# D R A F T

**Sec. 23-374. Provisions for flood hazard reduction.**

(a) G*eneral standards.* In all areas within the floodplain the following provisions are required for all new construction, substantial improvements, or other development:

(1) All new construction, substantial improvements, or other development shall be designed (or modified) and adequately anchored to prevent flotation, collapse or lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy;

(2) All new construction, substantial improvements, or other development shall be constructed by methods and practices that minimize flood damage;

(3) All new construction, substantial improvements, or other development shall be constructed with materials resistant to flood damage;

(4) All new construction, substantial improvements, or other development shall be constructed with electrical, heating, ventilation, plumbing, and air conditioning equipment and other service facilities ~~that are designed and/or~~ located 12" above the base flood elevation so as to prevent water from entering or accumulating within the components during conditions of flooding;

(5) All new construction, substantial improvements, or other development shall be accomplished without causing an adverse impact to other properties;

(6) Compensatory storage shall be provided for any fill within the floodplain.

(b) *Specific standards.* In all areas within the floodplain where base flood elevation data has been provided as set forth in subsection (c)(3) of this section, section 23-372(b) or 23-373(a)(8), the following provisions are required:

(1) *Residential construction.* New construction and substantial improvement of any residential structure shall have the lowest floor (including basement and electrical, heating, ventilation, plumbing, air conditioning equipment and other service facilities), elevated 12 inches above the base flood elevation. A licensed professional engineer or land surveyor shall submit a certification to the floodplain administrator that the standard of this subsection, is satisfied.

(2) *Nonresidential construction.* New construction and substantial improvements of any commercial, industrial or other nonresidential structure shall either have the lowest floor (including basement) elevated 12 inches above the base flood level as certified by a licensed professional engineer or land surveyor, or together with attendant utility and sanitary facilities, be designed so that below the elevation 12 inches above the base flood level the structure is watertight with walls substantially impermeable to the passage of water and with structural components having the capability of resisting hydrostatic and hydrodynamic loads and effects of buoyancy. A licensed professional engineer or architect 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 as outlined in this subsection.

The floodplain administrator shall maintain a record of all floodproofing certifications that includes the specific elevation (in relation to mean sea level) to which each structure has been floodproofed.

(3) *Enclosures.* New construction and substantial improvements, with fully enclosed areas below the lowest floor that are usable solely for parking of vehicles, building access or storage in an area other than a basement and which are subject to flooding shall be designed 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 licensed professional engineer or architect or meet or exceed the following minimum criteria:

a. 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.

b. The bottom of all openings shall be no higher than one foot above grade.

c. Openings may be equipped with screens, louvers, valves, or other coverings or devices provided that they permit the automatic entry and exit of floodwaters.

(4) *Manufactured homes.*

a. All manufactured homes to be placed within zone A on the FIRM shall be installed using methods and practices that minimize flood damage. For the purposes of this requirement, manufactured homes must be elevated and anchored to resist 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.

b. Manufactured homes that are placed or substantially improved within zones A1-30, AH, and AE on the FIRM shall be elevated on a permanent foundation such that <u>bottom of the lowest structural support (I-beam), electrical, heating, ventilation, plumbing, air conditioning equipment and other service facilities</u> ~~the lowest floor~~ of the manufacture home is elevated 12 inches above the base flood elevation as certified by a licensed professional engineer or land surveyor and be securely anchored to an adequately anchored foundation system to resist flotation, collapse and lateral movement.

(5) *Recreational vehicles.* All recreational vehicles placed on sites within zones A, A1-30, AH, and AE on the community's FIRM shall either:

a. Be on the site for fewer than 180 consecutive days;

b. Be fully licensed and ready for highway use; or

c. Meet the permit requirements of section 23-373(b), and the elevation and anchoring requirements for manufactured homes in subsection (b)(4) of this section. 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.

(6) *Accessory structure.* Accessory structures may be allowed within zones A, A1-30, AH, and AE on the FIRM subject to the following criteria:

a. Structure shall not exceed 200 square feet in size.

b. Structure shall be unfinished on the interior.

c. Structure shall not be used for human habitation (including work, sleeping, living, cooking, or restroom areas).

d. Service facilities such as electrical and heating equipment must be elevated to or above the BFE or floodproofed.

e. Structure is constructed and placed on building site so as to offer the minimum resistance to the flow of floodwaters.

f. Structure is designed to have low flood damage potential (i.e., constructed with flood resistance materials).

g. Structure is firmly anchored to prevent flotation, collapse and lateral movement.

h. Accessory structures shall not be located within the regulatory floodway.

i. Openings to relieve hydrostatic pressure during a flood shall be provided below the base flood elevation (BFE).

j. Structure is to be located so as not to cause damage to adjacent and nearby structures.

(c) *Standards for subdivision proposals.*

(1) All subdivision proposals shall be consistent with section 23-370(b), (c) and (d).

(2) All proposals for the development of subdivisions shall meet the permit requirements of section 23-373(b) and the provisions of this section.

(3) Base flood elevation data shall be generated for subdivision proposals and other proposed development which is greater than 50 lots or five acres, whichever is less, if not otherwise provided pursuant to section 23-372(b) or 23-373(b)(8).

(4) All subdivision proposals shall have adequate drainage provided to reduce exposure to flood hazards.

(5) All subdivision proposals shall have public utilities and facilities such as sewer, gas, electrical and water systems located and constructed to minimize or eliminate flood damage.

(d) *Standards for areas of shallow flooding (AO/AH zones).* Located within the floodplain established in section 23-373(b), are areas designated as shallow flooding. These areas have special flood hazards associated with base flood depths of one to three feet where a clearly defined channel does not exist and where the path of flooding is unpredictable and where velocity flows may be evident. Such flooding is characterized by ponding or sheet flow; therefore, the following provisions apply:

(1) All new construction and substantial improvements of residential structures have the lowest floor (including basement) elevated 12 inches above the depth specified on the FIRM or 36 inches above the highest adjacent grade if no depth number is specified.

(2) All new construction and substantial improvements of nonresidential structures:

a. Have the lowest floor (including basement) elevated 12 inches above the depth specified on the FIRM or 36 inches above the highest adjacent grade if no depth number is specified; or

b. Together with attendant utility and sanitary facilities, shall be designed so that below the elevation 12 inches above the base flood level, the structure is watertight with walls substantially impermeable to the passage of water and with structural components having the capability of resisting hydrostatic and hydrodynamic loads of effects of buoyancy.

(3) A licensed land surveyor or licensed engineer shall submit a certification to the floodplain administrator that the standards of this section are satisfied.

(4) Require within zones AH or AO adequate drainage paths around structures on slopes, to guide floodwaters around and away from proposed structures.

(e) *Floodways.* Floodways located within the floodplain established in section 23-372(b), are areas designated as floodways. Since the floodway is an extremely hazardous area due to the velocity of floodwaters that carry debris, potential projectiles and erosion potential, the following provisions shall apply:

(1) Encroachments are prohibited, including fill, new construction, substantial improvements and other development within the adopted regulatory floodway except for:

a. Work for the purpose of constructing, repairing, or maintaining any street, utility facility including any service lines related thereto, or any recreational park facility which when completed results in no adverse impact; and

b. Maintenance of stormwater drainage facilities that does not diminish the design capacity of a drainage system.

(2) Under the provisions of 44 CFR ch. 1, § 65.12, of the National Flood Insurance regulations, a community may permit encroachments within the adopted regulatory floodway that would result in an increase in base flood elevations, provided that the developer or community first obtains a conditional FIRM and floodway revision CLOMR through FEMA.

(3) If subsection (e)(1) or (2) of this section is satisfied, all new construction and substantial improvements within the floodway shall comply with all applicable flood hazard reduction provisions of this section.