Town of Washington, VT

Local Hazard Mitigation Plan

Adopted January 5, 2021 – Approved January 7, 2021

Prepared by the Town of Washington

and the Central Vermont Regional Planning Commission

Contents

1. Introduction

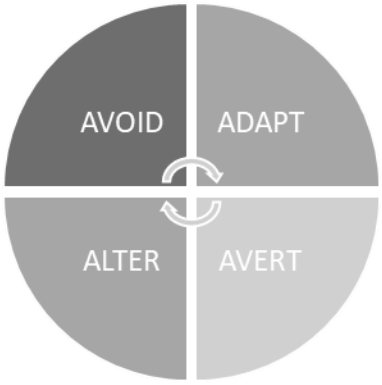
In accordance with the Stafford Act, municipalities may perform mitigation planning and be eligible to receive increased federal funding for hazard mitigation measures. (42 U.S.C. 5165).

The impact of expected, but unpredictable natural and human-caused events can be reduced through community planning. The goal of this Local Hazard Mitigation Plan is to provide a local mitigation plan that makes the Town of Washington more disaster resistant.

Hazard mitigation is any sustained action that reduces or eliminates long-term risk to people and property from natural and human-caused hazards and their effects. Based on the results of previous Project Impact efforts, the Federal Emergency Management Agency (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 of 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 that can be taken to reduce the severity of the hazard.

Hazard mitigation strategies and measures:



ALTER the hazard by eliminating or reducing the frequency of occurrence,

AVERT the hazard by redirecting the impact by means of a structure or land treatment,

ADAPT to the hazard by modifying structures or standards, or

AVOID the hazard by preventing or limiting development.

2. Purpose

The purpose of this Local Hazard Mitigation Plan is to assist the Town of Washington in recognizing hazards facing the region and their community and identify strategies to begin reducing risks from acknowledged hazards.

The 2020 Washington Hazard Mitigation Plan is an update of the Town's adopted 2014 Local Hazard Mitigation plan approved by FEMA on 09/22/2014. This Local Hazard Mitigation Plan assists the Town to catalogue hazards facing the region and community, and to identify strategies that reduce risks from acknowledged hazards based on current information. The Town reviewed, evaluated, and revised the 2014 plan to reflect changes in development, progress in local mitigation efforts, and changes in priorities. New information has been incorporated into the plan, making it up to date, stronger, and more useful to Town officials and residents who will implement the actions and measures going forward. Implementation of this plan will make Washington more resistant to harm and damages in the future, and will help to reduce public costs.

Washington strives to address the strategies, goals and objectives of the 2018 State Hazard Mitigation Plan, including an emphasis on proactive pre-disaster flood mitigation for public infrastructure, appropriate floodplain and river management practices, and fluvial erosion risk assessment initiatives.

The 2020 Washington Local Hazard Mitigation Plan is an update of the 2014 adopted plan. The plan consists of the modified, as described below, sections of the existing plan, which have been reorganized, and new sections:

- Information from the 2014 plan was updated.
- Hazards reflecting the community's priorities were updated.
- The Plan Update Process was updated.
- Plan Maintenance activities were updated.
- The Hazard Analysis Map was updated to reflect current information.
- The status of 2014 mitigation strategies was reviewed and documented.
- The new mitigation strategies section was updated and enhanced to reflect current priorities and intended actions of the community over the next five years.

The long term and overall goal of this plan is to protect life and property from harm/damages caused by natural and man-made disasters.

3. Community Profile

3.1 Geography

The Town of Washington is located in Orange County near the geographical center of Vermont. It is bounded by the Towns of Barre, Orange, Williamstown, Chelsea, Corinth, and Vershire, and contains 26,216 acres of land. The Town is about 84% forested, with only about 3% of its land area developed. Approximately 13% of Washington's land area is cropland, pasture, or open land. Wetlands and surface waters comprise less than 1% of the Town's total area.

With just over 1,400 feet of topographic relief inside its boundaries, Washington is rugged and picturesque. Hilly, but not mountainous, it is part of the physiographic region known as the Vermont Piedmont: a plateau that has been dissected by streams and subdued by glaciations. Generally, slopes are moderately steep. From a minimum elevation of just under 1,000 feet along the First Branch of the White River, the terrain climbs to over 2,000 feet in many places. Michigan Hill, at 2,402 feet, is the highest point.

3.2 Development Patterns

The Town's stony, often steep, and occasionally wet glaciated soils present some widespread and significant limitations for development. A generalized soils analysis of Washington reveals five major soil associations occurs there. None are considered to be particularly favorable for buildings with on-site sewage disposal; however, each may contain sites that are suitable for development.

In spite of difficult geography and soils, development obviously has, and is occurring in Washington. As topography and current population may indicate, the valley of the Jail Branch has historically been the site of most human activity in Washington. However, growth in Washington has been more dispersed in recent decades. Settlement patterns are now following the valleys of some smaller streams and expanding into upland areas. Much of the Town's new residential growth has been on somewhat remote, scattered parcels. Since the last Local Hazard Mitigation Plan update in 2014, the Zoning Administrator has issued 16 permits for new residential construction, 4 mobile home replacements, 2 seasonal dwellings, 33 sheds/barns/garages, and 13 subdivisions. Most of the new construction between 2014 and 2019 has been located in more dispersed, higher elevation parts of Town. All of this development is outside of the Special Flood Hazard Area and the River Corridor. This type of development pattern has not increased vulnerability to hazards from the previous plan, and the Town can assume that vulnerability has stayed relatively similar to 2014.

According to the 2010 U.S. Census, Washington has a total population of 1,039 people living in 419 households.

In earlier times, Washington's economy placed greater emphasis on the use of its natural resources. Until the second half of this century, agriculture, mill-powered manufacturing, mining and forestry were the Town's employment mainstays and most residents made their living in town. Several retail establishments catered to the population drawn by such industries. Now only approximately 15% of Washington's employed residents work in town, there are only a few retails establishments and no large employers, hence Washington has clearly evolved into a bedroom community.

3.3 Utilities and Facilities

The Green Mountain Power Corporation provides electrical service to residential and commercial development in the northern section of Washington, the remainder of the town is serviced by the Washington Electric Cooperative. A municipal water system provides water to 64 users and all other homes and businesses rely on individual or small-scale community wells and springs for their water supply and private waste water treatment systems. The State of Vermont now oversees all wastewater permitting.

Washington does not have a local police department or a Town Constable. Washington does not currently contract with outside organizations for police protection at any level. Residents can call 911 in an emergency and the nearest State Police unit, K Troop Headquarters, located in Middlesex will respond.

3.4 Public Safety

The Town of Washington is served by a 22-member volunteer fire department. The department responded to 44 emergency calls in 2019, which include structure fires, chimney fires, motor vehicle accidents, hazardous conditions, and animal rescues. The Washington Fire Department is a member of the Capital Fire Mutual Aid System and 12 of the emergency calls made were either to receive or give mutual aid to a neighboring department.

The Washington FAST Squad is part of the fire department, and provides first response assistance to residents experiencing medical emergencies. This service is also provided to Washington by Barre Town EMS and First Branch Ambulance out of Chelsea, VT.

Washington prepared a Local Emergency Operations Plan early in 1999 that is updated annually, most recently on July 2nd of 2019. Ryan Bresette is Washington's Emergency Management Director (EMD). The Washington Village School, the Universalist Church (seasonal), the Baptist Church and the Town Offices are designated as emergency shelters. Other potential seasonal shelters include the town airport hangers.

3.5 Municipal Plan

The municipal plan, adopted in 2013, includes discussion, goals, and objectives in regards to Physical Geography, Utilities, Facilities, and Services, and Transportation. Washington does have

zoning bylaws with two identifiable land use districts: a Village District and a Rural Residential District. No future large or small scale developments are currently planned. The municipal plan is currently in the process of being updated by the Planning Commission.

Many of the general priorities of the Town have stayed consistent throughout the municipal plan, Selectboard, and Planning Commission processes and meetings. Year after year, the Selectboard and Town Residents have approved a consistent budget, with funding priorities staying consistent. This consistency is extended to the Local Hazard Mitigation Plan.

3.6 National Flood Insurance Program (NFIP)

Since 1982, Washington has participated in the National Flood Insurance Program (NFIP) in a limited capacity under the Emergency Program. In 2013, official Digital Flood Insurance Rate Maps became available, however they were based on the FIRM maps from 1974, which were based on field estimates and 20 foot contour intervals. Using this data, there are 25 structures in the 100 year flood plain; 18 residential, 3 commercial, and 2 public facilities: the Town Fire Department and Garage. There are no repetitive loss properties in Washington. There is 1 policy. The administrative resources necessary for enrollment and ongoing program maintenance are likely to be a significant challenge for Washington and a deterrent for participation.

According to the Regional Floodplain Manager, FEMA Region 1 has begun initial work to update the flood hazard maps in each of the watersheds, including in Washington. If this is funded consistently it is likely that the Town of Washington will have new Digital Flood Insurance Rate Maps (DFIRM) around 2025. Such maps will be easier to access and will be produced using "model-based" Base Level Engineering. The final maps will still be officially "Zone A" maps but will be based on specific sized flood events and delineated on topography with one-foot contour precision. The Town of Washington emphasizes their support for this update and this would provide a significant benefit to the Town in hazard mitigation planning related to fluvial erosion and inundation flooding.

3.7 Emergency Relief and Assistance Fund (ERAF)

Vermont's Emergency Relief & Assistance Fund (ERAF) provides State funding to match FEMA Public Assistance grants following a federally declared disaster. In 2014, the ERAF criteria were revised to incentivize communities to be more proactive prior to disasters. The default rate for State contribution towards non-federal Public Assistance match following a declared disaster dropped to 7.5%, requiring municipalities to cover the other 17.5% for Public Assistance projects. Municipalities that take four proactive measures are awarded 12.5% State match. The measures are:

- Participate in the National Flood Insurance Program (NFIP).
- Adopt Town Road and Bridge Standards that meet or exceed the VTrans 2016 template.
- Adopt a Local Emergency Management Plan which is renewed and adopted annually.
- Adopt a Local Hazard Mitigation Plan approved by FEMA every five years.

Municipalities that wish to further decrease their cost share to 7.5%, with a 17.5% State match, must also meet one of the following criteria:

- Adopt River Corridor protections, or
- Enroll in the NFIP's Community Rating System (CRS), whereby the community must earn credit under Activity 430.

At the time this plan was developed, Washington had an ERAF rating of 7.5%. Washington has taken the following steps to reduce flood damage by:

- Participating in the National Flood Insurance Program,
- Adopting Town Road and Bridge Standards that meet or exceed the VTrans 2016 Template,
- Adopting a Local Emergency Operations Plan which is renewed and adopted annually,

The Town looks forward to the adoption and approval of this Local Hazard Mitigation Plan to reduce flood damage and increase the Town's ERAF to 12.5%. At this time the Town has not adopted River Corridor protections and does not qualify for the 17.5% post-disaster level of state support.

4. Planning Process and Maintenance

4.1 Planning Process

The Central Vermont Regional Planning Commission (CVRPC) and Assistant Town Clerk, Harry Roush, coordinated the Washington Local Hazard Mitigation Plan process. CVRPC contacted Washington's Emergency Management Director (EMD) and sent town specific hazard mitigation material for review. CVRPC's Executive Director, Bonnie Waninger, met with members of the core Planning Team (Harry Roush: Assistant Town Clerk and Resident, Maxine Durbrow: Washington Fire District #1 and Resident, and Ryan Bresette: Washington Fire Chief, Washington EMD and Resident), Vince Vermette, Nick Bresette, and Robert Blanchard of the Washington Selectboard, and Carol Davis, Town Clerk on October 24, 2019 to begin process of updating the plan.

Grace Vinson, Planner and Zachary Maia, Assistant Planner at CVRPC developed worksheets and public engagement materials after this October meeting and sent them to the Planning Team in December 2019. The Planning Team hung up these public engagement posters in the Fire Department, Post Office, and Town Clerk's Office and collected over 30 responses at each location, totaling 102 overall votes. The public's response to various hazard impacts in Washington was considered by the Planning Team and is included as a summary in the Appendix 7.3 of this plan.

After assessing the material, the EMD and CVRPC staff held a meeting along with members of the community on January 27, 2020. Zachary Maia summarized the hazard mitigation plan update process and led a discussion on the assessment of and prioritization of hazards affecting Washington. The Planning Team reviewed public engagement outcomes from the posters in each of the three locations, and reviewed the proposed Memorandum of Agreement (MOA) for in-kind match, as well as the worksheets for them to fill out. The meeting participants determined that the Town is most vulnerable to Fluvial Erosion, Inundation Flooding, Dam Failure, Extreme Winter Weather, Wind, and Structure Fires. Washington is most focused on Fluvial Erosion and Inundation Flooding as these events are the most common and most destructive.

The Planning Team met with Zachary Maia on March 9, 2020 to review hazard data and update CVRPC on the Planning Team's local match contribution. The public was not invited to attend these planning meetings. At this meeting, CVRPC was provided by Washington's 2019 Annual Report, and also received information on previous mitigation action status, current mitigation projects, programs, and activities, as well as people to send the draft plan to. At this meeting, CVRPC staff received input on hazard data, as well as narrative needs.

The COVID-19 Pandemic interrupted meeting progress between March 2020 and October 2020, as the Town shifted focused to maintaining municipal operations and responding to the health and economic impacts of the situation.

On October 15, the Planning Team met with Zachary Maia of CVRPC to develop a revised timeline for adoption, update CVRPC staff on in-kind match progress for reporting, and review the most recent draft of the plan. The public was not invited to attend this meeting. After the meeting, CVRPC Staff and the Planning Team developed a schedule to complete and submit the plan to VEM by December 2020.

The Planning Team and CVRPC staff convened on November 5, 2020 to check in on draft progress, and finalize the plan for Selectboard and Planning Commission review. Prior to this meeting, CVRPC provided Vermont Emergency Management staff with a copy of the plan for initial review. The public was not invited to attend this meeting. At this meeting, the Planning Team provided CVRPC with more comments on the most recent draft, and reviewed the timeline in order to adopt the plan.

The Washington Planning Commission met on Monday, November 9 to review the Local Hazard Mitigation Plan and provide input. The public was invited to this meeting to provide input. The Planning Commission found the plan aligned with the draft municipal plan, and provided no substantial comments as a result of this meeting.

The Selectboard planned to meet for a regular meeting on Tuesday, November 10 to review the most recent draft of the plan. The meeting was cancelled, and the Selectboard members were provided copies of the draft for review.

CVRPC placed a notice for public comments of the draft update on the CVRPC blog and newsletter. The Town of Washington prepared a Front Porch Forum post and a local news bulletin advertising this public comment opportunity. The draft plan was also available at Washington Town Clerk's Office and by request from CVRPC for public review and comments from November 12, 2020 to November 27, 2020. The public was instructed to provide comments to Harry Roush and Zachary Maia via email. The announcement of the draft update in the CVRPC newsletter reached over 150 people and businesses in the Region's 23 towns, including the adjacent municipalities of Orange, Williamstown, and Barre within CVRPC's boundaries. The Plan was sent to the following interested persons and adjacent municipalities in Tables 4.1 and 4.2.

Staff received comments from Gianna Petito, District Manager of the Winooski Natural Resource Conservation District, Stephanie Smith from Vermont Emergency Management, and Ned Swanberg, Regional Floodplain Manager for the Vermont Department of Environmental Conservation. Gianna Petito and Stephanie Smith provided clarification on the Hands Mill Dam Removal process, and Ned Swanberg provided general comments focusing mostly on the planning process, fluvial erosion and inundation flooding, and mitigation action sections. These comments are summarized at the end of the plan in Appendix 7.4.

Public comments submitted in the future will be reviewed by the Town Clerk (and CVRPC staff dependent on funding) and attached as an appendix. In the future, the plan will be made

available during Town Meeting Day and local meetings with State and local officials to allow for more public comment and review.

The Planning Team met with Zachary Maia on December 3, 2020 to review all public comments and finalize the plan ahead of submission to VEM for Approval Pending Adoption. The public was not invited to participate in this meeting.

On December 4, 2020, the plan was sent to VEM for final review and consideration of issuing an approval-pending-adoption. The plan was issued an Approval Pending Adoption from Vermont Emergency Management on December 9, 2020. The Selectboard adopted the plan at their January 5, 2021 meeting.

Table 4.1: List of individuals who were invited to comment on the plan

Organization	*Name, Position*	*Email*
Vermont Emergency Management (VEM)	Stephanie Smith, State Hazard Mitigation Officer	stephanie.a.smith@vermont.gov
Vermont Emergency Management	Ben Rose, Recovery and Mitigation Section Chief	ben.rose@vermont.gov
Vermont Emergency Management	Josh Cox, Critical Infrastructure Planner	josh.cox@vermont.gov
Central Vermont Regional Planning Commission	Grace Vinson, Emergency Management Planner	vinson@cvregion.com
Vermont Department of Environmental Conservation (DEC)	Ned Swanberg, Regional Floodplain Manager	ned.swanberg@vermont.gov
Vermont Department of Environmental Conservation	Gretchen Alexander, Regional Rivers Scientist	gretchen.alexander@vermont.gov
Vermont Department of Environmental Conservation	Eric Blatt, Division Director	Eric.Blatt@vermont.gov
Vermont Department of Environmental Conservation	Rob Evans, River Corridor and Floodplain Manager	rob.evan@vermont.gov
Vermont Department of Forests, Parks & Recreation (FPR)	David Paganelli, County Forester	david.paganelli@vermont.gov
Vermont Department of Environmental Conservation	Benjamin Green, Dam Safety Engineer	Benjamin.Green@vermont.gov

Table 4.1: List of individuals who were invited to comment on the plan		
Organization	*Name, Position*	*Email*
Washington Fire Department	Ryan Bresette, Fire Chief	Washington19k1@gmail.com
Town of Washington	Nick Bresette, Selectboard Chair	Nickbresette84@gmail.com
Town of Washington	Joe Bresette, Planning Commission Chair	(802) 249-8284
Washington Village School Elementary School	Amy Harlow, Principal	aharlow@cvsu.org
Williamstown Middle High School	Renee Badeau Jamie Kinnarney	rbadeau@cvsu.org jkinnarney@cvsu.org
Central Vermont Supervisory Union	Susette Bollard, Superintendent	sbollard@cvsu.org
Green Mountain Power	Mari McClure, President and CEO	CEO@greenmountainpower.com
Washington Electric Cooperative, Inc.	Dan Weston, Director Engineering & Operations	dan.weston@wec.coop
County Sheriff	Orange County Sherriff Department	sheriff@orangecountysheriff.com
Vermont State Police, Middlesex Barracks	Lieutenant David White	david.white@vermont.gov
Local Emergency Planning Committee #5	Katina Johnson, Chair	chair.lepc5@gmail.com
Winooski Conservation District	Gianna Petito, District Manage	gianna@winooskinrcd.org
Friends of the Winooski Watershed	Michele Braun, Executive Director	michele@winooskiriver.org
White River Partnership	Mary Russ, Executive Director	mary@whiteriverpartnership.org
Washington Fire District #1	Maxine Durbow	Mbd1150@hughes.net

Table 4.2: List of surrounding communities who were invited to comment on the plan			
Municipality	*Person*	*Role*	*Email*
Town of Orange	Angela Eastman	Town Clerk	aeastman@orangevt.org
Town of Corinth	Nancy Ertle	Town Clerk	corino@tops-tele.com

Town of Chelsea	Karen J. Lathrop	Town Clerk	town.clerk@chelseavt.us
Town of Williamstown	Barbara Graham	Town Clerk	clerk@williamstownvt.org
Town of Barre	Donna Kelty	Town Clerk	dkelty@barretown.org

Existing Mitigation Programs, Projects and Activities

The ongoing or recently completed programs, projects and activities are listed by mitigation strategy and were reviewed for the development of the plan. The 2013 municipal plan, 2019 Town Report, Washington's past Local Hazard Mitigation Plan, Washington's Local Emergency Management Plan, and past newspaper articles were reviewed for pertinent information. The 2010 culvert and short structure inventory, Stream Geomorphic Assessments of the Stevens Branch Williamstown and Barre City Upstream of the Confluence with the Jail Branch, and Washington DFIRM maps were reviewed as well.

Table 4.3: Status of Existing Mitigation Programs, Projects, and Activities

	Type of Existing Authority / Policy / Program / Action	*Resources: Staffing and Funding*	*Ability to Expand/Improve upon*
Community Preparedness Activities	Program – Washington's Local Emergency Management Plan (LEMP) is updated annually.	1 staff, 40 hours, less than $1,000.	Program is sufficient at this time, but could benefit from being updated by a small committee.
	Program – Capital Equipment Fund is maintained by the Town on an annual basis.	1 staff, less than 200 hours.	Program is sufficient at this time, however could benefit from updated accounting software.
	Action – Washington Village School maintains Emergency Evacuation Plan.	None – plan is existing.	Plan could benefit from a secondary evacuation route.
Insurance Programs	Program – Washington will remain as a participant in the National Flood Insurance Program (NFIP).	1 staff member (Zoning Administrator), depends on construction.	Emergency-only situation currently – could improve depending on cost.
Land Use Planning	Policy – Washington will maintain their municipal plan.	9-member Planning Commission, less than $2,000.	Plan is being updated during the term of this plan – no ability to expand or improve upon at this time.
	Program – Steep Slope Protection: Land development on slopes greater than 15% subject to a Conditional Use permit.	9-member Zoning Board of Adjustment, less than $2,000.	Part of Zoning Regulations. No ability to expand or improve upon at this time.
	Program – Protection of Rivers, Streams, and Bodies of Water: No land development shall occur within vegetated buffer	9-member Zoning Board of Adjustment, less than $2,000.	Part of Zoning Regulations. No ability to expand or improve upon at this time.

Table 4.3: Status of Existing Mitigation Programs, Projects, and Activities			
	Type of Existing Authority / Policy / Program / Action	*Resources: Staffing and Funding*	*Ability to Expand/Improve upon*
	strip of at least 50 ft[1] from each bank of streams and rivers and from the shores of naturally occurring lakes and ponds except as approved by the Board of Adjustments.		
Hazard Control and Protection of Critical Infrastructure & Facilities	Program: Maintenance Programs (Short Bridge Inventory & Culvert Inventory)	2 staff; 100 hours, grant funded.	Program could be improved upon by updating with GPS/inventory of culvert condition.
	Program: Maintenance of 8 dry hydrants in Washington.	Fire Department (Rural Fire Protection Agency)	Maintenance is adequate, but could be expanded if more funding was provided.
	Program: Clean Up Recovery Plan	Clean Harbors or SafetyClean Selectboard.	No ability to expand or improve upon at this time.
	Program: Maintain Capital Mutual Aid System.	Dues $200/year, to Capital Fire Mutual Aid.	No capacity to expand or improve upon at this time.
Education/Public Outreach	Program: Fire Safety Education Programs	Fire Department and VT Division of Fire Safety Funded	Program may be expanded or improved through more sustained public outreach.
	Program: First responder CPR & hazmat trainings	Fire Department/FAST Squad trained and funded.	Program may be expanded to train more EMS personnel.
	Program: School Fire Safety Program	Fire Department and VT Division of Fire Safety	Program may be expanded or improved upon by providing more depth through increased funding.

4.2 Plan Maintenance Process

This Plan shall be maintained per the schedule set forth in the 5-Year Maintenance Plan in Appendix 7.2 of this plan. After adopting this plan, the Town of Washington plans to implement the actions outlined in the final section of this plan. In order to implement these actions, the Town intends to engage with the Washington Selectboard, the Highway Department, and other groups outside of the Town to ensure implementation occurs on schedule.

The Washington Local Hazard Mitigation Plan will be updated and evaluated annually at a September Select Board meeting. This annual review will allow the Town to identify priority changes and track implementation ahead of budgeting for the next fiscal year. Updates and

[1] The current standard requiring a 50-foot buffer on small streams is similar to the 50-foot standard for small streams in River Corridor protection.

evaluation by the Select Board will also occur within three months after every federal disaster declaration and as updates to town plan/zoning and river corridor plans come into effect. The plan will be reviewed by the Select Board, Town Clerk, Local Emergency Management Director (EMD) and the public at the abovementioned September select board meeting. CVRPC staff will assist with updates or if no funding is available, the Town Clerk and Local Emergency Management Director will update the plan.

The process of evaluating and updating the plan will include continued public participation through public notices posted at the municipal offices, in the town newsletter and CVRPC newsletter and blog inviting the public to the scheduled Select Board (or specially scheduled) meeting. These efforts will be coordinated by the Town Clerk and Emergency Manager.

Updates may include changes in community mitigation strategies; new town bylaws, zoning and planning strategies; progress of implementation of initiatives and projects; effectiveness of implemented projects or initiatives; and evaluation of challenges and opportunities. If new actions are identified in the 5-year interim period, the plan can be amended without formal re-adoption during regularly scheduled Select Board meetings.

The Town of Washington intends to incorporate public input and information from the annual reviews into the revision and adoption of the plan in five years. The Town will focus on revising the hazards impacts and analyzing changes in development that may have increased vulnerability. All findings will be considered in the update of the plan at the end of the 5-Year Process.

In the fourth year of this plan's implementation, the Town will begin work on the review and update process for formal approval to avoid plan expiration. If funding is available and identified ahead of time, CVRPC will provide support to the Town in updating the Local Hazard Mitigation Plan prior to expiration, otherwise the Emergency Management Director will undertake this effort.

Washington shall also consider incorporation of mitigation planning into their long term land use and development planning documents as well. It is recommended the Town reviews and incorporates elements of the Local Hazard Mitigation Plan when updating the Municipal Plan. The incorporation of the Local Mitigation Plan into the municipal plan, possible future zoning regulations and additional flood hazard bylaws will also be considered after declared or local disasters. The Town shall also consider reviewing future Stevens Branch Corridor planning documents for ideas on future mitigation projects and hazard areas.

4.3 Status of Prior Plan's Mitigation Actions

Table 4.4: Status of Prior Plan's Mitigation Actions	
Mitigation Action	2020 Status
Removal of Hands Mill Dam	Town has since received a $5,000 grant in conjunction with the Winooski Natural Resources Conservation District, and will continue to seek funding for engineering study.
Development of Cleanup Recovery Plan	Continue to 2020 list.
Replacement and expansion of highlighted problem culverts as prioritized by the Select Board	Work has been done on Woodchuck Hollow and MacDonald. Work to be done on West Corinth Road. Keep on list. Work is ongoing and will continue into 2020 Mitigation Actions.
Development of flood bylaws	Washington adopted Flood Hazard Regulations in 1998, which are applicable to all development in the Special Flood Hazard Area.
Improved fire education materials for homeowners	Work is ongoing and will continue into 2020 Mitigation Actions.
Installation of E911 number signs	Work is ongoing and will continue into 2020 Mitigation Actions.
Sprinkler systems for municipal buildings	Work is ongoing and will continue into 2020 Mitigation Actions.
Communications Sign	Town has invested in road accident packages.
Installation of mobile home tie downs	Town has removed Tornadoes from priority hazards, but will continue to seek funding for similar opportunities
Participate in Community Rating System	The community does not have the administrative capacity to qualify for CRS. As such, residents can not benefit from reduced costs on flood insurance.

The Town of Washington has seen development occur in the higher elevation areas of Town, outside of Special Flood Hazard Areas and River Corridors. Since 2014, the Town has invested in road accident packages, maintained town highway improvements to road surfaces and infrastructure, and began progress on the removal of Hands Mill Dam, resulting in at least the same vulnerability if not a possible decrease since 2014.

5. Community Vulnerability by Hazard

5.1 Hazard Identification

The following natural disasters were discussed and the worst threat hazards were identified based upon the likelihood of the event and the community's vulnerability to the event. Hazards not identified as a "worst threat" may still occur in Washington. Greater explanations and mitigation strategies of moderate threat hazards can be found in the State of Vermont's Hazard Mitigation Plan.

Hazard impacts were rated on their probability and potential impact to infrastructure, life, economy, and environment. The impact was then averaged, and multiplied by the probability to develop a score to compare hazard impacts in Washington. For information regarding the ranking criteria, please refer to Table 5.1:

Table 5.1: Hazard Assessment Ranking Criteria

	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 the 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 the 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.

Table 5.2: 2020 Hazard Table							
Hazard Impact	**Probability**	**Potential Impact**					**Score***
		Infrastructure	Life	Economy	Environment	Average	
Fluvial Erosion	4	4	3	4	4	3.75	**15**
Inundation Flooding	4	4	3	4	2	3.25	**13**
Structure Fire	3	4	3	2	3	3	**9**
Ice	3	3	3	3	2	2.75	**8.25**
Wind	4	3	2	2	1	2	**8**
Dam Failure	3	3	2	2	3	2.5	**7.5**
Drought	3	2	2	3	3	2.5	**7.5**
Snow	4	2	2	2	1	1.75	**7**
Cold	3	1	3	2	2	2	**6**
Wildfire	2	3	3	3	3	3	**6**
Heat	3	1	3	2	2	2	**6**
Earthquake	2	3	3	3	2	2.75	**5.5**
Infectious Disease Outbreak	2	1	4	4	1	2.5	**5**
Landslides	2	3	2	1	2	2	**4**
Invasive Species	2	2	1	2	3	2	**4**
Hail	2	1	1	1	1	1	**2**

*Score = Probability x Average Potential Impact

The Town of Washington identified the following disasters as presenting the worst threat to the community:

- Fluvial Erosion and Inundation Flooding
- Structure Fire
- Extreme Winter Weather
- Wind
- Dam Failure

Other hazards not identified as worst threat may still occur in Washington, but the Town decided to prioritize the above hazards as they pose a consistent, historical threat with a large impact to most Washington residents. The Town recognizes that the hazards of drought, infectious disease outbreak, wildfire, heat, earthquake, landslide, invasive species, and hail may pose a threat to Washington residents, but due to a lack of consistent historical occurrences and lower potential impact, these hazard impacts have been excluded from this plan. A review of the Vermont State Hazard Mitigation Plan of November 2018 provides a greater explanation of these hazards and possible mitigation strategies to address them.

Like the State of Vermont Hazard Mitigation Plan, Washington did not include the following hazards in the risk and vulnerability assessment due to the low occurrence, low vulnerability, and or geographic proximity: civil disturbance, coastal erosion, expansive soils, karst topography, sinkholes, tsunami, and volcano.

The 2020 update to the 2014 LHMP has remained consistent, with the addition of Extreme Winter Weather and Wind as new hazards. Tornado has been removed from the list of priority hazards due to low probability, and shifting priorities.

A discussion of each significant hazard is included in the proceeding subsections and a map identifying the location of each hazard is attached (See map titled Areas of Local Concern.) Future updates will include profiles on hazards that are "highly likely." Each subsection includes a list of past occurrences based upon County-wide FEMA Disaster Declarations (DR-#) plus information from local records, a narrative description of the hazard and a hazard matrix containing the following overview information:

Hazard	Location	Vulnerability	Extent	Impact	Likelihood
Type of hazard	General areas within municipality which are vulnerable to the identified hazard.	Types of structures impacted	Minimal: Limited and scattered property damage; no damage to public infrastructure contained geographic area (i.e., 1 or 2 communities); essential services (utilities, hospitals, schools, etc.) not interrupted; no injuries or fatalities. Moderate: Scattered major property damage (more than 50% destroyed); some minor infrastructure damage; wider geographic area (several communities) essential services are briefly interrupted; some injuries and/or fatalities.	Dollar value or percentage of damages (if known).	Highly Likely: >75% probability in a year. Likely: >10% but <75% probability per year, at least 1 chance in the next 10 years. Occasionally: 1-10% probability of occurrence per year, or at least one chance in the next 100 years. Unlikely: <1% probability of

Hazard	Location	Vulnerability	Extent	Impact	Likelihood
			Severe: Consistent major property damage; major damage to public infrastructure (up to several days for repairs); essential services are interrupted from several hours to several days; many injuries and fatalities.		occurrence per year

5.2 Hazard Analysis

5.2.1 Fluvial Erosion and Inundation Flooding

Fluvial Erosion and inundation flooding are common occurrences in Washington. Inundation Flooding is the overflowing of rivers, streams, ponds and lakes due to excessive rain, rapid snow melt or ice. Fluvial erosion is a natural process of stream channel adjustments. Fluvial erosion causes erosion of sediment in some areas, while causing aggradation of sediment in others. Fluvial erosion processes may occur more quickly and severely during flood events. Where buildings are placed too closed to streams, and the channel becomes straightened and armored, the stream flow becomes faster and more powerful, often directing subsequent damage to nearby roads, culverts and property.

Recent History of Occurrences (presidential declarations and NCDC query search information. The closest flood gauge is located in Montpelier on the Winooski River, approximately 15 miles downstream).

Table 5.3: Fluvial Erosion and Inundation Flooding Historical Events

Date	Event	Location	Extent
4/15/19	Flood	County-wide	DR-4445; primarily damage to roads and bridges, Orange county per capita damage of $9.55.
5/4/18-5/5/18	Flood	County-wide	DR-4380; primarily damage to roads and bridges, Orange County per capita damage $3.92.
10/29/17-10/30/17	Flood	County-wide	DR-4356; primarily damage to utilities, Orange county per capita damage $6.64.
6/29/17-7/1/17	Flood	County-wide	DR-4330; primarily damage to roads and bridges, Orange County per capita damage $29.06.

Table 5.3: Fluvial Erosion and Inundation Flooding Historical Events			
Date	Event	Location	Extent
2/25/17-2/26/17	Flood; ice jam	County-wide	$10,000 in property damage
4/15/14- 4/18/14	Flood	County-wide	DR 4178; primarily damage to roads and bridges, Orange County per capita damage $12.72.
6/25/13- 7/11/13	Flood	County-wide	DR 4140; primarily damage to roads and bridges, Orange County per capita damage $17.46.
8/28/2011	Flood/Tropical Storm	Statewide, Washington	T.S. Irene (DR 4022); primarily damage to roads and bridges, Orange County per capita damage of $19.08. Montpelier Flood gauge at 19.05 feet (flood stage is at 15 feet)
5/27/2011	Flash Flood	Washington	DR 4001; primarily damage to roads and bridges, Montpelier flood gauge at 17.59 feet, 3-5" of rain
7/2009	Flood	Washington	$45,000 in local infrastructure damages
8/02/2008	Flash Flood	Washington	No extent data
7/11/2007	Flash Flood	Washington	3-6" of rain in 2 hrs., DR 1715
7/21/2003	Flood	County Wide	DR 1488
12/17/2000	Flood	County Wide	3" of rain, $1 M in damages
7/14/2000	Flood	County Wide	DR 1336
9/16/1999	Tropical Storm Floyd	County Wide	Montpelier flood gauge at 9.30 feet, 5-7" rain county wide DR 1307
6/27/1998	Flash Flood	County Wide	$5M in damages, 3-6" rain across county DR 1228
1/19/1996	Flood; ice jam	County Wide	Montpelier flood gauge at 14.64 feet
8/4/1995	Flood	County wide	Montpelier flood gauge at 6.94 feet; $1.5M damages county wide
8/5/1976	Flood	County Wide	Montpelier flood gauge at 12.31 feet DR 518
6/30/1973	Flash Flood	Washington	Montpelier flood gauge at 17.55 feet DR 397
9/22/1938	Flood, Hurricane	County Wide	Montpelier flood gauge at 14.11 feet
11/03/1927	Flood	County Wide	Montpelier flood gauge at 27.10 feet

Washington is home to the Winooski, White, and Waits watersheds and stands at a high point in elevation. This poses significant concerns for the Town, as high elevation streams are still prone to the effects of fluvial erosion on steep slopes.

The head waters of the Jail Branch are located in Washington. The River flows north to Barre Town and Barre City where it conjoins with the Stevens Branch of the Winooski River. Two studies have been conducted on the Jail and Stevens Branch to gauge the health of the river and identify flood prone areas, where construction should be avoided, and areas constricted by bridges/culverts.

The First Branch of the White River flows along 110 South into Chelsea, Tunbridge, and South Royalton before meeting the White River. Cookville Brook flows southeast from Michigan Hill to the South Branch of the Waits River and joins the Waits River in Corinth. The East Orange Branch flows east to the Waits River in Topsham.

Washington's principal flood hazard zones occur along the Jail Branch and First Branch of the White River. However, some of the smaller tributary streams are subject to flash flooding and are capable of causing property damage as well.

Six of the nine largest floods have occurred in the past 35 years. These floods are a result of intense cloudbursts, hurricanes and snowmelt. A USGS study found that since 1970, an increase in precipitation has occurred due to climate change.

The greatest threat to flooding is caused by changes in land use and increased development near river banks and in Zone A floodplain areas. Increased development and encroachment on rivers and streams leads to greater volumes stormwater runoff and greater erosion of stream banks. Improperly built private driveways also disrupt stormwater flow and can overload culverts with additional stormwater.

Two flooding events in July 2009 caused approximately $45,000 in damages at these stream/road intersections. The Scales Hill Road suffered the greatest amount of damage and a culvert was replaced in pre-cast concrete in 2012. Three other problem areas identified in 2011 have had bridge and culvert upgrades including Johnson Lane and the intersection of Stellar Road and Williamstown Road. Work has also been done on Woodchuck Hollow and MacDonald roads since the previous plan, and future work is planned on West Corinth Road.

The most damaging floods were in May and August (TS Irene) of 2011. Washington suffered the most damage in the August 2011 TS Irene flood event. The following roads were damaged (repair costs included):

- East Orange/Morrie Road - $2,170.44
- Notch Road - $2,619.84
- Poor Farm Road Bridge - $2,619.84
- West Corinth Road - $18,371.11

The total documented damages from the TS Irene flood event cost about $58,241.59 with the Town share totaling $7,280.39. This total for the repair of the above sites went over $1,000 each and, therefore, qualified for reimbursement from FEMA and the State of Vermont. There were other roads that were damaged and required work that impacted the 2011 road budget over and above $7,280.39. The extent of this damage was highest on Woodchuck Hollow Road.

Stream assessments make several recommendations to prevent help decrease the likelihood of flooding and flash flooding. These recommendations are to:

- have a 50ft no development buffer on all waterways,
- replace bridges which constrict the river,
- develop a culvert maintenance plan, and
- properly manage stormwater in developed areas (consideration of soils/deposits, septic systems, channel/fluvial migration zones.)

As Washington considers the impacts of previous flooding events, and assesses the hazard and risk of future flooding events, there is the opportunity to consider the impacts of the River Corridor. As defined by Vermont State Statute, the River Corridor includes, "the land area adjacent to a river that is required to accommodate the dimensions, slope, planform, and buffer of the naturally stable channel and that is necessary for the natural maintenance or natural restoration of a dynamic equilibrium condition." By avoiding locating investment in the River Corridor and further encroaching on streams, communities can avoid economic damage, and well as flood damage.

Washington participates in the NFIP. FIRM maps identify some limited Zone A areas. Washington does not have record of any repetitive loss properties. There are currently no large or small developments planned in Washington that would be considered in the floodplain.

Table 5.4: Fluvial Erosion and Inundation Flooding Hazard Risk Assessment

Hazard	Location	Vulnerability	Extent	Impact	Probability
Fluvial Erosion and Inundation Flooding	Along Jail Branch and major tributaries which flow to Stevens Branch; highlighted intersections on Hazards Analysis Map	Bridges, culverts, roadways, Town Garage and Office, Washington School, structures within 50 ft of waterway, as well as Hands Mill Dam. Especially vulnerable are the 18 residential homes, 3 commercial businesses, and 2 Town Buildings in the floodplain. See Hazard Analysis Map.	TS Irene: 13,200 ft^2 lost on Woodchuck Hollow Road.	$100,000 for roadwork depending on severity – Higher if actual buildings are damaged (based off current grand list)	High

5.2.2 Structure Fire

According to the National Fire Protection Association, any fire in or on a building or other structure is considered a structure fire even if the structure itself was not damaged. Although many structures in Washington are less than 100 years old, many residents heat their homes with wood or pellet burning stoves. According to the 2018 American Community Survey 5-Year Estimates, 33.6% of homes in Washington are primarily heated by wood. The remoteness and distance from fire and emergency services of many homes also increases the likelihood of a home being completely, opposed to partially, destroyed by a fire. The south eastern section of the town is more remote and more forested than the northern portion of the town.

The Washington Volunteer Fire Department and FAST Squad are both active, and provide volunteer fire department services to Washington and adjacent municipalities. Two of the calls received in 2019 by Washington's Fire Department were structural fire incidents. In 2019, Washington's Fire Department provided support on 8 mutual aid requests to neighboring municipalities, and required mutual aid assistance for one of the substantial structure fires located in Washington.

The Town of Washington maintains a system of dry hydrants across Town to aid in responding to structure fires. The most recently installed dry hydrants are located at Cyr Pond on Route 110 south of the village, at the intersection of Stellar/Williamstown Roads, and at Duranleau Pond on Cheney Road. The Town Clerk's office does not have a sprinkler system, which is a great concern to Town residents. Significant large structure fires have occurred in the past in Washington, and this hazard remains of high concern to Washington residents.

Table 5.5: Structure Fire Hazard Risk Assessment

Hazard	Location	Vulnerability	Extent	Impact	Probability
Structure Fire	Town wide with emphasis on the south east section of town	Wood structures, especially older than 100 years, homes that use wood-burning stoves for heat, vuln populations, and populations that live areas of Town not ea accessible.	Moderate	$150, 000 per home based on median grand list value	High

5.2.3 Extreme Winter Weather (Snow, Ice, Cold)

Vermont is known for its cold and snowy winters and Vermont towns and its residents are generally equipped to handle this weather. It is when the winter weather becomes extreme that a hazard is created. Severe winter storms bring heavy snow loads, ice, damaging winds,

dangerous wind chills, below zero temperatures, power outages, downed trees and power lines, collapsed roofs and buildings, stranded motorists and vehicles, road closings, restricted transportation, and school and business closings.

The physical impacts of severe winter weather are town wide due to the expansive nature of the weather. A winter storm is defined as a storm that generates sufficient quantities of snow, ice or sleet to result in hazardous conditions and/or property damage. Ice storms are the result of cold rain that freezes on contact with the surfaces coating the ground, trees, buildings, overhead wires and other exposed objects with ice, sometimes causing extensive damage. Periods of extreme cold tend to occur with these events.

While the Town of Washington utilizes the Fujita and Saffir-Simpson scales for categorizing tornadoes and hurricanes, the Town does not have a method for categorizing snowfall accumulations. While all snow events can put residents in danger, the Town has chosen to focus on those events accumulating at least twelve inches of snow to include in the below historical record of extreme winter weather. All instances of ice and extremely cold weather are included in Table 5.6:

Table 5.6: Extreme Winter Weather Historical Events

Date	Storm Type	Description
3/3/1996	Winter Storm	Snow squalls
4/10/1996	Winter Storm	7-14 inches, power outages and motor vehicle collisions
12/7/1996	Winter Storm	12+ inches of snow
1/9/1997	Winter Storm	6-12 inches of snow
1/17/1997	Cold/Wind Chill	30-60 degrees below zero
1/19/1997	Cold/Wind Chill	27 degrees below zero
1/22/1997	Winter Weather	Unknown
1/27/1997	Winter Storm	6-12 inches of snow
3/14/1997	Winter Storm	Ice accumulations on top of snow
3/31/1997	Winter Storm	8-14 inches of snow
12/29/1997	Winter Storm	7-12 inches of snow
1/6/1998	Ice Storm	3/4 inch of ice, widespread power outages
1/23/1998	Winter Storm	11-13 inches of snow
2/24/1998	Winter Storm	8-14 inches of snow
3/14/1998	Heavy Snow	10-14 inches of snow
3/21/1998	Heavy Snow	15-20 inches of snow
11/26/1998	Winter Weather	2-5 inches of snow with ice causing motor vehicle accidents
1/3/1999	Winter Storm	4 inches of snow and ice
1/8/1999	Winter Storm	8-15 inches of snow
3/6/1999	Winter Storm	13-17 inches of sow
12/20/1999	Winter Weather	freezing rain, accidents reported

Table 5.6: Extreme Winter Weather Historical Events		
Date	Storm Type	Description
1/25/2000	Winter Storm	8-16 inches of snow
1/30/2000	Winter Storm	7-14 inches of snow
2/13/2000	Winter Storm	4-7 inches of snow, 1/8 inch of ice
2/18/2000	Winter Storm	9-13 inches of snow
11/26/2000	Winter Weather	freezing rain, accidents reported
12/16/2000	Winter Weather	1/4 inch ice
12/31/2000	Winter Storm	7-12 inches of snow
1/30/2001	Winter Weather	1/4 inch ice
2/5/2001	Winter Storm	10-14 inches of snow
3/5/2001	Winter Storm	15-30 inches of snow
3/22/2001	Winter Storm	Up to 23 inches of snow; power outages and accidents
3/30/2001	Winter Storm	15-19 inches of snow
12/24/2001	Winter Weather	freezing rain, accidents reported
1/31/2002	Winter Storm	6-8 inches of snow, 1/4 inch of ice
3/20/2002	Winter Storm	6-12 inches of heavy wet snow
12/25/2002	Winter Storm	10-20 inches of snow
1/4/2003	Winter Storm	10-20 inches of snow
2/18/2003	Winter Storm	6-12 inches of snow
12/6/2003	Winter Storm	12-20 inches of snow
12/15/2003	Winter Storm	10-20 inches of snow
1/15/2004	Cold/Wind Chill	20-45 degrees below zero
1/2/2005	Winter Weather	freezing rain, accidents reported
1/18/2005	Cold/Wind Chill	"very cold temperatures"
1/20/2005	Cold/Wind Chill	"very cold air"
1/23/2005	Cold/Wind Chill	"very cold air and gusty winds"
2/10/2005	Winter Storm	8-12 inches of snow
3/28/2005	Winter Weather	light freezing rain
2/25/2006	Winter Storm	8-12 inches of snow
1/1/2007	Winter Weather	1/4 - 3/8 inches of ice
1/15/2007	Winter Storm	ice up to 1/2 inch, up to 2 inches of snow
2/14/2007	Heavy Snow	15-25 inches of snow
3/16/2007	Winter Storm	9-13 inches of snow
4/4/2007	Winter Storm	4-12 inches of snow and sleet
12/2/2007	Winter Storm	6-12 inches of snow
12/16/2007	Winter Storm	8-18 inches of snow
1/11/2008	Winter Weather	freezing rain, accidents reported
2/6/2008	Winter Storm	10-16 inches of snow
2/26/2008	Winter Storm	6-12 inches of snow
3/1/2008	Winter Storm	6-12 inches of snow

Table 5.6: Extreme Winter Weather Historical Events		
Date	Storm Type	Description
3/4/2008	Winter Weather	1/4 inch freezing rain
12/8/2008	Cold/Wind Chill	wind chill 15-25 degrees below zero
12/11/2008	Winter Storm	5-9 inches of snow, ice
12/19/2008	Winter Storm	6-12 inches of snow
1/28/2009	Winter Storm	8-14 inches of snow
2/22/2009	Winter Storm	10-18 inches of snow
12/9/2009	Winter Storm	6-12 inches of snow
2/23/2010	Winter Storm	6-30 inches of snow
4/27/2010	Winter Weather	4-12 inches of snow
12/26/2010	Winter Storm	6-15 inches of snow, gusts approaching 40 mph
1/12/2011	Winter Storm	6-12 inches of snow
2/2/2011	Winter Storm	10-15 inches of snow
3/6/2011	Winter Storm	6-12 inches of snow, 1/4 inch of ice
12/26/2012	Winter Storm	6-15 inches of snow
2/8/2013	Winter Storm	6-15 inches of snow
3/19/2013	Winter Storm	6-12 inches of snow
12/14/2013	Winter Storm	10-15 inches of snow
2/5/2014	Heavy Snow	8-12 inches of snow
2/13/2014	Heavy Snow	12-18 inches of snow
3/12/2014	Winter Storm	15-20+ inches of snow
11/26/2014	Winter Storm	8-12 inches of snow
12/9/2014	Winter Storm	4-18 inches of snow
2/1/2015	Cold/Wind Chill	13-17 degrees below normal, damages total over $1 million
2/2/2015	Winter Storm	6-12 inches of snow
11/29/2016	Winter Weather	1-10 inches of ice, numerous vehicle accidents
12/29/2016	Winter Storm	6-12 inches of snow
2/12/2017	Winter Storm	6-12 inches of snow
3/14/2017	Winter Storm	12-18 inches of snow
3/31/2017	Winter Storm	6-12 inches of snow
4/1/2017	Winter Storm	6-12 inches of snow
12/12/2017	Winter Storm	6-12 inches of snow
3/7/2018	Winter Storm	9-15 inches of snow
3/13/2018	Winter Storm	10-27 inches of snow
11/26/2018	Winter Storm	6-12 inches of snow, downed trees and power outages
1/19/2019	Winter Storm	10-18 inches of snow
3/22/2019	Winter Storm	7-14 inches of snow

One major impact of extreme winter weather is on the provision of electricity via the grid. As stated previously, the Town of Washington is served by Green Mountain Power (GMP) and

Washington Electric Co-Op (WEC). Ice and snow can weigh down trees, which can fall and damage power lines. In such instances, residents reliant on electricity for health needs may be put at risk. Disrupted electricity can also have impacts on information distribution across the Town.

Extreme cold is arctic air, together with brisk winds, that can lead to dangerously cold wind chill values. People exposed to extreme cold are susceptible to frostbite in a matter of minutes. Areas most prone to frostbite are uncovered skin and the extremities, such as hands and feet. Hypothermia is another threat during extreme cold. Hypothermia occurs when the body loses heat faster than it can produce. Wind chills can be life threatening. The wind chill temperature is how cold a person or animal feels when outside. Wind chill is based on the rate of heat loss from exposed skin caused by wind and cold. As wind increases, it draws the heat from the body through exposed skin and reduces the body's skin temperature and eventually the body's core temperature. Often times exposed skin can freeze within minutes of exposure. These extremely cold temperatures can pose a significant risk to vulnerable populations who live in Town, especially when combined with Wind. The National Weather Service Windchill chart is included to reinforce the danger of frostbite that can be exacerbated by windchill.

Washington understands the hazard posed by Extreme Winter Weather and has procedures in place to ensure the clearing of roadways, as well as the maintenance of operations throughout inclement weather.

NWS Windchill Chart

Temperature (°F)

Wind (mph)	Calm	40	35	30	25	20	15	10	5	0	-5	-10	-15	-20	-25	-30	-35	-40	-45
5		36	31	25	19	13	7	1	-5	-11	-16	-22	-28	-34	-40	-46	-52	-57	-63
10		34	27	21	15	9	3	-4	-10	-16	-22	-28	-35	-41	-47	-53	-59	-66	-72
15		32	25	19	13	6	0	-7	-13	-19	-26	-32	-39	-45	-51	-58	-64	-71	-77
20		30	24	17	11	4	-2	-9	-15	-22	-29	-35	-42	-48	-55	-61	-68	-74	-81
25		29	23	16	9	3	-4	-11	-17	-24	-31	-37	-44	-51	-58	-64	-71	-78	-84
30		28	22	15	8	1	-5	-12	-19	-26	-33	-39	-46	-53	-60	-67	-73	-80	-87
35		28	21	14	7	0	-7	-14	-21	-27	-34	-41	-48	-55	-62	-69	-76	-82	-89
40		27	20	13	6	-1	-8	-15	-22	-29	-36	-43	-50	-57	-64	-71	-78	-84	-91
45		26	19	12	5	-2	-9	-16	-23	-30	-37	-44	-51	-58	-65	-72	-79	-86	-93
50		26	19	12	4	-3	-10	-17	-24	-31	-38	-45	-52	-60	-67	-74	-81	-88	-95
55		25	18	11	4	-3	-11	-18	-25	-32	-39	-46	-54	-61	-68	-75	-82	-89	-97
60		25	17	10	3	-4	-11	-19	-26	-33	-40	-48	-55	-62	-69	-76	-84	-91	-98

Frostbite Times: 30 minutes | 10 minutes | 5 minutes

$$\text{Wind Chill (°F)} = 35.74 + 0.6215T - 35.75(V^{0.16}) + 0.4275T(V^{0.16})$$

Where, T= Air Temperature (°F) V= Wind Speed (mph)

Effective 11/01/01

During the many winter storms, ice storms, and extreme cold, Washington has experienced school closings, increased road maintenance, pressure on the town highway budget, power outages (from downed lines and extreme cold), downed trees and tree limbs, increase medical needs due to overexertion with clean up and snow removal, falls often with broken bones due to icy surfaces, vehicular accidents, collapsed structures from heavy snow and ice loads, frozen culverts and more.

Many of the impacts from these winter hazards can be reduced by practicing preparedness measures such as staying off the snow and ice covered roads until they are cleared, having vehicles equipped with proper winter gear and snow tires, using moderation and resting when removing snow and cleaning up from a storm, keeping heating pipes cleared and well ventilated, keeping roofs clean of heavy snow/ice loads, checking on and helping the elderly and disabled residents of the community, and listening to the local weather forecast for storm updates.

Table 5.7: Extreme Winter Weather Hazard Risk Assessment

Hazard	Location	Vulnerability	Extent	Impact	Likelihood
Extreme Winter Weather (Snow, Ice, Cold)	Throughout the Town, with emphasis on main roads and utility Right of Ways.	Travel, roads, power lines, private property, health and safety of vulnerable residents.	Moderate: Scattered major property damage (more than 50% destroyed); some minor infrastructure damage; wider geographic area (several communities) essential services are briefly interrupted; some injuries and/or fatalities.	Unknown at this time.	High

5.2.4 Wind

Wind is often included in other storm events, such as tropical storms, thunder storms, or winter weather, and it may be present on its own through wind storms or tornadoes. Regardless of the other storm impacts, wind presents a significant hazard to electricity transmission lines, roads, and private property.

Washington has identified wind as a highly probable, low damage hazard that could be mitigated against in the future. Historical data can be found in Table 5.8 below.

Table 5.8: Wind Historical Events

Date	Wind Type	Description
10/25/1980	Thunderstorm Wind	Winds of 60 kts.
6/27/1994	Thunderstorm Wind	Several thunderstorms, downed trees, golf-ball sized hail
7/14/1996	Thunderstorm Wind	Thunderstorms and heavy rain, property damage at $250,000
6/22/1997	Thunderstorm Wind	Winds of 56 kts, property damage of $15,000

Table 5.8: Wind Historical Events		
Date	Wind Type	Description
9/16/1999	High Wind	T.S. Floyd, 44 kts winds and heay rain caused trees and power lines to blow down. $100,000 in property damage, schools closed
8/29/2004	Thunderstorm Wind	Winds around 50 kts and $5000 in property damage
7/22/2005	Thunderstorm Wind	Winds around 50 kts and $5000 in property damage
8/1/2005	Thunderstorm Wind	Winds around 55 kts and $50000 in property damage
6/19/2006	Thunderstorm Wind	Winds around 50 kts and $5000 in property damage
7/18/2006	Thunderstorm Wind	Winds around 50 kts and $2000 in property damage
8/2/2006	Thunderstorm Wind	Winds around 50 kts and $5000 in property damage
6/2/2007	Thunderstorm Wind	Winds around 55 kts and $20000 in property damage
6/27/2007	Thunderstorm Wind	Winds around 50 kts and $3000 in property damage
7/9/2007	Thunderstorm Wind	Winds around 50 kts and $20000 in property damage
7/9/2007	Thunderstorm Wind	Winds around 50 kts and $10000 in property damage
8/25/2007	Thunderstorm Wind	Winds around 55 kts and $100000 in property damage
6/8/2008	Thunderstorm Wind	Winds around 65 kts and $75000 in property damage
6/10/2008	Thunderstorm Wind	Winds around 50 kts and $10000 in property damage
6/27/2008	Thunderstorm Wind	Winds around 50 kts and $10000 in property damage
7/18/2008	Thunderstorm Wind	Winds around 50 kts and $10000 in property damage
5/9/2009	Thunderstorm Wind	Winds around 50 kts and $5000 in property damage
5/9/2009	Thunderstorm Wind	Winds around 50 kts and $5000 in property damage
5/9/2009	Thunderstorm Wind	Winds around 56 kts and $5000 in property damage
8/21/2009	Thunderstorm Wind	Winds around 50 kts and $5000 in property damage
2/26/2010	High Wind	Winds around 50 kts and $50000 in property damage
7/21/2010	Thunderstorm Wind	Winds around 75 kts and $350000 in property damage
5/26/2011	Thunderstorm Wind	Winds around 50 kts and $5000 in property damage
6/9/2011	Thunderstorm Wind	Winds around 50 kts and $10000 in property damage
8/21/2011	Thunderstorm Wind	Winds around 50 kts and $5000 in property damage
5/29/2012	Thunderstorm Wind	Winds around 50 kts and $5000 in property damage
7/4/2012	Thunderstorm Wind	Winds around 50 kts and $10000 in property damage
7/17/2012	Thunderstorm Wind	Winds around 50 kts and $15000 in property damage
9/8/2012	Thunderstorm Wind	Winds around 50 kts and $10000 in property damage
6/2/2013	Thunderstorm Wind	Winds around 50 kts and $5000 in property damage
9/11/2013	Thunderstorm Wind	Winds around 50 kts and $25000 in property damage
5/27/2015	Thunderstorm Wind	Winds around 50 kts and $5000 in property damage
7/18/2016	Thunderstorm Wind	Winds around 50 kts and $10000 in property damage
7/23/2016	Thunderstorm Wind	Winds around 60 kts and $50000 in property damage
9/11/2016	Thunderstorm Wind	Winds around 50 kts and $5000 in property damage
2/25/2017	Thunderstorm Wind	Winds around 55 kts and $50000 in property damage
9/5/2017	Thunderstorm Wind	Winds around 55 kts and $15000 in property damage
5/4/2018	Thunderstorm Wind	Winds around 60 kts and $50000 in property damage

Table 5.8: Wind Historical Events		
Date	Wind Type	Description
6/18/2018	Thunderstorm Wind	Winds around 65 kts and $20000 in property damage
6/29/2019	Thunderstorm Wind	Winds around 50 kts and $1000 in property damage
8/17/2019	Thunderstorm Wind	Winds around 55 kts and $20000 in property damage

For conversion purposes, 1 knot is equal to 1.15078 miles per hour. According to the Beaufort Wind Chart, at around 39-48 miles per hour, wind can be causing hazards for driving conditions and begin removing twigs from trees. Between 47-54 miles per hour, wind can start causing light structural damage. Those wind events below Beaufort 9 (50 kts) have been excluded from the historical event chart, or those resulting in less than $50,000 in property damage.

Table 5.9 Beaufort Wind Chart – Estimating Wind Speeds				
Beaufort Number	MPH		Terminology	Description
	Range	Average		
0	0	0	Calm	Calm, Smoke rises vertically.
1	1-3	2	Light Air	Wind motion visible in smoke.
2	4-7	6	Light Breeze	Wind felt on exposed skin. Leaves rustle.
3	8-12	11	Gentle Breeze	Leaves or smaller twigs in constant motion.
4	13-18	15	Moderate Breeze	Dust and loose paper is raised. Small branches begin to move.
5	19-24	22	Fresh Breeze	Smaller trees sway.
6	25-31	27	Strong Breeze	Large branches in motion. Whistling heard in overhead wires. Umbrella use becomes difficult.
7	32-38	35	Near Gale	Whole trees in motion. Some difficulty when walking into the wind.
8	39-46	42	Gale	Twigs broken from trees. Cars veer on road.
9	47-54	50	Severe Gale	Light structure damage.
10	55-63	60	Storm	Trees uprooted. Considerable structural damage.
11	64-73	70	Violent Storm	Widespread structural damage.
12	74-95	90	Hurricane	Considerable and widespread damage to structures.

Washington is served by Washington Electric Cooperative (WEC) in the southwestern and central parts of Town, and by Green Mountain Power (GMP) in the northeast corner of the Town (near the village). Wind poses a significant risk to the utility right-of-ways by falling trees. The Town cannot control operations from WEC and GMP in maintaining right-of-way mowing and clearing, but consistent maintenance by these utilities will ultimately lower the risk of the

general population to losing power from high-wind events, and the Town should encourage this ongoing maintenance.

Since the LHMP update in 2014, Washington has removed Tornadoes from the list of priority hazards in favor of elevating wind events.

Tornados in Vermont are especially rare due to the mountainous topography of the State. The National Weather Service reports that only about one tornado occurs in Vermont every two years. Only 32 tornadoes have occurred in Vermont between 1950 and 1995. On May 9, 2009 a tornado touched down in the northwest section of Washington. The tornado that occurred on this date was the second earliest confirmed tornado in Vermont since 1950.

The May 2009 tornado was rated an EF1 on the enhanced Fujita scale and had winds around 100 mph (87 knots). The path of the tornado was roughly a half mile long and traveled through the village of Washington before dissipating. No one was hurt in the tornado; however, there was severe damage which occurred to trees and structures in the swath. A six-unit apartment complex had its roof torn off. Damage also occurred to the roof of the Washington School in the village area. New radios were installed in 2012 to improve town-wide and inter-town communications in the case of an extreme weather event or hazard incident such as a tornado.

Table 5.10 Enhanced Fujita Scale

Category	Wind Speed
EF-0	65-85 MPH
EF-1	86-110 MPH
EF-2	111-135 MPH
EF-3	136-165 MPH
EF-4	166-200 MPH
EF-5	201+ MPH

Table 5.11: Wind Hazard Risk Assessment

Hazard	Location	Vulnerability	Extent	Impact	Likelihood
Wind	Primarily overhead utilities and right-of-ways, as well as roads and private property near trees.	Power lines, trees, private property, roads, health and safety of vulnerable residents.	Minimal: Limited and scattered property damage; no damage to public infrastructure contained geographic area (i.e., 1 or 2 communities); essential services (utilities, hospitals, schools, etc.) not interrupted; no injuries or fatalities. Moderate: Scattered major property damage (more than 50% destroyed); some minor infrastructure damage; wider geographic area (several	$5,000 to $350,000 in private property damages.	High

Table 5.11: Wind Hazard Risk Assessment					
Hazard	Location	Vulnerability	Extent	Impact	Likelihood
			communities) essential services are briefly interrupted; some injuries and/or fatalities.		

5.2.5 Dam Failure

The Hands Mill Dam is located just south of the village area of Washington on the Jail Branch of the Winooski River. Construction on the dam was completed in 1860. The dam is of earthen and concrete construction and is approximately 20 feet high and 325 feet wide. The pool behind the name is approximately 2 acres and stores about 12 acre feet of water including sediments. At maximum capacity the dam stores approximately 16 acre feet of water. The dam is currently partially breached and continues to hold back significant sediment.

The Vermont Department of Environmental Conservation performed inspections in 2001, 2007, 2013, and 2016, and has another planned for 2020. The most recent inspection report in 2016 reveals that the dam continues to be in poor condition, and is currently partially breached. The dam is classified as a "Class 2 Significant Hazard" dam, which is a category of structures "located in primarily rural or agricultural areas where failure may damage isolated homes, secondary highways or minor railroads, or cause interruption of service of relatively important public utilities." If this dam were to fail, there is potential for loss of life, and appreciable potential for economic losses. The 2016 inspection report offers the following recommendations:

- Retain a professional engineer experienced in the design and investigation of dams to develop plans to remove the dam and restore the upstream channel. The dam is progressively breaching. A failure of the dam could cause public and private property damage and loss of life downstream.
- Develop, implement and keep current an Emergency Action Plan (EAP) for use during an unusual or emergency event at the dam. The purpose of an EAP is to reduce the risk of human life loss and injury and minimize property damage. The EAP should be reviewed and tested at least annually. Submit a copy of the EAP to the Dam Safety Program.
- Clear the dam crest, the upstream slope and the downstream slope of trees, woody vegetation, and debris extending 15 feet beyond the toe of the dam, outlet structure, and both abutments.

The Town of Washington would be most interested in removal of the Hands Mill dam, as it no longer serves a purpose. Alteration or reconstruction of the dam would require prior approval from the VT DEC as the dam impounds more than 500.000 cubic feet of water and sediment. Areas which could be inundated are Route 110, Creamery Road, the Town Clerks office, and Washington Village School. The Hazard Analysis Map highlights areas which could be affected by inundation if the dam were to break.

The Town of Washington is in the early stages of dam removal in conjunction with the Winooski Natural Resources Conservation District. As of March 2020, the Winooski Natural Resources Conservation District received an Ecosystem Restoration Project (ERP) Grant for the Phase 1 Preliminary Design for the removal of this dam. In order for the Town to continue to move forward, funding for final design and implementation must be a priority as the dam continues to pose a hazard to the Village.

Table 5.12: Dam Failure Hazard Risk Assessment					
Hazard	Location	Vulnerability	Extent	Impact	Likelihood
Dam Failure	Those areas in the dam impoundment area of the Hands Mill Dam, especially in close proximity to the Village.	Homes, roads, and bridges within the village with a specific focus on the 13 within the Dam's Inundation Zone, as well as transportation needs along Woodchuck Hollow Road.	Moderate: Scattered major property damage (more than 50% destroyed); some minor infrastructure damage; wider geographic area (several communities) essential services are briefly interrupted; some injuries and/or fatalities.	Directly Unknown, but appreciable potential for economic losses.	Medium

6. Mitigation

6.1 Municipal Plan Goals and Policies that Support Local Hazard Mitigation

During the drafting of this Local Hazard Mitigation Plan, Washington is in the process of updating their municipal plan, and some of the goals and policies present in the plan include:

- To plan for the public investment in the construction or expansion of infrastructure such as fire and police protection, emergency medical services, schools and solid waste disposal, and others, to meet future needs should reinforce the general character and planned growth patterns of the town.
- To provide for safe, convenient, economic and energy efficient transportation systems that respects the integrity of the natural environment.
- To protect and preserve important natural and historic, recreational, scenic and cultural features of the landscape including air, water, wildlife, and land resources.
- Trees and other vegetation along streams, rivers, and lake shores serve to: protect property from flood flow and ice jams, prevent bank erosion, enhance aesthetic appeal, and maintain the oxygen level of the water for fish habitat and effluent assimilation capacity. For these reasons, undisturbed areas of vegetation should be retained and encouraged along the banks of surface waters.

As Washington is updating its municipal plan, the Town will consider the inclusion of specific mitigation goals reflective of this planning effort. The Town will continue to consider additional mitigation goals as the plan is updated in the future.

The goals of this Local Hazard Mitigation Plan are:

- To take actions to reduce or eliminate the long-term risk to human life and property from:
    - Fluvial Erosion and Inundation Flooding
    - Extreme Winter Weather (Snow, Cold, Ice)
    - Wind
    - Structure Fire
    - Dam Failure

Specific hazard mitigation strategies related to goals of the Plan include:

- Ensure existing and future drainage systems are adequate and functioning properly
- Preserve and prevent development in areas where natural hazard potential is high
- Provide residents with adequate warning of potential hazards
- Ensure that all residents and business owners are aware of the hazards that exist within Washington and ways they can protect themselves and insure their property

- Ensure that emergency response services and critical facilities functions are not interrupted by natural hazards
- Provide adequate communication systems for emergency personnel and response units

Over the course of the next five years, Washington will look into incorporating more mitigation planning into their daily planning activities and projects. The mitigation goals and strategies outlined in this Local Mitigation Plan are the first steps in making Washington more disaster resistant. The hazards identified in this plan cause the greatest impacts and damage and are the priority hazards for the Town of Washington. In order to have continuous achievement of mitigation goals and implementation mitigation strategies, the Town will spend time each year assessing progress of and future funding sources for the outlined mitigation strategies. This session can be performed during Town Meeting Day or an annual session of another set date can be held during a public Select Board Meeting.

6.2 Proposed Hazard Mitigation Programs, Projects and Activities

Hazard mitigation programs, projects and activities that were identified for implementation at the Town Local Hazard Mitigation meeting are:

Table 6.1: 2020 – 2025 Hazard Mitigation Programs, Projects and Activities

Hazard Mitigated	Mitigation Action	Local Leadership	Prioritization	Possible Resources	Time Frame
Dam Failure	Final Design and Removal of Hands Mill Dam	Selectboard, ANR, Winooski NRCD	High	FEMA Hazard Mitigation Assistance, BRIC	2020-2022
Dam Failure	Support identified buy-outs for properties in danger of flooding from the Hands Mill Dam.	Selectboard, ANR, VEM, Winooski NRCD	High	FEMA Hazard Mitigation Assistance, BRIC	2020-2022
Dam Failure	Prior to dam removal, draft Emergency Action Plan for use while work proceeds.	Selectboard, ANR, VEM, Winooski NRCD	High	FEMA Hazard Mitigation Assistance, BRIC	2020-2022
Dam Failure	Continued Development of Clean Up Recovery Plan	Selectboard, Road Dept., Fire Dept.	Medium	VEM, Red Cross	2020-2023

Table 6.1: 2020 – 2025 Hazard Mitigation Programs, Projects and Activities					
Hazard Mitigated	Mitigation Action	Local Leadership	Prioritization	Possible Resources	Time Frame
Fluvial Erosion and Inundation Flooding	Replacement and expansion of problem culverts as prioritized by the Selectboard.	Selectboard, Road Dept.	Medium	HMGP, General fund	2020-2024
Fluvial Erosion and Inundation Flooding	Conduct survey of landowners in floodplain to understand barriers to buying flood insurance	Planning Commission	Medium	Town Funds	2021-2024
Fluvial Erosion and Inundation Flooding	Review and incorporate the Transportation Resiliency Planning Tool into road maintenance schedule.	Selectboard, CVRPC, VTrans, Road Dept.	High	Town Funds, RPC Funds	Ongoing
Structure Fire	Improved Fire Education materials for homeowners	Selectboard, Fire Dept., Washington School children	Medium	FM Global Fire Prevention Grant Program	2020-2022
Structure Fire	Installation of E911 number signs	Road Crew	Medium	General Fund	Ongoing
Structure Fire	Sprinkler systems for municipal buildings	Selectboard, Fire Dept.	Low	Dept. of Homeland Security	2020-2024
Wind, Extreme Winter Weather	Coordinate with WEC and GMP to ensure ROW maintenance	Selectoard, WEC, GMP	Medum	Town Funds	Ongoing
Extreme Winter Weather	Annually review plowing schedule to ensure adequate service can be provided after large storms.	Selectboard, Road Crew, School Leadership	Medium	Town Funds	2020-2023
All Hazards	Public CPR Classes	Selectboard, Fire Dept.	Medium	General Fund, VT Division of Fire Safety	Ongoing

Table 6.1: 2020 – 2025 Hazard Mitigation Programs, Projects and Activities					
Hazard Mitigated	Mitigation Action	Local Leadership	Prioritization	Possible Resources	Time Frame
All Hazards	Continue distribution and collection of CARE forms for vulnerable populations in Washington.	Fire Department, Selectboard, Town Clerk	Medium	Town Funds	Ongoing

VEM also emphasizes a collaborative approach to achieving mitigation on the local level, by partnering with ANR, VTrans, ACCD, Regional Planning Commissions, FEMA Region 1 and other agencies, all working together to provide assistance and resources to towns interested in pursuing mitigation projects and planning initiatives.

The Hazard Mitigation Activities Matrix lists mitigation activities in regards to local leadership, possible resources, implementation tools, and prioritization. Prioritization was based upon the economic impact of the action, the Community's need to address the issue, the action's cost, and the availability of potential funding. The action's cost was evaluated in relation to its benefit as outlined in the STAPLEE guidelines.

Washington understands that in order to apply for FEMA funding for mitigation projects, a project must meet FEMA benefit cost criteria. In addition, the Town must also have a FEMA approved Hazard Mitigation Plan.

A High prioritization denotes that the action is either critical or potential funding is readily available and should have a timeframe of implementation of less than two years. A Medium prioritization is warranted where the action is less critical or the potential funding is not readily available and has a timeframe for implementation of more than two years but less than four. A Low prioritization indicates that the timeframe for implementation of the action, given the action's cost, availability of funding, and the community's need to address the issue, is more than four years.

7. Attachments

7.1 Areas of Local Concern Map

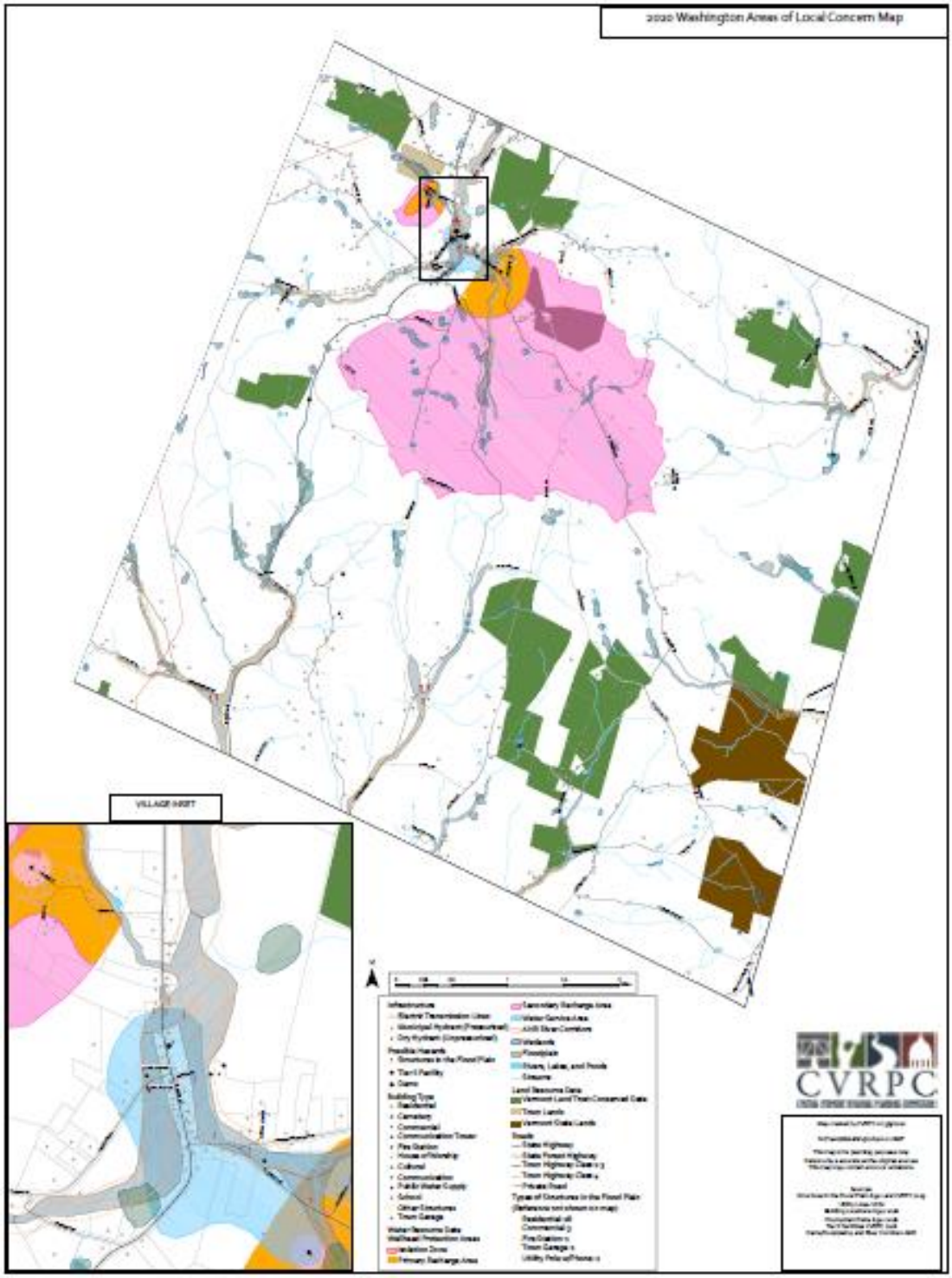
7.2 5-year plan maintenance and review process

7.3 Public Engagement Results

7.4 Public Comment Summary

7.5 Town Resolution Adopting the Plan

7.1 Areas of Local Concern Map



For Full Sized map, please see https://centralvtplanning.org/towns/washington/

7.2 5-Year Plan Maintenance and Review Process

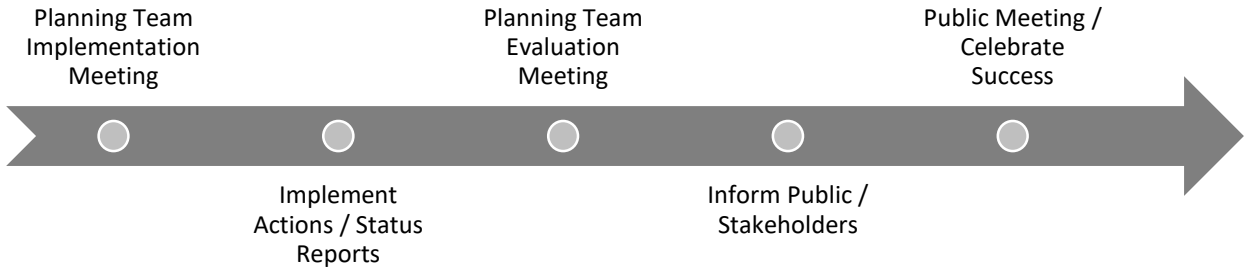
- Brief local leadership on plan approval
- Formally adopt plan
- Publicize plan approval and adoption
- Celebrate success

- Confirm/clarify responsibilities
- Integrate mitigation actions
- Monitor and document implementation of projects and actions
- Establish indicator of effectiveness or success

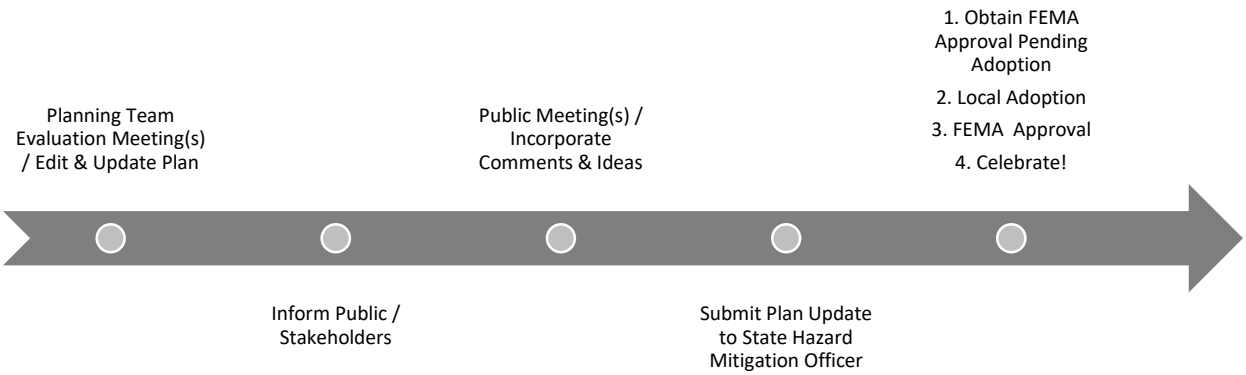
- Effectiveness of planning process
- Effectiveness of actions
- Document success & challenges of actions
- Update and involve community
- Celebrate successes

- Review factors affecting community's context
- Analyze findings; determine whether to revise process or strategy
- Incorporate findings into the plan

After Plan Adoption – Annually Implement and Evaluate



Fifth Year, and After Major Disaster - Evaluate and Revise



7.3 Public Engagement Results

	A	B	C	D	E
1	**WASHINGTON'S LOCAL HAZARD MITIGATION PLAN COMMENT POSTERS**				
2					
3	POST OFFICE, FIRE STATION AND TOWN HALL FROM DECEMBER 24, 2019 TO JANUARY 27, 2020				
4					
5	**CATEGORY**	**TOWN HALL**	**FIRE STATION**	**POST OFFICE**	**TOTALS**
6					
7	**DAM FAILURE**	5	7	9	21
8					
9	**FLUVIAL EROSION**	3	3	4	10
10					
11	**INUNDATION FLOODING**	7	1	0	8
12					
13	**STRUCTURE FIRE**	7	11	2	20
14					
15	**SEVERE WINTER STORM**	9	7	10	26
16					
17	**SEVERE STORM**	1	5	6	12
18					
19	**TORNADO**	1	0	4	5
20					
21	**MISC COMMENTS**	LIBERALS			
22					
23		33	34	35	102
24					
25	THE POSTERS WERE LEFT FOR THE PUBLIC TO GIVE INPUT AS				
26	TO WHAT THEY BELIEVE THE GREATEST HAZARDS ARE TO OUR COMMUNITY				
27	APPROXIMATELY 34 DID SO AND THE RESULTS ARE ABOVE.				

7.4 Public Comment Period Summary

The following is a summary of the comments received between November 12, 2020 and November 27, 2020 on the Draft Washington Local Hazard Mitigation Plan. Copies of the plan were available online at the Central Vermont Regional Planning Commission's website, as well as in person at the Washington Town Clerk's Office. Parties were instructed to send comments electronically to Harry Roush, Assistant Town Clerk, and Zachary Maia, Assistant Planner at the Central Vermont Regional Planning Commission. Below please find a chronological summary of the comments received, and how they were, or were not, incorporated.

1. **Vermont Emergency Management (November 6, 2020)**
   Prior to public comment, the Washington Local Hazard Mitigation Plan Planning Team and CVRPC finalized the plan for initial completeness review from Vermont Emergency Management. Stephanie Smith returned a copy of the plan with initial comments for consideration and inclusion prior to submission of the plan for Approval Pending Adoption. These comments are attached to this plan, with information on how they were addressed.

2. **Winooski Natural Resources Conservation District and Vermont Emergency Management (November 12 and November 19, 2020)**

   On November 12, 2020, Gianna Petito, District Manager of the Winooski Natural Resource Conservation District congratulated the Planning Team on continuing work on the plan and moving it towards completion. She offered the following comments, which were reinforced via VEM:
   - The Plan lists HMGP as the funding source for removal [of the Hands Mill Dam]... is that the same as BRIC?
     - VEM: Yes, Hands Mill Dam funding should be listed as BRIC. Alternatively, you can just say FEMA Hazard Mitigation Assistance funding, which covers all of the programs.

   Planning Team and CVRPC: Edited Hands Mill Dam Removal Funding source to mention FEMA HMA and BRIC.

   - WNCRD: Do you see any need to mention the woodchuck hollow house somewhere to increase its chances for a buyout?
     - VEM: Yes, I think it is also worth adding a strategy for a buyout near Hands Mill Dam – just don't include the address at this point. I would say FEMA Hazard Mitigation Assistance funding for that as well.

   Planning Team and CVRPC: Include Mitigation Action to participate in necessary buyouts for the safe removal of the Hands Mill Dam.

On November 19, Gianna Petito forwarded the Dam Breach report completed by the Dam Safety division on the Hands Mill Dam to Harry Roush, Zachary Maia, and Grace Vinson. She recommended the following:

- …The recommendation to develop an Emergency Action Plan while other work proceeds with dam removal (page 4).

Planning Team and CVRPC: Add this strategy to the Mitigation Actions Table.

3. Vermont Department of Environmental Conservation (November 23, 2020)

On November 23, 2020, Zachary Maia and Harry Roush received comments on the plan from Ned Swanberg, Regional Floodplain Manager for the Vermont Department of Environmental Conservation. Swanberg provided comments throughout the plan in the pdf, and these comments are summarized below:

- "Since the last Local Hazard 25 Mitigation Plan update in 2014, the Zoning Administrator has issued 16 permits for new 26 residential construction, 4 mobile home replacements, 2 seasonal dwellings, 27 sheds/barns/garages, and 13 subdivisions." (p. 6)
    - Were any of the structures located in the Special Flood Hazard Area or River Corridor? While the Town of Washington does not manage development in the River Corridor it is a statewide concern, part of the Town's Flood Resilience Strategy and a useful indicator.

Planning Team and CVRPC: Add clarification of development locations after this statement. These developments were/were not in the SFHA, nor the River Corridor.

- "Since 1982, Washington has participated in the National Flood Insurance Program (NFIP) in a limited capacity under the Emergency phase." (p. 8)
    - The Town of Washington will likely be in Regular Program automatically after the [incomplete].

Planning Team and CVRPC: Corrected this statement to reflect Regular Program Participation.

- "There are no repetitive loss properties in Washington. There are 3 policies." (p. 8)
    - I just checked 11/23/2020. Only one now! This is means that over 90% of the structures in the mapped high risk flood hazard area do not have flood insurance policies in force. This is potentially a great vulnerability to people, content, buildings, town capacity. Perhaps there could be a process to look at barriers to access? Is it a lack of info? Premium cost? Disregard for maps? Lack of resource information?

Planning Team and CVRPC: Corrected to mention the single policy held in Town. Added language to mention the position landowners within the mapped high risk flood hazard area are in. Strategy included re: surveying landowners in floodplain re: barriers to access for flood insurance.

- "Further, the Town would like to emphasize the need for DFIRM maps to be updated in order to better plan for future development." (p. 8)
    - The Town of Washington currently has Flood Insurance Rate Maps published in 1974. The maps identify flood hazards by approximate Zone A data (no detailed studies). The data is not digitized (not a DFIRM) but can be viewed at the Town Office or online at www.msc.fema.gov. The Town is at the headwaters of several large watersheds. As of 2020, FEMA Region 1 has begun initial work to update the flood hazard maps in each of the watersheds. If this is funded consistently it is likely that the Town of Washington will have fresh Digital Flood Insurance Rate Maps (DFIRM) around 2025. Such maps will be easier to access and will be produced using "model-based" Base Level Engineering. The final maps will still be officially "Zone A" maps but will be based on specific sized flood events and delineated on topography with one-foot contour precision. The current 1974 maps were based on field estimates and 20' contour intervals.

Planning Team and CVRPC: Planning Team appreciates this clarification and update and looks forward to the revised maps in the future. Will add clarification on this timeline in Town's support for DFIRMS.

- "Adopt ANR's River Corridor bylaws, or" (p. 8)
    - Perhaps edit this to read: "Adopt River Corridor protections" (to clarify further, later, to meet or exceed the guidance in ERAF http://tinyurl.com/erafvt)

Planning Team and CVRPC: Corrected.

- "At the time this plan was developed, Washington had an ERAF rating of 12.5%." (p. 8)
    - As of today the Town of Washington is listed at 7.5% for ERAF since the LHMP has expired. In future cycles the Town may want to work closely with CVRPC to pursue grant funding and complete plan updates without incurring a gap

Planning Team and CVRPC: Corrected. Added language re: future funding into plan update process.

- "At this time, the Town has not adopted interim River Corridor bylaws, which, if it did, would 6 increase the Town's ERAF rate to 17.5%." (p. 9)
    - The word "interim" is not relevant. Perhaps: "At this time the Town has not adopted River Corridor protections and does not qualify for the 17.5% post-disaster level of state support." The current Flood Risk report for the Town of Washington is online at:

https://anrweb.vt.gov/DEC/FoFReports/SSRSReportViewer.aspx?RepName=ExpandedCommunityReport&Municipality=Washington

Planning Team and CVRPC: Struck "interim." Revised statement to read: "At this time the Town has not adopted River Corridor protections and does not qualify for the 17.5% post-disaster level of state support."

- "CVRPC provided Vermont Emergency Management staff with a copy of the plan for initial review. The public was not invited to attend this meeting." (p. 11)
    - Zoom? Call? Attend? Should there be an explanation about why a Zoom call was not used or a free teleconference meeting was not used?

Planning Team and CVRPC: The Town of Washington does not have widespread wifi availability or cell service to ensure adequate remote access for all attendees. Public engagement occurred at beginning of planning process, and public was invited to review and comment on the plan. Further, the plan was reviewed by Selectboard members and at a regularly warned Planning Commission meeting. The physical and social distancing requirements by the State of Vermont have further compounded this issue in Washington, as well as other communities. The Town has made an effort to consult and inform the public at multiple points during this planning process.

- "Program – Protection of Rivers, Streams, and Bodies of Water: No land development shall occur within vegetated buffer strip of at least 50 ft from each bank of streams and rivers and from the shores of naturally occurring lakes and ponds except as approved by the Board of Adjustments." (p. 14)
    - You may want to note that the current standard requiring a 50 foot buffer on small streams is similar to the 50 foot standard for small streams in River Corridor protection. https://floodready.vermont.gov/flood_protection/river_corridors_floodplains

Planning Team and CVRPC: Added footnote.

- "Removal of Hands Mill Dam: Town has since received a $5,000 grant, continue to seek funding for engineering study." (p. 16, Table 4.4)
    - You may want to credit the Towns close work with partners coordinated by Winooski Natural Resources Conservation District. A status meeting coming up on Dec 9 could be summarized by gianna@winooskinrcd.org. This is quite a significant project for the Town and this LHMP is critical for the funding.

Planning Team and CVRPC: The partners of this project are credited later in the plan, but amended language has been included in this table.

- "Development of flood bylaws: Washington has adopted Flood Hazard Regulations, applicable to all development in the Special Flood Hazard Area." (p. 16, table 4.4)

    - The community last updated the Flood Hazard Area bylaw in 1998.

Planning Team and CVRPC: Amended to note corrected date.

- "Participate in Community Rating System: Town does not have any repetitive loss properties and is currently ineligible. The Town will no longer pursue this action." (p. 17, table 4.4)
    - Repetitive Loss is not relevant to CRS. Maybe just: "The community does not have the administrative capacity to qualify for CRS. As such, residents can not benefit from reduced costs on flood insurance."

Planning Team and CVRPC: Revised to say: "The community does not have the administrative capacity to qualify for CRS. As such, residents can not benefit from reduced costs on flood insurance"

- "Infectious Disease Outbreak: Probability: 3" (p. 19)
    - 3?

Planning Team and CVRPC: This was revised to reflect the impact and occurrence of the COVID-19 Pandemic. However, the planning Team recognizes that this probability may be too high based on recommendations from medical professionals, so it has been downgraded to a probability of 2.

- "The greatest threat to flooding is caused by changes in land use and increased development near river banks and in Type A floodplain areas" (p. 23)
    - Zone A

Planning Team and CVRPC: Corrected.

- "The total documented damages from the TS Irene flood event cost about $58,241.59 with the 22 Town share totaling $7,280.39" (p. 23)
    - Should there be a pause for an explanation about how River Corridors protection is intended to reduce these damages that otherwise incrementally increase for residents and the Town? https://floodready.vermont.gov/sites/floodready/files/documents/R4R12.5.17.pdf

Planning Team and CVRPC: Added background on fluvial erosion, inundation flooding, and river corridor protection.

- "Stream assessments make several recommendations to prevent help decrease the likelihood of flooding and flash flooding. These recommendations are to: have a 25ft no development buffer on all waterways…" (p. 23)
    - Since the Town standard is currently 50' is this a proposal to reduce the level of existing hazard mitigation?

Planning Team and CVRPC: Revised.

- "Washington does participate in the NFIP. DFIRM maps identify some limited Zone A areas." (p. 23)

- FIRMs (not DFIRMs yet!)

Planning Team and CVRPC: Revised.

- "Location: Along Jail Branch and major tributaries which flow to Stevens Branch; highlighted intersections on Hazards Analysis Map." (p. 24)
  - Much damage in hilly communities happens along fairly small but steep tributaries.

Planning Team and CVRPC: Revised to include.

- "Table 6.1: 2020 – 2025 Hazard Mitigation Programs, Projects and Activities"
  - Would public education regarding no adverse impact flood hazard and river corridor protections be appropriate? Would the Selectboard and Planning Commission want to discuss River Corridor protections to reduce the expense to the residents and Town of future disasters?

Planning Team and CVRPC: Added strategy as first step to survey and engage residents in the special flood hazard area re: barriers to access for flood insurance.

- "Inundation Flooding and Fluvial Erosion: Replacement and expansion of problem culverts as prioritized by the Selectboard."
  - The Town has two critical and/or public structures listed in the high risk flood hazard area. Have these been assessed for hazard mitigation?

Planning Team and CVRPC: This is in reference to the Fire Station and Town Garage. Town is confident that these buildings are high enough up in elevation that they will be outside of Floodplain once FIRMs are revised. The Town looks forward to reviewing these by 2025 and will move forward on this at that point.

- "For Full Sized map, please see https://centralvtplanning.org/towns/washington/" (p. 40)
  - Types of Structures in the Flood Plain (Reference not shown on map) Residential-18, Commercial-3, Fire Station-1, Town Garage-1, Utility Pole w/Phone-2. Hands Dam?

Planning Team and CVRPC: Dam location is on map.

- "Incorporate findings into the plan" (p. 41)
  - I wonder if the final LHMP might tip in the rough dates when the Town should begin chasing up grant money with CVRPC and get the new plan underway? Other dates?

Planning Team and CVRPC: Updated language on Plan Maintenance Process to include revision start date and funding allocations.

- "7.3 Public Engagement Results" (p. 42)
  - 34 total? Were there lots of repeated comments? Did the comments follow on good public outreach regarding the issues?

Planning Team and CVRPC: Public engagement is described in the above plan. Posters were displayed at three locations in Town (Town Clerk's Office, Fire Department, and Post Office), and the public was instructed to put a sticker under each hazard they deemed a substantial threat to them and/or the town. These posters were up for a few weeks, and included information on the planning process, timeline, and what the plan is about.

LOCAL MITIGATION PLAN REVIEW TOOL

Jurisdiction Name & State: Washington VT Draft

The *Local Mitigation Plan Review Tool* demonstrates how the Local Mitigation Plan meets the regulation in 44 CFR §201.6 and offers States and FEMA Mitigation Planners an opportunity to provide feedback to the community.

- The Regulation Checklist provides a summary of FEMA's evaluation of whether the Plan has addressed all requirements.
- The Plan Assessment identifies the plan's strengths as well as documents areas for future improvement.
- The Multi-jurisdiction Summary Sheet is an optional worksheet that can be used to document how each jurisdiction met the requirements of the each Element of the Plan (Planning Process; Hazard Identification and Risk Assessment; Mitigation Strategy; Plan Review, Evaluation, and Implementation; and Plan Adoption).

The FEMA Mitigation Planner must reference this *Local Mitigation Plan Review Guide* when completing the *Local Mitigation Plan Review Tool*.

Jurisdiction:	**Title of Plan:**	**Date of Plan:**
Single or Multi-jurisdiction plan? _____	**New Plan or Plan Update? _____**	
Regional Point of Contact: **Title:** **Agency:** **Phone Number:** **E-Mail:**	**Local Point of Contact:** **Title:** **Agency:** **Phone Number:** **E-Mail:**	

State Reviewer:	**Title:**	**Date:**

FEMA Reviewer:	**Title:**	**Date:**
Date Received in FEMA Region I		
Plan Not Approved		
Plan Approvable Pending Adoption		
Plan Approved		

SECTION 1:
REGULATION CHECKLIST

INSTRUCTIONS: The Regulation Checklist must be completed by FEMA. The purpose of the Checklist is to identify the location of relevant or applicable content in the Plan by Element/sub-element and to determine if each requirement has been 'Met' or 'Not Met.' The 'Required Revisions' summary at the bottom of each Element must be completed by FEMA to provide a clear explanation of the revisions that are required for plan approval. Required revisions must be explained for each plan sub-element that is 'Not Met.' Sub-elements should be referenced in each summary by using the appropriate numbers (A1, B3, etc.), where applicable. Requirements for each Element and sub-element are described in detail in this *Plan Review Guide* in Section 4, Regulation Checklist.

1. REGULATION CHECKLIST **Regulation** (44 CFR 201.6 Local Mitigation Plans)	**Location in Plan (section and/or page number)**	**Met**	**Not Met**
ELEMENT A. PLANNING PROCESS			
A1. Does the Plan document the planning process, including how it was prepared and who was involved in the process for each jurisdiction? (Requirement §201.6(c)(1)) You include a list of people who are on the planning team at the top of section 4.1, but not all of them list their positions – if they're residents, note that, i.e. for Maxine and Ryan. CVRPC: Updated section 4.1 to identify the Planning Team as: Harry Roush: Assistant Town Clerk and Resident, Maxine Durbrow: Washington Fire District #1 and Resident, and Ryan Bresette: Washington Fire Chief, EMD, and Resident	Section 2, Section 4.1	X	
A2. Does the Plan document an opportunity for neighboring communities, local and regional agencies involved in hazard mitigation activities, agencies that have the authority to regulate development as well as other interests to be involved in the planning process? (Requirement §201.6(b)(2)) Make sure to include whether any comments were received from the neighboring communities. Updated Section 4.1 to reflect comments received. None from neighboring communities, only WNCRD/VEM and VT DEC. Included: "Staff received comments from Gianna Petito, District Manager of the Winooski Natural Resource Conservation District, Stephanie Smith from Vermont Emergency Management, and Ned Swanberg, Regional Floodplain Manager for the Vermont Department of Environmental Conservation. Gianna Petito and Stephanie Smith provided clarification on the Hands Mill Dam Removal process, and Ned Swanberg provided general comments focusing mostly on the planning process, fluvial erosion and inundation flooding, and mitigation action sections. These comments are summarized at the end of the plan in Appendix 7.4"	Section 4.1	X	

1. REGULATION CHECKLIST **Regulation** (44 CFR 201.6 Local Mitigation Plans)	Location in Plan (section and/or page number)	Met	Not Met
A3. Does the Plan document how the public was involved in the planning process during the drafting stage? (Requirement §201.6(b)(1)) Was the public invited to the 1/27/20 meeting, the 3/9/20 meeting or the 10/15/20 meeting? Did anyone from the public attend, and if so, did they provide any feedback? CVRPC: Added context on section 4.1 re: whether public was invited to meetings. When the plan was out for public comment, how was the public instructed to provide feedback? E.g. via email to CVRPC. CVRPC: Added in section 4.1: "CVRPC placed a notice for public comments of the draft update on the CVRPC blog and newsletter. The Town of Washington prepared a Front Porch Forum post and a local news bulletin advertising this public comment opportunity. The draft plan was also available at Washington Town Clerk's Office and by request from CVRPC for public review and comments from November 12, 2020 to November 27, 2020. The public was instructed to provide comments to Harry Roush and Zachary Maia via email." Make sure to include whether any comments were received. CVRPC: Added summarized comments in Section 4.1 with direction to Appendix 7.4, where comments are fully summarized.	Section 4.1		X
A4. Does the Plan describe the review and incorporation of existing plans, studies, reports, and technical information? (Requirement §201.6(b)(3))	Section 4.1, Section 5.2	X	
A5. Is there discussion of how the community(ies) will continue public participation in the plan maintenance process? (Requirement §201.6(c)(4)(iii))	Section 4.2, Section 7.2	X	
A6. Is there a description of the method and schedule for keeping the plan current (monitoring, evaluating and updating the mitigation plan within a 5-year cycle)? (Requirement §201.6(c)(4)(i)) Section 4.2 doesn't really address the 5-year update process. What steps will the town follow to update the plan and when will this begin (i.e. 1-year prior to plan expiration). CVRPC: This was also raised by VT DEC. Added in Section 4.2: "In the fourth year of this plan's implementation, the Town will begin work on the review and update process for formal approval to avoid plan expiration. If funding is available and identified ahead of time, CVRPC will provide support to the Town in updating the Local Hazard Mitigation Plan prior to expiration, otherwise the Emergency Management Director will undertake this effort."	Section 4.2 , Section 7.2		X

1. REGULATION CHECKLIST **Regulation** (44 CFR 201.6 Local Mitigation Plans)	Location in Plan (section and/or page number)	Met	Not Met
ELEMENT A: REQUIRED REVISIONS			
ELEMENT B. HAZARD IDENTIFICATION AND RISK ASSESSMENT			
B1. Does the Plan include a description of the type, location, and extent of all natural hazards that can affect each jurisdiction(s)? (Requirement §201.6(c)(2)(i)) Include an omission rationale explaining why you are not addressing the remaining hazards. CVRPC: Omission Rationale included in Section 5.1 to state: "Other hazards not identified as worst threat may still occur in Washington, but the Town decided to prioritize the above hazards as they pose a consistent, historical threat with a large impact to most Washington residents. The Town recognizes that the hazards of drought, infectious disease outbreak, wildfire, heat, earthquake, landslide, invasive species, and hail may pose a threat to Washington residents, but due to a lack of consistent historical occurrences and lower potential impact, these hazard impacts have been excluded from this plan. A review of the Vermont State Hazard Mitigation Plan of November 2018 provides a greater explanation of these hazards and possible mitigation strategies to address them. Like the State of Vermont Hazard Mitigation Plan, Washington did not include the following hazards in the risk and vulnerability assessment due to the low occurrence, low vulnerability, and or geographic proximity: civil disturbance, coastal erosion, expansive soils, karst topography, sinkholes, tsunami, and volcano." You will need to include a description of each hazard in your assessment, i.e. defining fluvial erosion. CVRPC: Clear definitions and descriptions have been added to each hazard. Include extent data for fluvial erosion in the largest eroded area from the most significant past occurrence (in feet or acres lost) or note that extent data for fluvial erosion is unavailable. CVRPC: Noted damage on Woodchuck hollow, which was 13,200 sq. ft.	Section 5.1, Section 5.2		X
B2. Does the Plan include information on previous occurrences of hazard events and on the probability of future hazard events for each jurisdiction? (Requirement §201.6(c)(2)(i))	Section 5.1, Section 5.2	X	

1. REGULATION CHECKLIST **Regulation** (44 CFR 201.6 Local Mitigation Plans)	Location in Plan (section and/or page number)	Met	Not Met
B3. Is there a description of each identified hazard's impact on the community as well as an overall summary of the community's vulnerability for each jurisdiction? (Requirement §201.6(c)(2)(ii)) There are some specific vulnerabilities addressed in each hazard profile, but it would help to expand on this. Specifically, what is vulnerable within the community to each of the identified hazards (i.e. community assets, community infrastructure, vulnerable populations, etc.)? Ideally this assessment would tie directly to your mitigation actions. CVRPC: Added to fluvial erosion: "as well as Hands Mill Dam. Especially vulnerable are the 18 residential homes, 3 commercial businesses, and 2 Town Buildings in the floodplain." Added to structure fire: "vulnerable populations, and populations that live in areas of Town not easily accessible." Added to winter weather: "private property, health and safety of vulnerable residents." Added to wind: "roads, health and safety of vulnerable residents." Added to Dam Failure specifically calling out structures in inundation zone and Woodchuck Hollow road.	Section 5.1, Section 5.2		
B4. Does the Plan address NFIP insured structures within the jurisdiction that have been repetitively damaged by floods? (Requirement §201.6(c)(2)(ii)) In section 3.6, the double negative in this sentence is confusing, I'm not totally sure what you're saying: "Lacking a history of no repetitive loss properties in the community…" CVRPC: Removed this statement, as identified by DEC comments: a history of repetitive loss properties is not required for participation in CRS. Added justification to administrative barriers.	Section 3.6	X	
ELEMENT B: REQUIRED REVISIONS			
ELEMENT C. MITIGATION STRATEGY			
C1. Does the plan document each jurisdiction's existing authorities, policies, programs and resources and its ability to expand on and improve these existing policies and programs? (Requirement §201.6(c)(3))	Table 4.3	X	
C2. Does the Plan address each jurisdiction's participation in the NFIP and continued compliance with NFIP requirements, as appropriate? (Requirement §201.6(c)(3)(ii))	Section 3.6, Table 4.3	X	

1. REGULATION CHECKLIST **Regulation** (44 CFR 201.6 Local Mitigation Plans)	Location in Plan (section and/or page number)	Met	Not Met
C3. Does the Plan include goals to reduce/avoid long-term vulnerabilities to the identified hazards? (Requirement §201.6(c)(3)(i))	Section 6.1	X	
C4. Does the Plan identify and analyze a comprehensive range of specific mitigation actions and projects for each jurisdiction being considered to reduce the effects of hazards, with emphasis on new and existing buildings and infrastructure? (Requirement §201.6(c)(3)(ii))	Section 6.2	X	
C5. Does the Plan contain an action plan that describes how the actions identified will be prioritized (including cost benefit review), implemented, and administered by each jurisdiction? (Requirement §201.6(c)(3)(iv)); (Requirement §201.6(c)(3)(iii))	Section 6.2	X	
C6. Does the Plan describe a process by which local governments will integrate the requirements of the mitigation plan into other planning mechanisms, such as comprehensive or capital improvement plans, when appropriate? (Requirement §201.6(c)(4)(ii))	Section 3.5; Section 4.2, Section 6.1	X	
ELEMENT C: REQUIRED REVISIONS			
ELEMENT D. PLAN REVIEW, EVALUATION, AND IMPLEMENTATION (applicable to plan updates only)			
D1. Was the plan revised to reflect changes in development? (Requirement §201.6(d)(3)) Section 3.2 addresses development since the previous plan but does not address change in vulnerability. Where did this development take place? Was development in known hazard locations like the floodplain or river corridor? CVRPC: Added to 3.2 "Most of the new construction between 2014 and 2019 has been located in more dispersed, higher elevation parts of Town. All of this development is outside of the floodplain." Based on this development as well as any implemented mitigation actions, has overall vulnerability within Washington remained the same, increased, or decreased? CVRPC: Added to 3.2: "This type of development pattern has not increased vulnerability to hazards from the previous plan, and the Town can assume that vulnerability has stayed relatively similar to 2014."	Section 3.2		X
D2. Was the plan revised to reflect progress in local mitigation efforts? (Requirement §201.6(d)(3))	Section 4.3	X	

1. REGULATION CHECKLIST **Regulation** (44 CFR 201.6 Local Mitigation Plans)	Location in Plan (section and/or page number)	Met	Not Met
D3. Was the plan revised to reflect changes in priorities? (Requirement §201.6(d)(3)) I'm not seeing where this is addressed. The plan notes that updates were made to the hazards that were addressed in the last plan, but this is really looking for an overall assessment of town priorities and how they have change or stayed the same. CVRPC: Added to sec. 3.5: "Many of the general priorities of the Town have stayed consistent throughout the municipal plan, Selectboard, and Planning Commission processes and meetings. Year after year, the Selectboard and Town Residents have approved a consistent budget, with funding priorities staying consistent. This consistency is extended to the Local Hazard Mitigation Plan."			X
ELEMENT D: REQUIRED REVISIONS			
ELEMENT E. PLAN ADOPTION			
E1. Does the Plan include documentation that the plan has been formally adopted by the governing body of the jurisdiction requesting approval? (Requirement §201.6(c)(5)) Your adoption language will need to include the intent to implement the plan, this is the typical language: "The respective officials identified in the mitigation action plan are hereby directed to pursue implementation of the recommended actions assigned to them." CVRPC: Updated resolution!	Section 7.4		X
E2. For multi-jurisdictional plans, has each jurisdiction requesting approval of the plan documented formal plan adoption? (Requirement §201.6(c)(5))			
ELEMENT E: REQUIRED REVISIONS			
ELEMENT F. ADDITIONAL STATE REQUIREMENTS (OPTIONAL FOR STATE REVIEWERS ONLY; NOT TO BE COMPLETED BY FEMA)			
F1.			
F2.			
ELEMENT F: REQUIRED REVISIONS			

7.5 Certificate of Adoption

CERTIFICATE OF ADOPTION

January 5, 2021

Town of Washington, Vermont Selectboard

A resolution adopting the Town of Washington, Vermont 2020 Local Hazard Mitigation Plan

WHEREAS, the Town of Washington has historically experienced severe damage from natural hazards and it continues to be vulnerable to the effects of the hazards profiled in the 2020 Washington, 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 Washington has developed and received conditional approval from the Federal Emergency Management Agency (FEMA) for its 2020 Washington, 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 Washington; and

WHEREAS, the Plan recommends several hazard mitigation actions (projects) that will provide mitigation for specific natural hazards that impact the Town of Washington 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 Washington eligible for funding to alleviate the impacts of future hazards; now therefore be it

RESOLVED by Town of Washington Selectboard:

1. The 2020 Washington, Vermont Local Hazard Mitigation Plan is hereby adopted as an official plan of the Town of Washington;

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 WITHNESS WHEREOF, the undersigned have affixed their signature and the corporate seal of the Town of Washington on this 5th day of January, 2021.

Nicholas Bresette, Chair

Vince Vermette

Robert Blanchard

ATTEST

Carol Davis, Washington Town Clerk