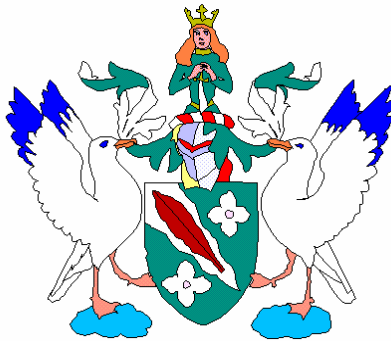


MIDDLESEX COUNTY VIRGINIA



FLOODPLAIN ORDINANCE

Reprinted: February 17, 2009 as adopted.

MIDDLESEX COUNTY

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AN ORDINANCE TO ESTABLISH A FLOODPLAIN DISTRICT IN MIDDLESEX COUNTY AND TO REGULATE ACTIVITIES WITHIN THE DISTRICT BY REQUIRING THE ISSUANCE OF PERMITS FOR DEVELOPMENT AND BY PROVIDING FACTORS AND CONDITIONS FOR VARIANCES TO THE TERMS OF THE ORDINANCE.

BE IT ENACTED AND ORDAINED BY THE BOARD OF SUPERVISORS OF MIDDLESEX COUNTY, VIRGINIA, as follows:

ARTICLE I - GENERAL PROVISIONS

Section 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; and,
- D. Protecting individuals from buying land and structures which are unsuited for intended purposes because of flood hazards.

Section 1.2 - Applicability

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

Section 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 districts outside the floodplain district, or that land uses permitted within such district will be free from flooding or flood damages.

- C. Records of actions associated with administering this ordinance will be kept on file and maintained by the Zoning Administrator.
- D. This ordinance shall not create liability on the part of Middlesex County or any officer or employee thereof for any flood damages that result from reliance on this ordinance or any administrative decision lawfully made thereunder.

Section 1.4 - Abrogation and Greater Restrictions

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

Section 1.5 - Severability

If any section, subsection, paragraph, sentence, clause, or phrase of this ordinance shall be declared invalid for any reason whatever, such decision shall not affect the remaining portions of this ordinance. The remaining portions shall remain in full force and effect; and for this purpose, the provisions of this ordinance are hereby declared to be severable.

ARTICLE II - DEFINITIONS

- A. Base flood - The flood having a one percent chance of being equaled or exceeded in any given year.
- B. Base flood elevation - The Federal Emergency Management Agency designated one hundred (100)-year water surface elevation.
- C. Basement - Any area of the building having its floor sub-grade (below ground level) on all sides.
- D. Board of Zoning Appeals - The board appointed to review appeals made by individuals with regard to decisions of the Zoning Administrator in the interpretation of this ordinance.
- E. Breakaway wall -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 supporting foundation system.
- F. Coastal A Zone – Flood hazard areas inland of and contiguous to flood hazard areas subject to high velocity wave action. Areas subject to this classification are those where the still

water depth is greater than or equal to 2-feet, and the breaking wave heights are greater than or equal to 1.5 feet.

- G. Coastal high hazard area – A special flood hazard area extending from offshore to the inland limit of a primary frontal dune along an open coast and any other area subject to high velocity wave action from storms or seismic sources.
- H. Design flood elevation – The Base Flood Elevation (BFE) plus a minimum of 1 foot (freeboard).
- I. Development - Any man-made change to improved or unimproved real estate, including, but not limited to, buildings or other structures, mining, dredging, filling, grading, paving, excavation or drilling operations or storage of equipment or materials.
- J. Elevated building - A non-basement building built to have the lowest floor elevated above the ground level by means of fill, solid foundation perimeter walls, pilings, or columns (posts and piers).
- K. Encroachment - The advance or infringement of uses, plant growth, fill, excavation, buildings, permanent structures or development into a floodplain, which may impede or alter the flow capacity of a floodplain.
- L. Flood or flooding -
 - 1. A general or temporary condition of partial or complete inundation of normally dry land areas from
 - a. The overflow of inland or tidal waters; or,
 - b. The unusual and rapid accumulation or runoff of surface waters from any source.
 - 2. The collapse or subsistence 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 an abnormal tidal surge, or by some similarly unusual and unforeseeable event which results in flooding as defined in paragraph 1 (a) of this definition.
- M. Floodplain or flood-prone area - Any land area susceptible to being inundated by water from any source.
- N. 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.
- O. Freeboard - A factor of safety usually expressed in feet above a flood level for purposes of floodplain management. “Freeboard” tends to compensate for the many unknown

factors that could contribute to flood heights greater than the height calculated for a selected size flood and floodway conditions, such as wave action, bridge openings, and the hydrological effect of urbanization in the watershed.

- P. Historic structure - 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
 - a. By an approved state program as determined by the Secretary of the Interior; or,
 - b. Directly by the Secretary of the Interior in states without approved programs.
- Q. Increased Cost of Compliance (ICC) coverage – Coverage under the Standard Flood Insurance Policy that provides for payment of a claim to help pay for the cost to comply with State or community floodplain management laws or ordinance from a flood event in which a building has been declared substantially damaged or repetitively damaged.
- R. Lowest floor - 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 Federal Code 44CFR §60.3.
- S. Manufactured home - 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 trailers, travel trailers, and other similar vehicles placed one a site for greater than 180 consecutive days.
- T. Market value – For the purposes of this ordinance, market value shall be determined by the most current appraisal available. When an appraisal is not available, the value of the structure as carried on the current tax assessment shall be used.
- U. New construction - For the purposes of determining insurance rates, structures for which the “start of construction” commenced on or after the effective date of an initial Flood

Insurance Rate Map on or after December 31, 1974, whichever is later, and includes any subsequent improvements to such structures. For floodplain management purposes, *new construction* means structures for which *start of construction* commenced on or after the effective date of a floodplain management regulation adopted by a community and includes any subsequent improvements to such structures.

- V. Repetitive Loss Structure - A building covered by a contract for flood insurance that has incurred flood-related damages on two occasions during a 10-year period ending on the date of the event for which a second claim is made, in which the cost of repairing the flood damage, on the average, equaled or exceeded 25 percent of the market value of the building at the time of each such flood event.
- W. Recreational vehicle - A vehicle which is
1. Built on a single chassis;
 2. 400 square feet or less 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.
- X. Shallow flooding area – A special flood hazard area with base flood depths from one to three feet where a clearly defined channel does not exist, where the path of flooding is unpredictable and indeterminate, and where velocity flow may be evident. Such flooding is characterized by ponding or sheet flow.
- Y. Special flood hazard area - The land in the floodplain subject to a one (1%) percent or greater chance of being flooded in any given year as determined in Article 3, Section 3.2 of this ordinance.
- Z. Start of construction - The date the building permit was issued, provided the actual start of construction, repair, reconstruction, rehabilitation, addition, placement, substantial improvement 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 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 the 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.

- AA. 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 50 percent of the market value of the structure before the damage occurred.
- BB. Substantial improvement - Any reconstruction, rehabilitation, addition, or other improvement of a structure, the cost of which equals or exceeds 50 percent of the market value of the structure before the *start of construction* of the improvement. This term shall be cumulative and shall apply to all improvements or repairs in any ten (10) consecutive years. This term includes structures that have incurred *repetitive loss and/or 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 structure's continued designation as a *historic structure*.
- CC. Watercourse - A lake, river, creek, stream, wash, channel or other topographic feature on or over which waters flow at least periodically. Watercourse includes specifically designated areas in which substantial flood damage may occur.

ARTICLE III - ESTABLISHMENT OF ZONING DISTRICTS

Section 3.1 - Description of Districts

A. Basis of Districts

The various floodplain districts shall include areas subject to inundation by waters of the one hundred (100)-year flood. The basis for the delineation of these districts shall be the Flood Insurance Study (FIS) for Middlesex County prepared by the Federal Emergency Management Agency, Federal Insurance Administration, dated January 18, 1989, as amended.

1. The Approximated Floodplain District shall be those areas identified as an A Zone on the maps accompanying the Flood Insurance Study. In this zone, no detailed flood profiles or elevations are provided, but the one hundred (100)-year floodplain boundary has been approximated. This district includes, but is not limited to, certain areas along the Dragon Run and the various millponds or lakes and their identified drainage systems.
2. The Special Flood Hazard Area shall be those areas identified as coastal AE or A1-30 Zones on the maps accompanying the Flood Insurance Study. Flood elevations are provided in these tidal floodplains; however, floodway data is not applicable.

3. The Coastal A Districts shall be flood hazard area inland of and contiguous to flood hazard areas subject to high velocity wave action. Areas subject to this classification are those where the still water depth is greater than or equal to 2-feet, and the design wave heights are greater than or equal to 1.5 feet.
4. The Coastal High Hazard District shall be those areas identified as V1 – V30, VE, or V Zones on the maps accompanying the Flood Insurance Study.

B. Overlay Concept

1. The Floodplain Districts described above shall be overlays to the existing underlying districts as shown on the Official Zoning Ordinance Map, and as such, the provisions for the floodplain districts shall serve as a supplement to the underlying district provisions.
2. Any conflict between the provisions or requirements of the Floodplain Districts and those of any underlying district, the more restrictive provisions and/or those pertaining to the floodplain districts shall apply.
3. In the event any provision concerning a Floodplain District is declared inapplicable as a result of any legislative or administrative actions or judicial decision, the basic underlying provisions shall remain applicable.

Section 3.2 - Official Zoning Map

The boundaries of the Special Flood Hazard Area and Floodplain Districts are established as shown on the Flood Boundary and Floodway Map and/or Flood Insurance Rate Map which is declared to be a part of this ordinance and which shall be kept on file at the Middlesex County offices.

Section 3.3 - District Boundary Changes

The delineation of any of the Floodplain Districts may be revised by Middlesex County 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.

Section 3.4 - Interpretation of District Boundaries

Initial interpretations of the boundaries of the Floodplain Districts shall be made by the Zoning Administrator. Should a dispute arise concerning the boundaries of any of the Districts, the Board of Zoning 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 his case to the Board and to submit his own technical evidence if he so desires.

ARTICLE IV - DISTRICT PROVISIONS

Section 4.1 – Permit and Application Requirements

A. Permit Requirement

All uses, activities, and development occurring within any floodplain district shall be undertaken only upon the issuance of a Zoning Permit per Article 21 of the Middlesex County Zoning Ordinance. Such development shall be undertaken only in strict compliance with the provisions of the Ordinance and with all other applicable codes and ordinances, as amended and the Middlesex County Subdivision Ordinance. Prior to the issuance of any such permit, the Zoning Administrator shall require all applications to include compliance with all applicable state and federal laws.

B. Site Plans and Permit Applications

All applications for development within any floodplain district and all Zoning Permits issued for 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. The elevation of the Design Flood Elevation (DFE).

Section 4.2 - General Standards

In all special flood hazard areas the following provisions shall apply:

A. All proposed developments shall include a Flood Zone Site Plan, prepared by an engineer or surveyor. The plan shall include:

1. The location of all existing and proposed construction,
2. The elevation of the adjacent grade at the proposed construction,
3. The elevation of existing and proposed construction,
4. The location and elevation of an on-site bench mark, and
5. The location of all flood zones on the property or within 100' of the property.
6. Coastal A Zones plans shall include BFE, DFE and Design Wave Height calculations. Design wave heights ($H_b = 0.78(BFE - GS)$). GS = lowest eroded ground elevation adjacent to the building in feet above datum (including the effects of localized scour).

See FEMA Coastal Construction Manual- Publication FEMA 55 for more information.

- B. New construction and substantial improvements shall be anchored to prevent flotation, collapse or lateral movement of the structure.
- C. 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.
- D. New construction and substantial improvements shall be constructed with materials and utility equipment resistant to flood damage.
- E. New construction or substantial improvements shall be constructed by methods and practices that minimize flood damage.
- F. Electrical, heating, ventilation, plumbing, air conditioning equipment and other service facilities, including duct work, shall be designed and/or located so as to prevent water from entering or accumulating within the components during conditions of flooding. Floor drains, toilets, sinks or any other plumbing fixture connected to an approved sewer system, shall not be allowed to have openings located below the DFE.
- G. All vertical utility risers at or below the design flood elevation shall be protected from impact damage.
- H. Adequate drainage shall be provided to reduce exposure to flood hazards.
- I. New and replacement water supply systems shall be designed to minimize or eliminate infiltration of flood waters into the system.
- J. New and replacement 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.
- K. On-site waste disposal systems shall be located and constructed to avoid impairment to them or contamination from them during flooding by placement outside of designated flood zones. If placement outside of flood zones is not possible, the system shall include the use of top-seamed tanks and/ or sealed septic and pump chamber tanks. All tanks subject to floatation shall be adequately anchored to prevent floatation.
- L. Any alteration, repair, reconstruction or improvements to a building that is in compliance with the provisions of this ordinance shall meet the requirements of “new construction” as contained in this ordinance.
- M. Any alteration, repair, reconstruction or improvements to a building that is not in compliance with the provisions of this ordinance, shall be undertaken only if said non-conformity is not furthered, extended, or replaced.

- N. All development plans within designated flood districts shall be maintained in the office of the Zoning Administrator.
- O. Development within a flood hazard zone shall comply with the International Building Code, Appendix G 'Flood-Resistant Construction', as amended, and/or International Residential Code, as amended.
- P. Assure that the flood carrying capacity within the altered or relocated portion of any watercourse is maintained.

Section 4.3 - Specific Standards

In all special flood hazard areas where base flood elevations have been provided in the Flood Insurance Study or generated according Article 4, section 4.4 (A), the following provisions shall apply:

A. Residential Construction

New construction or substantial improvement of any residential structure (including manufactured homes) shall have the lowest floor, including basement, elevated no lower than 1 foot above the base flood elevation.

B. 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 lower than 1 foot above the base flood elevation. Buildings located in all A1-30, AE, and AH zones may be flood-proofed in lieu of being elevated provided that all areas of the building components below the elevation corresponding to the DFE 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.

C. Elevated Buildings

Enclosed areas, of new construction or substantially improved structures, which are below the regulatory flood protection elevation shall:

1. Not be designed or used for human habitation, but shall only be used for parking of vehicles, building access, or limited storage of maintenance equipment used in connection with the premises. Access to the enclosed area shall be the minimum necessary to allow for parking of vehicles (garage door) or limited storage of maintenance equipment (standard exterior door), or entry to the living area (stairway or elevator). The interior portion of such enclosed area shall not be partitioned or finished into separate rooms, except to enclose storage areas;

2. Be constructed entirely of flood resistant materials below the regulatory flood protection elevation; (Refer to FEMA Technical Bulletin 2-93 for a list of approved materials).
3. In the Coastal High Hazard District, follow the standards for elevation outlined in Article 4, Section 4.6.
4. Include, in Zones A, AO, AE, and A1-30, measures to automatically equalize hydrostatic flood forces on walls by allowing for the entry and exit of floodwaters. To meet this requirement, the openings must either be certified by a professional engineer or architect or meet the following minimum design criteria:
 - a. Provide a minimum of two openings on different sides of each enclosed area subject to flooding.
 - b. The total net area of all openings must be at least one (1) square inch for each square foot of enclosed area subject to flooding.
 - c. If a building has more than one enclosed area, each area must have openings to allow floodwaters to automatically enter and exit.
 - d. The bottom of all required openings shall be no higher than one (1) foot above the adjacent grade.
 - e. Openings may be equipped with screens, louvers, or other opening coverings or devices, provided they permit the automatic flow of floodwaters in both directions and permit the passage of a 3" diameter object.
 - f. Foundation enclosures made of flexible skirting are not considered enclosures for regulatory purposes, and, therefore, do not require openings. Masonry or wood underpinning, regardless of structural status, is considered an enclosure and requires openings as outlined above.

D. 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 subdivisions, in a new manufactured home park or subdivision or in substantially improved manufactured home parks or subdivisions, must meet all the requirements for new construction, including elevation and anchoring.
2. All manufactured homes placed or substantially improved in an existing manufactured home park or subdivision must be elevated so that
 - a. The lowest floor of the manufactured home is elevated no lower than 2 feet above the base flood elevation; or,
 - b. 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 the grade;

- c. The manufactured home must be securely anchored to the adequately anchored foundation system to resist flotation, collapse and lateral movement;
 - d. In an existing manufactured home park or subdivision on which a manufactured home has incurred “substantial damage,” any manufactured home placed or substantially improved must meet the standards of Article 4, Section 4.3 (D)(2)(a)(b) and (c) above.
3. All recreational vehicles placed on sites must either
- a. Be on the site for fewer than 180 consecutive days;
 - b. Be fully licensed and ready for highway use (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); or,
 - c. Meet all the requirements for new construction, including anchoring and elevation requirements of Article 4, Section 4.3 (D) (1) or (2) (a) and (c), above.

Section 4.4 - Standards for Approximated Floodplain District

- A. When base flood elevation data or floodway data have not been provided, the Zoning Administrator shall require engineering review and design by use of any base flood elevation and floodway data available from a federal, state, or any other source, in order to comply with the provisions of Article 4. When such base flood elevation data is utilized, the Zoning Administrator shall require the applicant (or applicant’s engineer or surveyor) to provide:
 1. The elevation (in relation to the mean sea level) of the lowest floor (including the basement) of all new and substantially improved structures; and,
 2. If the structure has been flood-proofed in accordance with the requirements of Article 4, Section 4.3 (B) of this ordinance, the elevation in relation to the mean sea level to which the structure has been flood-proofed.
- B. Notify, in riverine situations, adjacent communities and the Department of Conservation and Recreation (Department of Floodplain Management) prior to any alteration or relocation of a watercourse, and submit copies of such notifications to FEMA.
- C. Assure that the flood carrying capacity within the altered or relocated portion of any watercourse is maintained.
- D. Manufactured homes shall be installed using methods and practices that minimize flood damage. They must be elevated and 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 requirement is in addition to applicable State and local anchoring requirements for resisting wind forces.

- E. When the data is not available from any source as in Article 4, Section 4.4 (A), the lowest floor of the structure shall be elevated to no lower than 4 feet above the highest adjacent grade.

Section 4.5 – Standards for Coastal A District

- A. All new construction and substantial improvements in Coastal A zones shall meet the same standards as those specified for the Coastal High Hazard District.

Section 4.6 - Standards for the Coastal High Hazard District

The following provisions shall apply within the Coastal High Hazard District and Coastal A Districts:

- A. All proposed development plans shall include a Flood Zone Site Plan, prepared by an engineer or surveyor. The plan shall include:
 - 1. The location of all existing and proposed construction,
 - 2. The elevation of the adjacent grade,
 - 3. The elevation of existing and proposed construction,
 - 4. The location and elevation of an on-site bench mark, and
 - 5. The location of all flood zones on the property or within 100' of the property boundaries.
- B. All new construction and substantial improvements in Zones V1 – V30 and VE (V if base flood elevation is available) shall be elevated on pilings or columns so that
 - 1. The bottom of the lowest horizontal structural member of the lowest floor (excluding the pilings or columns) is elevated to or above the design flood level (DFE); and,
 - 2. The pile or column foundation and structure attached thereto is anchored to resist flotation, collapse, and lateral movement due to the effects of wind and water loads acting simultaneously on all building components. Wind and water loading values shall each have a one percent chance of being equaled or exceeded in any given year (one-percent annual chance).
- C. A registered professional engineer or architect shall develop or review the structural design, specifications and plans for the construction, and shall certify that the design and methods of construction to be used are in accordance with accepted standards of practice for meeting the provisions of Article 4, Section ~~4.9(A)~~ clerical error; should be 4.6 (B).

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- D. Obtain the elevation (in relation to mean sea level) of the bottom of the lowest horizontal structural member of the lowest floor (excluding pilings and columns) of all new and substantially improved structures in Zones V1 – V30 and VE. The Floodplain Management Administrator shall maintain a record of all such information.
- E. All new construction shall be located landward of the reach of mean high tide.
- F. Provide that all new construction and substantial improvements have the space below the lowest floor either free of obstruction or constructed with nonsupporting breakaway walls, open wood-lattice work, or insect screening intended to collapse under wind and water loads without causing collapse, displacement, or other structural damage to the elevated portion of the building or supporting foundation system. For the purpose of this section, a breakaway wall shall have a design safe loading resistance of not less than 10 and no more than 20 pounds per square foot. Use of breakaway walls which exceed a design safe loading resistance of 20 pounds per square foot (either by design or when so required by local codes) may be permitted only if a registered professional engineer or architect certifies that the designs proposed meet the following conditions:
1. Breakaway wall collapse shall result from water load less than that which would occur during the base flood; and
 2. The elevated portion of the building and supporting foundation system shall not be subject to collapse, displacement, or other structural damage due to the effects of wind and water loads acting simultaneously on all building components (structural and nonstructural). Maximum wind and water loading values to be used in this determination shall each have a one percent chance of being equaled or exceeded in any give year.
- G. The enclosed space below the lowest floor shall be useable solely for parking of vehicles, building access, or storage. The enclosed space located below the Design Flood Elevation (DFE) shall be limited to in size to 300 square feet. Enclosure walls shall be constructed with screening, lattice, walls designed and constructed to fail under the loads imposed by floodwaters (See FEMA NFIP Technical Bulletin 9 for guidance in the design of breakaway walls). Equipment and obstacles shall not be attached to or adjacent to breakaway walls in such a manner as to adversely affect their designed failure. Such space shall not be partitioned into multiple rooms, temperature-controlled, or used for human habitation.
- H. The use of fill for structural support of buildings is prohibited. When fill is proposed in a coastal high hazard area, appropriate engineering analyses shall be conducted to evaluate the impacts of the fill prior to issuance of a development permit.
- I. The man-made alteration of sand dunes which would increase potential flood damage is prohibited.
- J. All manufactured homes to be placed or substantially improved within Zones V1 – V30, V, and VE as shown on the Flood Insurance Rate Map must meet the standards of Article

4, Section 4.6 (A) through (H) and that manufactured homes placed or substantially improved on other sites in an existing manufactured home park or subdivision with Zones V1 – V30, V, and VE on the Flood Insurance Rate Map meet the requirements of Article 4, Section 4.3 (D) (1) and (2), if they are located:

1. Outside of a manufactured home park or subdivision,
2. In a new manufactured home park or subdivision,
3. In an expansion to an existing manufactured home park or subdivision, or
4. In an existing manufactured home park or subdivision in which a manufactured home has incurred “substantial damage.”

K. Recreational vehicles placed on sites within Zones V1 – V30, V, and VE on the community’s Flood Insurance Rate Map must either:

1. Be on the site for fewer than 180 consecutive days,
2. Be fully licensed and ready for highway use, 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; or,
3. Meet the requirements of Article 4, Section 4.1 and Article 4, Section 4.6 (A) through (H).

Section 4.7 - Standards for Subdivision Proposals

A. All subdivision proposals shall be consistent with the need to minimize flood damage. Within such subdivision proposals, no new construction or development shall be permitted within the Coastal Floodplain District, Coastal High Hazard District or Coastal A District unless it is demonstrated that the cumulative effect of the proposed development, when combined with all other existing and approved development, will not increase the elevation of the one hundred (100) year flood more than one foot at any point.

B. All subdivision proposals shall have public utilities and facilities, such as sewer, gas, electrical and water systems, located and constructed to minimize flood damage. Any encroachment for public utilities and facilities within the Coastal Floodplain District, Coastal High Hazard District or Coastal A District shall be the minimum necessary for the provision of such public utilities and facilities.

C. All subdivision proposals shall have adequate drainage provided to reduce exposure to flood hazards as follows:

1. In all subdivisions, adequate storm drainage piping and appurtenance shall be provided in a manner to preclude flooding, erosion or standing pools of water. Open

- channels, other than naturally occurring streams, shall not be used for the conveyance of runoff within 50 feet of any residential structure.
2. All subdivisions shall have adequate stormwater management facilities, so that after development, a storm of a two-year average frequency shall be no greater than it would have been prior to development. Stormwater management facilities shall be designed and constructed in accordance with Virginia Stormwater Management Handbook, 1999 Edition, as amended.
 3. Easements, both on-site and off-site, shall be required for all storm drainage facilities, including natural streams, not located in the public rights-of-way. Such easements, shall be a minimum of fifteen (15) feet in width or greater for access and maintenance purposes.
- D. Base flood elevation data shall be provided for subdivision proposals and other proposed development proposals (including manufactured home parks and subdivisions) that exceed fifty lots or five acres, whichever is the lesser.

ARTICLE V - VARIANCES: FACTORS TO BE CONSIDERED

In passing upon applications for Variances, the Board of Zoning Appeals shall satisfy all relevant factors and procedures specified in other sections of the zoning ordinance and consider the following additional factors:

- A. The showing of good and sufficient cause.
- B. The danger to life and property due to increased flood heights or velocities caused by encroachments. No variance shall be granted for any proposed use, development, or activity within any Floodway District that will cause any increase in the one hundred (100)-year flood elevation.
- C. The danger that materials may be swept on to other lands or downstream to the injury of others.
- D. The proposed water supply and sanitation systems and the ability of these systems to prevent disease, contamination, and unsanitary conditions.
- E. The susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owners.
- F. The importance of the services provided by the proposed facility to the community.
- G. The requirements of the facility for a waterfront location.
- H. The availability of alternative locations not subject to flooding for the proposed use.

- I. The compatibility of the proposed use with existing development and development anticipated in the foreseeable future.
- J. The relationship of the proposed use to the comprehensive plan and floodplain management program for the area.
- K. The safety of access by ordinary and emergency vehicles to the property in time of flood.
- L. The expected heights, velocity, duration, rate of rise, and sediment transport of the flood waters expected at the site.
- M. 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 necessary to preserve the historic character and design of the structure.
- N. Such other factors which are relevant to the purposes of this ordinance.

The Board of Zoning 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 flood protection and other related matters.

Variances shall be issued only after the Board of Zoning Appeals has determined that the granting of such will not result in (a) unacceptable or prohibited increases in flood heights, (b) additional threats to public safety, (c) extraordinary public expense; and will not (d) create nuisances, (e) cause fraud or victimization of the public, or (f) conflict with local laws or ordinances.

Variances shall be issued only after the Board of Zoning Appeals has determined that the variance will be the minimum required to provide relief from exceptional hardship to the applicant.

The Board of Zoning Appeals shall notify the applicant for a variance, in writing, that the issuance of a variance to construct a structure below the one hundred (100)-year flood elevation (a) increases the risks to life and property and (b) will result in increased premium rates for flood insurance.

A record shall be maintained of the above notification as well as all variance actions, including justification for the issuance of the variances. Any variances that are issued shall be noted in the annual or biennial report submitted to the Federal Insurance Administrator.

ARTICLE VII - ENACTMENT

Duly adopted on the 20th day of February, 2007 after notice and public hearing as required by Section 15.2-2204 of the Code of Virginia, as amended, upon motion by Mr. Crump, seconded by Mr. Jessie.

Voting For: Mr. Crittenden, Mr. Crump, Mr. Jessie, Mr. Miller, Mr. Williams

Voting Against: None

Amended on the 17th day of February, 2009.

REFERENCES

“FEMA Coastal Construction Manual”, Third Edition - Publication FEMA 55 – www.fema.gov

“NFIP Increased Cost of Compliance Coverage” – Publication FEMA 301 / September 2003

“NFIP Answers to Questions about the National Flood Insurance Program”- Publication FEMA 387

“Answers to Questions about Substantially Damaged Buildings” – Publication FEMA 231

12 VAC 5-610-80 Sewerage systems and/or treatment works required – Virginia Administrative Code

2003 International Building Code – International Code Council

2003 International Residential Code – International Code Council