

## **ARTICLE 11: FLOODPLAIN MANAGEMENT DISTRICT (FM-1)**

### **Statement of Intent**

This district is designed to establish floodplain areas, require the issuance of permits for development, provide for certain minimum standards for development, and provide factors and conditions for variances to the terms of the ordinance.

### **11-1 General Provisions**

#### 11-1.1 Purpose

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

- A. Regulating uses, activities, and development which, alone or in combination with other existing or future uses, activities, and development, will cause unacceptable increases in flood heights, velocities, and frequencies.
- B. Restricting or prohibiting certain uses, activities, and development from locating within districts subject to flooding.
- C. Requiring all those uses, activities, and developments that do occur in flood-prone districts to be protected and/or flood proofed against flooding and flood damage.
- D. Protecting individuals from buying land and structures which are unsuited for intended purposes because of flood hazards.

This overlay zone shall be in addition to any other zone within Pulaski County for the purpose and in order to promote the health, safety, convenience and general welfare of the residents of Pulaski County.

#### 11-1.2 Applicability

These provisions shall apply to all lands within the jurisdiction of the County of Pulaski and identified as being in the one hundred (100)-year floodplain by the Federal Insurance Administration.

#### 11-1.3 Compliance and Liability

- A. No land shall hereafter 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 ordinance and any other applicable ordinances and regulations which apply to uses within the jurisdiction of this ordinance.

- B. The degree of flood protection sought by the provisions of this ordinance 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 ordinance does not imply that areas outside the floodplain areas, or that land uses permitted within such area will be free from flooding or flood damages.
- C. This ordinance shall not create liability on the part of County of Pulaski or any officer or employee thereof for any flood damages that result from reliance on this ordinance or any administrative decision lawfully made hereunder.

#### 11-1.4 Abrogation and Greater Restrictions

This ordinance supersedes any ordinance currently in effect in flood-prone areas. However, any underlying ordinance shall remain in full force and effect to the extent that its provisions are more restrictive than this ordinance.

## 11-2 Establishment of Floodplain Areas

### 11-2.1 Description of Areas

The various Floodplain Areas shall include areas subject to inundation by waters of the one hundred (100)-year flood. The basis for the delineation of these areas shall be the Flood Insurance Study for the County of Pulaski prepared by the Federal Emergency Management Agency, Federal Insurance Administration, dated September 26, 2008 as amended. *Note: Subsections A and B are for use where a floodway has been delineated and separate floodway and flood-fringe areas will be established.*

- A. The Floodway Area is delineated, for purposes of this ordinance, using the criterion that certain areas within the floodplain must be capable of carrying the waters of the one hundred (100)-year flood without increasing the water surface elevation of that flood more than one (1) foot at any point. The areas included in this are specifically defined in Table 2 of the above-referenced Flood Insurance Study and shown on the accompanying Flood Insurance Rate Map.
- B. The Flood-Fringe Area shall be that area of the one hundred (100)-year floodplain not included in the floodway area. The basis for the outermost boundary of the area shall be the one hundred (100)-year flood elevations contained in the flood profiles of the above-referenced Flood Insurance Study and as shown on the accompanying Flood Insurance Rate Map.
- C. The Approximated Floodplain Area shall be that floodplain area for which no detailed flood profiles or elevations are provided, but where a one hundred (100)-year floodplain boundary has been approximated. Such areas are shown as Zone A on the maps accompanying the Flood Insurance Study. For these areas, the one hundred (100)-year flood elevations and floodway information from federal, state, and other acceptable sources shall be used, when available. Where the specific one hundred (100)-year flood elevation cannot be determined for this area using other sources of data, such as the U.

S. Army Corps of Engineers Floodplain Information Reports, U. S. Geological Survey Flood-Prone Quadrangles, etc., U. S. D. A. Soil Conservation Service, flood hazard analysis; known high water marks from past floods; Tennessee Valley Authority flood reports; other sources and American Electric Power Company, lake study, then the applicant for the proposed use, development and/or activity shall determine this elevation in accordance 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 review by the County of Pulaski.

D. The Special Floodplain Area shall be that area on the one hundred (100)-year floodplain for which one hundred (100)-year flood elevations have been provided in the Flood Insurance Study and Flood Insurance Rate Map but no floodway has been delineated.

#### 11-2.2 Official Floodplain Map

The boundaries of the Floodplain Areas are established as shown on the Flood Insurance Rate Map which is declared to be a part of this ordinance and which shall be kept on file at the County of Pulaski.

Furthermore, notification of the proposal shall be given by the applicant to all affected adjacent jurisdictions, the Division of Dam Safety and Floodplain Management.

#### 11-2.3 Boundary Changes

The delineation of the Floodplain Areas may be revised by the County of Pulaski where natural or man-made changes have occurred and/or where more detailed studies have been conducted or undertaken by the U. S. Army Corps of Engineers or other qualified agency, or an individual documents the need for such change. However, prior to any such change approval must be obtained from the Federal Insurance Administration.

#### 11-2.4 Interpretation of Boundaries

Initial interpretations of the boundaries of the Floodplain Areas shall be made by the Zoning Administrator. Should a dispute arise concerning the boundaries, the Board of Appeals shall make the necessary determination. The person questioning or contesting the location of the Area boundary shall be given a reasonable opportunity to present his case to the Board and to submit his own technical evidence if he so desires.

### 11-3 Development Regulations

#### 11-3.1 General Provisions

##### A. Permit Requirements

All uses, activities, and development occurring within any floodplain area shall be undertaken only upon the issuance of a special permit. Such development shall be

undertaken only in strict compliance with the provisions of the ordinance and with all other applicable codes and ordinances, such as the Virginia Uniform Statewide Building Code. Prior to the issuance of any such permit, the Permit Officer 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 floodway of any watercourse, drainage ditch, or any other drainage facility or system.

B. Alteration or Relocation of Watercourse

Prior to any proposed alteration or relocation of any channels or floodways of any watercourse, stream, etc., within this jurisdiction a permit shall be obtained from the U. S. 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 Division of Soil and Water Conservation (Department of Conservation and Recreation), and the Federal Insurance Administration.

C. Drainage Facilities

Storm drainage facilities shall be designed to convey the flow of storm water runoff in a safe and efficient manner. The system shall insure proper drainage along streets, and provide positive drainage away from buildings. The system shall also be designed to prevent the discharge of excess runoff onto adjacent properties.

D. Site Plans and Permit Applications

All applications for development in the floodplain area and all building permits issued for construction in the floodplain shall incorporate the following information:

1. For structures to be elevated, the elevation of the lowest floor (including basement).
2. For structures to be flood proofed (non-residential only), the elevation to which the structure will be flood proofed.
3. The elevation of the one hundred (100) year flood.
4. Topographic information showing existing and proposed ground elevations.
5. Be certified by a registered professional engineer or architect that the design and methods of construction are in accordance with accepted standards of practice for meeting the provisions of this paragraph.

E. Recreational Vehicles

Recreational vehicles placed on sites shall either:

- (i) Be on the site for fewer than one hundred eighty (180) consecutive days, be fully licensed and ready for highway use, or
- (ii) Meet the permit requirements for placement and the elevation and anchoring requirements for manufactured homes as contained in the Uniform Statewide Building Code.

A recreational vehicle is ready for highway use if it is on its wheels or jacking system, is attached to the site only by quick disconnect type utilities and security devices, and has no permanently attached additions.

F. Flood way Encroachment Provisions

In the Floodway Area no encroachments, including fill, new construction, substantial improvements, or other development shall be permitted unless it has been demonstrated through hydrologic and hydraulic analyses performed in accordance with standard engineering practice that the proposed encroachment would not result in any increase in the one hundred (100)-year flood elevation.

G. In all special flood hazard areas where base flood elevations have been provided in the Flood Insurance Study or generated in accordance with Section 11-3.2 the following provisions shall apply:

1. Residential Construction

New construction or substantial improvement of any residential structure (including manufactured homes) shall have the lowest floor, including basement, elevated no less than one foot above the base flood elevation.

2. Non-Residential Construction

New construction or substantial improvement of any commercial, industrial, or non-residential building (or manufactured home) shall have the lowest floor, including basement, elevated to no less than one foot above the base flood elevation. Non-residential buildings located in all AE and AH zones may be flood-proofed in lieu of being elevated provided that all areas of the building components below the elevations corresponding to the BFE plus one foot are water tight with walls substantially impermeable to the passage of water, and use structural components having the capability of resisting hydrostatic and hydrodynamic loads and the effect of buoyancy. A registered professional engineer or architect shall certify that the standards of this subsection are satisfied.

11-3.2 Flood-Fringe and Approximated Floodplain Areas and Special Floodplain Areas

In the Flood-Fringe and Approximated Floodplain Areas and Special Floodplain Areas, the development and/or use of land shall be permitted in accordance with the regulations of the underlying area provided that all such uses, activities, and/or development shall be undertaken in

strict compliance with the flood proofing and related provisions contained in the Virginia Uniform Statewide Building Code and all other applicable codes and ordinances.

Within the Approximated Floodplain Area, all new subdivision proposals and other proposed developments (including proposals for manufactured home parks and subdivisions) greater than fifty (50) lots or five (5) acres, whichever is the lesser, 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 (100)-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 11-3.1F shall apply.

Within the Special Floodplain Area no new construction or development shall be allowed unless it is demonstrated that the cumulative effect of the proposed development, when combined with all other existing and anticipated development, when combined with all other existing and anticipated development, will not increase the elevation of the one hundred (100)-year flood more than one (1) foot at any point.

#### **11-4 Existing Structures In Floodplain Areas**

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

- A. Existing structures in the Floodway Area shall not be expanded or enlarged unless it has been demonstrated through hydrologic and hydraulic analyses performed in accordance with standard engineering practice that the proposed expansion would not result in any increase in the one hundred (100)-year flood elevation.
- B. Any modifications, alteration, repair, reconstruction, or improvement of any kind to a structure and/or use located in any floodplain area to an extent or amount of less than fifty (50) percent of its market value, elevation and/or flood proofing should be considered to the greatest extent possible.
- C. The modification, alteration, repair, reconstruction, or improvement of any kind to a structure and/or use, regardless of its locations in a floodplain area, to an extent or amount of fifty (50) percent or more of its market value shall be undertaken only in full compliance with the provisions of this ordinance and the Virginia Uniform Statewide Building Code.
- D. Existing structures in the Special Floodplain Area shall not be expanded or enlarged unless it has been demonstrated that the cumulative effect of the expansion or enlargement, when combined with all other existing and anticipated development, will not increase the elevation of the one hundred (100)-year flood more than one (1) foot at any point.

## 11-5 Definitions

**Base Flood / One Hundred Year Flood:** A flood that, on the average, is likely to occur once every one hundred (100) years (i.e., that has a one (1) percent chance of occurring each year, although the flood may occur in any year).

**Base Flood Elevation (BFE):** The Federal Emergency Management Agency designated one hundred (100) - year water surface elevation.

**Basement:** Any area of the building having its floor subgrade (below ground level) on all sides.

**Development:** Any man-made change to improved or unimproved real estate, including, but not limited to buildings or other structures, the placement of mobile homes, streets and other paving, utilities, mining, dredging, filling, grading, paving excavation or drilling operations or storage of equipment or materials.

**Floodplain:** Any land area susceptible to being inundated by water from any source.

**Floodway:** 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 a designated height.

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

**Recreational Vehicle:** A vehicle which is:

- built on a single chassis;
- more than eighty (8) feet in width and forty (40) feet in length or three hundred twenty (320) square feet or more square where erected on site;
- designed to be self-propelled or permanently towable by a light duty truck; and
- designed primarily not for use as a permanent dwelling but as temporary living quarters for recreational camping, travel, or seasonal use.

**Substantial Damage:** 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 (50) percent of the market value of the structure before the damage occurred.

**Substantial Improvement:** Any reconstruction, rehabilitation, addition, or other improvement of a structure, the cost of which equals or exceeds fifty (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:

- (1) any project for improvement of a structure to correct existing violations of state or local health, sanitary, or safety code specifications which have been identified by the local code enforcement official and which are the minimum necessary to assure safe living conditions, or
- (2) any alteration of a "historic structure", provided that the alteration will not preclude the structures continued designation as a "historic structure".