

## CHAPTER 42

# FLOODPLAIN MANAGEMENT

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## Article I. In General

**Sec. 42-1. Authority.**

This chapter is adopted pursuant to the regulations of the National Flood Insurance Program adopted under the National Flood Insurance Act of 1968, as amended, and as expanded in the Flood Disaster Protection Act of 1973, as established by the United States Congress, and Code of Virginia, § 15.1-510.

**Sec. 42-2. Applicability.**

The provisions of this chapter shall apply to all land in the county identified as being in the area of special flood hazard by the Federal Insurance Administration.

**Sec. 42-3. Purpose; methods.**

The purpose of this chapter is to prevent the loss of property and life, the creation of health and safety hazards, the disruption of commerce and governmental services, the extraordinary and unnecessary expenditure of public funds for flood prevention and relief, and the impairment of the tax base by:

- (1) Regulating uses, activities and developments which, acting alone or in combination with other existing or future uses, activities and development, will cause unacceptable increases in flood heights, velocities and frequencies;
- (2) Restricting or prohibiting certain uses, activities and developments from locating within areas subject to flooding;
- (3) Requiring all those uses, activities and developments that do occur in floodprone areas to be protected against flooding and flood damage;
- (4) Protecting individuals from buying lands and structures which are unsuited for intended purposes because of flood hazards.

**Sec. 42-4. Definitions and rules of construction.**

(a) The following words, terms and phrases, when used in this chapter, shall have the meaning ascribed to them in this subsection, except where the context clearly indicates a different meaning:

**Addition** (to an existing building) means any walled and roofed expansion to the perimeter of a building in which the addition is connected by a common load-bearing wall other than a fire wall. Any walled and roofed addition which is connected by a fire wall or is separated by independent perimeter load-bearing walls is new construction.

**Administrator** means the person appointed by the board of supervisors to administer this chapter.

**Appeal** means a request for a review of the administrator's interpretation of any provision of this chapter or a request for a variance.

**Area of special flood hazard** means land in the floodplain within a community subject to a one percent or greater chance of flooding in any given year. Such term is synonymous with "100-year floodplain".

**Base flood/One-hundred year flood** means a flood that, on the average, is likely to occur every 100 years (i.e., that has a one percent chance of occurring each year, although the flood may occur in any year).

**Basement** means that portion of a building having its floor subgrade (below ground level) on all sides.

**Board of Appeals** means the board appointed by the board of supervisors to review appeals made by individuals with regard to decisions of the building inspector in the interpretation of the Virginia Uniform Statewide Building Code in the county.

**Breakaway wall** means a wall that is not part of the structural support of the building and is intended through its design and construction to collapse under specific lateral loading forces without causing damage to the elevated portion of the building or the supporting foundation system.

**Building** means any structure built for support, shelter, or enclosure for any occupancy or storage.

**Building official** means the building inspector of the county appointed by the county board of supervisors to enforce the Virginia Uniform Statewide Building Code.

**Development** means any manmade change to improved or unimproved real estate, including but not limited to buildings or other structures, the placement of manufactured homes, streets and other paving, utilities, filling, grading, excavation, mining, dredging or drilling operations, or permanent storage of materials or equipment.

**Elevated building** means a nonbasement building built to have the lowest floor elevated above the ground level by means of fill, solid foundation perimeter walls, pilings, columns (posts and piers), shear walls, or breakaway walls.

**Existing construction** means any structure for which the "start of construction" commenced before May 15, 1980.

**Existing manufactured home park or manufactured home subdivision** means a manufactured home park or manufactured home subdivision for which the construction

of facilities for servicing the lots on which the manufactured homes were affixed (including at a minimum the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads) was completed before May 15, 1980, and consisting of two or more manufactured homes.

**Expansion to an existing manufactured home park or manufactured home subdivision** means the preparation of additional sites by the construction of facilities for servicing the lots on which the manufactured homes are to be affixed, including the installation of utilities, either final site grading or pouring of concrete pads, or the construction of streets.

**Flood** means a general and temporary inundation of normally dry land areas.

**Flood hazard boundary map (FHBM)** means an official map of a community, issued by the Federal Emergency Management Agency, where the boundaries of the areas of special flood hazard have been defined as Zone A.

**Flood insurance rate map (FIRM)** means an official map of a community, on which the Federal Emergency Management Agency has delineated both the areas of special flood hazard and the risk premium zones applicable to the community.

**Flood insurance study** means the official report provided by the Federal Emergency Management Agency. The report contains flood profiles, as well as the flood boundary-floodway map and the water surface elevation of the base flood.

**Floodplain** means:

- (1) A relatively flat or low land area adjoining a river, stream or watercourse which is subject to partial or complete inundation;
- (2) An area subject to the unusual and rapid accumulation or runoff of surface water from any source.

**Floodway** means the channel of a stream plus any adjacent floodplain area that must be kept free of encroachment in order to discharge the base flood without cumulatively increasing the water surface elevation more than one foot.

**Floor** means the top surface of an enclosed area in a building, including basement, i.e., top of slab in concrete slab construction or top of wood flooring in wood frame construction. The term does not include the floor of a garage used solely for the parking of vehicles.

**Floor, lowest** 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 this chapter.

**Freeboard** means a factor of safety usually expressed in feet above a flood level for purposes of floodplain management.

**Highest adjacent grade** means the highest natural elevation of the ground surface, prior to construction, next to the proposed walls of a building.

**Historic structure** means any structure that is:

- (1) Listed individually in the National Register of Historic Places (a listing maintained by the Department of Interior) or preliminarily determined by the Secretary of the Interior as meeting the requirements for individual listing on the National Register;
- (2) 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;
- (3) 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
- (4) Individually listed on a local inventory of historic places in communities with historic preservation programs that have been certified either by an approved state program as determined by the Secretary of the Interior, or directly by the Secretary of the Interior in states without approved programs.

**Manufactured 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 connected to the required utilities. For floodplain management purposes, the term “manufactured home” also includes park trailer, travel trailers and other similar vehicles placed on a site for greater than 180 consecutive days. For insurance purposes, the term “manufactured home” does not include park trailers, travel trailers, and other similar vehicles.

**Manufactured home park, existing** means an area or tract of land which is designed, constructed and equipped to accommodate two or more manufactured homes and was in existence prior to May 1, 1980.

**Mean sea level** means the average height of the sea for all stages of the tides. It is used as a reference for establishing various elevations within the floodplain. For

purposes of this chapter, the term is synonymous with National Geodetic Vertical Datum (NGVD).

**National Geodetic Vertical Datum (NGVD), as corrected in 1929**, is a vertical control used as a reference for establishing varying elevations within the floodplain.

**New construction** means any structure for which the start of construction commenced after May 15, 1980. The term also includes any subsequent improvements to such structure.

**New manufactured home park or manufactured home subdivision** means a manufactured home park or manufactured home subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including at a minimum the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads) is completed on or after May 15, 1980, and is composed of two or more manufactured homes.

**No-rise certificate** is a certification from a registered professional engineer based on hydrologic and hydraulic analyses which states that proposed fill, new construction, substantial improvement, or other development will not result in an increase in the 100-year flood elevation or any decrease in floodway width.

**One hundred-year flood** means a flood that has one percent chance of occurring each year.

**Recreational vehicle** means a vehicle which is:

- (1) Built on a single chassis;
- (2) Four hundred square feet or less total area when measured at the largest horizontal projection;
- (3) Designed to be self-propelled or permanently towable by a light duty truck; and
- (4) Designed primarily not for use as a permanent dwelling but as temporary living quarters for recreational, camping, travel, or seasonal use.

**Start of construction includes substantial improvement**, and means the date the building permit was issued, provided the actual start of construction, repair, reconstruction, or improvement was within 180 days of the permit date. The “actual start” means the first placement of permanent construction of a building (including a manufactured home) on a site, such as the pouring of slabs or footings, installation of piles, 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, footings, 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 building. 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.

**Structure** means a walled and roofed building that is principally aboveground, a manufactured home, a gas or liquid storage tank, or other manmade facilities or infrastructures.

**Substantial damage** means damage of any origin sustained by a structure whereby the cost of restoring the structure to its before damaged condition would equal or exceed fifty percent of the market value of the structure before the damage occurred.

**Substantial improvement** means any combination of repairs, reconstruction, alteration, or improvements to a building taking place during the life of a building in which the cumulative cost equals or exceeds fifty percent of the market value of the building. The market value of the building should be the appraised value of the building prior to the start of the initial repair or improvement, or, in the case of damage, the value of the building prior to the damage occurring. Such term includes structures which have incurred substantial damage, regardless of the actual repair work performed. For the purposes of this definition, “substantial improvement” is considered to occur when the first alteration of any wall, ceiling, floor, or other structural part of the building commences, whether or not that alteration affects the external dimensions of the building. The term does not, however, include (1) any project for improvement of a building required to comply with existing health, sanitary, or safety code specifications which have been identified by the building official and which are solely necessary to assure safe living conditions, or (2) any alteration of a “historic structure”, provided that the alteration will not preclude the structure’s continued designation as a “historic structure”.

**Substantially improved existing manufactured home parks or manufactured home subdivisions** means existing manufactured home parks or subdivisions where the repair, reconstruction, rehabilitation or improvement of the streets, utilities and pads equals or exceeds fifty percent of the value of the streets, utilities and pads before the repair, reconstruction or improvement commenced.

**Variance** means a grant of relief from the requirements of this chapter which permits construction in a manner otherwise prohibited by this chapter where specific enforcement would result in unnecessary hardship.

(b) In the construction of this chapter, the rules contained in this subsection shall be observed and applied, except when the context clearly indicates otherwise:

- (1) The word “lot” includes the words “plat” and “parcel”;

- (2) The word “approve” shall be considered to be followed by the words “or disapprove”.

**Sec. 42-5. Administration.**

(a) The administrator, as appointed by the board of supervisors, is hereby delegated to administer this chapter. The administrator shall be considered the agent of the board of supervisors.

(b) The administrator shall perform all duties regarding floodplain management in accordance with this chapter and applicable federal and state authority.

(c) In addition to the regulations contained in this chapter for floodplain management, the administrator may, from time to time, establish any reasonable administrative procedures deemed necessary for the proper administration of this chapter or such other authority as the board of supervisors might delegate.

(d) The building inspection department shall obtain, review, and reasonably utilize any base flood elevation and floodway data available from a federal, state or other source as criteria for requiring that new construction, substantial improvements or other development in Zone A meet the requirements of this chapter.

**Sec. 42-6. Floodplain district boundaries; official floodplain map.**

The boundaries of the floodplain districts are established as shown on the official county flood boundary and floodway map, and Flood Insurance Rate Map which is declared to be a part of this chapter. The official map, and any duly approved amendments thereto, shall be kept on file in the office of the county building official. Additional copies shall be kept in the offices of the county planning commission, and the clerk of the county circuit court.

**Sec. 42-7. Compliance and liability.**

(a) No land shall, after April 14, 1993, be developed and no structure shall be located, relocated, constructed, reconstructed, enlarged or structurally altered except in full compliance with the terms and provisions of this chapter and any other applicable ordinances and regulations.

(b) The degree of flood protection sought by the provisions of this chapter is considered reasonable for regulatory purposes and is based on acceptable engineering methods of study. Larger floods may occur on rare occasions. Flood heights may be increased by man-made or natural causes, such as ice jams and bridge openings restricted by debris. This chapter does not imply that areas outside the floodplain districts or that land uses permitted within such districts will be free from flooding or flood damages.

(c) This chapter shall not create liability on the part of the county or any officer or employee thereof for any flood damages that result from reliance on this chapter or any administrative decision lawfully made there under.

**Sec. 42-8. Appeal procedure; conditions for variance.**

(a) Whenever any person is aggrieved by a decision of the building official with respect to the provisions of this chapter or requests a variance to the requirements of this chapter, it is the right of that person to make application to the board of appeals for a variance or an appeal. Such appeal or variance request must be filed in writing within thirty days after the determination by the building official. Upon receipt of such a request, the board of appeals shall set a time and place for the purpose of hearing the appeal or request for a variance, which shall be not less than ten nor more than thirty days from the date of the receipt of the appeal. Notice of the time and place of the hearing of the appeal or request for a variance shall be given to all affected parties, at which time they may appear and be heard. The determination by the board of appeals shall be final in all cases.

(b) In passing upon applications for a variance to the requirements of this chapter, the board of appeals shall consider the following factors:

- (1) The danger to life and property due to increased flood heights or velocities caused by encroachments or erosion damage. No variance shall be granted for any proposed use, development or activity with the floodway district that will cause any increase in flood levels during the 100-year flood. The variance request must include hydrological engineer calculations and a no-rise certificate.
- (2) The danger that materials may be swept onto other lands or downstream to the injury of others.
- (3) The proposed water supply and sanitation systems and the ability of these systems to prevent disease, contamination and unsanitary conditions.
- (4) The susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owners.
- (5) The importance of the services provided by the proposed facility to the community.
- (6) The requirements of the facility for a waterfront location.
- (7) The availability of the alternative locations not subject to flooding for the proposed use.

- (8) The compatibility of the proposed use with existing development and development anticipated in the foreseeable future.
- (9) The relationship of the proposed use to the comprehensive plan and floodplain management program for the area.
- (10) The safety of access to the property in time of flood for ordinary and emergency vehicles.
- (11) The expected height, velocity, duration, rate of rise, and sediment transport of the floodwaters expected at the site.
- (12) The costs of providing governmental services during and after flood conditions, including maintenance and repair of public utilities and facilities such as sewer, gas, electrical, and water systems, and streets and bridges.
- (13) A variance may be issued for the repair or rehabilitation of historic structures upon a determination that the proposed repair or rehabilitation will not preclude the structure's continued designation as a historic structure and the variance is the minimum relief necessary to preserve the historic character and design of the structure.
- (14) Such other factors which are relevant to the purposes of this chapter.

The board of appeals may refer any application and accompanying documentation pertaining to any request for a variance to any engineer or other qualified person or agency for technical assistance in evaluating the proposed project in relation to flood heights and velocities, and the adequacy of the plans for protection and other related matters.

(c) A variance shall only be issued after the board of appeals has determined that the granting of such variance will not result in:

- (1) An increase in flood height as certified in a no-rise certificate;
- (2) Additional threats to public safety;
- (3) Extraordinary public expense;
- (4) Create nuisances;
- (5) Cause fraud on or victimization of the public; or
- (6) Conflict with local laws or ordinances; and

In the instance of a historical building, a determination that the variance is the minimum necessary so as not to destroy the historic character and design of the building.

(d) A variance shall only be issued after the board of appeals has determined that the variance will be the minimum relief to any hardship. In making such determination, the board of appeals shall observe the following procedures:

- (1) A variance shall not be granted for any proposed use, development or activity within the floodway district that will cause any increase in flood levels during the base flood as shown by hydrological engineer calculations and a no-rise certificate.
- (2) Upon consideration of the factors listed in this section and the purposes of this chapter, the board of appeals may attach such conditions to the granting of variances as it deems necessary to further the purposes of this ordinance.
- (3) Variances shall only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief.
- (4) The applicant will be notified by the county in writing that the issuance of a variance to construct a structure below the base flood level will result in increased flood insurance premium rates, and such construction below the base flood level increases risks to life and property.
- (5) Records shall be maintained of all variance actions, including their justification, and shall be noted in the biennial report submitted to the Federal Insurance Administrator.

**Sec. 42-9. Violations and penalties; additional remedies; abatement of nuisance.**

(a) Any person who fails to comply with any of the requirements or provisions of this chapter or directions of the building official or any other authorized employee of the county shall be guilty of a Class 1 misdemeanor and subject to the penalties therefor.

(b) In addition to the penalties prescribed in subsection (a) of this section, all other actions are hereby reserved including an action in equity for the proper enforcement of this chapter. The imposition of a fine or penalty for any violation of, or noncompliance with, this chapter shall not excuse the violation or noncompliance or permit it to continue; and all such persons shall be required to correct or remedy such violations or noncompliances within a reasonable time.

(c) Any structure constructed, reconstructed, enlarged, altered or relocated in noncompliance with this chapter may be declared by the board of supervisors to be a public nuisance and abatable as such.

**Secs. 42-10 – 42-30. Reserved.**

## Article II. District Regulations

**Sec. 42-31. Districts established.**

The various floodplain districts shall include areas subject to inundation by waters of the 100-year flood. The basis for the delineation of these districts shall be the Flood Insurance Study (FIS) for the unincorporated areas of Smyth County prepared by the Federal Emergency Management Agency (FEMA), Federal Insurance Administration, dated November 5, 1997, as amended, which shall be kept in the records of the county as provided in Section 42-6.

- (1) The floodway district is delineated for purposes of this chapter using the criteria that a certain area within the floodplain must be capable of carrying the waters of the 100-year flood without increasing the water surface elevation of that flood more than one foot at any point. The areas included in this district are specifically defined in Table 2 of the above referenced flood insurance study and shown on the official county flood boundary and floodway map or Flood Insurance Rate Map. Where the floodway is not designated on the map, the floodway shall be one times the width of the stream on each side.
- (2) The flood-fringe district shall be that area of special flood hazard not included in the floodway district. The basis for the outermost boundary of this district shall be the 100-year flood elevations contained in the flood profiles of the above-referenced flood insurance study and as shown on the official county flood boundary and floodway map or Flood Insurance Rate Map.
- (3) The approximated floodplain district shall be that floodplain area for which no detailed flood profiles or elevations are provided, but where an area of special flood hazard boundary has been approximated. Such areas are shown as Zone A on the flood boundary and floodway map and/or the flood insurance rate map or the flood insurance study profiles. For these areas, elevation and floodway information from other Federal, State, or other acceptable source shall be used when available. Where other acceptable information is not available, the elevation shall be determined by using the elevation of a point on the boundary of the identified floodplain area which is nearest the construction site. Smyth County may require the applicant to determine the elevation with hydrologic and hydraulic engineering techniques. Hydrologic and hydraulic analyses shall be undertaken only by professional engineers or others of demonstrated qualifications, who shall certify that the technical methods used correctly reflect currently accepted technical concepts. Studies, analyses, computations, etc., shall be submitted in sufficient detail to allow a thorough technical review by Smyth County.

**Sec. 42-32. Interpretation and revision of boundaries.**

(a) Initial interpretations of the boundaries of the floodplain districts shall be made by the building official. Should a dispute arise concerning the boundaries of any of the districts, the board of appeals shall make the necessary determination. The person questioning or contesting the location of the district boundary shall be given a reasonable opportunity to present a case to the board of appeals and to submit technical evidence if the person so desires.

(b) The delineation of any of the floodplain districts may be revised by the board of supervisors where natural or manmade changes have occurred and/or more detailed studies conducted or undertaken by the U. S. Army Corps of Engineers or other qualified agency or individual document the justification for such change. However, prior to any such change, approval must be obtained from the Federal Insurance Administration.

**Sec. 42-33. Floodplain development permit required; general restrictions.**

(a) All uses, activities and development occurring within any area of special flood hazard shall be undertaken only upon the issuance of a floodplain development permit and, in addition, a building permit may be required. Such development shall be undertaken only in strict compliance with the provisions of this chapter and with all other applicable codes and ordinances, such as the Virginia Uniform Statewide Building Code. Prior to the issuance of any such permits, the building official shall require all applications to include compliance with all applicable state and federal laws. Under no circumstances shall any use, activity and/or development adversely affect the capacity of the channels or floodways of any watercourse, drainage ditch, or any other drainage facility or system.

(b) The floodplain development permit may include, but not be limited to, the following information:

(1) Application stage.

- a. Elevation in relation to mean sea level of the proposed lowest floor, including basement of all buildings;
- b. Elevation in relation to mean sea level to which any nonresidential building will be floodproofed;
- c. The elevation of the base flood;
- d. Certificate from a registered professional engineer or architect that the nonresidential floodproofed building will meet the floodproofing criterion in this section;
- e. Description of the extent to which any watercourse will be altered or relocated as a result of proposed development; and

- (2) Construction Stage: Provide a floor elevation or floodproofing certification after the lowest floor is completed. Upon placement of the lowest floor, or floodproofing by whatever construction means, or upon placement of the horizontal structural members of the lowest floor, whichever is applicable, it shall be the duty of the permit holder to submit to the building official, if required, a certification of the elevation of the lowest floor, floodproofed elevation, or the elevation of the lowest portion of the horizontal structural members of the lowest floor, whichever is applicable, as built, in relation to mean sea level. Such certification shall be prepared by or under the direct supervision of a registered land surveyor or professional engineer and certified by same. When floodproofing is utilized for a particular building, said certification shall be prepared by or under the direct supervision of a professional engineer or architect and certified by same. Any work undertaken prior to submission of the certification shall be at the permit holder's risk. The building official shall review the floor elevation survey data submitted. Deficiencies detected by such review shall be corrected by the permit holder immediately and prior to further progressive work being permitted to proceed. Failure to submit the information on the application for a development permit and the ensuing information required, or failure to make the corrections required hereby, shall be cause to issue a stop work order for the project.

For clarification: All elevation information requested from the applicant for a development permit is to be obtained by the applicant and at the applicant's expense.

(c) Elevated Buildings.

- (1) For all new construction and substantial improvements, fully enclosed areas below the lowest floor that are subject to flooding shall be designed to preclude living space and to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of floodwaters. Designs for meeting this requirement must either be certified by a registered professional engineer or architect, or must meet or exceed the following minimum criteria: A minimum of two openings 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 grade. Openings may be equipped with screens, louvers or other coverings or devices, provided that they permit the automatic entry and exit of floodwaters. Access to the enclosed area shall be the minimum necessary to allow for parking of vehicles (garage door) or limited storage of maintenance equipment used in connection with the premises (standard exterior door) or entry to the living area (stairway or elevator); and the interior portion of such enclosed area shall not be partitioned or finished into separate rooms.

- (2) New construction and substantial improvements shall be anchored to prevent flotation, collapse or lateral movement of the structure.
- (3) New construction and substantial improvements shall be constructed with materials and utility equipment resistant to flood damage and by methods and practices that minimize flood damage.
- (4) New construction or substantial improvement of any residential building or manufactured home shall have the lowest floor, including basement, elevated no lower than one foot above the base flood elevation.

(d) Prior to any proposed alteration or relocation of any channels or floodways of any watercourse, stream, etc, within the county, approval shall be obtained from the U. S. Army Corps of Engineers, the Virginia Department of Environmental Quality, and the Virginia Marine Resources Commission (a joint permit application is available from any of these organizations) Furthermore, notification of the proposal shall be given by the applicant to all affected adjacent jurisdictions, the Virginia Department of Conservation and Recreation (Division of Soil and Water Conservation), and the Federal Insurance Administration.

(e) Standards for manufactured homes and recreational vehicles.

- (1) All manufactured homes placed, or substantially improved, on individual lots or parcels, in expansions to existing manufactured home parks or manufactured home subdivisions, or in substantially improved manufactured home parks or manufactured home subdivisions must meet all the requirements for new construction, including elevations and anchoring.
- (2) Manufactured homes shall be anchored to prevent flotation, collapse, or lateral movement. Methods of anchoring may include, but are not limited to, use of over-the-top or frame ties to ground anchors. This standard shall be in addition to and consistent with applicable state requirements for resisting wind forces.
- (3) All manufactured homes placed or substantially improved in an existing manufactured home park or subdivision must be:
  - a. Elevated so that:
    1. The lowest floor of the manufactured home is elevated no lower than one foot above the level of the base flood elevation; or

2. The manufactured home chassis is supported by reinforced piers or other foundation elements of at least an equivalent strength, of no less than 36 inches in height above grade.
- b. Securely anchored to the adequately anchored foundation system to resist flotation, collapse and lateral movement.

In an existing manufactured home park or manufactured home subdivision on which a manufactured home has incurred substantial damage as the result of a flood, any manufactured home placed or substantially improved must meet the standards of subsections (a) and (b) of this section.

- (4) All recreational vehicles placed on sites must either:
  - a. Be fully licensed and ready for highway use (on wheels or jacking system, attached to the site only by quick disconnect type utilities and security devices and have no permanently attached structures); or
  - b. The recreational vehicle must meet all the requirements for new construction, including anchoring and elevation requirements of subsection (e)(1) or (e)(3)(a) and (e)(3)b of this section.
- (f) Where a nonresidential structure is intended to be made watertight below the base flood level:
  - (1) A registered professional engineer or architect, at the expense of the owner, shall develop and/or review structural design, specifications and plans for the construction and shall certify that the design and methods of construction are in accordance with accepted standards of practice for meeting the applicable provisions of the Federal Emergency Management Agency's national flood insurance program, sections (c)(3)(ii) or (c)(8)(ii); and
  - (2) A record of such certificates, which includes the specific elevation in relation to mean sea level to which such structures are floodproofed, shall be maintained with the county building inspection department.

**Sec. 42-34. Floodway district.**

(a) In the floodway district no encroachments, including fill, new construction, substantial improvements, or other development shall be permitted unless it has been demonstrated through hydrologic and hydraulic analysis performed by a registered professional engineer in accordance with standard engineering that the proposed encroachment will not result in any increase in the 100-year flood elevation or any decrease in floodway width. A no-rise certificate must accompany the analysis results.

Development may be permitted where the effect of such development on flood height is fully offset by accompanying improvements which have been approved by all appropriate local, state, and/or federal authorities as required in Section 42-33. The placement or replacement of any manufactured home within the floodway district is permitted only to the extent provided in Title 24, Chapter X, Subchapter B, as printed in the Federal Register on Tuesday, October 26, 1976, which prohibits the placement of any manufactured homes within the adopted regulatory floodway except in an existing manufactured home park or manufactured home subdivision. Such homes shall meet the anchoring standards of Section 42-33(e)(2) and the elevation standards of Section 42-33(c)(4).

(b) In areas of special flood hazard shown on the maps noted in Section 42-31, where no base flood data has been provided or where base flood data has been provided without floodways, the floodway shall be one times the width of the stream on each side.

(c) Permitted Activities. The following activities are permitted in the floodway district, provided that they are in compliance with the provisions of this chapter and are not prohibited by any other ordinance; and provided, further, that they do not require structures, fill or storage of materials and equipment:

- (1) Agricultural uses such as general farming, pasture, grazing, outdoor plant nurseries, horticulture, truck farming, forestry, sod farming, and wild crop harvesting.
- (2) Public and private recreational uses and activities such as parks, day camps, picnic grounds, golf courses, boat launching and swimming areas, hiking and horseback riding trails, wildlife and nature preserves, game farms, fish hatcheries, trap and skeet ranges and hunting and fishing areas.
- (3) Accessory residential uses such as yard areas, gardens, play areas, and parking.
- (4) Utilities and public facilities and improvements such as railroads, streets, bridges, transmission lines, pipelines, water and sewage treatment plants and other similar or related uses.
- (5) Water-related uses and activities such as marinas, docks, wharves, piers, etc.

(d) Activities permitted by conditional use. The following activities may be permitted by conditional use in the floodway district, provided that they are in compliance with the provisions of this chapter and are not prohibited by any other ordinance:

- (1) Extraction of sand, gravel and other materials where no increase in level of flooding or velocity is caused thereby.

- (2) Temporary uses such as circuses, carnivals, and similar activities.
- (3) Storage of materials and equipment, provided that such materials and equipment are not buoyant, flammable or explosive, and are not subject to major damage by flooding; or provided that such material and equipment is firmly anchored to prevent flotation or movement and/or can be readily removed from the area within the time available after flood warning. These encroachments must be analyzed by a registered professional engineer and a no-rise certificate provided.
- (4) Other similar uses and activities provided they cause no increase in flood heights and/or velocities.

(e) All uses, activities and structural developments shall be undertaken in strict compliance with the floodproofing provisions contained in all other applicable codes and ordinances.

**Sec. 42-35. Flood-fringe and approximated floodplain districts.**

(a) In the flood-fringe and approximated floodplain districts, the development and/or use of land shall be permitted in accordance with the regulations of this chapter, provided that all such uses, activities and/or development shall be undertaken in strict compliance with the floodproofing and related provisions contained in the Virginia Uniform Statewide Building Code and all other applicable codes and ordinances.

(b) Within the approximated floodplain district, all new subdivision proposals and other purposed developments (including proposals for manufactured home parks and subdivisions), shall include within such proposals base flood elevation data. The applicant shall also delineate a floodway area based on the requirement that all existing and future development not increase the one hundred year flood elevation more than one foot at any one point. The engineering principle – equal reduction of conveyance – shall be used to make the determination of increased flood heights. Within the floodway area delineated by the applicant, the provisions of Section 42-34(a) shall apply.

**Sec. 42-36. Design criteria for utilities and facilities.**

(a) Sanitary sewer facilities: All new or replacement sanitary sewer facilities and private package sewage treatment plants, including all pumping stations and collector systems, shall be designed to minimize or eliminate infiltration of floodwaters into the systems and discharges from the systems into the floodwaters. In addition, they should be located and constructed to minimize or eliminate flood damage.

(b) Water facilities. All new or replacement water facilities shall be designed to minimize or eliminate infiltration of floodwaters into the system and shall be located and constructed to minimize or eliminate flood damage.

(c) Drainage facilities: All storm drainage facilities shall be designed to convey the flow of surface waters without damage to persons or property. The system shall insure drainage away from buildings and on-site waste disposal sites. The board of supervisors may require a primarily underground system to accommodate frequent floods and a secondary surface system to accommodate larger, less frequent floods. Drainage plans should be consistent with local and regional drainage plans. The facilities shall be designed to prevent the discharge of excess runoff onto adjacent properties.

(d) Utilities: All utilities and equipment such as gas lines, electrical, and telephone systems being placed in flood-prone areas should be located, elevated (where possible) and constructed to minimize the chance of impairment during a flooding occurrence.

(e) Streets and sidewalks: Streets and sidewalks should be designed to minimize their potential for increasing and aggravating the levels of flood flow. Drainage openings shall be required to sufficiently discharge flood flows without unduly increasing flood heights.

**Sec. 42-37. Nonconforming structures or uses.**

A structure or use of a structure or premises which lawfully existed before the enactment of the ordinance from which this chapter is derived, but which is not in conformity with this chapter, may be continued subject to the following conditions:

- (1) Existing structures and/or uses located in the floodway district shall not be expanded or enlarged unless the effect of the proposed expansion or enlargement on flood heights is fully offset by accompanying improvements and hydrological engineer calculations with a no-rise certificate.
- (2) Any modification, alteration, repair, reconstruction or improvement of any kind to a structure and/or use located in any floodplain district to an extent or amount of less than fifty percent of its market value shall be elevated and/or floodproofed to the greatest extent possible.
- (3) The modification, alteration, repair, reconstruction or improvement of any kind to a structure and/or use regardless of its location in a floodplain district to an extent or amount of fifty percent or more of its market value shall be undertaken only in full compliance with the provisions of the Virginia Uniform Statewide Building Code.
- (4) Uses or adjuncts thereof which are, or become, nuisances shall not be permitted to continue.

