

TOWN AND VILLAGE OF HYDE PARK, VERMONT

LOCAL HAZARD MITIGATION PLAN

2020 – 2025

FEMA Approval Pending Adoption:

FEMA Formal Approval:

Hyde Park Selectboard Adopted:

Hyde Park Trustees Adopted:

Plan expires:

This Plan was developed by the Town and Village of Hyde Park, with assistance from the Lamoille County Planning Commission. The Plan covers the municipalities of the Town of Hyde Park (Town) and the Village of Hyde Park (Village).

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1.0 Purpose

Hazard mitigation is any sustained action taken to reduce or eliminate the long-term risk to human life and property from hazards. Hazard mitigation activities may be implemented prior to, during, or after an event. However, it has been demonstrated that hazard mitigation is most effective when based on an inclusive, comprehensive, long-term plan that is developed before a disaster occurs.¹

The goal of this multi-jurisdictional Local Hazard Mitigation Plan for the Town and Village of Hyde Park, Vermont (Plan, or LHMP) is to provide a local mitigation strategy that makes the community of Hyde Park more resistant to natural hazards.

1.1 Community Profile (May need to be updated)

Located in east-central Lamoille County, Hyde Park is the Shire Town of the county, covering approximately 39 square miles. Hyde Park is predominantly a rural community, with a large area of town zoned for 10 and 27 acre lots, designed to preserve open space. The town has two villages: the incorporated Village of Hyde Park and the village of North Hyde Park (not incorporated). The Village of Hyde Park is recognized as an autonomous municipality under Vermont statute, governed by a Board of Trustees. However, like many other incorporated Villages in the state, it shares most public services and administrative functions with the town.

There are more than 70 miles of roadways in town: 9.5 are state highway, 13.6 are Class 2, 47.6 are Class 3 and there are 8.8 miles of Class 4 (not maintained for year-round travel). The town highway maintenance garage is located within the Village of Hyde Park on Vermont Route 15. It occupies the lot adjacent to the Municipal Offices. The two state highways in town – Route 100 and Route 15 – are maintained by the Vermont Agency of Transportation, District 8 (headquartered in St. Albans). Route 100 is Vermont’s primary central north-south arterial; Route 15 is the primary northern tier east-west arterial. Hyde Park relies on the State of Vermont to maintain these highways. Town owned roads are funded, managed, and maintained by the Selectboard.

According to the 2010 Census, Hyde Park had a population of 2,954 residents. Of this population, the Census estimates that 462 residents (15.6-percent) lived within the incorporated Village of Hyde Park.² Although Hyde Park experienced rapid growth between 1970 and 2000, growth slowed to 3.8% between 2000 and 2010. Census data indicates there are 1,372 housing units in Hyde Park, more than 83-percent of which are owner-occupied. During the update process for this plan, it was noted that no substantial changes in development patterns have occurred in Hyde Park that would affect vulnerability or mitigation measures. Hyde Park has regulations in place to prohibit development in the flood-prone areas; infill development and new housing is encouraged along the VT 15 and VT 100 corridors and in both village areas, away from the floodplains. Accordingly, the mitigation strategy is focused on the issues of greatest concern to both the Town and Village.

¹ Local Mitigation Plan Review Guide, FEMA, October 1, 2011 https://www.fema.gov/media-library-data/20130726-1809-25045-7498/plan_review_guide_final_9_30_11.pdf

² Factfinder: <https://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml>;

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The joint Hyde Park Municipal Offices are located just west of the intersection of VT 15 and VT 100 in the Village of Hyde Park. The Town is governed by a five-member Selectboard, elected to staggered terms at the annual Town Meeting in March. Town business is coordinated by an appointed Town Administrator. The Village is governed by a 5-member Board of Trustees. The Village maintains a Village General Manager.

There are five utilities which provide electric service in Hyde Park. The Village owns and runs the Hyde Park Village Water and Light Department, which serves the central and eastern portions of Hyde Park. Also providing electric service in Hyde Park are: the Morrisville Water and Light Department (serving the eastern portion), Vermont Electric Cooperative (serving the north central portion), Green Mountain Power (serving a very small area on the extreme north western border), and Hardwick Electric Department (serving a small area in the eastern corner). There are two hydro-power producing installations in the town: the Sanders Plant, owned by the Morrisville Water and Light Department on the Green River Reservoir, and the Woodside Plant on the Gihon River.

The Village of Hyde Park developed a public water system following a devastating fire in 1910. Both the Village of Hyde Park and North Hyde Park are serviced by public water systems. The Village of Hyde Park is serviced by the Hyde Park Water System, with 230 connections and a 205,326 gallon storage capacity. This supply supports a network of 24 pressurized hydrants for fire response within the Village limits. North Hyde Park is serviced by a separate public water system (Hyde Park Fire District #1), with 95 service connections and a storage capacity of 60,000 gallons. Eight pressurized hydrants are connected to this system. Outlying areas of town without access to pressurized hydrants may be serviced by one of twenty dry hydrants. A sewage disposal leach field system was put into operation in 1979. The septic system has two leach field areas. Leach field #1 is located south of Morey Road above Centerville Brook. Leach field #2 is located outside the Village boundary southwest of Depot Street.

There are three levels of law enforcement in Hyde Park: the town's elected Constables, the Lamoille County Sheriff's Department (LCSD) and the Vermont State Police. The town relies on the LCSD as its primary police protection, which is augmented by the services of the State Police. The LCSD dispatch office is located on Main Street in the Village. LCSD employs 24 full time and 14 part time staff. LCSD operates 21 vehicles, 12 of which are four-wheel drive; of these 12 four-wheel drive vehicles, two are "Humvee" (HMMWV) and one is an incident command truck which is shared with Washington and Franklin Counties.

Hyde Park is served by two fire departments: Hyde Park Fire Department (HPFD) and North Hyde Park/Eden Fire Department (NHP/efd). Hyde Park is served by 20-member personnel who rotate on-call status, and are paid by the hour for emergency calls. They have two pumper engines (1500 GPM and 1250 GPM), one 2000 gallon tanker, and one 4-wheel drive brush fire truck. Equipment includes breathing apparatus, portable tanks and pumps, Jaws of Life, air bags, gas meter, and other standard equipment.

Hyde Park is served by the Northern Emergency Medical Service, which is also the primary ambulance service provider for other nearby towns (Eden, Belvidere, Waterville, and Johnson). They have 11 full time and 10 per diem emergency responders. Unusual in Vermont, they have near full time paramedic coverage in addition to serving as the regional critical care non-emergency transport provider. They currently have 3 ambulances, one of which is 4-wheel drive capable.

Primary medical care is provided by Copley Hospital in Morrisville— a 25-bed treatment center servicing

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the community for acute, outpatient and long-term care. More specialized services are available in Burlington and Berlin, Vermont, and Hanover, New Hampshire. Other outpatient care is available at community clinics available in neighboring towns.

In the event of an emergency, Hyde Park has emergency shelters located at the Hyde Park Elementary School, North Hyde Park/Hyde Park Fire Station and Lamoille Union Middle/High School.

Hyde Park has an appointed Local Emergency Management Director (EMD) and Local Emergency Management Coordinator (EMC) who work closely with the Fire Department, Rescue Squad, Selectboard, and local Road Foreman. The EMD is the first point of contact identified in the Local Emergency Management Plan, a document that is updated annually and includes information such as: Points of Contact; Shelter Info; Hazardous Sites; Vulnerable Populations; mutual aid resources; NIMS information; and important forms to be used during an emergency. Hyde Park’s LEMP was most recently adopted in April 2020.

The Town and the Village maintain comprehensive Land Use and Development Regulations (LUDR) that combine formerly separate zoning, subdivision, and flood hazard regulations. The Town’s LUDRs were most recently revised in 2020. The Village’s LUDRs were revised in 2018. The unified *Hyde Park Comprehensive Development Plan* was most recently revised and adopted in December 2017. The plan is valid for eight years. The Plan addresses flood resiliency and emergency preparedness in many places, including a description and proposed implementation strategies in regards to riverbank management, land use, energy, transportation network upgrades, hazard mitigation grant opportunities, and changes to flood hazard regulations to decrease risk of flooding.

2.0 Planning Process and Public Participation (Needs to be updated)

The Hyde Park Hazard Mitigation Planning Committee was tasked with the development of the Hyde Park Hazard Mitigation Plan. The goal of the committee was to provide a comprehensive review of the previous Hazard Mitigation Plan and work together to update all pertinent information. Representatives from the Hyde Park Hazard Mitigation Committee are listed below (Figure 1) and represent a number of local town departments and agencies, and private sector partners. Each member of the committee was tasked to provide updated information for parts of the plan that pertained to their department or agency’s purpose.

Figure 1: Hyde Park Hazard Mitigation Committee Members

Committee Member	Title/Agency
Ron Rodjenski	Town & Zoning Administrator/Town of Hyde Park
Carol Robertson	General Manager/Village of Hyde Park
Carol Fano	Emergency Management Coordinator
Bob Malbon	Hyde Park Planning Commission
Eric Williams	Hyde Park Planning Commission
Vicky Emerson	Hyde Park Planning Commission

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Avenues taken to draft Hyde Park Local Hazard Mitigation Plan

11/2019-2/2020 – Check in Meeting. Lamoille County Planning Commission staff met with Town Administrator and Emergency Management Coordinator to discuss LHMP update process. It was established that the Hyde Park Planning Commission will be body convening the meetings of the Hyde Park Hazard Mitigation Committee (HPHMC).

3/09/2020 –1st HPHMC meeting. The Committee met with the LCPC staff to review key elements of a local hazard mitigation plan and outline the plan update process.

3/20/2020 – Covid-19 infectious disease outbreak struck Vermont and the country. Hyde Park’s emergency management team launched weekly meetings to cope with the disaster. LCPC participated in the 3/20 meeting and explained the role of the local hazard mitigation plan in preparing for and reducing the impacts of natural hazards such as the infection disease outbreak.

8/25/2020 – 2nd HPHMC meeting. The Committee met to resume the plan update process. The discussion focused on understanding the natural disasters the hazard mitigation plan needs to evaluate. The Committee reviewed the Hazard Identification and Risk Assessment table in the 2015 and discussed vulnerability to the hazards included in the 2015 as well as several new hazards that the State of Vermont included in its 2018 hazard mitigation plan.

9/8/2020 – 3rd HPHMC meeting. The Committee met to identify the natural hazards the community may be most vulnerable to and consider a range of actions to mitigate these worst hazards.

9/21/2020 – Hyde Park Selectboard met to review and review HIRA and hazard mitigation actions proposed by HPHMC.

To be continued as the process evolves.

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XXXXXXX – Public Comment Period. Selectboard held a public comment period. During this time, public had an opportunity to submit written feedback and participate in a video-call held on XXXXXX. Town Administrator advertised the request for comment on Front Porch Forum and via Town Website.

2.1 Planning Process and Neighboring Communities (Needs to be updated)

Neighboring communities have been encouraged to provide input into the development of this plan and review of a draft plan. On XXXX, 2020, the draft plan was distributed to the Local Emergency Planning Committee, and Town Administrators (or other equivalent officials) from the neighboring towns of Johnson, Morristown, Eden and Wolcott. LEPC members and Town Administrators were instructed to provide feedback to Lea Kilvadyova, LCPC Regional Planner via email or phone. Summarize feedback.

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2.2 Continued Public Involvement

There are three principal avenues for continued public participation during the maintenance of this plan:

- Community involvement through the local and regional planning process relating to updating existing planning mechanisms;
- Participation at the regular LEPC meetings attended by first responders, municipal officials, non-profit health care agencies and disaster assistance groups); and,
- Posting of the LHMP on the Hyde Park and LCPC websites for public comment.

The general public will be notified of review and update efforts over the next five years through press releases to local newspapers, announcements by local radio stations, and updates to the Hyde Park and LCPC websites. Additionally, LCPC will reach out to other regional stakeholders, including the Lamoille Mutual Aid Association and Lamoille County Sheriff's Department, to ensure mitigation planning efforts align with the county's public safety interests.

2.3 Plan Maintenance Process

The Hyde Park LHMP will be reviewed, monitored, evaluated, and updated annually by the Hyde Park Planning Commission, along with the review of the Local Emergency Operations Plan; Village Trustees will also participate. Updates and evaluation by the EMD, Planning Commission Chair, and Selectboard and Trustees representatives will also occur within six months after every federal disaster declaration and as updates to Town regulations and plans come into effect. The Plan will be reviewed by the EMD, Selectboard, Village Trustees, Road Foreman, and Planning Commission. This review will determine the effectiveness of the regional and municipal programs and reflect changes in land development or programs that may affect mitigation priorities.

The process of evaluating and updating the plan will include continued public participation through public notices posted on the municipal website, notice in the municipal building, Front Porch Forum, LCPC newsletter and website, and other forms of media inviting the public to the scheduled Selectboard meeting. Additional stakeholders invited to the meeting will be the Planning Commission, School Board, Fire Chief, Rescue Chief, and representatives from local health care providers and Copley Hospital. Also invited in the future will be the VT Agency of Natural Resources (VT ANR), as they are able to provide assistance with NFIP outreach activities, models for stricter floodplain zoning regulations, delineation of fluvial erosion hazard areas, and other applicable initiatives.

Monitoring of plan progress, implementation, and the five year update process will be undertaken by the EMD, in consultation with LCPC. Monitoring updates may include changes in community mitigation strategies; new town bylaws and planning strategies; progress of implementation of initiatives and projects; effectiveness of implemented projects or initiatives; and evaluation of challenges and opportunities. The plan is to be a "living document" to allow for new actions to be identified in the five year interim period and amended without formal re-adoption during regularly scheduled Selectboard meetings. Prior to the end of the five year period, the plan will undergo a formal update and submission to FEMA for re-adoption.

Hyde Park shall also continue incorporating mitigation planning into their long term land use and development planning documents. It is recommended Hyde Park review and incorporate elements of

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the Local Hazard Mitigation Plan when updating the municipal plan, regulations, and flood hazard bylaws. The incorporation of the Local Hazard Mitigation Plan into the municipal plan and flood hazard bylaws will also be considered after declared or local disasters. The Town will collaborate with the Village on ideas for future mitigation projects and hazard areas.

3.0 Hazard Identification and Risk Assessment (HI/RA):

A risk assessment is used to measure the potential loss of life, personal injury, economic impact, and property damage resulting from natural hazards by analyzing the vulnerability of people, the built environment, the economy and the natural environment.³ The following assessment is based on discussions with Hyde Park representatives during the update of this Plan.

The vulnerability assessment predicts the extent of damage that may result from a hazard event of a given intensity in a given area on the existing and future built environment. Determining the community's vulnerability involved identifying the threats posed to people, property, and the environment. The following natural disasters (Figure 2) were discussed and the most significant threat hazards were identified based upon the likelihood of the event and the community's vulnerability to the event. Vulnerability is rated as high, moderate, or low, based on the community's susceptibility to the hazard and disruption of daily functions in the community. Probability of a hazard is rated in terms of the likelihood the hazard will occur in any given year: high (90-100%); medium (50-90%); unlikely (10-50%); rare (0-10%). Hazards not identified as a high probability may still occur. Greater explanations and mitigation strategies of moderate threat hazards can be found in the State of Vermont's Hazard Mitigation Plan.

Figure 2: Hyde Park Town and Village Hazard Identification and Risk Assessment

Hazard	Vulnerability	Probability	At risk from hazard
Flooding, Fluvial erosion and Ice Jams	High	High	Utility Infrastructure, Transportation Infrastructure, Structures/Property, Water Quality
Winter Storms: Snow and Ice Storms	High	High	Utility Infrastructure, Transportation Infrastructure, Structures/Property
Wind storms	High	High	Utility Infrastructure, Transportation Infrastructure, Structures/Property, Water Quality
Infectious Disease Outbreak	High	Medium	Public Health, Economy, Education, Town Budget, Transportation
Wild fire	Moderate	Unlikely	Silviculture, Structures/Property, Utility Infrastructure, Public Health, Economy, Water Quality
Major hailstorm	Moderate	Rare	Utility Infrastructure, Structures/Property, Economy, Agriculture
Drought	Low	Rare	Agriculture, Public Health, Economy, Water Quality

³ Vermont State Hazard Mitigation Plan: <https://vem.vermont.gov/plans/SHMP>

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Earthquake	Low	Rare	Utility Infrastructure, Transportation Infrastructure, Structures/Property, Public Health, Economy
Landslide and erosion	Low	Rare	Utility Infrastructure, Transportation Infrastructure, Structures/Property, Public Health, Economy, Water Quality
Invasive Species	Moderate	Medium	Water quality, environment, tourism; ash trees, public health, town budget, structures, utility infrastructure, economy, people, transportation infrastructure, maple/wood-based industries
Extreme Heat	Moderate	Medium	Utilities, agriculture, public health, people, transportation infrastructure
Extreme Cold	Low	Unlikely	Public health, structures, transportation infrastructure, property, people

The following hazards were found to be most significant in the town, based on medium or high probability and high vulnerability. 1) Flooding, Fluvial Erosion, Ice Jams; 2) Winter Storms: Snow and Ice Storms; 3) Wind Storms and 4) Infectious Disease Outbreak. These hazards are analyzed below. The remaining hazards in the table are considered non-significant hazards with lower probability or lesser impact, and therefore do not warrant a more detailed analysis.

3.1 Significant Hazard: Flooding, Fluvial Erosion and Ice jams

Hazard Definition: Inundation flooding is the rise of riverine or lake water levels, while fluvial erosion is streambed and streambank erosion associated with physical adjustment of stream channel dimensions. Both inundation flooding and fluvial erosion occur naturally in stable, meandering rivers and typically occur as a result of rainfall, snowmelt or ice jams.

Extent: One of the worst widespread flood disasters recorded in the State of Vermont that occurred in November 1927 dropped nearly 10 inches of rain on frozen ground causing extensive damage statewide. Relatively recent widespread flooding occurred in June 1973, when up to 6 inches of rain fell resulting in \$64 million in damage. Over the past several years, flooding has occurred in limited areas of the State from intense, scattered storm events and ground saturation from persistent and excessive rainfall. This characterized the pattern of flooding in 2011 when four regional disaster declarations were issued in Vermont due to flooding and fluvial erosion. The fourth was Tropical Storm Irene in late August when up to 11 inches of rain fell in some areas of the State. The most severe of the 2011 disaster declarations in Lamoille County was the April 2011 flood that caused county-wide damages of 1.2 million dollars.

Location: Hyde Park is fortunate to be less prone to flooding than many neighboring communities. That said, floods and fluvial erosion are the most probable natural cause of emergencies or disaster in the community. Annual flood events are common in some form, with the majority of damage concentrated around Centerville Brook (Centerville Road) and the Lamoille River (south of the Village). From our observation of past events, we estimate that houses along the Lamoille in the areas of Black Farm, Ten Bends and River Run Drive could be subject to some level of inundation for 24 hours.

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Figure 3: Hyde Park Flooding Hazard History

Date (and FEMA DR number if event was declared a federal disaster)	Type of Event	Damage Assessment PA – (Public Assets) PR – (Private Residences)	FEMA public assistance funds received by Hyde Park
April-May, 2011 (DR-1995)	Severe Storms and Flooding	\$1,162,000 (County)	\$110,281.42
August, 2011 (DR 4022)	Tropical Storm Irene	\$460,000 (County)	\$0
May 29, 2012 (DR-4066)	Severe Storm, Tornado and Flooding	\$306,000 (County)	\$0
May 23, 2013 (DR-4120)	Severe Storms and Flooding	\$145,000 (County)	\$0
April 15, 2014 (DR-4178)	Severe Storms and Flooding	\$326,000 (County)	\$0
October 29, 2017 (DR 4356)	Severe Storms and Flooding	\$400,000 (County)	\$0
May 4, 2018 (DR-4380)	Severe Storms and Flooding	Data not available at this writing	\$9,305.45
October 31, 2019 (DR 4474)	Severe Storms and Flooding	\$414,000 (PA County) \$680,000 (PR Statewide)	?

Source: FEMA Disaster Declarations: <https://www.fema.gov/disasters>

3.1.1 National Flood Insurance Program participation

Based on the results of utilizing GIS to overlay a digitized FEMA Flood Insurance Rate Map (FIRM) with the location of structures in Hyde Park (total of 1359) – which were GPS located for the development of the Enhanced 911 Emergency services dispatch system– eleven vulnerable structures (1% of total) were identified to have flood inundation potential, based on the 100-year floodplain.

Hyde Park Town and Village participate in the NFIP and currently have 7 policies in force (all in Hyde Park Town). As of 2018, no claims have been filed since 1978.⁴ There are no repetitive loss properties.⁵ Hyde Park will continue to regulate and enforce NFIP requirements through its floodplain management ordinance, including new and substantially improved construction in Special Flood Hazard Areas and providing floodplain identification and mapping determinations. As previously noted, Hyde Park is also adopting a fluvial erosion hazard corridor to direct investments away from erosion prone areas.

⁴ FEMA NFIP insurance report:

https://floodready.vermont.gov/sites/floodready/files/documents/cisrpt_NFIP%206.26.18.PDF

⁵ FEMA repetitive loss claims:

https://floodready.vermont.gov/sites/floodready/files/documents/cisrpt_RL%206.26.18.PDF

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3.2 Significant Hazard: Winter Storm/Ice Storm

Definition: Winter storms with snow, ice and freezing temperatures in various combinations are fairly commonplace in Hyde Park. Hyde Park is geared to handle most winter emergencies. A potential for emergency exists when such storms also result in the loss of electricity, leaving people without adequate heating capability. Heavy wet snows of early fall and late spring cause most power failures, however, ice storms can also cause power outages. Damage has resulted in structural damage to residences and businesses in the past. Normally damage is the result of heavy snow causing roof failures. Ice events and heavy wet snows have caused numerous power outages due to power line damage.

Location: Due to the region’s mountainous terrain, it is not uncommon for precipitation to range from rain in the valley area, to ice in the middle elevations, with heavy snows in the higher terrain. This poses a major challenge to highway maintenance personnel. Hyde Park maintains snow removal equipment for all town highways, and Vermont Agency of Transportation maintains equipment for state highways. Snowfalls that are within normal snowfall limits are handled effectively; however, during heavy snowfall for extended periods of time, removal of snow becomes problematic. Historically, these events are not frequent and are short in duration. During such events, radio communications is maintained between highway crews and town emergency responders. Local construction equipment in the community has been used during past emergencies to augment community resources. Most residents are accessible during severe weather conditions, although access may be delayed. In the event of a winter emergency, the Highway Department will assist fire and ambulance crews by making private roads passable.

Extent: The worst winter storm that can be anticipated in Hyde Park would be comparable to December 2008 ice storm where much of the region was impacted by 3-4” of ice accumulation, causing widespread, multi-day power outages and obstructing roads with downed trees and power lines. Alternatively, the worst snow storm that can be expected is snowfall of up to 30”, which has occurred multiple times (as shown in Figure 5). While large snowfalls often disrupt business for one or more days, Vermont communities are well prepared for snow and such storms are generally less of a hazard than the aforementioned ice storms.

Figure 5: Hyde Park Severe Winter Storm Hazard History

Date (FEMA DR Number if event was declared a federal disaster)	Snow or Ice Accumulation in Lamoille County (and Hyde Park if available)	Damage Assessment County-Wide	FEMA Public Assistance Funds Received by Hyde Park
December 21, 2013 (DR-4163)	¾-1 inch of ice	\$390,000	\$0
March 12, 2014	12-18” of snow	\$20,000	NA
November 26, 2014	6-12” of snow	\$20,000	NA
December 9, 2014 (DR-4207)	6-18” of snow	\$230,000	\$0
November 20, 2016	6-12” of snow	\$0	NA
February 12, 2017	8-14” of snow	\$10,000	NA
March 14, 2017	18-28” of snow	\$15,000	NA
March 13, 2018	12-30” of snow	\$10,000	NA
January 8, 2019	8-18” of snow	\$20,000	NA
January 19, 2019	10-18” of snow	\$15,000	NA

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Sources: National Oceanic and Atmospheric Administration <https://www.ncdc.noaa.gov/stormevents/>;
FEMA <https://www.fema.gov/disasters>

3.3 Significant Hazard: Wind Storms

Hazard Definition: The National Weather Service (NWS) issues a wind advisory when winds are sustained at 31 to 39 mph for at least one hour or any gusts 46 to 57 mph. Sustained winds of 40 to 73 mph or gusts of 58 mph or higher cause the NWS to issue a High Wind Warning. When high winds are accompanied by rain, severe thunderstorms, hurricanes and tropical storms occur.

Extent: The worst wind event that can be anticipated in Hyde Park would be comparable to that of the September 1938 hurricane. The hurricane entered Vermont as a Category 1 hurricane, with estimated winds of 74 mph, and caused extensive damage to trees, buildings and powerlines. Over 2000 miles of roads were blocked statewide.

Location and most vulnerable assets: For the Wind category, residential structures dispersed throughout rural countryside are most vulnerable to power outages and blocked roadways by downed trees from high wind events. Municipal assets are located in developed village centers with fewer trees and are less vulnerable to this hazard.

Figure 6: Hyde Park Wind Storm Hazard History

Date (and FEMA DR number if applicable)	High Wind (HW) or Thunderstorm Wind (TW) Magnitude	Damage Assessment Lamoille County
December 21, 2012	HW 61 knots	\$50,000 in Lamoille County
July 17, 2013	TW 50 knots	\$5,000 in Wolcott
July 19, 2013	TW 55-65 knots	\$135,000 in Wolcott, Stowe, Morristown, Johnson, Hyde Park, Cambridge and Jeffersonville
July 23, 2014	TW 55 knots	\$50,000 in Stowe
June 20, 2016	TW 50 knots	\$15,000 in Cambridge, Stowe and Johnson
July 22, 2016	TW 50-55 knots	\$15,000 in Cambridge and East Johnson
August 28, 2016	TW 50 knots	\$10,000 in Johnson and Belvidere Center
May 31, 2017	TW 50 knots	\$5,000 in Stowe
October 30, 2017 (DR 4356)	HW 52 knots	\$400,000 in Lamoille County (\$0 FEMA)

Sources: National Oceanic and Atmospheric Administration <https://www.ncdc.noaa.gov/stormevents/>;
FEMA <https://www.fema.gov/disasters>

3.4 Significant Hazard: Infectious Disease Outbreak (Lea and Carol Fano will update)

Hazard Definition: The Vermont Department of Health defines an infectious disease as one that is caused by micro-organisms, such as bacteria, viruses and parasites. An epidemic emerges when an infectious disease occurs suddenly in numbers that are in excess of normal expectancy.

Extent: The great influenza epidemic of 1918 killed millions worldwide. Given increasing trends for global travel, several diseases can make their way back to the State through infected travelers. Today, Vermont is experiencing impacts from the novel coronavirus outbreak that, as of September 18, 2020 the virus killed 943,000 people worldwide, 197,000 people in the United States and 58 people in Vermont.

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Location and most vulnerable assets: Impacts of infectious disease outbreak are typically community-wide, with the most significant impacts felt by people, followed then by the direct and indirect impacts to the economy.

Infectious Disease Outbreak Hazard History: Pandemic influenza, considered to be a global outbreak, spread quickly around the world and was observed in 1918, 1957, 1968 and in 2009 with the novel H1N1 strain. The 2009 H1N1 outbreak, though not considered a serious threat to Vermont, still affected some Vermonters. Lyme disease continues to pose a significant threat to Vermonters, as cases (both probable and confirmed) have been tracked by the Vermont Department of health for several decades.⁶

4.0 Mitigation Goals

Reduce damage to infrastructure and loss of services due to flooding events.

Reduce the impacts of severe winter weather on lives, infrastructure and property.

Reduce the impacts of high wind events on lives, infrastructure and property.

Mitigate the impacts of infectious disease outbreak on public health, economy and access to education.

4.1 Mitigation Actions from 2015 Plan

In 2015, Hyde Park adopted a hazard mitigation plan with the list of following actions. The table below lists the actions and their current status.

Actions Completed
Conduct road erosion inventory, inspect culvert conditions and update culvert inventory (road erosion inventory completed 2017 and 5-yr plan updated in June 2018)
Adopt development standards to limit or restrict new development in floodplain areas and incorporate in Land Use Development Regulations (completed in February 2020)
Update flood hazard regulations to conform with State Flood Resiliency legislation and incorporate in the Land Use Development Regulations (completed in February 2020)
Establish stormwater management guidelines for new and existing development and incorporate into Land Use Development Regulations (completed in February 2020)
Inspected and confirmed roof snow load capacity at Municipal Offices and Gihon Valley Hall community center at +60 lbs/SF with GVH roof replacement (completed December 2019)
Adopt VTrans compliant Town Road and Bridge Standards Policy with 50-yr storm design (July 2019)
Install redundancies and loop feeds in electric grid to minimize outages (Completed along Route 15 by Morrisville Water and Light in 2018)
Actions in Progress
Study the feasibility of implementing a Community Rating System and as part conduct NFIP workshops and advise community on local hazards and flood protection measures (2021)
Upgrade existing stormwater management systems for designated Village Center's Main Street with Stormwater "Net Zero" Showcase Project (2021) and install new systems to attenuate flood storage with Johnson Street Extension's "Sink Hole" Project (2021)

⁶ Vermont State Hazard Mitigation Plan: <https://vem.vermont.gov/plans/SHMP>

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Actions Removed from Further Considerations. These actions were removed from further mitigation considerations as Hyde Park recategorized them as a) emergency preparedness actions rather than hazard mitigation actions, b) routine actions of an ongoing nature rather than mitigation projects and c) actions no longer a priority.
Emergency Preparedness Actions
Improve radio communications for public works department and emergency responder communication; practice operability of communications
Distribute LEMP to promote general emergency awareness and upgrade shelter locations with cots
Provide regular HAZMAT training to emergency response personnel
Continue to provide regular First Responder trainings and increase volunteers with ICS certifications
Continue to participate in Electric Provider mutual aid agreements
Relocate hard-to-reach electrical poles and lines along roads
Routine actions of ongoing nature
Distribute information on snow and wind loads to building permit applicants
Inspect roadside ditches & repair as needed
Increase public awareness for lightning hazards and safety information about downed power lines
Continue annual water system hydrant testing and flushing
Maintain a minimum 10ft roadside clear zone to mitigate against debris
Maintain vegetation management schedule for electric ROW
For new development, bury power lines where practicable and as maintenance is needed
Upgrade minimum culvert sizes to VTrans recommendations to lessen flood damage
Upgrade electrical poles and lines for greater snow/ice resistance
Actions that are no longer a priority
Establish contracts with potable water supply providers and emergency fill station locations
Establish Highway Department mutual aid agreement to increase response time; aid in FEMA reimbursement program
Consider regulations and permit conditions for building permit applicants to incorporate design standards to minimize wind damage
Provide regular HAZMAT training to emergency response personnel
Offer hazard susceptibility audits of local small businesses
Implement the 2011 Community Wildfire Protection Plan
Increase size of salt storage or find second storage location to expand supply
Anchor roof-mounted mechanical equipment on public buildings

4.2 2020 Mitigation Actions

The following sections detail the mitigation goals and potential mitigation actions that have been developed to aid in the reduction of threats posed by recognized hazards. The implementation schedule that follows this section is a table of actions that have been targeted for implementation during the five-year cycle of this plan.

Ultimately, hazard mitigation priorities are determined by Hyde Park's ability to finance and implement these activities with the Town's existing tax base. The mitigation activities will be completed as funding, time, and public support will allow. When weighing investments in hazard mitigation, Hyde Park prioritizes projects that generate the most favorable cost to benefit ratio based on project cost for the greatest number or residents benefitting, as well as other criteria listed here:

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- Does the action respond to a significant hazard?
- Does the action protect threatened infrastructure?
- Does the action protect life and public health?
- Is the action environmentally-sound?
- Will the measure support the local economy economy?

It is important to reiterate here that the jurisdictional authorities of both the Town and the Village are relied upon in this plan. For example, the Village Trustees have jurisdiction over the electric, water, and sewer utilities in the Village area while the Town Selectboard has jurisdiction over the highway department. Both bodies jointly share jurisdiction over the zoning bylaws, unified Town and Village Plan, as well as this LHMP. As a result, continuing with these examples, the Village has the resources to maintain electric service infrastructure while the Town has the resources to maintain the road infrastructure. The Town and Village both have resources and authority over planning activities including emergency management. Both jurisdictions cooperate to incorporate hazard mitigation actions into planning mechanisms.

The Village relies on the Town to manage participation in the NFIP program. The Town and Village are cooperatively working on floodplain management requirements including SFHAs and Vermont's Flood Resiliency legislation. Unless otherwise specified, the actions listed in the following table (Figure 10) are the responsibility of both the jurisdictions, to be executed in a cooperative manner, similar to the methods used to manage the unified plan and unified bylaws.

2020-2025 Actions:

Mitigation Actions	Leading Stakeholders	Estimated Timeline	Possible Funding	Priority Scores (TBD)
Town Actions				
Complete planning for an upgrade to the existing municipal stormwater management system located within the State-designated Village Center's Main Street area with information to be provided in the Lake Champlain Basin Program's Stormwater "Net Zero" Showcase Project.				
Install new stormwater management system to attenuate flood storage and contain erosion along Johnson Street Extension (aka "Sink Hole" Project)	VTrans			
Complete the feasibility study to implement a regionally supported Community Rating System. As part of this effort, conduct NFIP workshops and advise community on local hazards, bylaw improvements, and flood protection measures.				

2020 – 2025

Use existing conditions site plan to prepare for replacement of the undersized Beaver Lake Culvert on Garfield Road (Watershed Consulting Site Plan) and not on proper alignment				
Complete final hydraulics study and consider new “run of river” State permit requirement for Green River Reservoir Dam (Morrisville Water & Light ANR permit) and existing erosion issues at for Garfield Road culvert; a possible new covered bridge entrance to Green River Reservoir State Park				
Install generator, with solar generation option, and backup battery supply for town offices and highway garage.				
Support schools (designated as shelters) in their effort to secure generators.	Selectboard, HPES, LUHS			
Produce summary report on COVID-19 in Hyde Park and correct any deficiencies in town’s response, including on-site PPE supplies, community non-congregant housing inventory and preparations (including options for homeless population, and expansion of connections to regional support groups for delivery of food, medicine and medical appointment transportation.	EMC			
Support efforts of regional and state partners to expand broadband services to all homes in Hyde Park.				
<i>Seth Jensen’s suggestion: Support relocation of septic systems and/or floodproofing of on-site septic systems in North Hyde Park Village.</i>	Selectboard	As needed by property owners	FEMA	
Village Actions				

5.0 Integration of the Mitigation Plan into Other Planning and Preparedness Mechanisms

In order to effectively incorporate mitigation strategies into existing planning mechanisms, it is important to demonstrate how these approaches maximize benefit to the entire community. This can be achieved through the utilization of a cost-benefit analysis, which quantifies the benefits of mitigation against anticipated losses. Such an analysis is an integral part of prioritizing potential mitigation

2020 – 2025

strategies and actions, and is also a requirement for submitting future FEMA mitigation grant applications.

For this hazard mitigation plan to be effective, it cannot stand on its own. Hyde Park’s Comprehensive Development Plan covers both the Town and the Village jurisdictions, as does this Hazard Mitigation Plan. Municipal plans are updated on an eight-year cycle; the 2017– 2023 Hyde Park Town and Village Plan incorporated hazard mitigation planning and policies. The Selectboard adopted Town Road and Bridge Standards on November 13, 2014, which incorporate the 2013 State Road and Bridge Standards. A recent work to update unified Land Use Development Regulations (Hyde Park Town in 2020 and Hyde Park Village in 2015) also includes fluvial erosion and other flood hazard considerations. With the State of Vermont requirement to include a “Flood Resiliency element” into municipal plans, effective July 1, 2014, Hyde Park’s next municipal plan update will more fully integrate specific flooding information and strategies contained in this hazard mitigation plan.

Hyde Park’s staffing capacity is limited in terms of some technical capabilities and works closely with LCPC to accomplish certain hazard planning and mitigation actions. These include geomorphic assessments, flood modeling, infrastructure improvements, and Hazard Mitigation Grant Program applications and projects. Hyde Park does maintain and support other planning and preparedness mechanisms such as: funding for the fire and rescue squads; sustain positions of Emergency Management Director, Deputy Director, and Coordinator; periodic review and update of bylaws and ordinances, including current Flood Resiliency efforts; capital planning and budgeting to improve infrastructure; annual LEMP updates.

