

## Chapter 15.10

### FLOOD DAMAGE PREVENTION

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**15.10.010 Findings.**

- A. The flood hazard areas of the City of Benton City, Washington, are subject to periodic inundation which may result in loss of property, health, and safety hazards, disruption of commerce and governmental services, extraordinary public expenditures for flood protection and relief, and impairment of the tax base, all of which adversely affect the public health, safety, and general welfare.
- B. These flood losses are caused by the cumulative effect of obstructions in areas of special flood hazards which increase flood heights and velocities, and when inadequately anchored, damage uses in other areas. Uses that are inadequately flood proofed, elevated, or otherwise protected from flood damage also contribute to the flood loss. (Ord 506, March 1987.)

**15.10.020 Statement of Purpose.** It is the purpose of this ordinance to promote the public health, safety, and general welfare, and to minimize public and private losses due to flood conditions in specific areas by provisions designed:

- A. To protect human life and health;
- B. To minimize expenditure of public money and costly flood control projects.
- C. To minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public;
- D. To minimize prolonged business interruptions;
- E. To minimize damage to public facilities and utilities such as water and gas mains, electric, telephone and sewer lines, streets, and bridges located in areas of special flood hazard;
- F. To help maintain a stable tax base by providing for the sound use and development of areas of special flood hazard so as to minimize future flood blight areas;
- G. To ensure that potential buyers are notified that property is in an area of special flood hazard; and,

- H. To ensure that those who occupy the areas of special flood hazard assume responsibility for their actions. (Ord. 506, March 1987.)

**15.10.030** **Methods of Reducing Flood Losses**. In order to accomplish its purposes, this ordinance includes methods and provisions for:

- A. Restricting or prohibiting uses which are dangerous to health, safety, and property due to water or erosion hazards, or which result in damaging increases in erosion or in flood heights or velocities.
- B. Requiring that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction.
- C. Controlling the alteration of natural flood plains, stream channels, and natural protective barriers, which help accommodate or channel flood waters.
- D. Controlling filling, grading, dredging, and other development which may increase flood damage.
- E. Preventing or regulating the construction of flood barriers which will unnaturally divert flood waters or may increase flood hazards in other areas. (Ord. 506, March 1987.)

**15.10.035** **In General**. Unless specifically defined below, words or phrases used in this ordinance shall be interpreted so as to give them the meaning they have in common usage and to give this ordinance its most reasonable application. (Ord. 506, March 1987.)

**15.10.037** **Accessory Structure** means non-residential structures, such as garages, sheds, garden buildings, pole buildings, grain bins, and barns which are considered normal for farming or ranching activities. (Ord. 730, September 2001.)

**15.10.040** **Appeal** means a request for a review of the Mayor's or his designee's interpretation of any provision of this ordinance or a request for a variance. (Ord. 506, March 1987.)

**15.10.050** **Area of Shallow Flooding** means a designated AO or AH Zone on the Flood Insurance Rate Map (FIRM). The base flood depths range from one to three feet; a clearly defined channel does not exist; the path of flooding is unpredictable and indeterminate; and, velocity flow may be evident. AO is characterized as sheet flow and AH indicates ponding. (Ord. 506, March 1987.)

**15.10.060** **Area of Special Flood Hazard** means the land in the flood plain within a community subject to a one percent or greater chance of flooding in any given year. Designation on maps always includes the letters A or V. (Ord. 506, March 1987.)

**15.10.070** **Base Flood** means the flood having a one percent chance of being equaled or exceeded in any given year. Also referred to as the "100-Year Flood." Designation on maps always includes the letters A or V. (Ord. 506, March 1987.)

- 15.10.075** **Basement** means any area of the building having its floor subgrade (below grade level) on all sides. (Ord. 730, September 2001.)
- 15.10.077** **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 supporting foundation system. (Ord. 730, September 2001.)
- 15.10.078** **Critical Facility** means a facility for which even a slight chance of flooding might be too great. Critical Facilities including but are not limited to schools, nursing homes, hospitals, police, fire and emergency response installations, installations which produce, use, or store hazardous materials or hazardous waste. (Ord. 730, September 2001.)
- 15.10.080** **Development** means 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, drilling operations, or storage of equipment or materials located within the area of special flood hazard. (Ord. 844, November 2008; Ord. 506, March 1987.)
- 15.10.081** **Elevated Building** means for insurance purposes, a non-basement building which has its lowest elevated floor raised above ground level by foundation walls, shear walls, posts, piers, pilings, or columns. (Ord. 730, September 2001.)
- 15.10.085** **Existing Manufactured Home Park or Subdivision** means a manufactured home park or 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 slabs) is completed before the effective date of the adopted Flood Plain Management Regulations. (Ord. 730, September 2001.)
- 15.10.086** **Expansion to an Existing Manufactured Home Park of 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, the construction of streets, and either final site grading, or the pouring or the pouring of concrete pads). (Ord. 840, October 2008; Ord. 730, September 2001.)
- 15.10.090** **Flood or Flooding** means a general and temporary condition of partial or complete inundation of normally dry land areas from:
- A. The overflow of inland or tidal waters and/or
  - B. The unusual and rapid accumulation of runoff of surface waters from any source. (Ord. 506, March 1987.)
- 15.10.100** **Flood Insurance Rate Map (FIRM)** means the official map on which the Federal Insurance Administration has delineated both the areas of special flood hazards and the risk premium zones applicable to the community. (Ord. 506, March 1987.)

- 15.10.110** **Flood Insurance Study** means the official report provided by the Federal Insurance Administration that includes flood profiles the Flood Boundary-Floodway Map, and the water surface elevation of the base flood. (Ord. 506, March 1987.)
- 15.10.120** **Floodway** means the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than one foot. (Ord. 506, March 1987.)
- 15.10.130** **Lowest Floor** means the lowest floor of the lowest enclosed area (including basement). An unfinished or flood resistant enclosure, usable solely for parking of vehicles, building access or storage, in an area other than a basement area, is not considered a building's lowest floor, provided that such enclosure is not built so as to render the structure in violation of the applicable non-elevation designed requirements of this ordinance found at Section 15.10.320A2. (Ord. 506, March 1987.)
- 15.10.140** **Manufactured Home**
- A. Manufactured home means a dwelling unit built in accordance with the Department of Housing and Urban Development Manufactured Home Construction and Safety Standards Act (or successor) legislation which constitutes a national, preemptive building code, and Washington State Department of Labor and Industries standards as provided in WAC 296-150M.
  - B. For flood plain management purposes the term "Manufactured Home" also includes park trailers, travel trailers, and other similar vehicles placed on a site for greater than 180 consecutive days.
  - C. For insurance purposes the term "Manufactured Home" does not include park trailers, travel trailers, and other similar vehicles. (Ord. 840, October 2008; Ord. 506, March 1987.)
- 15.10.150** **Manufactured Home Park or Subdivision** shall have that same meaning as provided for in BCMC 20.09.286, BCMC 20.26 and 20.27. (Ord. 840, October 2008; Ord. 506, March 1987.)
- 15.10.160** **New Construction** means structures for which the "start of construction" commenced on or after the effective date of this ordinance. (Ord. 506, March 1987.)
- 15.10.165** **New Manufactured Home Park or Subdivision** means a manufactured home park or 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 the effective date of the adopted Flood Plain Management Regulations. (Ord. 730, September 2001.)

**15.10.168** **Recreational Vehicle** means any vehicle primarily designed as temporary living quarters for recreational camping, travel, or seasonal use that has either its own motive power or is mounted on, or towed by, another vehicle. Recreational vehicles include: camping trailers, fifth-wheel trailers, motor homes, travel trailers, and truck campers. (Ord. 840, October 2008; Ord. 730, September 2001.)

**15.10.170** **Start of Construction** includes substantial improvement, and means the date the building permit was issued, provided the actual start of construction, repair, reconstruction, placement or other improvement was within 180 days of the permit date. The actual start means either the first placement of permanent construction of a structure on a site, such as the pouring of slab or footings, the installation of piles, the construction of columns, or any work beyond the state of excavation; or the placement of a manufactured home on a foundation. Permanent construction does not include the installation of streets and/or walkways; nor does it include excavation for basement footings, piers, or foundation or the erection of temporary forms; nor does it include the installation on the property of accessory buildings, such as garages or sheds not occupied as dwelling units or not part of the main structure. (Ord. 506, March 1987.)

**15.10.180** **Structure** means any construction built in conjunction to any use which cannot be defined as a building, to include fences, walls, supporting members of signs and uses of similar nature. Anything constructed, the use of which requires permanent location on the ground or attached to something having a permanent location on the ground. (Ord. 840, October 2008; Ord. 506, March 1987.)

**15.10.185** **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 (50%) of the market value of the structure before the damage occurred. (Ord. 730, September 2001.)

**15.10.190** **Substantial Improvement** means any repair, reconstruction, or improvement of a structure, the cost of which equals or exceeds 50 percent of the market value of the structure either:

- A. Before the improvement or repair is started; or
- B. If the structure has been damaged and is being restored, before the damage occurred. 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 structure.

The term **does not**, however, include either:

- C. Any project for improvement of a structure to comply with the existing state, or local health, sanitary, or safety codes specifications which has been identified by the Local Building Official, and is the minimum necessary to assure safe living conditions, or

D. Any alteration of a structure listed on the National Register of Historic Places or a State Inventory of Historic Places. (Ord. 506, March 17, 1987).

**15.10.200** **Variance** means a grant of relief from the requirements of this ordinance in a manner provided by BCMC 20.09.510 which permits construction in a manner that would otherwise be prohibited by this ordinance. (Ord. 840, October 2008; Ord. 506, March 1987.)

**15.10.210** **Water Dependent** means a structure for commerce or industry which cannot exist in any other location and is dependent on the water by reason of the intrinsic nature of its operations. (Ord. 730, September 2001.)

**15.10.210** **Lands to Which this Ordinance Applies**. This ordinance shall apply to all areas of special flood hazards within the jurisdiction of the City of Benton City, Washington. (Ord. 506, March 1987.)

**15.10.220** **Basis for Establishing the Areas of Special Flood Hazard**. The areas of special flood hazard identified by the Federal Insurance Administration in a scientific and engineering report entitled "The Flood Insurance Study for the City of Benton City, Washington," dated July 1979, and any revisions thereto, with accompanying Flood Insurance Maps is hereby adopted by reference and declared to be a part of this ordinance. The Flood Insurance Study is on file at City Hall, Benton City, Washington. (Ord. 840, October 2008; Ord. 506, March 1987.)

**15.10.230** **Penalties for Noncompliance**. No structure or land shall hereafter be constructed, located, extended, converted or altered without full compliance with the terms of this ordinance and other applicable regulations. Violation of the provisions of this ordinance by failure to comply with any of its requirements (including violations of conditions and safeguards established in connection with conditions) shall constitute a civil infraction. Any person who violates this ordinance or fails to comply with any of its requirements shall upon conviction thereof be punished pursuant to the general penalty provisions contained in Section 1.16.010 of the Benton City Municipal Code, and for each violation in addition shall pay all costs and expenses involved in the case. Nothing herein contained shall prevent the City of Benton City, Washington, from taking such other lawful action as is necessary to prevent or remedy any violation, including injunctive relief provided below. (Ord. 840, October 2008; Ord. 506, March 1987.)

**15.10.235** **Injunctive Relief**. Notwithstanding the existence or use of any other remedy or means of enforcement of the provisions of this Chapter, the City may seek legal or equitable relief to enjoin any acts or practices which constitute a violation of any of the provisions hereof, and compel compliance with all provisions of this Chapter. The costs of such action shall be taxed against the person violating the provisions of this Chapter. The building official of the City of Benton City may accept a written assurance of discontinuance of any act in violation of this Chapter from any person who has engaged in such act subject to verification of compliance. Failure to comply with the assurance of discontinuance shall be further violation of this Chapter. (Ord. 840, October

2008; Ord. 506, March 1987.)

**15.10.240** **Abrogation and Greater Restrictions.** This ordinance is not intended to repeal, abrogate or impair any existing easements covenants, or deed restrictions. However, where this ordinance and another ordinance, easement, covenant, or deed restriction conflict or overlap, whichever imposes the more stringent restrictions shall prevail. (Ord. 506, March 1987.)

**15.10.250** **Interpretation.** In the interpretation and application of this ordinance, all provisions shall be:

- A. Considered as minimum requirements;
- B. Liberally construed in favor of the governing body; and
- C. Deemed neither to limit nor repeal any other powers granted under State statutes. (Ord. 506, March 1987.)

**15.10.260** **Warning and Disclaimer of Liability.** The degree of flood protection required by this ordinance is considered reasonable for regulatory purposes and is based on scientific and engineering considerations. Larger floods can and will occur on rare occasions. Flood heights may be increased by man-made or natural causes. This ordinance does not imply that land outside the areas of special flood hazards or uses permitted within such areas will be free from flooding or flood damages. This ordinance shall not create liability on the part of the City of Benton City, Washington, any officer or employee thereof, or the Federal Insurance Administration, for any flood damages that result from reliance on this ordinance or any administrative decision lawfully made hereunder. (Ord. 506, March 1987.)

**15.10.270** **Establishment of Development Permit.**

- A. **Development Permit Required.** A development permit shall be obtained before construction or development begins within any area of special flood hazard established in Section 15.10.220. The permit shall be for all structures including MANUFACTURED homes, as set forth in the "DEFINITIONS", and for all development including fill and other activities, also as set forth in the "DEFINITIONS".
- B. **Application for Development Permit.** Application for a development permit shall be made on forms furnished by the Mayor or his designee and may include but not be limited to; plans in duplicate drawn to scale showing the nature, location, dimensions, and elevations of the area in question; existing or proposed structures, fill, storage of materials, drainage facilities, and the location of the foregoing. Specifically, the following information is required:
  - 1. Elevation in relations to mean sea level, of the lowest floor (including basement) of all structures;
  - 2. Elevation in relation to mean sea level to which any structure has been flood-proofed;

3. Certification by a registered professional engineer or architect that the flood proofing methods for any nonresidential structure meet the floodproofing criteria in Section 15.10.320B; and
4. Description of the extent to which a watercourse will be altered or relocated as a result of proposed development. (Ord. 506, March 1987.)

**15.10.280** **Designation of the Mayor or His Designee.** The Mayor or his designee is hereby appointed to administer and implement this ordinance by granting or denying development permit applications in accordance with its provisions. (Ord. 506, March 1987.)

**15.10.290** **Duties and Responsibilities of the Mayor or His Designee.** Duties of the Mayor or his designee shall include, but not be limited to:

A. **Permit Review.**

1. Review all development permits to determine that the permit requirements of this ordinance have been satisfied.
2. Review all development permits to determine that all necessary permits have been obtained from those Federal, State, or local governmental agencies from which prior approval is required.
3. Review all development permits to determine if the proposed development is located in the floodway. If located in the floodway, assure that the encroachment provisions of Section 15.10.320A are met.

B. **Use of other Base Flood Data.** When base flood elevation data has not been provided in accordance with Section 15.10.220, the Mayor or his designee shall obtain, review, and reasonably utilize any base flood elevation and floodway data available from a Federal, State or other source, in order to administer Section 15.10.320, SPECIFIC STANDARDS, and 15.10.330, FLOODWAYS. (Ord. 529, July 1989.)

C. **Information to be Obtained and Maintained.**

1. Where base flood elevation data is provided through the Flood Insurance Study, FIRM, or required as in Section 15.10.290B, obtain and record the actual (as-built) elevation (in relations to mean sea level) of the lowest floor (including basement) of all new or substantially improved structures, and whether or not the structure contains a basement.
2. For all new or substantially improved floodproofed, nonresidential structures where base flood elevation data is provided through the FIS, FIRM, or as required in Section 15.10.320:
  - a. Obtain and record the actual elevation (in relation to mean sea level) to which the structure was floodproofed, and

- b. Maintain the floodproofing certifications required in Section 15.10.270B3.
  3. Maintain for public inspection all records pertaining to the provisions of this ordinance.
- D. Alteration of Watercourses.
  1. Notify adjacent communities and the Washington State Department of Ecology prior to any alteration or relocation of a watercourse, and submit evidence of such notification to the Federal Insurance Administration.
  2. Require that maintenance is provided within the altered or relocated portion of said watercourse so that the flood carrying capacity is not diminished. (Ord. 529, July 1989.)
- E. Interpretation of FIRM Boundaries. Make interpretations where needed, as to exact location of the boundaries of the areas of special flood hazards (for example, where there appears to be a conflict between a mapped boundary and actual field conditions). The person contesting the location of the boundary shall be given a reasonable opportunity to appeal the interpretation as provided in Section 15.10.300. (Ord. 840, October 2008; Ord. 506, March 1987.)

**15.10.300**     **Variance Procedure.**

- A. Appeal Procedure.
  1. The Planning Commission as established by the City of Benton City, Washington, shall hear and decide appeals and requests for variances from the requirements of this ordinance.
  2. The Planning Commission shall hear and decide appeals when it is alleged there is an error in any requirement, decision, or determination made by the Mayor or his designee, in the enforcement or administration of this ordinance.
  3. Those aggrieved by the decision of the Planning Commission may appeal such decision to the City Council of the City of Benton City. The decisions of the City Council may be appealed to the Benton County Superior Court for review under the Land Use Petition Act (RCW 36.70C) within twenty-one (21) days of the date of the City Council's decision.
  4. In passing upon such applications, the Planning Commission shall consider all technical evaluations, all relevant factors, standards specified in other sections of this ordinance, and:
    - a. The danger that materials may be swept onto other lands to the injury of others;

- b. The danger to life and property due to flooding or erosion damage;
  - c. The susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owner;
  - d. The importance of the services provided by the proposed facility to the community;
  - e. The necessity to the facility of a waterfront location where applicable;
  - f. The availability of alternative locations for the proposed use which are not subject to flooding or erosion damage;
  - g. The compatibility of the proposed use with existing and anticipated development;
  - h. The relationship of the proposed use to the comprehensive plan and flood plain management program for that area;
  - i. The safety of access to the property in times of flood for ordinary and emergency vehicles;
  - j. The expected heights, velocity, duration, rate of rise, and sediment transport of the flood waters and the effects of wave action, if applicable, expected at the site; and,
  - k. 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.
5. Upon consideration of the factors of Section 15.10.300A4 and the purposes of this ordinance the Planning Commission may attach such conditions to the granting of variances as it deems necessary to further the purposes of this ordinance.
  6. The Mayor, or his designee, shall maintain the records of all appeal actions and report any variances to the Federal Insurance Administration upon request.

**B. Conditions for Variances.**

1. Generally, the only condition under which a variance from the elevation standard may be issued is for new construction and substantial improvements to be erected on a lot of one-half acre or less in size contiguous to and surrounded by lots with existing structures constructed below the base flood level, providing items (a-k) in Section 15.10.300(A)(4) have been fully considered. As the lot size increases the technical justification required for issuing the variance increases.

2. Variances may be issued for the reconstruction, rehabilitation, or restoration of structures listed on the National Register of Historic Places or the State Inventory of Historic Places, without regard to the procedures set forth in this section.
3. Variances shall not be issued within a designated floodway if any increase in flood levels during the base flood discharge would result.
4. Variances shall only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief.
5. Variances shall only be issued upon:
  - a. A showing of good and sufficient cause;
  - b. A determination that failure to grant the variance would result in exceptional hardship to the applicant;
  - c. A determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, extraordinary public expense, create nuisances, cause fraud on or victimization of the public as identified in Section 15.10.300(A)(4); or
  - d. Conflict with existing local laws or ordinances.
6. Variances shall be interpreted in compliance with the National Flood Insurance Program, based on the general zoning law principles that pertain to a physical piece of property and are not personal in nature and do not pertain to the structure, its inhabitants, economic or financial circumstances. Variances must primarily address small lots in densely populated residential neighborhoods. As such, variances from the flood elevations should be granted only with limited circumstances.
7. Variances may be issued for nonresidential buildings in very limited circumstances to allow a lesser degree of floodproofing than watertight or dry-floodproofing, where it can be determined that such action will have low damage potential, complies with all other variance criteria except Section 15.10.300B1, and otherwise complies with the requirements of Section 15.10.310 (General Standards).
8. Any applicant to whom a variance is granted shall be given written notice that the structure will be permitted to be built with a lowest floor elevation below the base flood elevation and that the cost of flood insurance will be commensurate with the increased risk resulting from the reduced lowest floor elevation. (Ord. 840, October 2008; Ord. 506, March 1987.)

**15.10.305** **Hearings.** Any person alleging an error in any requirement, decision or determination by the Mayor in the enforcement or administration of this Chapter may appeal that decision to the City Council upon written notice within ten (10) days of the date of the Mayor or his designee's decision. Such notice shall state specifically the factual basis of such alleged error and shall contain

a list of the names and addresses of all property owners of record within a radius of three hundred feet of the exterior boundaries of the subject property certified accurate by a title company or the Benton County Assessor. Upon receipt of notice of appeal and necessary support documents, the City Council shall set the time and place for a public hearing. Notification of hearing shall be made in the following ways:

- A. A written notice of hearing shall be sent by U.S. Mail to all property owners of record within a radius of three hundred feet of the exterior boundary of the subject property. Written notice shall be mailed not less than ten days prior to the hearing.
- B. A legal notice shall be placed in the official newspaper at least ten days prior to the hearing date.
- C. Written notice shall be mailed to the appellant at the address designated on the notice of appeal at least ten days prior to the hearing date. (Ord. 840, October 2008; Ord. 506, March 1987.)

**15.10.310** **General Standards.** In all areas of special flood hazards, the following standards are required:

- A. **Anchoring.**
  - 1. All new construction and substantial improvements shall be anchored to prevent flotation, collapse, or lateral movement of the structure.
  - 2. All manufactured homes must likewise be anchored to prevent flotation, collapse or lateral movement, and shall be installed using methods and practices that minimize flood damage. Anchoring methods may include, but are not limited to use of over-the-top or frame ties to ground anchors (Reference FEMA's "Manufactured Home Installation in Flood Hazard Areas" guidebook for additional techniques).
- B. **Construction Materials and Methods.**
  - 1. All new construction and substantial improvements shall be constructed with materials and utility equipment resistant to flood damage.
  - 2. All new construction and substantial improvements shall be constructed using methods and practices that minimize flood damage.
  - 3. Electrical, heating, ventilation, plumbing, and air-conditioning equipment and other service facilities shall be designed and/or otherwise elevated or located so as to prevent water from entering or accumulating within the components during conditions of flooding.
- C. **Utilities.**
  - 1. All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of flood waters into the system;
  - 2. New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of floodwater into the systems and

discharge from the systems into flood waters; ~~and~~,

3. On-site waste disposal systems shall be located to avoid impairment to them or contamination from them during flooding; and
4. Water wells shall be located on high ground that is not in the floodway.

D. Subdivision Proposals.

1. All subdivision proposals shall be consistent with the need to minimize flood damage;
2. All subdivision proposals shall have public utilities and facilities such as sewer, gas, electrical and water systems located and constructed to minimize flood damage;
3. All subdivision proposals shall have adequate drainage provided to reduce exposure to flood damage; and,
4. Where base flood elevation data has not been provided or is not available from another authoritative source, it shall be generated for subdivision proposals and other proposed developments which contain at least 50 lots or 5 acres (whichever is less).

E. Review of Building Permits.

1. Where elevation data is not available either through the Flood Insurance Study or from another authoritative source, applications for Building Permits shall be reviewed to assure that the proposed construction will be reasonably safe from flooding. The test of reasonableness is a local judgment and includes use of historical data, high water marks, photographs of past flooding etc., where available.
2. Un-numbered A-Zones. Residential and commercial structures in these un-numbered A-Zones must be elevated with their lowest floor at least two feet (2 ft.) above the highest adjacent grade "44CFR59.1". Failure to elevate at least two feet in these zones may result in higher insurance rates. (Ord. 840, October 2008; Ord. 730, September 2001; Ord. 506, March 1987.)

**15.10.320** **Specific Standards.** In all areas of special flood hazards where base flood elevation data has been provided as set forth in Section 15.10.220, Basis for Establishing the Areas of Special Flood Hazard or Section 15.10.290B, Use of Other Base Flood Data, the following provisions are required:

A. Residential Construction.

1. New construction and substantial improvement of any residential structure shall have the lowest floor, including basement, elevated to one foot or more above base flood elevation.
2. Fully enclosed areas below the lowest floor that are subject to flooding are prohibited or 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 registered professional engineer or architect or must 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, or other coverings or devices provided that they permit the automatic entry and exit of floodwaters.

B. Nonresidential Construction. New construction and substantial improvement of any commercial, industrial or other nonresidential structure shall either have the lowest floor, including basement elevated one foot or more above the base flood elevation; or, together with attendant utility and sanitary facilities, shall:

1. Be floodproofed so that below one foot above the regulatory flood level, the structure is watertight with walls substantially impermeable to the passage of water.
2. Have structural components capable of resisting hydrostatic and hydrodynamic loads and effects of buoyancy.
3. 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 provisions of this subsection based on their development and/or review of the structural design, specifications and plans. Such certifications shall be provided to the official as set forth in Section 15.10.290B2.
4. Nonresidential structures that are elevated, not floodproofed, must meet the same standards for space below the lowest floor as described in Section 15.10.320A2.
5. Applicants floodproofing nonresidential buildings shall be notified that flood insurance premiums will be based on rates that are one foot below the floodproofed level (e.g., a building constructed to the base flood level will be rated as one foot below that level).

C. Manufactured Homes. All manufactured homes to be placed or substantially improved within Zones A1-30, AH, and AE shall be elevated on a permanent foundation such that the lowest floor of the manufactured home is at one foot or more above the base flood elevation and be securely anchored to an adequately anchored foundation system in accordance with the provisions of Section 15.10.310A2.

- D. Recreational Vehicles. Recreational vehicles placed on sites within Zones A, A1-30, and AE, in the City's FIRM, must either (a) be onsite for fewer than 180 consecutive days, or (b) be fully licensed and ready for highway use, be on its wheels, or jacking system, be attached to the site only by quick disconnect type utilities and security devices, and have no permanent attached additions; or (c) meet the requirements of Subsection C above. (Ord. 844, November 2008; Ord. 840, October 2008; Ord. 730, September 2001; Ord. 529, July 1989; Ord. 506, March 17, 1987.)

**15.10.325** **Exception.** Accessory structures, which do not represent significant investments, should be treated differently in regard to the application of flood plain management measures. The minor initial investment in such structures would be greatly increased by the necessity to either elevate or dry floodproof the accessory structure. Such measures may provide an excessive degree of protection for these types of structures.

When an accessory structure (sheds, detached garages, pole barns, etc.) represents a minimal investment, the elevation or dry floodproofing standards need not be met. All other requirements applicable to structures shall apply.

Accessory structures as described above that meet the following criteria do not need to be floodproofed or elevated:

- A. Accessory structures shall not be used for human habitation.
- B. Accessory structures shall be designed to have low flood damage potential.
- C. Accessory structures shall be constructed and placed on the building site so as to offer the minimum resistance to flow of floodwaters.
- D. Accessory structures shall be firmly anchored to prevent flotation which may result in damage to other structures.
- E. Service facilities such as electrical or heating equipment shall be elevated or floodproofed. (Ord. 506, March 1987.)

**15.10.330** **Floodways.** Located within areas of special flood hazard established in Section 15.10.220 are areas designated as floodways. Since the floodway is an extremely hazardous area due to the velocity of flood waters which carry debris, potential projectiles and erosion potential, the following provisions apply:

- A. Prohibit encroachments, including fill, new construction, substantial improvements, and other development unless certification by a registered professional engineer or architect is provided demonstrating that encroachments shall not result in any increase in flood levels during the occurrence of the base flood discharge.
- B. If Section 15.10.330A is satisfied, all new construction and substantial improvements shall comply with all applicable flood hazard reduction provisions of Section 15.10.310 through 15.10.350. (Ord. 506, March 17, 1987).

- C. Construction or reconstruction of residential structures is prohibited within designated floodways, except for:
1. Repairs, reconstruction or improvements to a structure which do not increase the ground floor area; and
  2. Repairs, reconstruction or improvements to a structure, the cost of which does not exceed 50 percent (50%) of the market value of the structure, either; (i) before the repair, reconstruction, or repairs started, or (ii) if the structure has been damaged, and is being restored, before the damage occurred. Work done on structures to comply with existing health, sanitary, or safety codes which have been identified by the Local Building Official, and which are the minimum necessary to ensure safe living conditions. No structures identified as historic places shall be included in the fifty percent determination. (Ord. 840, October 2008; Ord. 730, September 2001; Ord. 529, July, 1989.)

**15.10.340** **Standards for Shallow Flooding Areas (AO Zones)** Shallow flooding areas appear on FIRMs as AO Zones with depth designations. The base flood depths in these Zones range from one to three feet above ground where a clearly defined channel does not exist, or where the path of flooding is unpredictable, and where velocity flow may be evident. Such flooding is usually characterized as sheet flow. In these areas, the following provisions apply:

- A. New construction and substantial improvements of residential structures and manufactured homes within AO Zones shall have the lowest floor (including basement) elevated above the highest grade adjacent to the building, one foot or more above the depth number specified on the FIRM (at least two feet if no depth number is specified).
- B. New construction and substantial improvements on non-residential structures within AO Zones shall either: (i) have the lowest floor (including basement) elevated above the highest adjacent grade of the building site, one foot or more above the depth number specified on the FIRM (at least two feet if no depth number is specified); or (ii) together with attendant utility and sanitary facilities, be completely flood proofed to or above that level so that any space below that level 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. If this method is used, compliance shall be certified by a registered professional engineer.
- C. Require adequate drainage paths around structures on slopes to guide floodwaters around and away from proposed structures.
- D. Recreational vehicles placed on sites within AO in the City's FIRM must either: (i) be on the site for fewer than 180 consecutive days, or be fully licensed and ready for highway use, on its wheels or jacking systems, is attached to the site only by quick disconnect type utilities and security devices, and has no

permanently attached additions, or (ii) meet the requirements provided above and the elevation and anchoring requirements for manufactured homes. (Ord. 730, September 2001.)

**15.10.350** **Critical Facilities.** Construction of new critical facilities shall be, to the extent possible, located outside the limits of the Special Flood Hazard Area (SFHA) (100-year Flood Plain). Construction of new critical facilities shall be permissible within the SFHA if no feasible alternative site is available. Critical facilities constructed within the SFHA shall have the lowest floor level three feet or more above the level of the base flood elevation or to the height of the 500-year flood, whichever is higher,. Access to and from the critical facility should also be protected to the height utilized above. Flood proofing and sealing measures must be taken to ensure that toxic substances will not be displaced by or released into floodwaters. Ingress and egress routes, elevated to or above the base flood level, shall be provided to all critical facilities to the extent possible. (Ord. 840, October 2008; Ord. 730, September 2001.)