorporate risk assessment and hazard mitigation goals into capital planning efforts and improvement programs.

- The Planning Commission will integrate the hazard mitigation goals for disaster resiliency, including NFIP compliance, into the goals and objectives of the next updates to the Town Plan and Land Use Bylaws.

- The Public Works Foreman will implement several mitigation infrastructure projects (e.g., upsize perennial and drainage culverts in flood-prone areas, install/re-work roadside ditches, install green stormwater management practices) through existing plans (2017 Road Erosion Inventory and Report for hydrologically-connected road segments, 2022 Stormwater Master Plan).

- The Town Manager (or an appointed committee) will work with the Rutland Natural Resources Conservation District to identify opportunities to collaborate on implementing natural resources protection projects that meet the goals of this Plan.

- The Town Manager will work with the Town Clerk to provide NFIP information materials at the Town Office and on the Town's website – including promotion of flood insurance, public safety information, and development regulations.

- The Town Manager will encourage the Zoning Administrator to participate in regular NFIP-related trainings.

- The Town Manager will work with the Riverside Cemetery Commissioners to explore options for protecting the northwest corner of the cemetery from inundation flooding.

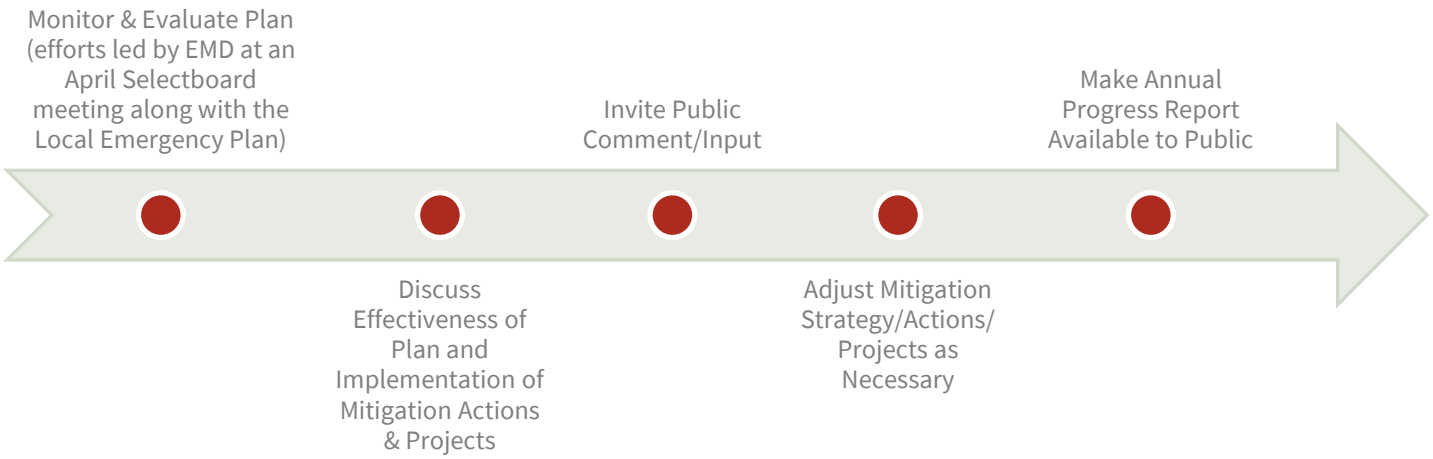
- The Public Works Foreman will incorporate elements of natural system protection and disaster resilience into the current update of the public drinking water system Source Protection Plan.

7 PLAN MAINTENANCE

This Plan is dynamic. To ensure the Plan remains current and relevant, it is important it be monitored, evaluated, and updated periodically.

Monitoring and Evaluation

This Plan will be monitored and evaluated annually starting in 2023 in accordance with the following process:



The status (e.g., in progress, complete) of each mitigation action should be recorded in **Table 7**. 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.

Updating

This Plan will be updated at a minimum every five (5) years in accordance with the following process:

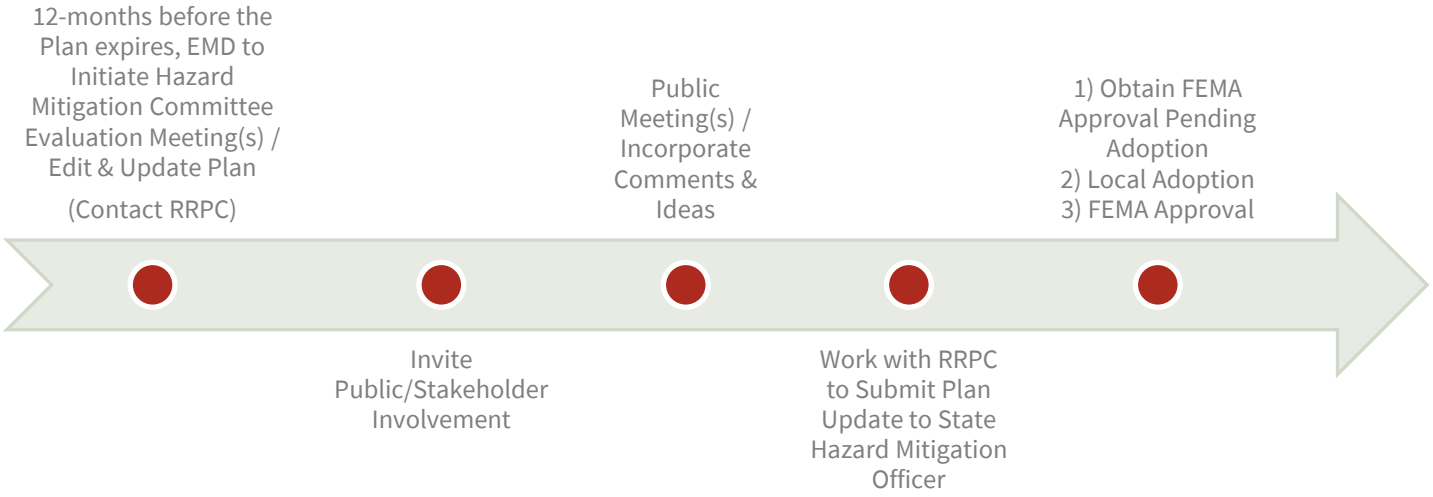


Table 7: Mitigation Action Status

Mitigation Action	2023	2024	2025	2026	2027
Local Plans and Regulations					
Plan for and Maintain Adequate Road and Debris Clearing Capabilities					
Update Road Erosion and Culvert Inventories					
Plan for Bridge Repairs					
Develop Dam Maintenance Plans					
Develop a Road Right-of-Way (ROW) Vegetation Management Plan					
Map and Assess Vulnerability to Wildfire					
Structure and Infrastructure Projects					
Routinely Clean and Repair Stormwater Infrastructure					
Install/Re-work Roadside Ditches					
Adequately Size Drainage and Perennial Stream Culverts in Flood-Prone Areas					
Stabilize Culvert Outfalls					
Remove Hazard Trees in Road Right-of-Way (ROW)					
Install Back-up Power at Critical Facilities					
Create Defensible Space Around Structures and Infrastructure					
Education and Awareness Programs					
Severe Winter Storm Preparedness Outreach					
Wildfire Prevention Educational Outreach					
Keep the Ditches Clean Campaign					

CERTIFICATE OF ADOPTION
TOWN OF Proctor, Vermont Selectboard
A RESOLUTION ADOPTING THE Proctor, Vermont 2022 Local Hazard Mitigation Plan

WHEREAS, the Town of Proctor has historically experienced severe damage from natural hazards and it continues to be vulnerable to the effects of the hazards profiled in the **2022 Proctor, Vermont Local Hazard Mitigation Plan,** which result in loss of property and life, economic hardship, and threats to public health and safety; and

WHEREAS, the Town of Proctor has developed and received conditional approval from the Federal Emergency Management Agency (FEMA) for its **2022 Proctor, Vermont Local Hazard Mitigation Plan (Plan)** under the requirements of 44 CFR 201.6; and

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

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

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

RESOLVED by Town of Proctor Selectboard:

1. The **2022 Proctor, Vermont Local Hazard Mitigation Plan** is hereby adopted as an official plan of the Town of Proctor;

2. The respective officials identified in the mitigation action plan of the **Plan** are hereby directed to pursue implementation of the recommended actions assigned to them;

3. Future revisions and **Plan** maintenance required by 44 CFR 201.6 and FEMA are hereby adopted as part of this resolution for a period of five (5) years from the date of this resolution; and

4. An annual report on the process of the implementation elements of the Plan will be presented to the Selectboard by the Emergency Management Director or Coordinator.

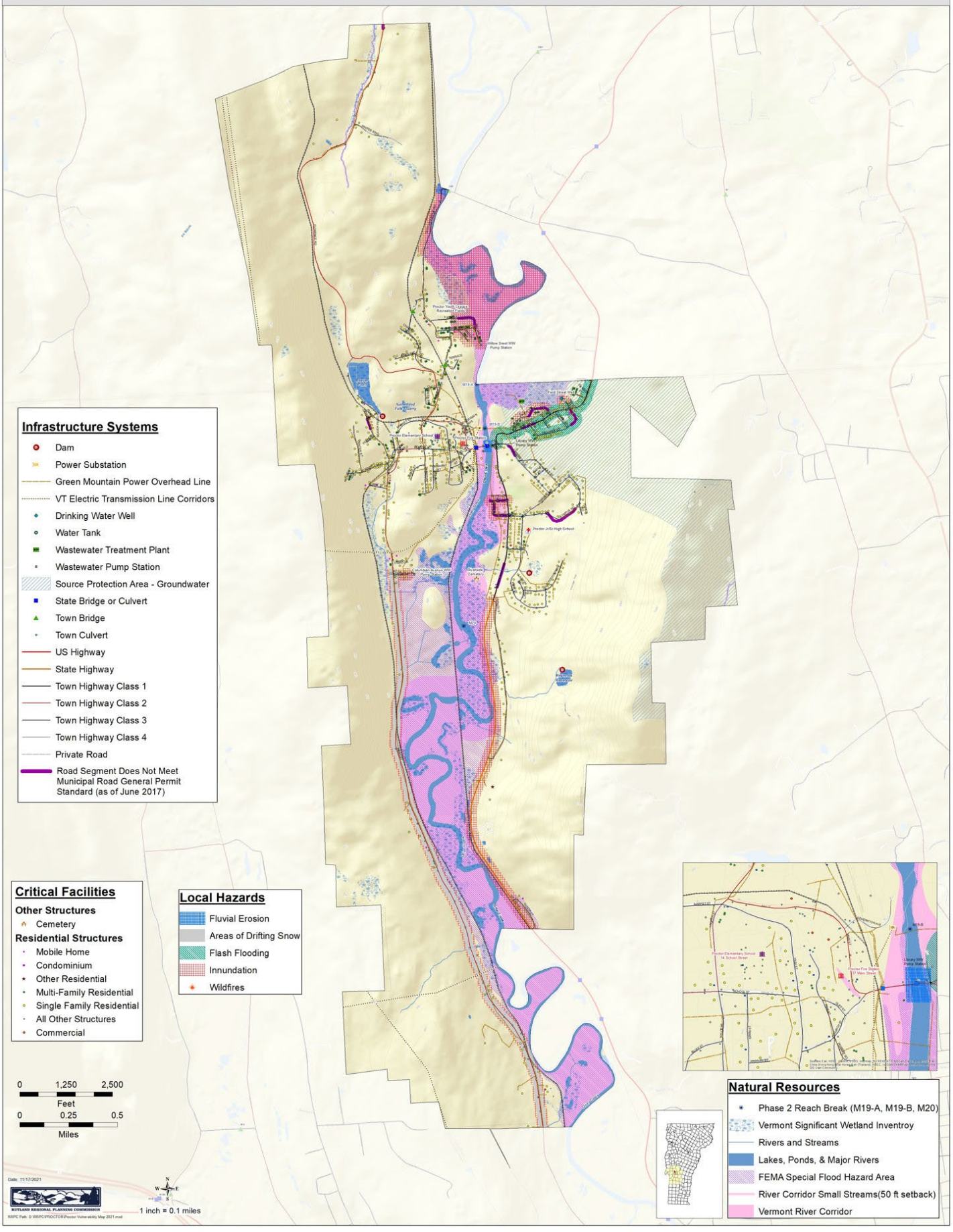
IN WITNESS WHEREOF, the undersigned have affixed their signature and the corporate seal of the Town of Proctor this 9th day of May 2022.

Selectboard Chair

ATTEST

Town Clerk

Proctor, Vermont: Local Natural Hazards and Vulnerabilities Map



MITIGATION ACTIONS FROM 2017 PLAN

Vulnerability: Flooding of Bridges and Low Lying Areas

1) **Upsize the Main Street culvert near the fire station.** The culvert keeps collapsing, and sink holes appear every now and then. The town does not know what the ultimate problem is, and the short term solution has always been to fill in the sinkholes. To prevent a major collapse of this culvert, the town would like to replace the culvert with a more adequate one that will accommodate flows and conduct a thorough investigation of the area around the culvert, to assess the entire problem. Because the upgrade will significantly increase the culvert's ability to handle storm flows and decrease the likelihood of infrastructure failure/collapse, the upgrade will create a more resilient infrastructure, thereby improving long-term flood resilience.

   Who: Select Board. Highway Foreman. Town Manager When: May 2017-September 2018 How: VTrans Structures Grant, HMGP Priority: High
   2022 Status: Completed in 2020

2) **Upsize the box culvert that transfers water from Beaver Pond to the Otter Creek.** This culvert needs a lot of repair work. A lot of water flows constantly through culvert, and it runs under a couple of buildings, including the marble museum. The town cannot afford failure of this culvert. Replacing this culvert with a larger one would ensure the viability of the infrastructure around it, the safety of persons, and adequate passage of large volumes of water. Because the upgrade will significantly increase the culvert's ability to handle storm flows and decrease the likelihood of infrastructure failure/collapse, the upgrade will create a more resilient infrastructure, thereby improving long-term flood resilience.

   Who: Select Board. Highway Foreman. Town Manager When: 2018-2019 How: HMGP Priority: High
   2022 Status: Incomplete, remains a priority. The current public works foreman recommends the marble box culvert be inspected to determine its condition and whether repair or replacement is necessary.

3) **Improve Willow Street Sewer Line Infrastructure.** Willow street floods in high rain events, due to the rain water pooling with ground water. The sewer pipeline and the manholes need to be rebuilt in such a way that they are improved to mitigate the flooding problems. This pipeline received new pumps after Tropical Storm Irene, but the pumps are presenting issues already. This problem presents not only a flooding issue but also a health issue – raw sewage flows out of the manholes during high rain events

   Who: Select Board. Highway Foreman. Town Manager When: 2018-2019 How: HMGP Priority: High
   2022 Status: Construction to begin in 2022

4) **Revise Zoning to require that new development be built to Base Flood Elevation (BFE)+ 2'.**
   Who: Select Board. Planning Commission When: 2018-2019 How: MPG Priority: Moderate
   2022 Status: Complete - New development (residential or non-residential) is prohibited in Special Flood Hazard Area and River Corridors; structures to be substantially improved in Zones A, A1-30, AE, and AH require lowest floor is at least one foot above BFE; non-residential structures to be substantially improved require the lowest floor be designed so that two feet above BFE the structure is watertight.

5) **Revise Zoning to Ensure New Development will not be Vulnerable to Flooding or Erosion.** This includes adopting State River Corridor Protection Language
   Who: Select Board. Planning Commission When: 2018-2019 How: MPG Priority: Moderate
   2022 Status: Completed in 2017

Vulnerability: Power Outages to Homes and Critical Facilities

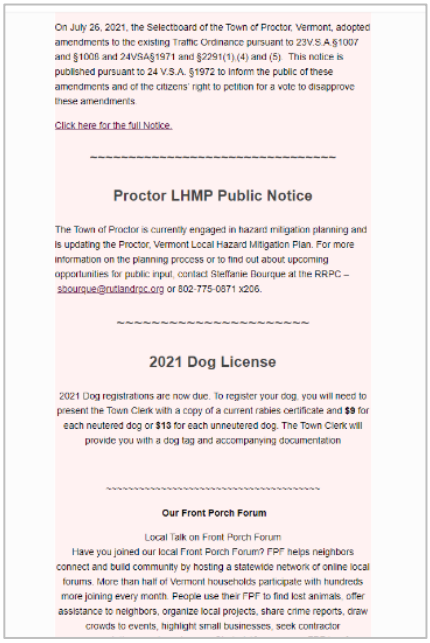
1) **Generators for the Booster Pump Station on Taylor Hill and the Water Wells on Field Street.** Power outages can affect the clean water supply for the town and could cause flooding issues at the pump station. Therefore, generators are needed to prevent damage from flooding and ensure an adequate water supply.

   Who: Water and Sewer Commission When: 2018 -2019 How: HMGP Priority: High
   2022 Status: The booster pump station on Taylor Hill is equipped with standby power. Provision of back-up power at the municipal wells on Field Street is incomplete and remains a priority.

2) **Generator for an Emergency Operations Center (EOC)/Critical Facilities – School, Town Office, Town Garage.** The town needs an EOC in the event of a flooding or power outage incident. Having an EOC will allow the Town to provide shelter and electricity (and all the accommodations that come with electricity) to vulnerable residents and anyone else in need. To create an EOC, the town would need a generator in one of its critical facilities.

   Who: Select Board, Town Manager When: 2021 -2023 How: EMPG Priority: Medium-High
   2022 Status: The Proctor Fire Station is designated as the local EOC and has standby power. Provision of back-up power at other critical facilities (Town Garage and local shelters) is incomplete and remains a priority.

SUMMARY OF PUBLIC COMMENTS ON DRAFT PLAN



On July 26, 2021, the Selectboard of the Town of Proctor, Vermont, adopted amendments to the existing Traffic Ordinance pursuant to 23V.S.A.§1007 and §1008 and 24VSA§1971 and §2291(1),(4) and (5). This notice is published pursuant to 24 V.S.A. §1972 to inform the public of these amendments and of the citizens' right to petition for a vote to disapprove these amendments.

Click here for the full Notice.

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Proctor LHMP Public Notice

The Town of Proctor is currently engaged in hazard mitigation planning and is updating the Proctor, Vermont Local Hazard Mitigation Plan. For more information on the planning process or to find out about upcoming opportunities for public input, contact Steffanie Bourque at the RRPC – sbourque@rutlandrpc.org or 802-775-0871 x206.

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2021 Dog License

2021 Dog registrations are now due. To register your dog, you will need to present the Town Clerk with a copy of a current rabies certificate and **$9** for each neutered dog or **$13** for each unneutered dog. The Town Clerk will provide you with a dog tag and accompanying documentation

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Our Front Porch Forum

Local Talk on Front Porch Forum

Have you joined our local Front Porch Forum? FPF helps neighbors connect and build community by hosting a statewide network of online local forums. More than half of Vermont households participate with hundreds more joining every month. People use their FPF to find lost animals, offer assistance to neighbors, organize local projects, share crime reports, draw crowds to events, highlight small businesses, seek contractor

Example plan update kick-off public notice from Proctor Town website.

Comments in response to kick-off notice received from local resident, October 15, 2021:

1) *The plan includes major items like floods, ice, and other natural disasters. I am an avid gardener for over 30 years and have noticed that bees are sometimes in short supply. I was wondering if a look at personal/professional activities and use of hazardous materials like Roundup can cause the lack of bees and possibly birds.*

This Plan focuses exclusively on natural hazards; therefore, risks associated with the use of hazardous materials are not addressed.

2) *I live in a house that was built in 1872 and is on a ledge with an active sump pump. And live on a dead end whose access to a viable road could be threatened by falling trees and once was threatened by a deteriorating wall. I'm interested in how we can work on these issues.*

The Planning Team identified the risks posed by hazard trees within the road right-of-way and has recommended mitigation actions to address this.

From: Steffanie Bourque
To: Steffanie Bourque
Cc: manager@proctorvermont.com
Bcc: aliciam221b@gmail.com; "Helen McKinlay"; John Haverstock; Jason Davis; mark@papillon-ag.com; mashcroft@rutlandtown.com; Barbara Noyes Pulling; BSweet@rutlandtown.com; Marty Wasserman; kclark@rutlandtown.com; jharvey@velco.com; Mary Ann Goulette; cwener@westrutlandvt.org; denisandliz@yahoo.com
Subject: PUBLIC NOTICE - Proctor Engaged in Hazard Mitigation Planning
Date: Thursday, September 16, 2021 3:02:00 PM

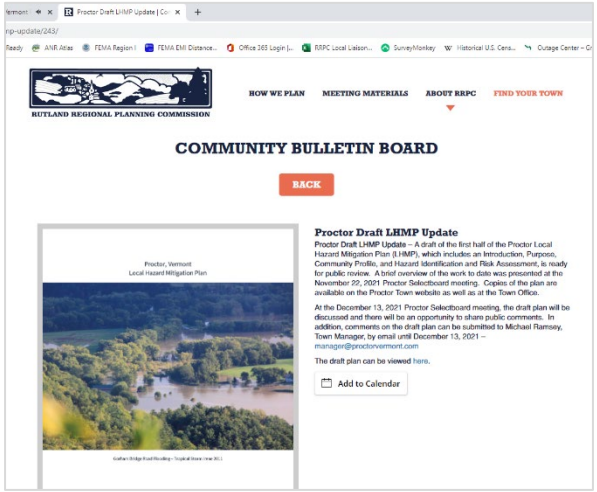
Local Officials:

As neighboring communities, we are providing you with public notice that the Town of Proctor is currently engaged in hazard mitigation planning and is updating the Proctor, Vermont Local Hazard Mitigation Plan. For more information on the planning process or opportunities for public input, contact Steffanie Bourque at the Rutland Regional Planning Commission – sbourque@rutlandrpc.org or 802-775-0871 x206.

Steffanie Bourque
Rutland Regional Planning Commission
67 Merchants Row
PO Box 430
Rutland, VT 05702
802-775-0871 x206
Please Note: Our new mailing address is PO Box 430

Email to local officials in neighboring communities announcing LHMP update kick-off – dated September 16, 2021. Similar email sent to Key Partners.

No inquiries received from neighboring communities or Key Partners.



Example notice of draft plan available for public comment from Rutland Regional Planning Commission website posted on November 23, 2021.

No comments on the November draft were received from local officials or the public.
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From: Steffanie Bourque
To: McGuire, Nanci - NRCS-CD, Rutland, VT; Medash, Kyle; Renee Bousquet; Brian Sanderson
Cc: Manager
Subject: Proctor LHMP Available for Public Comment
Date: Tuesday, November 23, 2021 8:23:00 AM
Attachments: Proctor Draft LHMP 11-23-21.pdf

Hello, Key Partners.

A draft of the first half of the Proctor Local Hazard Mitigation Plan (LHMP), which includes an Introduction, Purpose, Community Profile, and Hazard Identification and Risk Assessment, is ready for public review. The attached draft and a brief overview of the work to date was presented at the November 22, 2021 Proctor Selectboard meeting.

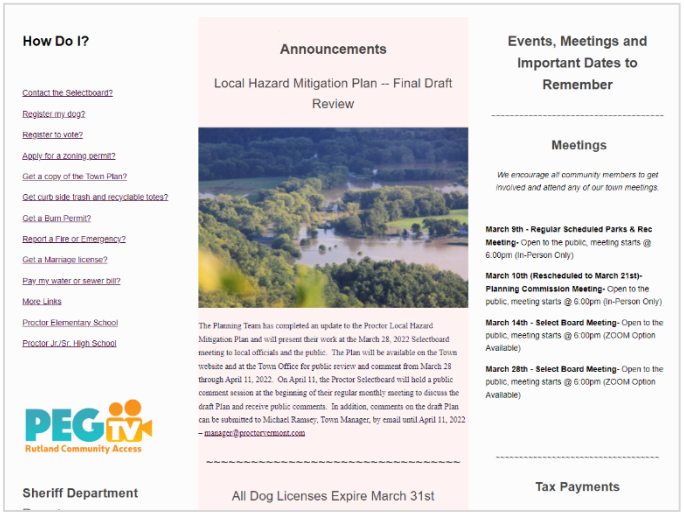
At the December 13, 2021 Proctor Selectboard meeting, the draft plan will be discussed and there will be an opportunity to share public comments. In addition, comments on the draft plan can be submitted to Michael Ramsey, Town Manager, by email until December 13, 2021 – manager@proctorvermont.com

We look forward to any comments you may have on the Town's vulnerabilities to flooding, severe winter storms, and wildfire.

Happy Thanksgiving to all,
Steffanie

Email to Key Partners seeking comments on draft plan, specifically Town vulnerabilities to highest risk natural hazards presented in Section 5 of the plan – dated November 23, 2021.

No comments on the November draft were received from Key Partners.



Example notice of final draft plan available for public comment from Town of Proctor website posted on March 21, 2022.

No comments on the final draft were received from local officials or the public.

From: Steffanie Bourque
To: Steffanie Bourque
Cc: Manager
Bcc: aliciam221b@gmail.com; "Helen McKinlay"; John Haverstock; Jason Davis; mark@papillon-aq.com; Barbara Noyes Pulling; BSweet@rutlandtown.com; Marly Wasserman; kclark@rutlandtown.com; jharvey@welco.com; Mary Ann Goulette; cwener@westrutlandvt.org; denisandliz@yahoo.com
Subject: PUBLIC NOTICE - Proctor Final Draft LHMP Available for Public Comment
Date: Monday, March 21, 2022 10:41:00 AM

Local Officials:

As neighboring communities, we are providing you with public notice that the Planning Team has completed an update to the Proctor Local Hazard Mitigation Plan and will present their work at the March 28, 2022 Proctor Selectboard meeting to local officials and the public. The Plan will be available on the Town website and at the Proctor Town Office for public review and comment from March 28 through April 11, 2022.

On April 11, the Proctor Selectboard will hold a public comment session at the beginning of their regular meeting to discuss the draft Plan and receive public comments. In addition, comments can be submitted to Michael Ramsey, Town Manager, by email until April 11 – manager@proctorvermont.com

Kind regards,
Steffanie

Steffanie Bourque
Rutland Regional Planning Commission
67 Merchants Row
PO Box 430
Rutland, VT 05702
802-775-0871 x202
****Please Note: My new phone extension is 202****
RUTLAND REGIONAL PLANNING COMMISSION
Cooperative planning in the region

Email to local officials in neighboring communities announcing final draft plan available for public comment – dated March 21, 2022. Similar email sent to Key Partners.

No comments on the final draft were received from neighboring communities or Key Partners.