

## Chapter 7

### FLOOD DAMAGE PREVENTION AND PROTECTION\*

#### Article I. In General

- Sec. 7-1. Findings of fact.
- Sec. 7-2. Statement of purpose.
- Sec. 7-3. Definitions.
- Sec. 7-4. Lands to which chapter applies.
- Sec. 7-5. Compliance with chapter required.
- Sec. 7-6. Methods of reducing flood losses.
- Sec. 7-7. Basis for establishing areas of special flood hazard.
- Sec. 7-8. Abrogation and greater restrictions.
- Sec. 7-9. Interpretation.
- Sec. 7-10. Warning and disclaimer of liability.
- Sec. 7-11. Penalty.
- Secs. 7-12—7-30. Reserved.

#### Article II. Administration and Enforcement

##### Division 1. Generally

- Sec. 7-31. Floodplain administrator—Designated.
- Sec. 7-32. Same—Duties and responsibilities.
- Sec. 7-33. Variance procedures.
- Secs. 7-34—7-50. Reserved.

##### Division 2. Development Permit

- Sec. 7-51. Required.
- Sec. 7-52. Procedures.
- Secs. 7-53—7-70. Reserved.

#### Article III. Provisions for Flood Hazard Reduction

- Sec. 7-71. General standards.
- Sec. 7-72. Specific standards.
- Sec. 7-73. Standards for subdivision proposals.

---

\***Cross references**—Buildings and building regulations, ch. 4; emergency management, ch. 5; fire prevention and control, ch. 6; subdivision regulations, ch. 16; water, sewers and sewage disposal, ch. 20.

**State law reference**—Authority to adopt flood control regulations, V.T.C.A., Water Code § 16.315.



**ARTICLE I. IN GENERAL****Sec. 7-1. Findings of fact.**

(a) The flood hazard areas of the city are subject to periodic inundation which results in loss of life and property, health and safety hazards, disruption of commerce and governmental services, and extraordinary public expenditures for flood protection and relief, all of which adversely affect the public health, safety and general welfare.

(b) These flood losses are created by the cumulative effect of obstructions in floodplains which cause an increase in flood heights and velocities, and by the occupancy of flood hazard areas by uses vulnerable to floods and hazardous to other lands because they are inadequately elevated, floodproofed or otherwise protected from flood damage.

(Ord. No. 135, art. 1, § B, 8-31-1988)

**Sec. 7-2. Statement of purpose.**

It is the purpose of this chapter 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 to:

- (1) Protect human life and health;
- (2) Minimize expenditure of public money for costly flood control projects;
- (3) Minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public;
- (4) Minimize prolonged business interruptions;
- (5) Minimize damage to public facilities and utilities such as water and gas mains, electric, telephone and sewer lines, streets and bridges located in floodplains;
- (6) Help maintain a stable tax base by providing for the sound use and development of floodprone areas in such a manner as to minimize future flood blight area; and

- (7) Ensure that potential buyers are notified that property is in a flood area.  
(Ord. No. 135, art. 1, § C, 8-31-1988)

### **Sec. 7-3. Definitions.**

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

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

*Area of special flood hazard* means the land in the floodplain within a community subject to a one-percent or greater chance of flooding in any given year. The area may be designated as zone A on the flood hazard boundary map. After detailed ratemaking has been completed in preparation for publication of the flood insurance rate map (FIRM), zone A usually is refined into zone A, AE, AH, AO, A1-99, V1-30, VE or V.

*Base flood* means the flood having a one-percent chance of being equalled or exceeded in any given year.

*Critical feature* means an integral and readily identifiable part of a flood protection system, without which the flood protection provided by the entire system would be compromised.

*Development* means any manmade change in improved and unimproved real estate, including but not limited to buildings or other structures, mining, dredging, filling, grading, paving, excavation or drilling operations.

*Elevated building* means a nonbasement building, built, in the case of a building in zones A1-30, AE, A, A99, AO, AH, B, C, X, and D, to have the top of the elevated floor, or in the case of a building in zone V1-30, VE, or V, to have the bottom of the lowest horizontal structure member of the elevated floor elevated above the ground level by means of pilings, columns (posts and piers), or shear walls parallel to the flow of the water and adequately anchored so as not to impair the structural integrity of the building during a flood of up to the magnitude of the base flood. In

the case of zones A1-30, AE, A, A99, AO, AH, B, C, X, D, elevated building also includes a building elevated by means of fill or solid foundation perimeter walls with openings sufficient to facilitate the unimpeded movement of floodwaters. In the case of zone V1-30, VE, or V, elevated building also includes a building otherwise meeting the definition of elevated building, even though the lower area is enclosed by means of breakaway walls if the breakaway walls meet the standards of section 60.3(e)(5) of the National Flood Insurance Program regulations.

*Existing construction* means, for the purposes of determining rates, structures for which the start of construction commenced before the effective date of the FIRM or before January 1, 1975, for FIRMs effective before that date. Existing construction may also be referred to as existing structures.

*Flood or flooding* means a general and temporary condition of partial or complete inundation of normally dry land areas from:

- (1) The overflow of inland or tidal waters.
- (2) The unusual and rapid accumulation or runoff of surface waters from any source.

*Flood hazard boundary map (FHBM)* means an official map of a community on which the Federal Emergency Management Agency has delineated the boundaries of the flood and mudslide (i.e., mudflow) related erosion areas having special hazards, and they have been designated as zone A, M, or E.

*Flood protection system* means those physical structural works for which funds have been authorized, appropriated, and expended and which have been constructed specifically to modify flooding in order to reduce the extent of the areas within a community subject to a special flood hazard and the extent of the depths of associated flooding. Such a system typically includes hurricane tidal barriers, dams, reservoirs, levees or dikes. These specialized flood-modifying works are those constructed in conformance with sound engineering standards.

*Floodplain or floodprone area* means any land area susceptible to being inundated by water from any source (see the definition of *Flooding*).

*Levee* means a manmade structure, usually an earthen embankment, designed and constructed in accordance with sound engineering practices to contain, control, or divert the flow of water so as to provide protection from temporary flooding.

*Levee system* means a flood protection system which consists of a levee and associated structures, such as closure and drainage devices, which are constructed and operated in accordance with sound engineering practices.

*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 nonelevation design requirement of section 60.3 of the National Flood Insurance Program regulations.

*Manufactured home* means a structure transportable in one or more sections, which is built on a permanent chassis and is designed for use with or without a permanent foundation when connected to the required utilities. For floodplain management purposes, the term "manufactured home" also includes park trailers, travel trailers, and other similar vehicles placed on a site for greater than 180 consecutive days. For insurance purposes the term "manufactured home" does not include park trailers, travel trailers, and other similar vehicles.

*Mean sea level* means, for purposes of the National Flood Insurance Program, the National Geodetic Vertical Datum (NGVD) of 1929 or other datum, to which base flood elevations shown on a community's flood insurance rate map are referenced.

*New construction* means, for floodplain management purposes, structures for which the start of construction commenced on or after August 31, 1988.

*Start of construction* means, for other than new construction or substantial improvements under the Coastal Barrier Resources Act (PL 97-348), substantial improvement and 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 stage of excavation, or the placement of a manufactured home on a foundation. Permanent construction does not include land preparation, such as clearing, grading and filling; nor does it include the installation of streets or walkways; nor does it include excavation for basement, footings, piers, or foundations or the erection of temporary forms; nor does it include the installation on the property of accessory buildings, such as garages or sheds not occupied as dwelling units or not part of the main structure.

*Structure* means a walled and roofed building, including a gas or liquid storage tank, that is principally aboveground, as well as a manufactured home.

*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 before the improvement or repair is started or, if the structure has been damaged and is being restored, before the damage occurred. For the purpose 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 any project for improvement of a structure to comply with existing state or local health, sanitary, or safety code specifications which are solely necessary to ensure safe living conditions, or any alteration of a structure listed on the National Register of Historic Places or a state inventory of historic places.

*Variance* means a grant of relief to a person from the requirements of this chapter when specific enforcement would result in unnecessary hardship. A variance, therefore, permits construction or development in a manner otherwise prohibited by this chapter. For full requirements, see section 60.6 of the National Flood Insurance Program regulations.

*Violation* means the failure of a structure or other development to be fully compliant with the community's floodplain manage-

ment regulations. A structure or other development without the elevation certificate, other certifications, or other evidence of compliance required in section 60.3(b)(5), (c)(4), (c)(10), (d)(3), (e)(2), (e)(4), or (e)(5) of the National Flood Insurance Program regulations is presumed to be in violation until such time as that documentation is provided.

*Water surface elevation* means the height, in relation to the National Geodetic Vertical Datum (NGVD) of 1929 or other datum, where specified, of floods of various magnitudes and frequencies in the floodplains of coastal or riverine areas.

(Ord. No. 135, art. 2, 8-31-1988)

**Cross reference**—Definitions and rules of construction generally, § 1-3.

#### **Sec. 7-4. Lands to which chapter applies.**

This chapter shall apply to all areas of special flood hazard within the jurisdiction of the city.

(Ord. No. 135, art. 3, § A, 8-31-1988)

#### **Sec. 7-5. Compliance with chapter required.**

No structure or land shall be located, altered, or have its use changed without full compliance with the terms of this chapter and other applicable regulations.

(Ord. No. 135, art. 3, § D, 8-31-1988)

#### **Sec. 7-6. Methods of reducing flood losses.**

In order to accomplish its purposes, this chapter uses the following methods:

- (1) Restrict or prohibit uses that are dangerous to health, safety or property in times of flood, or cause excessive increases in flood heights or velocities.
- (2) Require that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction.
- (3) Control the alteration of natural floodplains, stream channels, and natural protective barriers, which are involved in the accommodation of floodwaters.



- (4) Control filling, grading, dredging and other development which may increase flood damage.
  - (5) Prevent or regulate the construction of flood barriers which will unnaturally divert floodwaters or which may increase flood hazards to other lands.
- (Ord. No. 135, art. 1, § D, 8-31-1988)

**Sec. 7-7. Basis for establishing areas of special flood hazard.**

The areas of special flood hazard identified by the Federal Emergency Management Agency on its Flood Hazard Boundary Map, Community No. 480554, dated August 23, 1974, and any revisions thereto are hereby adopted by reference and declared to be a part of this chapter.

(Ord. No. 135, art. 3, § B, 8-31-1988)

**Sec. 7-8. Abrogation and greater restrictions.**

This chapter is not intended to repeal, abrogate, or impair any existing easements, covenants, or deed restrictions. However, where this chapter and another conflict or overlap, whichever imposes the more stringent restrictions shall prevail.

(Ord. No. 135, art. 3, § E, 8-31-1988)

**Sec. 7-9. Interpretation.**

In the interpretation and application of this chapter, all provisions shall be:

- (1) Considered as minimum requirements;
  - (2) Liberally construed in favor of the council; and
  - (3) Deemed neither to limit nor repeal any other powers granted under state statutes.
- (Ord. No. 135, art. 3, § F, 8-31-1988)

**Sec. 7-10. Warning and disclaimer of liability.**

The degree of flood protection required by this chapter is considered reasonable for regulatory purposes and is based on scientific and engineering considerations. On rare occasions greater

floods can and will occur and flood heights may be increased by manmade or natural causes. This chapter does not imply that land outside the areas of special flood hazard or uses permitted within such areas will be free from flooding or flood damages. This chapter shall not create liability on the part of the community or any official or employee thereof for any flood damages that result from reliance on this chapter or any administrative decision lawfully made under this chapter.  
(Ord. No. 135, art. 3, § G, 8-31-1988)

**Sec. 7-11. Penalty.**

Any person who shall violate this chapter shall be deemed guilty of a misdemeanor and, upon conviction thereof, shall be punished as provided in section 1-5 of this Code.  
(Ord. No. 135, art. 6, 8-31-1988)

**Secs. 7-12—7-30. Reserved.**

**ARTICLE II. ADMINISTRATION AND ENFORCEMENT**

**DIVISION 1. GENERALLY**

**Sec. 7-31. Floodplain administrator—Designated.**

The mayor is hereby appointed the floodplain administrator to administer and implement the provisions of this chapter and other appropriate sections of 44 CFR (National Flood Insurance Program regulations) pertaining to floodplain management.  
(Ord. No. 135, art. 4, § A, 8-31-1988)

**Sec. 7-32. Same—Duties and responsibilities.**

Duties and responsibilities of the floodplain administrator shall include but not be limited to the following:

- (1) Maintain and hold open for public inspection all records pertaining to this chapter.
- (2) Review permit applications to determine whether a proposed building site will be reasonably safe from flooding.

- (3) Review, approve or deny all applications for development permits required by this chapter.
- (4) Review permits for proposed development to ensure that all necessary permits have been obtained from those federal, state or local governmental agencies, including section 404 of the Federal Water Pollution Control Act Amendments of 1972, 33 USC 1334, from which prior approval is required.
- (5) Where interpretation is needed as to the exact location of the boundaries of the areas of special flood hazard (for example, where there appears to be a conflict between a mapped boundary and actual field conditions), make the necessary interpretation.
- (6) Notify, in riverine situations, adjacent communities and the state coordinating agency which is the state natural resource conservation commission, prior to any alteration or relocation of a watercourse, and submit evidence of such notification to the Federal Emergency Management Agency.
- (7) Ensure that the flood-carrying capacity within the altered or relocated portion of any watercourse is maintained.
- (8) When base flood elevation data has not been provided in accordance with section 7-7, obtain, review and reasonably utilize any base flood elevation data and floodway data available from a federal, state or other source, in order to administer the provisions of article III of this chapter.

(Ord. No. 135, art. 4, § B, 8-31-1988)

**Sec. 7-33. Variance procedures.**

(a) The appeal board, as established by the community, shall hear and render judgment on requests for variances from the requirements of this chapter.

(b) The appeal board shall hear and render judgment on an appeal only when it is alleged there is an error in any requirement, decision, or determination made by the floodplain administrator in the enforcement or administration of this chapter.

(c) Any person aggrieved by the decision of the appeal board may appeal such decision in the court of competent jurisdiction.

(d) The floodplain administrator shall maintain a record of all actions involving an appeal and shall report variances to the Federal Emergency Management Agency upon request.

(e) 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 the remainder of this chapter.

(f) Variances may be issued 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 the relevant factors in section 7-52 have been fully considered. As the lot size increases beyond the one-half acre, the technical justification required for issuing the variance increases.

(g) Upon consideration of the factors noted in subsections (a) through (f) of this section and the intent of this chapter, the appeal board may attach such conditions to the granting of variances as it deems necessary to further the purpose and objectives of this chapter.

(h) Variances shall not be issued within any designated floodway if any increase in flood levels during the base flood discharge would result.

(i) Prerequisites for granting variances shall be as follows:

(1) Variances shall only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief.

(2) Variances shall only be issued upon:

- a. Showing of a good and sufficient cause;
- b. A determination that failure to grant the variance would result in exceptional hardship to the applicant; and

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, or conflict with existing local laws or ordinances.

(3) Any applicant to whom a variance is granted shall be given written notice that the structure will be permitted to be built with the 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.

(j) Variances may be issued by a community for new construction and substantial improvements and for other development necessary for the conduct of a functionally dependent use, provided that:

(1) The criteria outlined in subsections (a) through (i) of this section are met; and

(2) The structure or other development is protected by methods that minimize flood damages during the base flood and create no additional threats to public safety.

(Ord. No. 135, art. 4, § D, 8-31-1988)

**Secs. 7-34—7-50. Reserved.**

## DIVISION 2. DEVELOPMENT PERMIT

### **Sec. 7-51. Required.**

A development permit shall be required to ensure conformance with this chapter.

(Ord. No. 135, art. 3, § C, 8-31-1988)

### **Sec. 7-52. Procedures.**

(a) Application for a development permit shall be presented to the floodplain administrator on forms furnished by him and may include but not be limited to plans in duplicate drawn to scale showing the location, dimensions, and elevation of proposed

landscape alterations; existing and proposed structures; and the location of such in relation to areas of special flood hazard. Additionally, the following information is required:

- (1) Elevation in relation to mean sea level, of the lowest floor, including basement, of all new and substantially improved structures.
- (2) Elevation in relation to mean sea level to which any nonresidential structure shall be floodproofed.
- (3) A certificate from a registered professional engineer or architect that the nonresidential floodproofed structure shall meet the floodproofing criteria of section 7-72.
- (4) Description of the extent to which any watercourse or natural drainage will be altered or relocated as a result of the proposed development.
- (5) Maintain a record of all such information in accordance with section 7-32.

(b) Approval or denial of a development permit by the floodplain administrator shall be based on all of the sections of this chapter and the following relevant factors:

- (1) The danger to life and property due to flooding or erosion damage.
- (2) The susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owner.
- (3) The danger that materials may be swept onto other lands to the injury of others.
- (4) The compatibility of the proposed use with existing and anticipated development.
- (5) The safety of access to the property in times of flood for ordinary and emergency vehicles.
- (6) The costs of providing governmental services during and after flood conditions including maintenance and repair of streets and bridges, and public utilities and facilities such as sewer, gas, electrical and water systems.

- (7) The expected heights, velocity, duration, rate of rise and sediment transport of the floodwaters and the effects of wave action, if applicable, expected at the site.
  - (8) The necessity to the facility of a waterfront location, where applicable.
  - (9) The availability of alternative locations, not subject to flooding or erosion damage, for the proposed use.
  - (10) The relationship of the proposed use to the comprehensive plan for that area.
- (Ord. No. 135, art. 4, § C, 8-31-1988)

**Secs. 7-53—7-70. Reserved.**

### **ARTICLE III. PROVISIONS FOR FLOOD HAZARD REDUCTION**

#### **Sec. 7-71. General standards.**

In all areas of special flood hazard the following are required for all new construction and substantial improvements:

- (1) All new construction or substantial improvements 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 or substantial improvements shall be constructed by methods and practices that minimize flood damage;
- (3) All new construction or substantial improvements shall be constructed with materials resistant to flood damage;
- (4) All new construction or substantial improvements shall be constructed with electrical, heating, ventilation, plumbing, and air conditioning equipment and other service facilities that are designed or located so as to prevent water from entering or accumulating within the components during conditions of flooding;

- (5) All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of floodwaters into the systems;
  - (6) New and replacement sanitary sewer systems shall be designed to minimize or eliminate infiltration of floodwaters into the systems and discharge from the systems into floodwaters; and
  - (7) On-site waste disposal systems shall be located to avoid impairment to them or contamination from them during flooding.
- (Ord. No. 135, art. 5, § A, 8-31-1988)

**Sec. 7-72. Specific standards.**

In all areas of special flood hazard where base flood elevation data has been provided as set forth in section 7-7, 7-32 or 7-73, the following are required:

- (1) *Residential construction.* New construction and substantial improvement of any residential structure shall have the lowest floor, including basement, elevated to or above the base flood elevation. A registered professional engineer, architect, or land surveyor shall submit a certification to the floodplain administrator that the standard of this subsection, as proposed in section 7-52, 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 to or above the base flood level or, together with attendant utility and sanitary facilities, be designed so that below 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 registered professional engineer or architect shall develop 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.



tion. A record of such certification which includes the specific elevation in relation to mean sea level to which such structures are floodproofed shall be maintained by the floodplain administrator.

(3) *Manufactured homes.*

- a. All manufactured homes to be placed within zone A shall be installed using methods and practices which minimize flood damage. For the purpose 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. All manufactured homes shall be in compliance with subsection (1) of this section.

(Ord. No. 135, art. 5, § B, 8-31-1988)

**Sec. 7-73. Standards for subdivision proposals.**

(a) All subdivision proposals including manufactured home parks and subdivisions shall be consistent with sections 7-1, 7-2 and 7-6 of this chapter.

(b) All proposals for the development of subdivisions including manufactured home parks and subdivisions shall meet development permit requirements of sections 7-51 and 7-52 and article III of this chapter.

(c) Base flood elevation data shall be generated for subdivision proposals and other proposed development including manufactured home parks and subdivisions which is greater than 50 lots or five acres, whichever is less, if not otherwise provided pursuant to section 7-7 or 7-32 of this chapter.

(d) All subdivision proposals including manufactured home parks and subdivisions shall have adequate drainage provided to reduce exposure to flood hazards.

(e) All subdivision proposals including manufactured home parks and subdivisions shall have public utilities and facilities such as sewer, gas, electrical and water systems located and constructed to minimize or eliminate flood damage.  
(Ord. No. 135, art. 5, § C, 8-31-1988)