

Town of Vernon Flood Hazard Bylaw

A. Introduction

I. Statutory Authorization and Effect

In accordance with 24 V.S.A. Chapter 117, §§ 4424 and 4414, there is hereby established a bylaw for areas at risk of flood damage in the Town of Vernon, Vermont. Except as additionally described below, all administrative procedures follow municipal procedures under 24 V.S.A. Chapter 117.

II. Title

This bylaw shall be known and cited as the Town of Vernon Flood Hazard Bylaw, hereinafter referred to as the "bylaw."

III. Statement of Purpose

It is the purpose of this bylaw to:

- A. Implement the goals, policies, and recommendations in the current municipal plan;
- B. Minimize and prevent the loss of life and property, the disruption of commerce, the impairment of the tax base, and the extraordinary public expenditures and demands on public services that result from flooding-related inundation and erosion hazards.
- C. Ensure that the selection, design, creation, and use of development in flood hazard areas and river corridors is reasonably safe, accomplished in a manner that minimizes or eliminates the potential for loss and damage to life and property due to flooding-related inundation and erosion hazards, and does not impair stream equilibrium, floodplain services, or the river corridor.
- D. Manage all flood hazard areas designated pursuant to 10 V.S.A. §§ 751 and 753.
- E. Make the Town of Vernon, its citizens, and businesses eligible for federal flood insurance, federal disaster recovery funds, and hazard mitigation funds, as may be available.

IV. Other Provisions

A. Precedence of Bylaw

The provisions of this bylaw shall not in any way impair or remove the necessity of compliance with any other local, state, or federal laws or regulations. Where this bylaw imposes a greater restriction the provisions here shall take precedence.

B. Validity and Severability

If any portion of this bylaw is held unconstitutional or invalid by a competent court, the remainder of this bylaw shall not be affected.

C. Warning of Disclaimer of Liability

This bylaw does not imply that land outside of the areas covered by this bylaw will be free from flood or erosion damages. This bylaw shall not create liability on the part of the Town of Vernon, or any municipal official or employee thereof, for any flood or erosion damages that result from reliance on this bylaw, or any administrative decision lawfully made hereunder.

B. Abbreviations and Definitions

I. Abbreviations

The following abbreviations shall be the shortened form of the word or phrase indicated, the definitions of which may also be included in Section III below:

Ac.	.....	acre/acreage
AMP	.....	Appropriate Municipal Panel
AO	.....	Administrative Officer
ANR	.....	Vermont Agency of Natural Resources
BFE	.....	Base flood elevation
CFR	.....	Code of Federal Regulations
DRB	.....	Development Review Board
FEMA	.....	Federal Emergency Management Agency
FIRM	.....	Flood Insurance Rate Map
FHA	.....	Flood Hazard Area
FHBM	.....	Flood Hazard Boundary Map
FHO	.....	Flood Hazard Overlay District
Ft.	.....	Feet/foot
LOMA	.....	Letter of Map Amendment
LOMC	.....	Letter of Map Change
LOMR	.....	Letter of Map Revision
NA	.....	Not applicable
NAI	.....	No adverse impact
NFIP	.....	National Flood Insurance Program
RAPs	.....	Required Agricultural Practices
RCO	.....	River Corridor Overlay District
SF	.....	Square feet
VSA	.....	Vermont Statutes Annotated
VT	.....	Vermont
ZBA	.....	Zoning Board of Adjustment

II. Construction of Language

Except where specifically defined herein, all words used in this bylaw shall have their common meanings. The word "shall" means the action is mandatory; and "occupied" and "used," in the context of structures and vehicles, shall be considered as though followed by "or intended, arranged, or designed to be occupied or used."

III. Definitions

“Accessory dwelling” means an efficiency or one-bedroom apartment that is clearly subordinate to a single-family dwelling, and has facilities and provisions for independent living, including sleeping, food preparation, and sanitation. See 24 V.S.A. § 4412(1)(E) for more information.

“Accessory structure” means a structure which is: 1) detached from and clearly incidental and subordinate to the principal use or structure on a lot, 2) located on the same lot as the principal structure or use, 3) clearly and customarily related to the principal structure or use, and 4) only used for vehicle parking, storage, or primarily building access. Examples include, garages, garden and tool sheds, and playhouses, but do not include “accessory dwellings.”

“Area of special flood hazard” is synonymous in meaning with the term “special flood hazard area” for the purposes of this bylaw.

“Associated transportation and utility networks” means those transportation and utility networks connected to a bridge, culvert, or utility for the purpose of crossing a river or stream and do not include transportation or utility networks within the river corridor that merely run parallel to a river or stream¹.

“Base flood” means the flood having a one percent chance of being equaled or exceeded in any given year (commonly referred to as the “100-year flood”).

“Base Flood Elevation” (BFE) is the elevation of the water surface elevation resulting from a flood that has a one percent chance of equaling or exceeding that level in any given year. On the Flood Insurance Rate Map the elevation is usually in feet, in relation to the National Geodetic Vertical Datum of 1929, the North American Vertical Datum of 1988, or other datum referenced in the Flood Insurance Study report, or the average depth of the base flood, usually in feet, above the ground surface.

“Basement” means any area of a building having its floor elevation below ground level on all sides, including crawlspaces.

“BFE” see “Base Flood Elevation.”

“Channel” means an area that contains continuously or periodic flowing water that is confined by banks and a streambed.

“Compensatory storage” means a volume not previously used for flood storage and which shall be incrementally equal to the theoretical volume of flood water at each elevation, up to and including the base flood elevation, which would be displaced by the proposed project. Such compensatory volume shall have an unrestricted hydraulic connection to the same waterway or water body. Further, with respect to waterways, such compensatory volume shall be provided within the same reach of the river, stream, or creek.

“Common plan of development” means where a structure will be refurbished or constructed under one approved plan or permit, but in separate stages, phases, or in combination with other construction activities. Such work may be planned unit by unit and may take place at different times, on different schedules.

¹ These do not include state transportation networks or power generation and transmission utility networks subject to the Public Utility Commission jurisdiction, as those are exempt from municipal regulation and are regulated under the State Flood Hazard Area & River Corridor Rule; <http://dec.vermont.gov/sites/dec/files/documents/wsmd-fha-and-rc-rule-adopted-2014-10-24.pdf>

“Construction trailer” means a vehicle which is: (1) built on a single chassis; (2) 500 square feet or less when measured at the largest horizontal projection; (3) designed to be self-propelled or permanently towable; and (4) designed for use as a temporary office facility used to support management of a construction project, and not as a permanent structure.

“Critical facilities” means facilities that are vital to public health and safety, including police stations, fire and rescue facilities, hospitals, schools, nursing homes, water supply and waste treatment facilities.²

“Designated center” means a downtown, village center, new town center, growth center, or neighborhood development area designated pursuant to 24 V.S.A. Chapter 76A.

“Development” means any human-made change to improved or unimproved real estate, including buildings or other structures, mining, dredging, filling, grading, paving, excavation or drilling operations, or storage of equipment or materials³.

“Encroachment” means activities or construction including fill, substantial improvements, and other development that may cause an increase in flood levels.

“Equilibrium condition” means the width, depth, meander pattern, and longitudinal slope of a stream channel that occurs when water flow, sediment, and woody debris are transported by the stream in such a manner that it generally maintains dimensions, pattern, and slope without unnaturally aggrading or degrading the channel bed elevation.

“Fill” means any placed material that changes the natural grade, increases the elevation, redirects the movement of flood water, or diminishes the flood storage capacity at the site. Temporary storage of material for less than 180 days is not considered fill.

“Flood” means (a) a general and temporary condition of partial or complete inundation of normally dry land areas from: the overflow of inland or tidal waters; the unusual and rapid accumulation or runoff of surface waters from any source; and mudslides which are proximately caused by flooding and are akin to a river of liquid and flowing mud on the surfaces of normally dry land areas, as when earth is carried by a current of water and deposited along the path of the current; (b) the collapse or subsidence of land along the shore of a lake or other body of water as a result of erosion or undermining caused by waves or currents of water exceeding anticipated cyclical levels or suddenly caused by an unusually high water level in a natural body of water, accompanied by a severe storm, or by an unanticipated force of nature, such as flash flood or abnormal tidal surge, or by some similarly unusual and unforeseeable event which results in flooding.

² A community may opt to expand the definition to include other structures as essential to the health and welfare of the population and that are especially important during and after a disaster. For example, the type and location of a business may raise its status to a critical facility, such as a grocery store or gas station.

³ Note this definition is required by the National Flood Insurance Program and differs from “land development” defined in 24 V.S.A. Chapter 117.

"Flood fringe" means the portion of the flood hazard area that is outside of the floodway but still inundated by the base flood (the flood having a one percent chance of being equaled or exceeded in any given year).

"Flood hazard" means those hazards related to damage from flood-related inundation or erosion.

"Flood hazard area" shall have the same meaning as "area of special flood hazard" under 44 C.F.R. § 59.1. "Area of special flood hazard" is synonymous with the term "special flood hazard area."

"Flood Insurance Rate Map" (FIRM) means an official map of a community, on which the Federal Insurance Administrator has delineated both the special flood hazard areas and the risk premium zones applicable to the community. In some communities the hazard boundaries are available in paper, pdf, or Geographic Information System formats as a Digital Flood Insurance Rate Map (DFIRM).

"Flood Insurance Study" means an examination, evaluation, and determination of flood hazards and, if appropriate, the corresponding water surface elevations or an examination, evaluation, and determination of mudslide (i.e., mudflow) and /or flood-related erosion hazards.

"Floodplain or flood-prone area" means any land area susceptible to being inundated by water from any source (see definition of "flood").

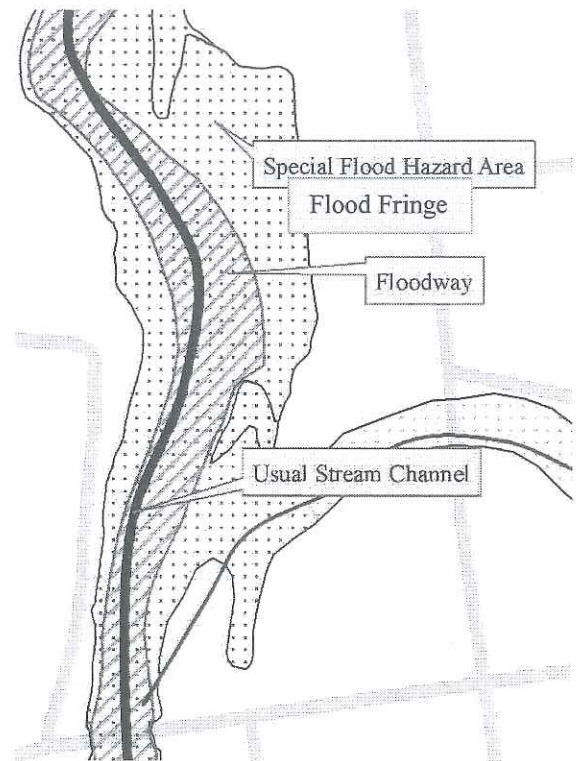
"Floodproofing" means any combination of structural and non-structural additions, changes, or adjustments to structures which reduce or eliminate flood damage to real estate or improved real property, water and sanitary facilities, structures and their contents.

"Floodway" means the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than one foot at any point. Please note that flood hazard areas and floodways may be shown on a separate map panels.

"Fluvial erosion" means the erosion or scouring of riverbeds and banks during high flow conditions of a river. Fluvial erosion is most likely to occur within the river corridor.

"Functionally dependent use" means a use which cannot perform its intended purpose unless it is located or carried out in close proximity to water.

"Grading" means the movement or replacement of topsoil or other material originating on the site and within the hazard area. Grading results in minor or no changes in topographic elevations. If new material is brought from outside the hazard area and such new material is not offset with an equal or greater removal of material from the portion of the site within the hazard area, the new material shall be considered "fill" and shall not be considered grading.



"Historic structure" means any structure that is: (a) listed individually in the National Register of Historic Places (a listing maintained by the Department of the Interior) or preliminarily determined by the Secretary of the Interior as meeting the requirements for individual listing on the National Register; (b) certified or preliminarily determined by the Secretary of the Interior as contributing to the historical significance of a registered historic district or a district preliminarily determined by the Secretary to qualify as a registered historic district; (c) individually listed on a state inventory of historic places in states with historic preservation programs which have been approved by the Secretary of the Interior; or (d) individually listed on a local inventory of historic places in communities with historic preservation programs that have been certified either: (i) by an approved state program as determined by the Secretary of the Interior or (ii) directly by the Secretary of the Interior in states without approved programs.

"Infill development" means construction, installation, modification, renovation, or rehabilitation of land, interests in land, buildings, structures, facilities, or other development in an area that was not previously developed but is surrounded by existing development.

"Letter of Map Change (LOMC)" is a letter issued by FEMA officially removing a structure or lot from the flood hazard area based on information provided by a certified engineer or surveyor. This is used where structures or lots are located above the base flood elevation and have been inadvertently included in the mapped special flood hazard area. A LOMC can include a Letter of Map Amendment (LOMA), Letter of Map Revision (LOMR), Letter of Map Revision based on Fill (LOMR-F), or a Letter of Map Revision for a Floodway (LOMR-FW).

"Lowest floor" means the lowest floor of the lowest enclosed area, including basement. An unfinished or flood resistant enclosure, usable solely for parking of vehicles, building access, or storage in an area other than a basement area is not considered a building's lowest floor provided that such enclosure is not built so as to render the structure in violation of the applicable non-elevation design requirements of 44 C.F.R. § 60.3.

"Manufactured home" (or Mobile home) means a structure, transportable in one or more sections, which is built on a permanent chassis and is designed for use with or without a permanent foundation when attached to the required utilities. The term "manufactured home" does not include a "recreational vehicle".

"National Flood Insurance Program" means the National Flood Insurance Program under 42 U.S.C. chapter 50 and implementing federal regulations in 44 C.F.R. parts 59 and 60. The National Flood Insurance Program aims to reduce the impact of flooding on private and public structures. It does so by providing affordable insurance to property owners in communities that adopt and enforce floodplain management regulations. These efforts help mitigate the effects of flooding on new and improved structures.

"Natural and beneficial floodplain functions" means the functions associated with the natural or relatively undisturbed floodplain that includes moderating flooding, retaining flood waters, and reducing erosion, sedimentation and flood related damage. Ancillary beneficial functions include support of ecosystem services such as wildlife habitat, water quality, and recharge of ground water.

"New construction" means structures for which the *start of construction* commenced on or after the effective date of this bylaw and includes any subsequent improvements to such structures.

"Nonconforming structure" means a structure or part of a structure that does not conform to the present bylaws but was in conformance with all applicable laws, ordinances, and regulations prior to the enactment of the present bylaws, including a structure improperly authorized as a result of error by the administrative officer.

Structures that were in violation of the regulations in effect at the time of their creation, and remain so, remain violations and are not nonconforming structures.

“Nonconforming use” means use of land that does not conform to the present bylaws but did conform to all applicable laws, ordinances, and regulations prior to the enactment of the present bylaws, including a use improperly authorized as a result of error by the administrative officer.

“Non-residential” includes: businesses, churches, schools, nursing homes, pool houses, clubhouses, recreational buildings, government buildings, mercantile structures, industrial structures, and warehouses.

“Person” means an individual, a corporation, a partnership, an association, and any other incorporated or unincorporated organization or group.

“Public water access” means a public access to a water of the State and, except for toilet facilities, shall not include structures as defined in this bylaw.

“Recreational vehicle” means a vehicle which is: (a) built on a single chassis; (b) 400 square feet or less when measured at the largest horizontal projection; (c) designed to be self-propelled or permanently towable by a light duty truck; and (d) designed primarily not for use as a permanent dwelling but as a temporary living quarters for recreational, camping, travel, or seasonal use.

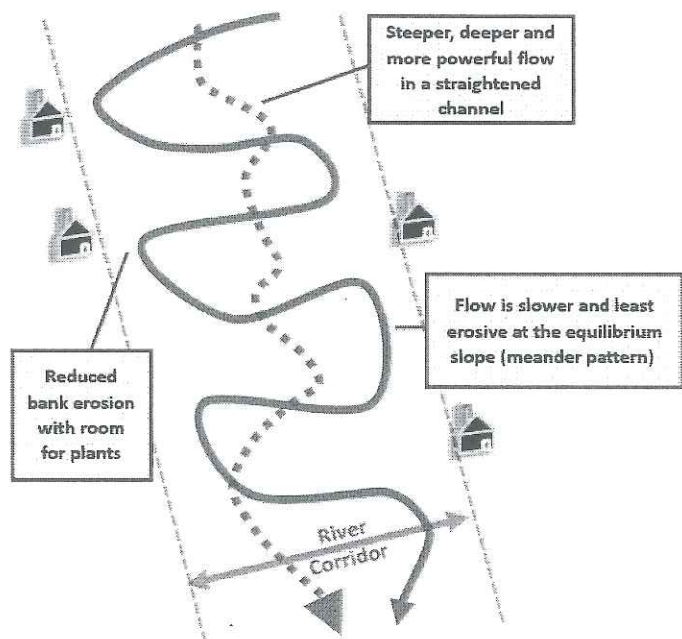
“Redevelopment” means construction, installation, modification, renovation, or rehabilitation of land, interests in land, buildings, structures, facilities, or other development in a previously developed area. The term includes substantial improvements and repairs to substantially damaged buildings.

“Replacement structure” means a new building placed in the same footprint as the pre-existing building and does not include a change in use.

“River” means the full length and width, including the bed and banks, of any watercourse, including rivers, streams, creeks, brooks, and branches which experience perennial flow. “River” does not mean constructed drainageways, including water bars, swales, and roadside ditches.

“River corridor” means 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 and for minimization of fluvial erosion hazards, as delineated by the Vermont Agency of Natural Resources in accordance with river corridor protection procedures. (10 V.S.A. § 1422).

“Special flood hazard area” is the land in the floodplain within a community subject to a one percent or greater chance of flooding in any given year. For purposes of this bylaw, the



term “area of special flood hazard” is synonymous in meaning with the phrase “special flood hazard area.” This area is usually labeled Zone A, AO, AH, AE, or A1-30 in the most current flood insurance studies and on the maps published by FEMA. Maps of this area are available for viewing in the municipal office or online from the FEMA Map Service Center: msc.fema.gov. Base flood elevations have not been determined in Zone A where the flood risk has been mapped by approximate methods. Base flood elevations are shown at selected intervals on maps of special flood hazard areas that are determined by detailed methods. Please note, where floodways have been determined they may be shown on separate map panels from the Flood Insurance Rate Maps.

“Start of construction” for purposes of floodplain management, determines the effective map or bylaw that regulated development in the special flood hazard area. The “start of construction” includes substantial improvement, and means the date the building permit was issued provided the actual start of construction, repair, reconstruction, rehabilitation, addition placement, or other improvement was within 180 days of the permit date. The actual start means either the first placement of permanent construction of a structure on a site, such as the pouring of slab or footings, the installation of piles, the construction of columns, or any work beyond the stage of excavation; or the placement of a manufactured home on a foundation. Permanent construction does not include land preparation, such as clearing, grading, and filling; nor does it include the installation of streets and/or walkways; nor does it include excavation for a basement, footing, piers, or foundations, or the erection of temporary forms; nor does it include the installation on the property of accessory buildings, such as garages or sheds not occupied as dwelling units or not part of the main structure. For a substantial improvement, the actual start of construction means the first alteration of any wall, ceiling, floor, or other structural part of a building, whether or not that alteration affects the external dimensions of the building.

“Storage” means the aggregation of materials, items, or objects whether natural or human-made; that is kept as a stockpile, collection, or inventory; where individual materials from the stockpile, collection or inventory may change, but where the general footprint of the stored materials continues to be used for the same purpose; whether set upon the land or within a container, structure, or facility; and that would not otherwise be in compliance with these development standards.

“Structure” means a walled and roofed building, as well as a manufactured home, including gas or liquid storage tanks.

“Substantial damage” means damage of any origin sustained by a structure whereby the cost of restoring the structure to its before-damaged conditions would equal or exceed 50 percent of the market value of the structure before the damage occurred.

“Substantial improvement”⁴ means any repair, reconstruction, rehabilitation, addition, or other improvement of a structure after the date of adoption of this bylaw, the cost of which, over three years or over the period of a common plan of development, cumulatively equals or exceeds 50 percent of the market value of the structure before the “start of construction” of the improvement. This term includes structures which have incurred “substantial damage,” regardless of the actual repair work performed. The term does not, however, include either: (a) Any project for improvement of a structure to correct existing violations of state or local health, sanitary, or safety code specifications which have been previously identified by the local code enforcement official and which are the minimum necessary to assure safe living conditions or (b) Any alteration of an “historic

⁴ For further guidance, see FEMA P-758, *Substantial Improvement/Substantial Damage Desk Reference*: <https://www.fema.gov/media-library/assets/documents/18562>

structure,” provided that the alteration will not preclude the structure’s continued designation as an “historic structure.”

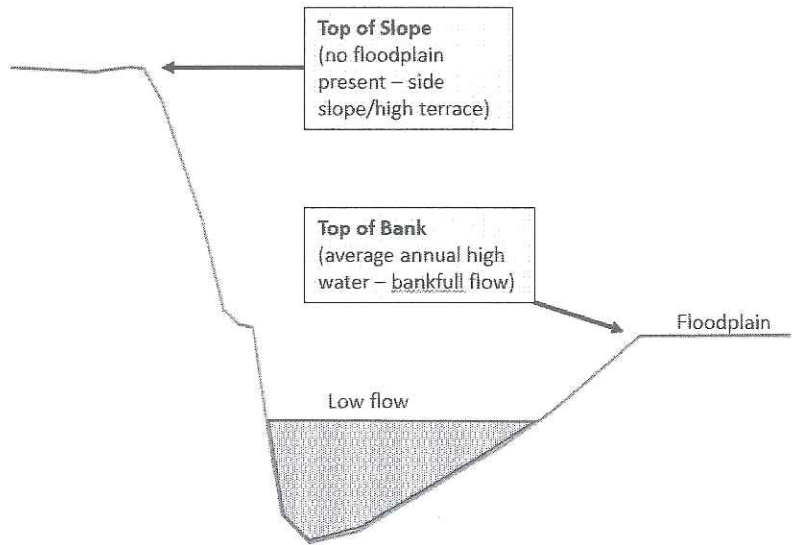
“Top of bank” means the point along a streambank where an abrupt change in slope is evident, and where the stream is generally able to overflow the banks and enter the adjacent floodplain during flows at or exceeding the average annual high water stage.

“Top of slope” means a break in slopes adjacent to steep-banked streams that have little or no floodplain; or a break in slope where the side slopes adjacent to an incised, or deeply cut, channel meet floodplains that have been abandoned or are undergoing abandonment.

“Violation” means the failure of a structure or other development to be fully compliant with this bylaw. A structure or other development without the elevation certificate, other certifications, or other evidence of compliance required in 44 C.F.R. § 60.3 is presumed to be in violation until such time as that documentation is provided.

“Watercourse” means any perennial stream and shall not include ditches or other constructed channels primarily associated with land drainage or water conveyance through or around private or public infrastructure.

“Wet-floodproofing” means permanent or contingent measures applied to a structure that prevent or provide resistance to damage from flooding by allowing water to enter the structure in accordance with Technical Bulletin 7 published by FEMA. <https://www.fema.gov/media-library/assets/documents/3503>



C. Administration

I. Administrative Officer & Appropriate Municipal Panel

A. Administrative Officer (AO)

An Administrative Officer (AO) shall be appointed to administer this bylaw pursuant to 24 V.S.A. § 4448. The AO shall administer this bylaw literally and in doing so shall inspect development, maintain records, enforce this bylaw, and perform all other necessary tasks to carry out the provisions of this bylaw and the statutory requirements of 24 V.S.A. Chapter 117. The AO shall not have the power to permit any land development that is not in conformance with this bylaw.

B. Appropriate Municipal Panel (AMP)

1. The Appropriate Municipal Panel (AMP) for this bylaw shall be the Floodplain Review Board (FRB) which shall be appointed by the Selectboard in accordance with 24 V.S.A. § 4460.

2. The FRB shall have the duties and responsibilities as described in 24 V.S.A. Chapter 117 and as otherwise required by the municipal bylaws.

II. Application Administration Requirements

A. Application Submission Requirements

All Applications for development shall include:

1. **Site Plan.** A site plan that depicts the proposed development, all water bodies, all Hazard Area boundaries, the shortest horizontal distance from the proposed development to the top of bank of any river, any existing and proposed drainage, any proposed fill, pre- and post-development grades, and the elevation of the proposed lowest floor as referenced to the same vertical datum as the elevation on the current Flood Insurance Rate Maps;
2. **Project Review Sheet.** A Vermont Agency of Natural Resources Project Review Sheet.
3. **Supplemental Application Requirements.** Some applications may require additional information based on the location and type of the development. The following information shall be developed and provided with an application, as required below:
 - a. **Base Flood Elevation (BFE).** BFE information is required for:
 - i. Replacement, substantially improved, or substantially damaged structures located within any Flood Hazard Overlay District, including Zone A, where no BFEs have been provided;
 - ii. Projects requiring elevation or dry-floodproofing above BFE;
 - iii. Additions to existing historic structures; and
 - iv. Any accessory structure proposed to be built in accordance with Section D.IV.D.4 and having building utility systems that will need to be protected from flood waters through elevation above the BFE.
 - b. **Floodway Data.** The following information is required for development located in the floodway. All floodway data shall be certified by a registered professional engineer. All submitted proposals shall include electronic input/output files and mapping showing cross-section locations.
 - i. Hydraulic calculations demonstrating no rise in BFE or velocity for proposed new or expanded encroachments within the Floodway District.
 - ii. In accordance with 44 C.F.R. § 60.3(c)(10), where BFE data has been provided by FEMA, but no floodway areas have been designated, the applicant shall provide a floodway delineation that demonstrates that the proposed development, when combined with all existing and anticipated future development, will not increase the water surface elevation of the base flood by more than one foot at any point within the community.
 - c. **Compensatory Flood Storage.** The following information is required for applications that require compensatory flood storage pursuant to Section D.IV.C:
 - i. Designs shall provide equivalent storage volumes during peak flows up to and including the base flood discharge. This No Adverse Impact (NAI) volumetric analysis and supporting data shall be certified by a registered professional engineer.

- ii. If it appears that the design may create an undue adverse impact to adjacent landowners or structures, a hydraulic analysis may be required to verify that a proposed development will not increase flood elevations or velocities of floodwaters. Hydraulic analyses and supporting data shall be provided by the applicant and certified by a registered professional engineer.
- d. **Waivers.** Upon written request from the applicant, the FRB may waive specific application requirements when the data or information is not needed to comply with Sections D. and E. of this bylaw. A determination to waive the compensatory storage requirement shall include written concurrence from the ANR regional floodplain manager, that project will have only a minimal effect on floodwater storage.

B. Referrals

1. Upon receipt of a complete application for new construction or a substantial improvement, the AO shall submit a copy of the application and supporting information to the State National Flood Insurance Program (NFIP) Coordinator at the Vermont Agency of Natural Resources, in accordance with 24 V.S.A. § 4424. A permit may be issued only following receipt of comments from the Agency, or the expiration of 30 days from the date the application was mailed to the Agency, whichever is sooner. The AO and FRB shall consider all comments from ANR.
2. Any application for a proposed conditional use or a request for a variance from these regulations shall be referred to the FRB in accordance with 24 V.S.A. § 4460.
3. If the applicant is seeking a permit for the alteration or relocation of a watercourse, copies of the application shall also be submitted to the adjacent communities, the River Management Engineer at the Vermont Agency of Natural Resources, and the Army Corps of Engineers. Copies of such notice shall be provided to the State National Flood Insurance Program (NFIP) Coordinator at the Vermont Agency of Natural Resources, Department of Environmental Conservation. A permit may be issued only following receipt of comments from the Vermont Agency of Natural Resources, or the expiration of 30 days from the date the application was mailed to the Vermont Agency of Natural Resources, whichever is sooner.
- 4.

C. Public Notice

1. Prior to the issuance of a permit, proposals needing conditional use review, nonconforming structures and uses review, or approval for a variance, must have a warned public hearing. A copy of the application shall be submitted to ANR at least 30 days prior to the date of the public hearing. Public notice of the hearing shall be provided at least 15 days before the date of the hearing by all the following:
 - a. Publication of the date, place, and purpose of the hearing in the newspaper of general circulation in the municipality affected.
 - b. Posting of the same information in three or more public places within the municipality, including posting within view from the public right-of-way nearest to the property for which an application is made; and,
 - c. Written notification to the applicant and to owners of all properties adjoining the property subject to development, without regard to any public right-of-way, and in any situation in which a variance is sought regarding setbacks from a State highway, written notification to the Secretary of Transportation. The notification shall include a description of the proposed

project and shall be accompanied by information that clearly informs the recipient where additional information may be obtained, and that participation in the local proceeding is a prerequisite to the right to take any subsequent appeal.

d. For hearings on subdivision plats located within 500 feet of a municipal boundary, written notification to the clerk of the adjoining municipality.

2. The applicant shall bear the cost of the public warning and notification of adjoining landowners.
3. No defect in the form or substance of any required public notice under this section shall invalidate the action of the AMP where reasonable efforts have been made to provide adequate posting and notice. However, the action shall be invalid when the defective posting or notice was materially misleading in content. If an action is ruled to be invalid by the Environmental Court Division of the Superior Court or by the AMP itself, the action shall be remanded to the applicable municipal panel to provide new posting and notice, hold a new hearing, and take a new action.

D. Decisions

1. The AO/FRB shall consider comments from the ANR when making a decision on an application.
2. Decisions on applications that go to the FRB for review shall be made in accordance with 24 V.S.A. § 4464.

E. Permits

A permit shall be issued by the AO only in accordance with 24 V.S.A. Chapter 117 and the following provisions:

1. Within 30 days of receipt of a complete application, including all application materials and fees, the AO shall act to either issue or deny a permit in writing, or to refer the application to the FRB or to ANR for consideration, as required by Section C.II.B [Referrals]. In accordance with 24 V.S.A. § 4448 [Appointment and Powers of Administrative Officer], if the AO fails to act with regard to a complete application for a permit within the 30-day period, a permit shall be deemed issued on the 31st day, unless the permit is for new construction or substantial improvement, in which case a permit shall not be issued until the AO has complied with the requirements of Section C.II.B. [Referrals].
2. No permit shall be issued by the AO for any use or structure which requires the approval of the FRB until such approval has been obtained. For permit applications that must be referred to a state agency for review, no permit shall be issued until a response has been received from the State, or the expiration of 30 days following the submission of the application to the State, whichever is sooner.
3. A permit shall include a statement that any and all appeals shall be made within 15 days of permit issuance and shall require posting of a notice of permit on a form prescribed by the municipality within view from the public right-of-way most nearly adjacent to the subject property until the appeals period has passed. A permit shall also include a statement, approved by the Secretary of Natural Resources, that State permits may be required, and that the permittee should contact State agencies to determine what permits must be obtained before any construction may commence.

4. The AO, within three days of the date of issuance of a permit, shall deliver a copy of the permit to the listers of the municipality, and shall post a copy of the permit in the Town Offices for a period of 15 days from the date of issuance.
5. Effective Date. No permit shall take effect until the time for appeal (15 days) has passed, or in the event that a notice appeal is properly filed, no such permit shall take effect until adjudication of that appeal by the AMP is complete and the time for taking an appeal to the Environmental Division of the Superior Court has passed without an appeal being taken. If an appeal is taken to the Environmental Division, the permit shall not take effect until the Environmental Division rules in accordance with 10 V.S.A. § 8504 on whether to issue a stay, or until the expiration of 15 days, whichever comes first.
6. Notice of Permit. The notice of a permit must be displayed within view from the public right-of-way nearest to the property until the time for appeal has passed.
7. Within 30 days after a permit has been issued or within 30 days of the issuance of any notice of violation, the appropriate municipal official shall:
 - a. deliver the original or a legible copy of the permit or notice of violation or a notice of permit generally in the form set forth in 24 V.S.A. § 1154(c) to the town clerk for recording as provided in 24 V.S.A. § 1154(a); and
 - b. file a copy of that permit in the offices of the municipality in a location where all municipal land use permits shall be kept.
8. Expiration
 - a. A flood permit shall remain valid for two (2) years from the date it is issued. If, before that time expires, the applicant files a renewal application and has made substantial progress of the land development described in the permit, the AO shall issue not more than two consecutive 12-month permit renewals without fee. If a permit expires without substantial land development the permit shall become null and void.
 - b. If a flood permit expires, any land development on the lot covered under that permit must cease. All subsequent land development must be approved after the submission of a new application for a permit, and all laws and ordinances then in effect will be applicable.
 - c. Flood permits shall run with the land regardless of owner.

F. Variances

Variances may be granted in writing by the FRB only in accordance with all the criteria in 24 V.S.A. § 4469 after a public hearing noticed in accordance Section II.C [Public Notice]. consistent with 24 V.S.A. § 4464. If the proposed development is located within any Flood Hazard Overlay District, the proposal shall comply with 44 C.F.R. § 60.6.

1. Any variance issued in the Flood Hazard Area shall not increase flood heights and shall inform the applicant in writing over the signature of a community official that the issuance of a variance to construct a structure below the BFE increases risk to life and property and will result in increased flood insurance premiums up to amounts as high as \$25 for \$100 of coverage. Such notification shall be maintained with a record of all variance actions.

G. Appeals of a Permit Decision

1. Appeals from any decision or act of the AO in connection with this bylaw shall be made as provided for in 24 V.S.A. § 4465. Additional provisions applicable to appeal of a substantial improvement or substantial damage determination made by the AO can be found in sub-paragraph C.III. B.4 [Substantial Improvement and Substantial Damage Determinations, Post Flood Procedures], below.
2. Whenever the FRB does not grant a conditional use permit or a variance request on any basis other than the failure of the applicant to submit a complete application, such action may not be reconsidered by the respective FRB at a later time unless in accordance with 24 V.S.A. § 4470. The applicant shall clearly demonstrate that:
 - a. Circumstances affecting the property that is the subject of the application have substantially changed,
 - b. New information is available that could not with reasonable diligence have been presented at a previous hearing. A request to be heard on this basis shall be filed with the AO within the time period for an appeal. However, such a request does not extend the period within which an appeal shall be taken.
 - c. Appeals from any decision or act of the FRB in connection with this bylaw shall be made to the Vermont Superior Court, Environmental Division as provided for in 24 V.S.A. § 4471.

III. Administrative Responsibilities, Records

A. Records

The AO shall properly file and maintain a record of:

1. All permits issued for development under the jurisdiction of this bylaw;
2. A FEMA Elevation Certificate with the as-built elevation (consistent with the datum of the elevation on the current Flood Insurance Rate Maps for the community) of the lowest floor, including basement, of all new, replacement, substantially improved, substantially damaged or flood-proofed buildings (not including accessory buildings) in the Flood Hazard Area;
3. All floodproofing and other certifications required under this regulation; and
4. All decisions of the AO and FRB (including those for substantial improvement, substantial damage, variances, and violations) and all supporting findings of fact, conclusions, and conditions.

B. Substantial Improvement and Substantial Damage Determinations, Post Flood Procedures

1. When a proposal for the renovation, rehabilitation, restoration, or repair of a structure located within any Flood Hazard Overlay District is reviewed, the AO shall make a substantial improvement determination.
2. In the event of damage to a structure located within any Flood Hazard Overlay District from flooding or other causes (such as, but not limited to, fire, wind or snow), the AO shall make a substantial damage determination based on the damage sustained by the structure regardless of intended repair at that time.
3. Substantial improvement or substantial damage determinations shall be made in accordance with current FEMA guidelines⁵ or procedure established by the FRB in accordance with 24 V.S.A. § 1972 and 24 V.S.A. § 4461 and shall be used to determine the appropriate development standards for repair and rebuilding.

⁵ FEMA P-758, Substantial Improvement/Substantial Damage Desk Reference: <https://www.fema.gov/media-library/assets/documents/18562>

4. A substantial improvement or substantial damage determination can be appealed by an applicant or property owner to the FRB in accordance with sub-paragraph C.II.G [Appeals of a Permit Decision] of this bylaw. In the consideration of an appeal of the AO's determination, the FRB shall consider additional documentation provided by the applicant which may include:
 - a. A recent building appraisal (within the past calendar year, or as determined to still be applicable) completed by a licensed and qualified real estate appraiser that documents the structure's market value (excluding land value) prior to the damage or improvement; or
 - b. A project/repair cost estimate provided by a qualified contractor, professional engineer or licensed architect. The material and labor cost estimate shall include a detailed accounting of the proposed improvements, additions, reconstruction or rehabilitation work, repairs or associated construction and development; or
 - c. In the case of substantial damage, an estimate of structure damage provided or reviewed by a local official from FEMA's *Substantial Damage Estimator* software.

C. Certificate of Occupancy

1. In accordance with 24 V.S.A. § 4449, it shall be unlawful to use or occupy, or permit the use or occupancy of any land or structure, or part thereof, created, erected, changed, converted, or wholly or partly altered or enlarged in its use or structure within the areas affected by this bylaw, until a certificate of occupancy is issued by the AO stating that the proposed use of the structure or land conforms to the requirements of this bylaw.
2. A certificate of occupancy is not required for structures that were built in compliance with the bylaws at the time of construction and have not been improved since the adoption of this bylaw.
3. Upon receipt of the application for a certificate of occupancy, the AO shall review the permit conditions and inspect the premises to ensure that:
 - a. any required state and federal permits that have been received,
 - b. all work has been completed in conformance with the zoning permit and associated approvals, and
 - c. all required as-built documentation has been submitted to the AO, e.g. updated FEMA Elevation Certificate, dry floodproofing certificate, as-built volumetric analysis, or as-built floodway encroachment analysis.
4. If the AO fails to grant or deny the certificate of occupancy within 29 days of the submission of the application, the certificate shall be deemed issued on the 30th day. If a certificate of occupancy cannot be issued, notice will be sent to the owner and copied to the lender.

D. Enforcement

1. This bylaw shall be enforced in accordance with 24 V.S.A. §§ 1974a, 4451, and 4452. All notices of violation shall be provided to the State NFIP Coordinator.
2. No new flood insurance shall be provided for any property which the Federal Insurance Administrator finds has been declared to be in violation of local flood hazard area regulations. If any appeals have been resolved, but the violation remains, the AO shall submit a declaration to the Administrator of the National Flood Insurance Program requesting a denial of flood insurance to the property pursuant to Section 1316 of the National Flood Insurance Act of 1968,

as amended. New and renewal flood insurance shall be denied to a structure upon a finding by the Federal Insurance Administrator of a valid declaration of a violation.

D. Inundation: Flood Hazard Area

III. Statement of Purpose for Managing Inundation Hazards

- A. To allow for the wise use of floodplain lands in a way that minimizes potential damage to existing structures and development located within this hazard zone.
- B. Provide an adequate means of protecting the beneficial functions of undeveloped floodplains and development that is already located within floodplains.
- C. Avoid encroachments in flood hazard areas that may result in cumulative degradation of natural floodplain function leading to increased flood elevations, velocities, and river instability.
- D. To protect infill and redevelopment from inundation hazards.
- E. To discourage new encroachments on undeveloped property within the Flood Hazard Area that provide for floodwater and sediment storage.

IV. Lands to Which this Bylaw Applies

A. Special Flood Hazard Areas

This bylaw shall apply to the Special Flood Hazard Areas (SFHAs, hereafter referred to as “flood hazard areas” or “FHAs”) in the Town of Vernon, Vermont as described below. Flood Hazard Areas are identified in and on the most current flood insurance studies and maps⁶ published by the Department of Homeland Security, Federal Emergency Management Agency (FEMA), National Flood Insurance Program (NFIP), as provided by the Secretary of the Agency of Natural Resources (ANR) pursuant to 10 V.S.A. § 753, which are hereby adopted by reference and declared to be part of this bylaw.

Establishment of Flood Hazard Areas

The flood hazard area, as delineated by FEMA, may contain two parts; the floodway and the remaining part of the flood hazard area (outside of the floodway) called the flood fringe. Within the flood hazard area, the inundation risk and type of damages may differ according to the type of

⁶ Where Flood Insurance Rate Maps have not been published, this includes Special Flood Hazard Areas identified on Flood Hazard Boundary Maps produced by the Federal Insurance Administration.

flooding that occurs. Therefore, the identified flood hazard area is separated into different zones to provide protection based upon flooding type:

1. The floodway - The floodway is depicted on the Flood Insurance Rate Maps/Flood Boundary and Floodway Maps for this community⁷.
2. The flood fringe - identified as the area of the flood hazard area (labeled as Zone A, AE, A1-30, AH, AO) outside of the floodway on the most current NFIP maps.

Unless one of these zones is specifically named, reference to the Flood Hazard Area Includes both sub-zones.

B. Base Flood Elevations and Floodway Limits

1. Where available, base flood elevations and floodway limits provided by the NFIP and in the Flood Insurance Study and accompanying maps shall be used to administer and enforce this bylaw.
2. The floodway, as adopted by this community, shall consist of the channel of a river or other watercourse and the adjacent land areas that shall be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than one foot at any point.
3. In the Flood Hazard Area where base flood elevations and/or floodway limits have not been provided by the NFIP in the Flood Insurance Study and accompanying maps, it is the applicant's responsibility to develop the necessary data, as specified in Section C [Administration]. Where available, the applicant shall use data provided by FEMA, or state or federal agencies to administer this bylaw.

C. Jurisdictional Determination and Interpretation

1. The information presented on any maps, or contained in any studies, adopted by reference, is presumed accurate.
2. If uncertainty exists with respect to the boundaries of the Flood Hazard Area, the location of the boundary shall be determined by the Administrative Officer (AO). The "AO may require additional topographic or base flood elevation information if necessary to make such determination. If available, the AO shall use a FEMA Letter of Map Amendment (LOMA) or Letter of Map Revision (LOMR) in making a determination. Once issued, the LOMA or LOMR shall constitute proof of the Flood Hazard Area boundary and whether the proposed development is within the Flood Hazard Area.⁸
3. A FEMA Letter of Map Revision based on Fill (LOMR-F) that has been issued after the effective date of this bylaw shall not be used to remove lands from the jurisdiction of this bylaw.
4. When the AO deems a property is within the Flood Hazard Area, an applicant seeking to challenge such determination shall have 15 days from the date of receiving the AO's determination to notify the AO of his or her intent to seek proof of the boundary. Upon timely

⁷ Please note that the floodway may be shown on a separate map panel entitled "Flood Boundary and Floodway Map" for maps made in 1986 or earlier.

⁸ <https://www.fema.gov/letter-map-amendment-letter-map-revision-based-fill-process>

filing of such notification letter by the applicant, the application for the zoning permit shall not be considered complete until the AO has received a LOMA or LOMR issued by FEMA or any other evidence identified in such notice.

III. Development Classifications and Permit Requirements in the Flood Hazard Area

A. Exempted Activities

The following activities do not require a permit under this section of this bylaw:

1. The removal of a building or other improvement in whole or in part, so long as the ground elevations under and adjacent to the removed structure remain unchanged. Please be aware that for damaged structures where FEMA mitigation funds may be used, the damaged structure may be required to remain in place until funds are granted.
2. Routine maintenance of existing buildings in the usual course of business required or undertaken to conserve the original condition, while compensating for normal wear and tear. Routine maintenance includes actions necessary for retaining or restoring a piece of equipment, machine, or system to the specified operable condition to achieve its maximum useful life and does not include expansions or improvements to development.
3. Interior improvements to existing buildings that cost less than 500 dollars.
4. Maintenance of existing sidewalks, roads, parking areas, or stormwater drainage; this does not include expansions.
5. Maintenance of existing bridges, culverts, and channel stabilization activities; this does not include expansions.
6. Streambank armoring and stabilization, retaining walls, and abutment work that do not reduce the cross-sectional flow area of the river or stream channel and have coverage under a Stream Alteration Permit, if required, under 10 V.S.A. Chapter 41 and the rules adopted thereunder.
7. The following activities are exempt from municipal regulation, but may require a permit under the State's "Vermont Flood Hazard Area and River Corridor Rule" (Environmental Protection Rule, Chapter 29):
 - a. State-owned and -operated institutions and facilities.
 - b. Forestry operations and silvicultural (forestry) activities conducted in accordance with the Vermont Department of Forests and Parks Acceptable Management Practices for Maintaining Water Quality on Logging Jobs in Vermont or other accepted silvicultural practices, as defined by the Commissioner of Forests, Parks and Recreation.
 - c. Agricultural activities conducted in accordance with the Vermont Agency of Agriculture Food and Market's Required Agricultural Practices (RAPs). Prior to the construction of farm structures, the farmer shall notify the AO in writing of the proposed activity. The notice shall contain a sketch of the proposed structure including setbacks.
 - d. Public utility power generating plants and transmission facilities regulated under 30 V.S.A. § 248.
 - e. Telecommunications facilities regulated under 30 V.S.A. § 248a;
8. Planting projects which do not include any construction or grading activities in accordance with 24 V.S.A. § 4424(c).
9. Subdivision of land that does not involve or authorize development.

B. Permits

Except as provided in Section D.III.A [Exempted Activities], a permit is required from the AO for all development that is located within the Flood Hazard Area. Development that requires conditional use approval or a variance from the Floodplain Review Board(FRB) under this bylaw must have such approvals prior to the issuance of a permit by the AO.

1. All permits shall require that a permittee have all other necessary permits from state and federal agencies before work may begin.

C. Administrative Review; Permitted Development

The following development activities in the Flood Hazard Area meeting the Development Standards in Section D.IV, require an administrative review from the AO and may receive a permit from the AO without review by the FRB:

1. Within the entire Flood Hazard Area:
 - a. Above grade development located on ground, which has not been elevated by the placement of fill, that is one foot above base flood elevation and documented with field-surveyed topographic information certified by a registered professional engineer or licensed land surveyor.
 - b. Open fencing and signs elevated on poles or posts that create minimal resistance to the movement of floodwater.
 - c. At-grade parking or other at-grade/below grade development that will not create an obstruction to flood flows.
 - d. Municipal transportation infrastructure improvements designed and constructed by the Vermont Agency of Transportation that have written confirmation from the ANR Regional Floodplain Manager that the project is designed to meet or exceed the applicable standards in this bylaw.
 - e. River and floodplain restoration projects, including dam removal, that restore natural and beneficial floodplain functions and include written confirmation from the ANR Regional Floodplain Manager that the project is designed to meet or exceed the applicable standards in this bylaw.
2. Within the Flood Fringe Sub-district:
 - a. Improvements or repairs from damage to structures that do not expand the existing footprint and do not meet the definition of "substantial improvement" or "substantial damage".
 - b. Accessory structures not greater than 500 square feet.
 - c. Development related to on-site septic or water supply systems.
 - d. Building utilities.
 - e. Recreational vehicles or travel trailers.
 - f. New fill for existing associated transportation and utility networks or to accommodate a replacement on-site septic system, if it can be demonstrated that no other practicable alternative is available.

D. Prohibited Development

Except as provided in Section D.III.A [Exempted Activity], the following is prohibited:

1. Within the entire Flood Hazard Area:
 - a. Fully enclosed areas below grade on all sides, including below grade crawlspaces and basements.
 - b. New critical facilities.
2. Within the Floodway Sub-district:
 - a. New accessory structures.
 - b. New encroachments, except for minor improvements⁹ to existing structures or relating to bridges, culverts, roads, stabilization projects, public utilities, river and/or floodplain restoration projects, or health and safety measures.
 - c. Changes to existing structures where the footprint of the structure is proposed to expand laterally into the floodway greater than 500 square feet.
 - d. Storage of materials or junk yards.

E. Conditional Use Review

In accordance with 24 V.S.A. § 4414, conditional use review and approval by the FRB is required prior to the issuance of a permit by the AO for any activity in the Flood Hazard Area that is not exempt or eligible for administrative review.

F. Non-Conforming Structures and Uses

1. A nonconforming structure in the FHO District/Flood Hazard Area that has been substantially damaged or destroyed may be reconstructed in its original location only if it is rebuilt to comply with all requirements of the National Flood Insurance Program and this bylaw;
2. Nonconforming structures and uses shall be considered abandoned where the structures or uses are discontinued for more than 12 months. An abandoned structure shall not be permitted for re-occupancy unless brought into compliance with this bylaw. An abandoned use shall not be permitted unless brought into compliance with this bylaw.

IV. Development Standards

The criteria below are the minimum standards for development in the Flood Hazard Area. If the floodway or flood fringe is not specified, the standard applies to the entire Flood Hazard Area. Where more than one district is involved, the most restrictive standard shall take precedence.

A. Floodway Sub-district

Within the floodway sub-district, the following standards apply:

1. New encroachments are prohibited within the floodway, except for the following, which also shall comply with Section D.IV.A.2, below:

⁹ Minor improvements are those that would not affect base flood elevations, consistent with the provisions of FEMA P-480; Desk Reference for Local Officials: https://www.fema.gov/pdf/floodplain/nfip_sg_unit_5.pdf

- a. changes to existing structures where the footprint is proposed to expand horizontally into the floodway less than 500 square feet;
 - b. new encroachments relating to bridges, culverts, roads, stabilization projects, public utilities, functionally dependent uses, and river or floodplain restoration projects;
 - c. new encroachments relating to health and safety measures, such as replacement of pre-existing on-site septic and water supply systems, if no other practicable alternative is available;
2. For all proposed new encroachments and above-grade development, a hydraulic analysis is required to be provided for review. The analysis should be performed in accordance with standard engineering practice, by a registered professional engineer, certifying that the proposed development will:
 - a. Not result in any increase in flood levels during the occurrence of the base flood;
 - b. Not increase base flood velocities; and
 - c. Not increase any risk to surrounding properties, facilities, or structures from erosion or flooding.
 3. For development that is either below grade or will not result in any change in grade, the hydrologic & hydraulic analyses may be waived, where the applicant will provide pre- and post-development elevations demonstrating that there will be no change in grade, and that the development will be adequately protected from scour.
 4. For any new encroachment that is proposed within the floodway sub-district where a hydraulic analysis is required, the applicant may provide a FEMA Conditional Letter of Map Revision (CLOMR)¹⁰, in lieu of a hydraulic analysis, to demonstrate that the proposed activity will not have an adverse impact.

B. No Adverse Impact (NAI) Standard within the Flood Fringe

Within the flood fringe, the following standards apply:

1. Compensatory Flood Storage

New development or redevelopment shall not decrease flood storage capacity. Therefore, except as noted in sub-Section D.IV.B.2 [Compensatory Flood Storage Requirement Exceptions] below, development that displaces floodwater storage in the flood fringe shall provide compensatory storage to offset the impacts of the proposal. This is required when the development will cause an increase or will contribute incrementally to an increase in the horizontal extent and level of flood waters during peak flows up to and including the base flood discharge.

- a. Volumetric analyses¹¹ and supporting data, demonstrating compensatory storage to offset the impacts of the proposal, shall be provided by the applicant and certified by a registered professional engineer.
 - i. An applicant may submit a hydraulic analysis that demonstrates that a project will not increase flood elevations and velocities on floodwaters in lieu of a NAI volumetric analysis.

¹⁰ <https://www.fema.gov/conditional-letter-map-revision>

¹¹ For more information on volumetric analysis, please refer to ANR's Compensatory Flood Storage guide at <http://dec.vermont.gov/watershed/rivers/river-corridor-and-floodplain-protection/state-permits>

- b. Compensatory flood storage designs shall not materially impact adjacent landowners or structures.
 - i. If the design may create an undue adverse impact to adjacent landowners or structures, a hydraulic analysis shall be required to verify that a proposed development will not increase base flood elevations and velocities.
Hydraulic analyses and supporting data shall be provided by the applicant and certified by a registered professional engineer
2. Compensatory Flood Storage Requirement Exceptions
- a. The NAI compensatory storage requirement may be waived for proposed designs that have no more than a minimal effect on floodwater storage and will not result in diverting floodwaters onto an adjacent property or structure. Examples of designs that have a minimal effect on floodwater storage include an open foundation design; utility work that is largely or completely located below grade; minor above ground improvements such as fences or poles that minimally displace or divert floodwaters; and development that will not result in any change to the pre-development ground elevations. A determination to waive the NAI compensatory storage requirement shall include written concurrence from the ANR regional floodplain manager, that the project will have only a minimal effect on floodwater storage.
 - b. For remediation of properties with contaminated soils, such as Brownfields sites, the NAI compensatory storage requirement may be waived, if hydraulic analysis demonstrates that the remediation will not increase flood elevations and velocities. Hydraulic analyses and supporting data shall be provided by the applicant and certified by a registered professional engineer.
 - c. The NAI compensatory storage requirement may be waived for a replacement structure if:
 - i. There is no increase in the structure's footprint, or
 - ii. An open foundation design is used. Examples include using compliant flood vents or openings, or elevating the structure on post, piers, or pilings with no structural foundation walls below the design flood elevation.
 - d. The NAI compensatory storage requirement may be waived for associated transportation and utility networks¹² and replacement on-site septic system proposals, if the applicant demonstrates that the placement of fill cannot be mitigated.

C. The Flood Hazard Area (Zones A1-30, AE, AH, AO)

Within the Flood Hazard Area, the following standards apply:

- 1. *All development*, except development that is exempt under Section D.III.A, shall be:
 - a. Reasonably safe from flooding.

¹² These do not include state transportation networks or power generation and transmission utility networks subject to the Public Utility Commission jurisdiction, as those are exempt from municipal regulation and are regulated under the State Flood Hazard Area & River Corridor Rule; <http://dec.vermont.gov/sites/dec/files/documents/wsmd-fha-and-rc-rule-adopted-2014-10-24.pdf>

- b. Designed (or modified) and adequately anchored to prevent flotation, collapse, release, or lateral movement of the structure.
 - c. Constructed with materials resistant to flood damage.
 - d. Constructed by methods and practices that minimize flood damage.
 - e. Constructed with electrical, heating, ventilation, plumbing and air conditioning equipment and other service facilities that are designed and/or located so as to prevent water from entering or accumulating within the components during conditions of flooding.
 - f. Adequately drained to reduce exposure to flood hazards.
 - g. Required to elevate or floodproof any fuel storage tanks to at least two feet above the base flood elevation. This can be achieved by:
 - i. Elevating the fuel storage tank a minimum of two feet above the BFE and securely anchoring the tank to prevent flotation. The tank shall be located on the land-ward or downstream side of the building and all inlets, fill openings, line connections, and vents shall be elevated to two feet above the BFE. Any structure or platform used to elevate the tank shall be designed to withstand anticipated flood loads and forces;
 - ii. In places where elevation of the fuel storage tank is not possible due to the location of existing fuel hookup/fuel lines into an existing building:
 - A. The tank shall be securely anchored to prevent floatation while protecting it from flood forces and debris. Any structure or platform used to anchor and protect the tank shall be designed to withstand anticipated flood forces and debris. The tank vent pipe/valve shall be located at a minimum two feet above the BFE; or
 - B. Storage tanks may be placed underground, if securely anchored and certified by a qualified professional and are protected from flood forces such as scour, erosion, velocity flow, and buoyancy (uplift) force.
2. For any new structure, replacement structure, substantially improved structure, or structure that has experienced substantial damage, outdoor utilities (electrical, heating, ventilation, plumbing, and air conditioning equipment) and other service facilities (such as sewer, gas, and water systems), shall be located on the landward or downstream side of the building and/or behind structural elements, and located and constructed to minimize or eliminate flood damage.
 3. In Zones AE and A1 – A30 *where floodway limits have not been determined*, development shall not be permitted unless it is demonstrated that the cumulative effect of the proposed development, when combined with all other existing and anticipated encroachment, will not increase the base flood elevation more than one foot at any point within the community. The demonstration shall be supported by technical data that conforms to standard hydraulic engineering principles and certified by a registered professional engineer (see Section C – Administration for more information about application submittal requirements).
 4. For new, replacement or substantially improved structures, or for structures that have incurred substantial damage, fully enclosed areas below grade on all sides (including below grade crawlspaces and basements) are prohibited.
 5. Recreational vehicles, equipment and boat trailers, portable toilets, construction trailers, and other travel trailers shall:

- a. Be currently registered, licensed and ready for highway use; or
 - b. Be on site for fewer than 180 consecutive days; or
 - c. Meet the requirements for structures in Sections D. IV. A, D. IV. B, and D.IV.C, as appropriate.
6. Water supply systems shall be designed to minimize or eliminate infiltration of flood waters into the system.
 7. Sanitary sewage systems shall be designed to minimize or eliminate infiltration of flood waters into the systems and discharges from the systems into flood waters.
 8. On-site waste disposal systems shall be located to avoid impairment to them or contamination from them during flooding.
 9. The flood carrying capacity within any altered or relocated portion of any watercourse shall be maintained, any alteration or relocation shall not result in any decrease of stream stability.
 10. Bridges, culverts and channel management activities, which by their nature shall be placed in or over the watercourse, shall have a Stream Alteration permit from the Agency of Natural Resources, if required.
 11. Subdivisions and Planned Unit Developments shall be accessible by dry land access outside of any Flood Hazard Area.
 12. Structural Standards
 - a. New structures, existing structures to be substantially improved or replaced, or that have incurred substantial damage shall be located such that the lowest floor is at least two feet above base flood elevation. This shall be documented in the proposed and as-built condition with a FEMA Elevation Certificate.
 - b. New non-residential structures, and non-residential structures to be substantially improved, replaced, or that have incurred substantial damage shall:
 - i. Meet the standards of Section D.IV.C.12.a, above; or
 - ii. Have the lowest floor, including basement, together with attendant utility and sanitary facilities, designed so that two feet above the base flood elevation the structure is dry floodproofed, meaning watertight with walls substantially impermeable to the passage of water and with structural components having the capability of resisting hydrostatic and hydrodynamic loads and effects of buoyancy.
 - iii. A permit for dry floodproofing shall not be issued until a registered professional engineer or architect has reviewed the structural design, specifications, and plans, and has certified that the design and proposed methods of construction are in accordance with accepted standards of practice for meeting the provisions of this subsection;
 - iv. Dry floodproofing measures used to meet the above floodproofing standard shall work without the use of human intervention at the time of flooding. Exceptions to this standard are when the facility is adequately staffed at all hours with people trained and able to deploy the facility's floodproofing measures, or if the structure is located in a floodplain that has a National Weather Service flood forecast stream gauge that provides adequate advanced warning of potential flooding for the deployment of the floodproofing system.
 - c. New structures, or existing structures to be substantially improved or replaced, or that have incurred substantial damage in Zone AO shall have the lowest floor, including basement, elevated above the highest adjacent grade, at least two feet above the depth

- number specified on the community's FIRM, or at least three feet if no depth number is specified.¹³
- d. Critical facilities that are to be replaced, substantially improved, or meet the definition of substantial damage shall be constructed so that the lowest floor, including basement, shall be elevated or dry-floodproofed at least one foot above the elevation of the 0.2% annual flood height (500-year floodplain), or three feet above base flood elevation, whichever is higher. A critical facility shall have at least one access road connected to land outside the 0.2% annual chance floodplain that is capable of accommodating emergency services vehicles. The top of the access road shall be no lower than six inches below the elevation of the 0.2% annual chance flood event.
 - e. For historic structures that would meet the definition of substantial improvement or substantial damage if not for their historic structure designation, the improved or repaired building shall meet the following mitigation performance standards for areas below the base flood elevation:
 - i. Any future damage to enclosures below the lowest floor shall not result in damage to the foundation, utility connections, or elevated portions of the building or nearby structures;
 - ii. Utility connections (e.g., electricity, water, sewer, natural gas) shall be protected from inundation and scour or be easily repaired;
 - iii. The building foundation shall be structurally sound and reinforced to withstand a base flood event;
 - iv. The structure's historic designation shall not be precluded;
 - v. The likelihood of flood waters entering the structure during the base flood is reduced; and
 - vi. There shall be no expansion of uses below base flood elevation except for parking, storage, building access, or, in the case of non-residential buildings, where the space is dry floodproofed.
 - f. Fully enclosed areas that are above grade, below the lowest floor, below BFE, and subject to flooding, shall:
 - i. Be solely used for parking of vehicles, storage, or building access, and such a condition shall clearly be stated on any permits; and
 - ii. Be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of floodwaters. Such designs shall be certified by a registered professional engineer or architect, or meet or exceed the following minimum criteria: A minimum of two openings on two walls having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding shall be provided. The bottom of all openings shall be no higher than one foot above adjacent grade. Openings may be equipped with screens, louvers, valves, or other coverings or devices provided that they permit the automatic entry and exit of floodwaters; and
 - iii. Include a signed non-conversion agreement from the owner of the structure with the permit application stating that the enclosed area below the BFE will not be converted to another use not listed above in Section D.IV.C.12.f.i and that the

¹³ D.IV.C.12.c is not required unless the community has AO zones on the community's Flood Insurance Rate Map.

community would have the ability to inspect the exterior and interior of the enclosed area in compliance with the standards laid out in the non-conversion agreement.


- g. A small accessory structure of 500 square feet or less need not be elevated to the base flood elevation, provided the structure is placed on the building site so as to offer the minimum resistance to the flow of floodwaters and shall meet the criteria in Section D.IV.C.12.f above.
- h. Any new manufactured home, and any improvements thereto, shall be:
 - i. placed on a permanent foundation.
 - ii. elevated so that the lowest floor of the manufactured home is at least two feet above the base flood elevation,
 - iii. anchored to resist flotation, collapse, or lateral movement, and
 - iv. have all ductwork and utilities including HVAC/heat pump elevated to two feet above the base flood elevation.

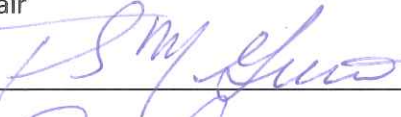
Adoption

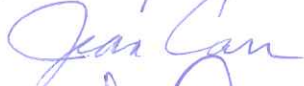
This Bylaw amends the *TOWN OF VERNON, VERMONT INUNDATION/FLOOD HAZARD AREA REGULATIONS* adopted September 27, 2010 and shall be effective upon adoption and shall remain in force until modified, amended or rescinded by the Town of Vernon, Windham County, Vermont.

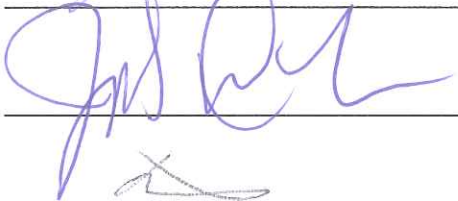
ENACTED AND ADOPTED by the Selectboard this 17th day of May, 2022.


Selectboard



Chair








ATTEST



Selectboard Assistant

